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# CHARACTERISTICS OF THE TEACHER RELATED TO THE EXCHANGE OF OPINIONS

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## ANNOTATION

*This article provides full information about the pedagogical activities of the teacher, the role of the teacher in the educational processes of children, and the formation of the teacher's communicative ability.*

**KEYWORDS:** *teacher, activity, ability, education, goal, speech, pedagogue, thought, student, goal, pedagogical skill.*

Continuity of pedagogical communication with students in the activity of a teacher is one of the main laws of education. The ability to establish positive relationships with students in the educational process, to create a positive atmosphere, to be able to convince and attract them is the main essence of the teacher's communicative ability, which is directly related to the teacher. There are thousands of mental processes, types of behavior and conditions that cannot be broken out of a certain pattern.

The effectiveness of education is ultimately determined by strict adherence to the forms and methods of communication with students. The main goal is to replace mandatory obedience in the teacher-student relationship with conscious discipline, to form students' independent thinking skills, and after determining the system of educational methods, the teacher should plan a series of communication tasks. Of course, this is an extremely difficult process, because every method, component and organizational method of education depends on the effectiveness of communication through communication.[1]

This process is directly related to the teacher's personal skills related to the exchange of ideas (reflection), the art of reading the student's mental state with the speed of thought, and the types of methods of pedagogical influence in interaction with each other. As it relates to knowledge, they are continuously formed. The main features of the teacher that form the communicative ability related to the exchange of ideas

are activities aimed at the student's mind, which are improved in an extremely complex process. There are the following areas of communication skills that are directly related to the factors of mutual exchange of ideas:

- persuading students;
- influencing the minds of students;
- imitation of others.

Persuasion of students is aimed at the mind of the student, and the teacher's feedback through effective speech affects the student's knowledge system, worldview, behavior, and behavior and partially changes it. Persuasion is the main means of influence in the complex activities of the teacher related to his professional activity, and is one of the methods used in the educational process. The method of persuasion, related to influencing the mind of the student, requires the teacher to present arguments based on argument, discussion, to rely on proof and logic. It is especially effective when there is an alternative between the teacher and the students related to the subject being studied, when relying on criticism and the struggle of ideas. Since persuasion is aimed at the mind of the student, the teacher's emotion, speech and the art of persuasion are important in this. It is used as a method of pedagogical influence in explaining a new topic in classes, in educational hours, in the form of discussions in various meetings and creative conversations.[2]

In educational activities, the method of persuasion is widely used in classes on political topics,



conducting individual conversations with the class group and individual students. With the help of the method of persuasion, the worldview of students is formed. This is especially important in protecting the student's mind from foreign ideological ideas, on the basis of persuasion ideal and independent thoughts are reconstructed in the student, it protects them from depression caused by some psychological influences, they have freedom and the ability to think independently. grows, instills confidence in oneself and the future, encourages the formation of a strong will in self-education. Influence on students' minds is a complex psychological feature formed in the process of mutual exchange of ideas, and the teacher's library is a universal factor of communicative ability. The special feature of influencing the mind of the student during the conversation and activity of the teachers is that it has an imperceptible effect on the psyche and behavior of the students. The effect is of special importance due to its uncontrollable penetration into the minds and psyches of students, and it is implemented in the way of showing guidance in the creative activities, actions, and aspirations of students. Influence on the mind is such a mental process that students perceive reality under the influence of a teacher or a person without sufficient control of their own mind.[3]

If the teacher does not have psychological experience and knowledge of pedagogical skills, he will not be able to influence the minds of students, as a result, the educational process will not give positive results. The teacher is responsible for protecting the minds of his students from the negative effects of the external environment, from various hidden destructive ideas of the informal leaders of the class. In order for the teacher to include leadership in influencing the student's mind;

- not giving in to emotional feelings that occur due to the negative behavior of students;
- not to try to have an educational impact on the mind of each student without carefully studying the psychological and mental state of each student;
- each student should be treated with respect as an individual;
- to be able to identify the unofficial leader of the class team without noticing and to be constantly aware of his behavior;

- continuous improvement of important aspects of pedagogical skills;
- the teacher should always feel that the consequences of every thoughtless word and inappropriate opinion can never be corrected. It should be noted that, due to the vastness of the field of information technologies, it is natural for students' minds to be occupied with ideas and ideologies that have a negative impact on education. If teachers can use the wide possibilities of influencing the mind in educating the young generation, they can protect the minds of students from various unnecessary ideas and ideologies. due to their tendency to psychological influence, they are extremely susceptible to any influence. Imitation is a psychological characteristic of a person, it is following the behavior, example, example of a loved one. The student unconsciously imitates the behavior of the person he considers ideal for himself. Pupils take a model from the behavior of others and use it in their environment by imitating it. The peculiarity of imitation is that students try to repeat the actions they see, performed by adults. Another feature of imitation is that the student involuntarily imitates the image, character, bravery, gesture, speech, and clothing styles of his favorite ideal hero that he has read in works of art, seen in movies, and repeats in his work. Involuntary imitation is important in the early stages of the formation of the student's personality.[4]

By imitation, the student learns speech, objects, various actions, his behavior is formed, this process in his psyche continues gradually and blindly. In the process of conducting pedagogical activities with the teacher's communicative ability, the considered main types of influence through mutual exchange of ideas persuading the student, influencing the student's consciousness, imitation one psychological characteristics that are closely related to each other and at the same time have their own differences.

The interdependence of persuasion and influence is that we often demonstrate the art of public speaking when we use either of these methods of influence. A teacher's vocabulary and speaking skills are important sources of persuasion and impact on the student's mind.



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# DESIGN ANALYSIS OF A BOOKSHELF FOR FEDERAL POLYTECHNIC ILARO STUDENT LIBRARY

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## ABSTRACT

Libraries in years make use of a manual cataloguing method in which a register is opened to take the account of books available in libraries and to check against pilfering and safe returns of books borrowed by reader under a given day ultimatum. This creates a lot of issues when librarians are making accounts of available books in the bookshelves and readers do not have the idea of available books in the libraries until he/she gets to the library to check each shelf for available books. In this report, the use of Radio Frequency Identification technology to construct a network-based bookshelf is used to identify each book available in various compartments of the shelf with the aid of a tag and reader which sense the availability of the book and check against wrong placement of books in the wrong bookshelf compartment. A networking device is also used which serves as a communicating device between the shelf and database. The website is used as the trigger point for updating the retrieved status of the book to eliminate bottleneck at the counter that cannot render the real-time circulation status of a book in the library upon borrowing or returning the book. With the help of a database system to integrate the information architecture of the library and provide intelligent service applications, the overall structure is conducive in enhancing the efficiency of the library collections and improving the satisfactions of readers.

**KEYWORDS:** Network, RFID, Libraries, Bookshelf

## I. INTRODUCTION

Library automation and its attendant digital technologies present new opportunities and challenges to libraries to enhance their services. Some of the cultural functions of libraries are changing in the digital age and providing promising opportunities for the acquisition, organization and bibliographic control of the available vast knowledge. However, automation is the reality of the 21st century and any library that ignores its capability in transforming the information environment is at risk of losing ground (Bansode, 2009). Libraries, the repositories of human knowledge have been striving to improve their productivity through the use of computers (Fauty, 2004). The library is the heart of the educational enterprise and also the reservoir of knowledge communicated through information resources. Information is fast becoming a vital national resource that determines the direction of any nation. Therefore, librarians and must be conversant with development in information and its communication technologies for the organization and dissemination of information in order to increase knowledge and improve scholarship (Sahu, 2005). Integrated online systems more closely represent the activities of the library, where one unit's processing of library may impact materials availability and the function of another. Integrated systems group a number of activities, (e.g. Acquisition, Serials control, Circulation and course reserves, the public catalogue, bindery and interlibrary

loan) in one system using common command and sharing common patron and items record base.

## II. LITERATURE REVIEWS

Okoroma presented a comparative study in 2010 at the Kenneth Dike Library of the University of Ibadan and the Obafemi Awolowo University Library in Nigeria to show the adoption of automation and electronic information resources. He cites the benefits of automated library services. The librarians and other staff of the two chosen libraries were polled about the automation decision-making process, specifically the purchase of computer gear and software. It also addressed issues that arose throughout the automation phases. On the basis of the survey's findings, recommendations are made to other university libraries.

Tiwari (2002) in a study proved that automation was becoming a more diverse challenge, particularly in terms of resources, skills, and capacities. The field of library automation has changed dramatically in the last several years. The use of computing and telecommunication tools grew out of library automation, which began with the in-house processing of traditional duties. There is now a "library without walls" that makes use of technology to enhance services, resources, and relationships between libraries and resources all over the world. According to IBM digital library, this "virtual library" is a reality in which the world of digital information is just a click away.



Information kiosks will be a part of the future library automation system, allowing even computer novices to quickly access information. Human-computer interfaces will be created by information scientists, and librarians will be responsible for maintaining libraries.

Library Smart Shelf is a technology that does real-time inventory checks and detects misplaced books. This system would display book details based on the most recent book status, such as available, borrowed, and in use for certain volumes. This system displays the exact shelf and level for each item. This system's user is limited to librarians exclusively. "This system uses to RFID technology, Programming and database support are required, so C# and SQL Server 2008 are used (Coyle, 2005). Fix reader and antenna are used in this project. Every level of the shelf has two antennae, which are placed on both sides of the shelf's

level, with the reader placed at the top or bottom of the shelf". The reader and antenna number for one shelf is determined by the amount of level on the shelf. Furthermore, every book in this system must have an RFID tag attached to it in order to identify its identification, and each tag (book) has its own unique code (Stanford, 2003).

### III. METHODOLOGY

This work is based on library book automation, which helps in knowing and determining the status of books in each compartment of a bookshelf via a dedicated database and to achieve this a hardware and software method is adopted to designed and construct a network based bookshelf.

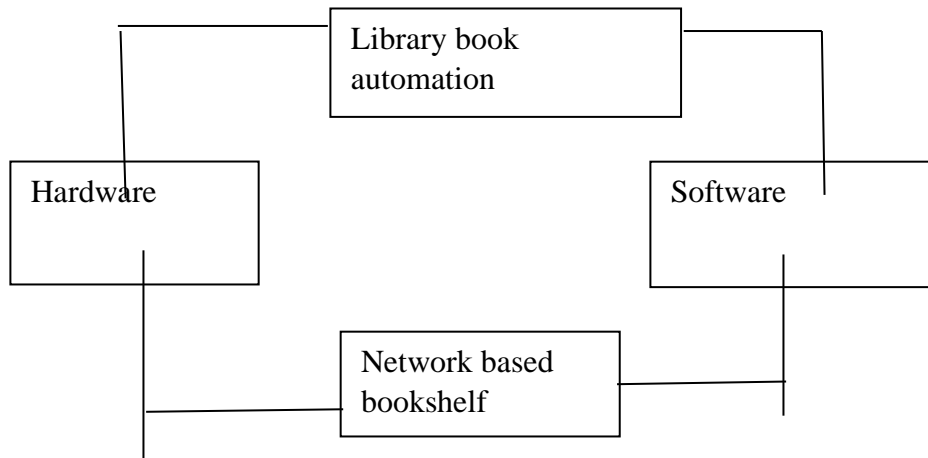


Fig 1.0: Block diagram of methodology

### IV. DESIGN ANALYSIS OF THE HARDWARE

This gives the details on the fabrication of the bookshelf and network hardware.

The hardware part of this work forms the physical part of this projects which include the fabrication of a bookshelf using MDF wood with a given dimension and it as four compartment and it is

automated using a RFID sensor and card with an ESP 32 as the communicating device.

#### ❖ SHELF FABRICATION

The shelf is constructed using a MDF wood and it is constructed in such a way that it has four equal compartment with the same dimension for book to be placed.



Fig 2.0: Screws and bolt



**Fig 3.0** Marking out cut-off sections of the wood



**Fig 4.0:** drilling of holes on the MDF wood.



**Fig 5.0:** assembling of the various part of the wood



**Fig 6.0 The completed wooden bookshelf**

❖ **CONNECTIONS OF THE HARDWARE COMPONENTS AND CONTROLLER ON THE BOOKSHELF**

This involves the connections of the main circuitry of the hardware components and controller on veroboard. The steps are;

- The RFID sensors are connected using a jumper wire in each compartment and a glue is applied to the wall of the shelf in each compartment to hold the RFID sensor firmly.



**Fig 7.0: Placing the RFID sensors in each compartment.**

- The ESP 32 is connected to the Arduino UNO through a USB cable interface to send data to the Arduino UNO.
- The ESP 32 is connected to the veroboard by soldering a female header to the board and the output of ESP 32 is a male header which is plug into the male header on the board.
- The LCD screen is fixed in the dignity cases and the dignity case is fixed beside the shelf.
- The LEDs are fixed on the dignity case and connected to the veroboard.
- The output terminal of all the components are connected to the veroboard.
- The positive and negative terminal of the SMPS is connected to the veroboard to power all the hardware components.
- The veroboard is placed in the dignity case.

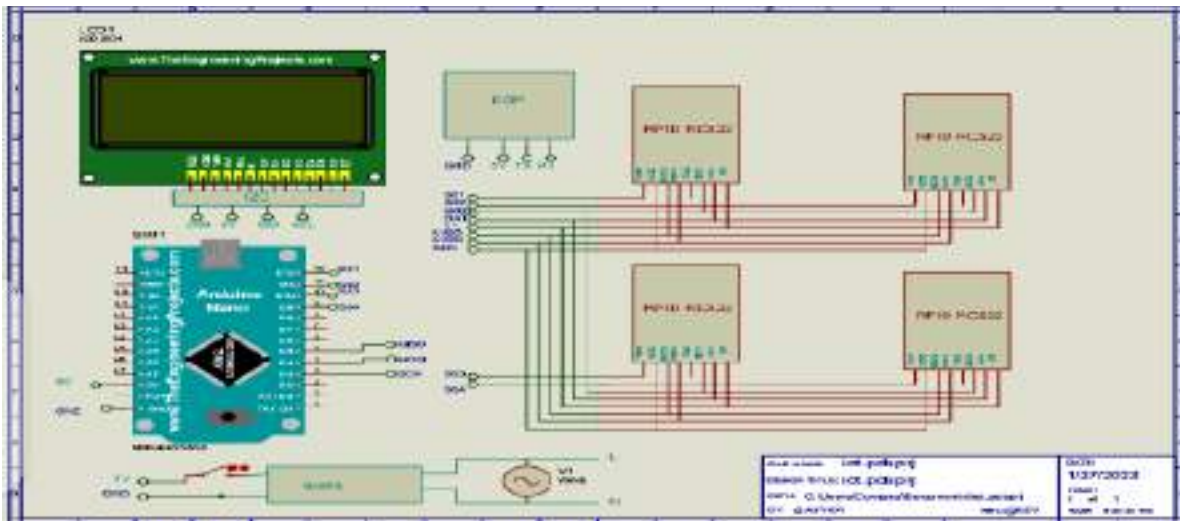


Fig 8.0: The circuit diagram

#### ❖ RFID CARD AND SENSOR

The RFID Sensor and card is an ID system that uses small Radio frequency identification devices for identification and tracking purposes. It includes the tag itself, read/write device, and a host system application for data collection, processing, and transmission. RFID uses electromagnetic fields to transfer data over short distances. RFID is used in this project to detect books in each compartment of the shelf.

The configuration of the RFID sensor and card use are:

INPUT VOLTAGE: 3.3V

FREQUENCY: 13.56MHz

PIN WIRING TO ARDUINO

- SDA to Digital 10
- SCK to Digital 13
- MOSI to Digital 11
- MISO to Digital 12
- IRQ to Unconnected
- GND to GND
- 3.3 to 3.3V

#### V. DESIGN ANALYSIS OF THE SOFTWARE

The software part of this work is based on the design of a database for the books in the library and to link the bookshelf to the database.

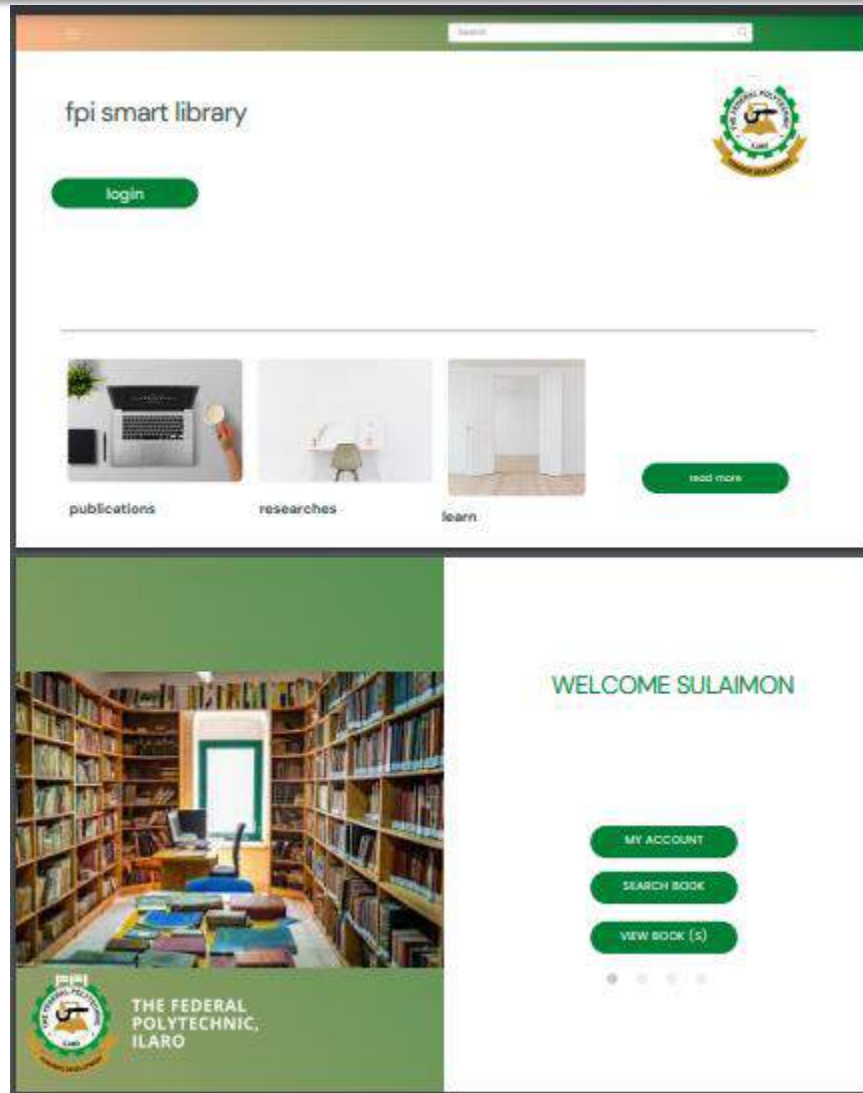


FIG 9.0: The webpage



## VI. WORKING OPERATIONS

The working operations includes the design of a flowchart for the whole design.

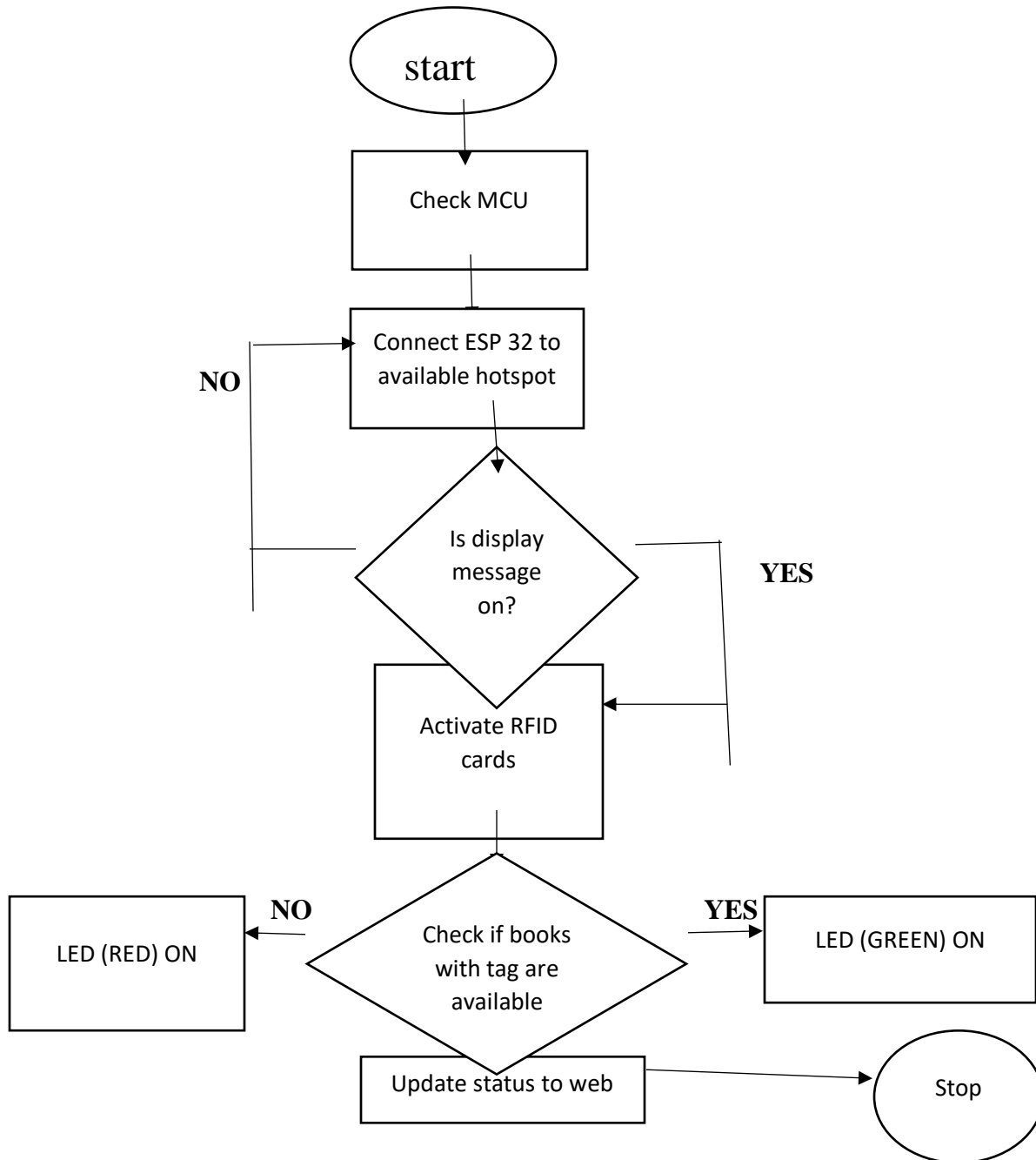


Fig 10.0: The bookshelf and database design flowchart



The flowchart above explains how the bookshelf and the database are linked together. Once the microcontroller unit is activated which is the Arduino UNO, the ESP 32 check for the available hotspot to connect to display in other to send a pop up display message on the screen and the RFID cards are activated, if there is no pop up message the ESP 32 is not yet connected to the available hotspot. The red LED light shows the unavailability of books in the shelf while the green LED light shows the availability of books in the shelf and the status is updated on the web.

## VII. RESULTS AND DISCUSSION

Test were carried out to test the certainty of the functionality of the construction work, to check for bugs and make use of corrective measures to rectify the error and ensure the effective working of the entire system.

### ❖ PERFORMANCE TEST

The performance test of the selected materials are as follows:

**ESP 32 :** The ESP 32 is powered by a micro-USB connector which is plugged to a PC. The Wi-Fi connectivity is tested and the Bluetooth connectivity to determine the range of its connection with the bookshelf and it is connected to the PC in other load the program written on it and it is tested by its Wi-Fi connectivity to load the created webpage.

**ARDUINO UNO TEST:** This test is carried out by setting each channel to ground and power and read output in the serial monitor. This is done by connecting a wire between the input connectors and power connectors on the Arduino uno board.

- Connect one end of the wire to A0 port
- Connect the other end to GND port
- Analog0 in the Serial Monitor should now read 0.0 volts
- Remove the wire from GND and connect it to 5V
- Analog0 should now read approximately 5.0 volts
- Remove the wire from 5V and connect it to 3.3V
- Analog0 should now read approximately 3.3 volts
- Repeat the same procedure with A1, D2 and D3

## VIII. PRESENTATION OF RESULTS

After the test that was carried out, all errors were rectified to ensure that the system is responding effectively to its given command. The bookshelf constructed is more efficient compared to its contemporaries. The biggest advantage of the bookshelf is that it creates easier access to library materials according to the requirement.

## IX. DISCUSSION OF RESULTS

The bookshelf is being automated by a database which as the records of books available in the shelf and update the status of each book in each compartment to the webpage, this is made easier by the aid of the ESP 32 as the communicating device. The RFID cards are being sensed by the sensor in order to take records of each book contained in different compartments. The database

is designed based on two programming languages which are C++ and HTML.

## X. CONCLUSION

At the end of this research work, a network based bookshelf was designed and constructed for the Federal polytechnic Ilaro library in order to aid ease access to books in a more convenient way through a dedicated database which consists of a webpage with a unique ID login details the librarian and students.

This work is designed in order to automate a bookshelf compared to the ordinary wooden bookshelf available in the library which students find it difficult to check for available books and made it easier for librarians to check against pilfering and to give account of books available in each compartment.

## XI. RECOMMENDATION

Having gone through the design and construction of this project and processing the design and working knowledge of this system, I recommend a complex database to be designed for this project in the future, by which improvement can be added for better and easy functionality of the system. This project designed and construction work should be adopted in all departments in Federal

Polytechnic Ilaro to aid easy access to files available in each department.

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# CULTURAL APPROPRIATION WITH REFERENCE TO TEXTILES HANDWOVEN IN NAGALAND, INDIA

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## ABSTRACT

*With their geometric and frequently minimalistic designs, the captivating indigenous textiles of the Naga community, provides a unique exemption in India's textiles, and has a growing demand worldwide. (Wettstein, 2014). Each design within a textile carries importance and the finished piece can be studied like a story (Adangla, 2017). With a history as interesting and captivating as its geography, Nagaland is however yet to be further explored. The state, with its assorted tribal culture, is a region of festivals and exceptionally abundant textile traditions. Within the handloom history of India, the warrior body cloths or shawls of Nagaland have a special place and are required to be documented accurately (Prakash, 2014). This study aims to understand the textiles of Nagaland and analyse the views of the original users on contemporisation and cultural re-appropriation of textiles. Cultural appropriation of traditional textiles is a major offence, according to the Nagas. Cases of cultural appropriation have happened in the past due to lack of awareness. Therefore, the study is additionally an attempt at identifying appropriate methods for contemporisation of Naga textiles while still retaining the cultural essence of the handloom pieces. The methods used for this study are in-depth interviews with local experts, Photo elicitation discussion with the weavers, Mind-mapping and feedback surveys with the original users (people belonging to the Naga tribe). Previously, existing information on Naga textiles has revealed knowledge regarding the designs, the cultural status of the wearer of some of these textiles and the usage of these textiles in the past as well as present. However, as the social status of the wearer has changed over the years, this has resulted in socio-cultural re-appropriation of these Naga textiles. The information regarding the customs and appropriate methods to avoid cultural appropriation are identified, compiled and discussed. It involves detailed observation, description of the original users and understanding cultural appropriation from their perspective. The research is directly concerned with the significance that the textiles play in the lives of the Nagas.*

**KEYWORDS:** *Contemporisation, Cultural appropriation, Handloom, Nagaland, Textiles.*

## INTRODUCTION

“It is well known that textiles have a utilitarian as well as symbolic function. The kind of cloth worn is reflective of social relations and of the expression of social identities and values. The cloth worn by a person is also suggestive of the power relationship he/ she may have with other members of the community. “ (Joshi, 2000, pg. 378).

Kuriakose., et.al (2010) explains how the Naga shawls are a thing of historic value and eternal appeal with ancestral superstitions. Even within the same clan, not everybody is allowed to wear just any shawl as each pattern signifies the social standing of a person. Each shawl has its own distinct patterns varying in colour and motifs. He stated that superstition and beliefs also dictate the selection of these particular shawls.

Naga handloom encapsulates particular traditional meanings symbolising status, identity and accomplishment; rather than being just a piece of fabric, it carries traditional information.

These textiles are treated as modes of communication and have always been passed down from one generation to another and are shared by the tribe especially in a society like the Nagas who have no script or written history. Textile pieces have an emotional connection that tribal societies still cling to. Indigenous shawls express volumes of their status and their tribal identity (Adangla, 2017).

Cultural appropriation is a term used when aspects of culture are taken from minority groups or groups that have been oppressed or marginalised, converting culturally significant artefacts, and beliefs into general/pop culture and giving them a significance that is completely different than they would originally have. Those who take, borrow, or ‘exploit’ these aspects of culture benefit from them in terms of capital, prestige, and popularity.

Cultural appropriation within the arts is an assorted and global phenomenon. It might conceivably be thought to include various occurrences such as 1) the representation of social practises or encounters by social “outsiders” (in some cases called “voice appropriation”); 2) the utilisation of aesthetic styles particular of social communities by non-members; and, 3) the obtainment or continued ownership of cultural items by non-members or socially distant institutions (Matthes, 2016).

One would often find deception, misuse, and theft of the stories, designs, and cultural heritage of people who have been historically ruled over and remain socially marginalised (Matthes, 2016).



Protests against offensive cultural appropriation are recurrent and have to be taken seriously. It is easy to understand the offended parties, particularly when they are members of a minority community that has been the casualty of countless other attacks and real harm.

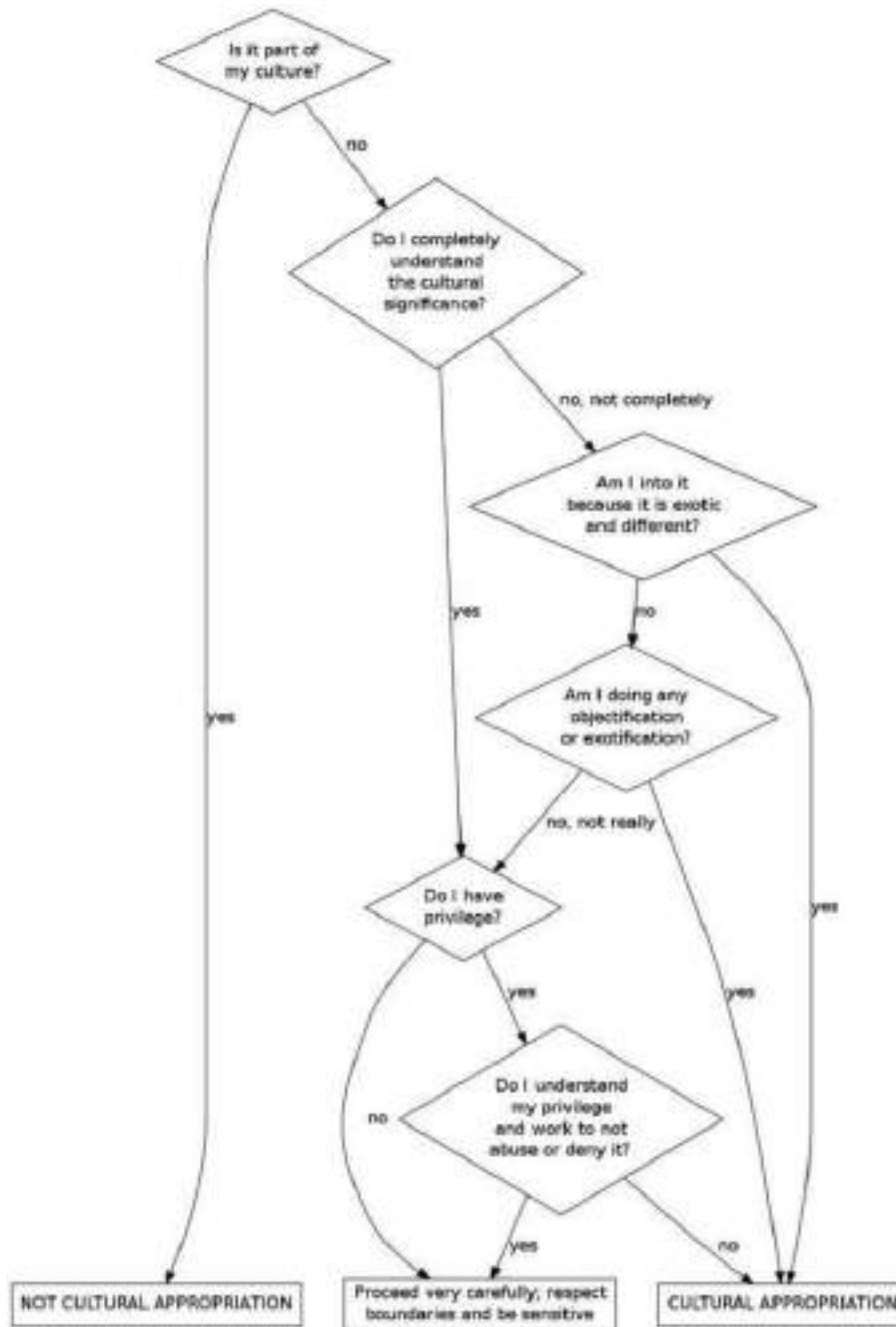


Figure 1: A flowchart explaining principles of cultural appropriation (Source: The sociological cinema)

(Young, 2005). Cultural appropriation as a notion comes down to the utilisation of cultural artefacts without understanding the traditional significance of it or inappropriate representation (Parisi, 1991).

## METHODOLOGY

The research aimed to study the status of handwoven textiles and cultural appropriation in Nagaland. Multiple methods were employed during the research to study cultural appropriation first hand from the original users and the importance of appropriate methods of contemporisation.



The study is descriptive and narrative following suitable methodology. Descriptive study is a powerful way to understand subjective experience and to gain insights around people’s actions and motivations, cutting through long-held assumptions and challenging conventional wisdom (Lester, 1999). Typically, research is conducted with a sample of individuals who have first-hand knowledge of an event, situation or experience.

The research focuses on the process of modernisation of textiles. “The development paths and models of classic cultural modernisation feature diversity and path dependence and are influenced by historical and objective conditions.” (CCMR, 2015)

**TOOLS AND SAMPLE SIZE**

Method	Sampling
In-depth Interview	<p>In-depth interviews are generally long, face-to-face, discussions conducted to attain desired objectives. In-depth interview also known as one-on-one is a technique of obtaining more detailed data or profound understanding of a topic or concept. (Showkat, 2017).</p> <p>Interviews were conducted with the local experts (Entrepreneurs, historians, master weavers and traders). An inflated sample size of 10 was taken after connecting with the experts through snowball sampling. However, as expected due to the covid19 lockdown, a total of 7 local experts have been approached.</p> <p>The expert panel also includes craft revivalists and traders. The connection between trade and environmental and cultural issues has profound historical roots, having been manifested ever since the primary industrial revolution (Brunette, 2015). Traders and exporters were interviewed to understand the change in economic growth, raw materials, quality, motifs, etc. Traders play a vital role in building extensive networks of exchange of goods, knowledge, ideas, cultures and beliefs. Traders have observed the changes through the years and have introduced ideas based on orders they have received as well as their interaction with the buyers.</p>
Photo elicitation	<p>The technique of photo-elicitation interview may be characterised as an interviewing procedure in which researchers evoke information from participants by utilising images. (Blinn, 1991). Photo elicitation is the use of photos to create verbal discussion (Thomas, 2009).</p> <p>The visual pictures can be created by a creator or by the researcher. Photo elicitation is presently a broadly known and a regularly used method which involves utilising one or more visual photographs in an interview and thereafter, inquiring participants to comment on the visual photographs used. (Bigante, 2010).</p> <p>A total sample of 15 weavers was fixed, with the inflated total of 20 weavers using snowball sampling, in order to maintain a fixed total of 15 participants. Photo elicitation was conducted with 15 weavers from the community.</p>
Feedback survey	<p>Survey research is defined as "the collection of information from a sample of individuals through their responses to questions" (Check &amp; Schutt, 2012, p. 160).</p> <p>A feedback survey was conducted on appropriate methods of contemporisation of textiles of Nagaland. Stratified sampling was used, involving subjects (original users) from the Naga tribe. The sample size was 328 respondents.</p>

**RESULTS AND DISCUSSION**

**Discussing local customs on the subject of cultural appropriation and identifying appropriate methods for contemporisation of Naga textiles.**

**Findings drawn from photo elicitation method.**

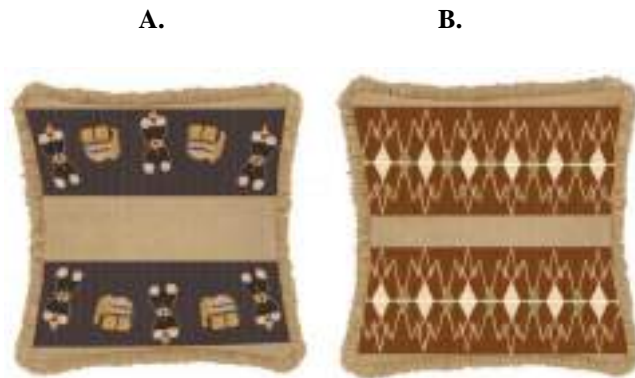
Photo Elicitation was carried out with a sample size of 15 weavers. The participants were selected using snowball sampling. For the same, the researcher had approached Antaran Artisan connect (under TATA Trusts) and conducted photo elicitation with weavers working under the supervision of the organisation.

Audio recording and photography were the tools used for recording the discussion and information collected during the activity. The weavers were shown a series of a set of 10 product pictures, each product illustrated with two different types of textiles. Each set shows a product made with two different textiles.

The weavers were asked to have a discussion and give their opinion on the traditional textile products and why they would pick one over the other. Opinions on ethical use, colour, style, contemporisation were observed. The discussion also provided an idea of the ideal type of products to be made while contemporising these textiles.

Products were numbered as follows and the following points were discussed during the session:

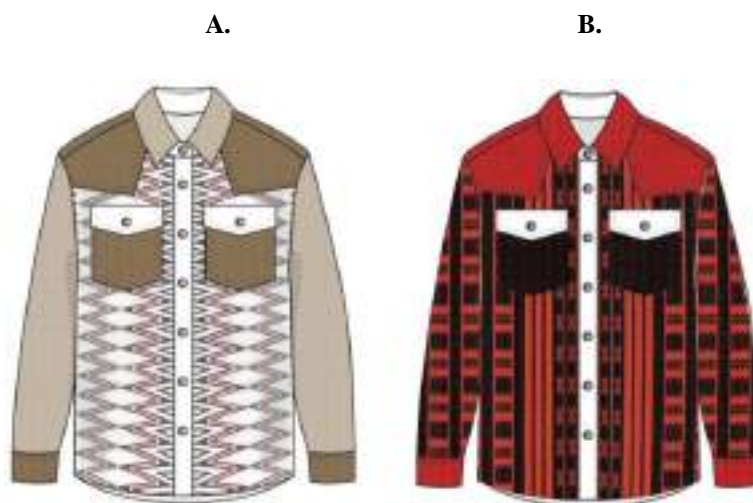
### Product set 1



**Product set 1:** While observing product set 1, the first thing pointed out by the weavers is the traditional textile used on product A. The textile seen on Product A is a popular Chakhesang shawl called ‘Thupikhü’, a shawl of merit among the tribe. The weavers explained that the shawl is the ultimate symbol of privilege and honour. In the olden days, the shawl could not be worn by just anyone. At present, it is still revered as a symbol of distinguished achievement.

The weavers had mentioned that while making contemporary products, they usually refrain from using traditional pieces but instead weave inspired textile pieces woven specifically for the product. They mentioned that Naga traditional textiles are considered sacred and are respected by the whole society which is why usage of traditional textiles on modern products is usually avoided by the people. It was noted that due to this reason majorly, all the weavers had agreed to choose product B over A. The weavers also mentioned that the embroidery done on product A are traditional ‘embroidered’ motifs. Such types of textiles would take longer to produce as they are not only just woven but also embroidered hence, embroidery addition would slow up the production process. Additionally, due to this reason, the weavers avoid using symbolic textiles for making contemporised products.

### Product set 2



**Product set 2:** While observing Product set 2, the participants specified that the colour story of product A is more appropriate when it comes to contemporary products. They also mentioned that many of the products made by them in the past, followed a neutral colour story as they have found them to be more acceptable and popular all over India as well as globally.

The weavers expressed that symbolic textile colours are hardly used on their products so as to avoid any conflict. The textile used on product B is a ceremonial wraparound used by women of the Sangtam tribe. This reason alone would compel the weavers to pick product A. It would be considered an offence to make a man’s garment out of a woman’s textile.



The weavers mentioned that many traditions have changed over the years. A few traditional rules have become more lenient but gender identity in traditional textiles is an important aspect in the society. The Naga people keep gender identity in textiles in high regard.

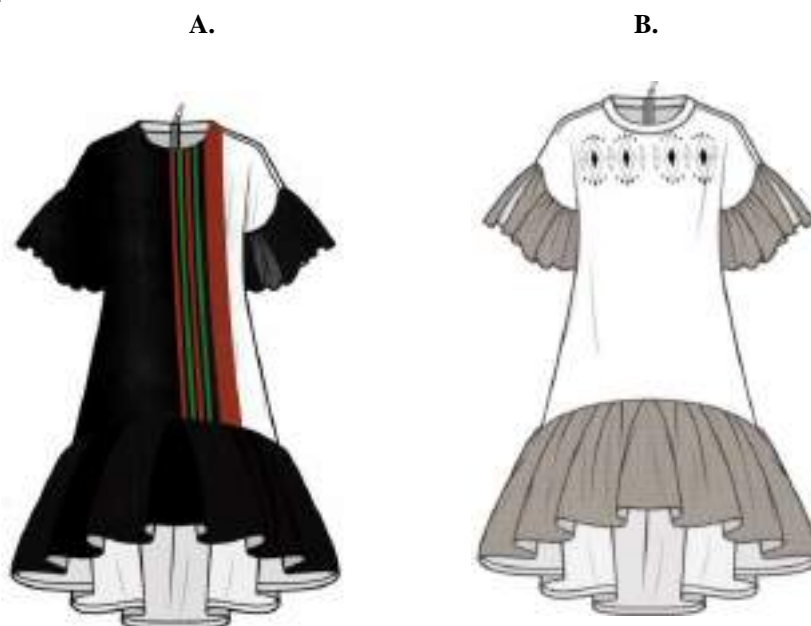
### Product set 3



**Product set 3:** While observing Product set 3, the motifs on Product B immediately stood out to the weavers. They discussed how motifs used on product B are motifs that usually belong on a man's shawl or waistcoat. Furthermore, many expressed that the motifs, specifically the "Spears and Daos" are usually seen on warrior shawls which were regarded as high status textiles meant to be used only by men who have earned the right.

At present such motifs are also seen on other garments such as waistcoats and neckties but are always worn only by men. The colours on products B further brought out discussion among the weavers as red and white are the most general, common or 'standard' traditional textile colours of most Naga tribes.

### Product set 4



**Product set 4:** While observing Product set 4, the weavers pointed out that Product A is a dress made from the Angami 'Lohe pfhe' textile. Although the shawl is understood to have become a genderless textile piece, the weavers expressed that the local people would still be hesitant and scared to slash the textile fabric and turn it into a dress.



Not all the rules are clear in the Naga society when it comes to textiles. The laws regarding textiles can be considered to be quite unorganised and are ever-changing, therefore guidance and in-depth studies are required each time a person plans to make a collection out of Naga textiles. The weavers expressed that they would never make product A as it may offend the tribe or village associations. Because of such reasons the weavers said that they would rather create product B. This fact reveals how strict the Naga society and associations are when it comes to their traditional textiles.

**Product set 5**



**Product set 5:** While observing product set 5, the weavers without hesitation pointed to product B and said that the panel used is a shawl known as Tsungkoteptsu shawl which is a highly respected and popular warrior shawl belonging to the Ao tribe. According to the weavers, a shawl of such importance should never be used to make a women's bag. The first reason was the gender identification of the shawl; a shawl known to be worn by men of the tribe. The second reason is that during the olden times, the shawl was worn by men who have earned the right to wear it and not just worn by any man. The Tsungkoteptsu shawl was meant to signify achievements of the warriors of the tribe in head hunting. Presently, the shawl continues to hold an important place within the tribe. Using the Tsungkoteptsu shawl to make a women's bag is considered offensive to the tribe and their ancestors.

**Product set 6**



**Product set 6:** While observing Product set 6, the weavers discussed how dress B is made using the Thupikhü Shawl. This shawl belongs to the Chakhesang tribe is also popularly known as 'Elephant cloth' due to the many elephant motifs embroidered on it. It



was mainly worn by the men of the tribe. Presently it is seen that this particular shawl is worn by women especially those who are well known; for example, 'The Tetseo sisters' who are world renowned folk music artists from Nagaland. The shawl however is not seen to be worn by children and therefore, would not be a fitting choice to be made into a dress for young girls.

The embroidered motifs are time consuming to make. This would increase the production time, labour as well as making costs of the product. It is a known fact in the community that the tribes find offence in turning warrior shawls; especially those with symbolic motifs into dresses.

#### Product set 7



**Product set 7:** While observing product set 7, the weavers could recall reading a news article on cultural appropriation of a Sangtam male shawl while incorporating it onto a Bollywood star's dress. Additionally, there was another incident where garments made from Chakhesang textiles were being showcased at Surajkund Mela without prior permission from the tribe or associations. Both incidents had faced negative reaction from the original users and various associations. The designers who had presented the designs, were demanded to deliver a public apology for misusing the shawls. The associations denounced the 'misuse and distortion' of the shawls stating that the shawls wrongly represented the actual concepts as well as their depictions which in this case, is the use of the warrior textile for product A.

**Product set 8**

**Product set 8:** While observing product set 7, the weavers mentioned that product B is a men's vest made from the warrior shawl which is a common and popular item in the region. Because these shawls were used by men previously and specifically, the ones who have earned the right to wear them, it is a common sight to see men wearing them in the shape of a waistcoat/ vest or even as neckties especially during big occasions, graduation ceremonies and even at weddings. When attending a wedding today, men are seen donning the traditional neck ties while others wear the waistcoat. The same can be observed during college graduations as well. Product A however, did not receive such a positive reaction as the weavers stated that a woman's Sangtam shawl was made into a waistcoat for men. This reason itself, makes it impossible for the weavers to even consider making such a product.

**Product set 9**

**Product set 9:** While observing product set 9, the weavers immediately pointed out that product A is very similar to the Angami Lorha Mhoshü; a women's textile. Additionally, the motifs on the table cloth are motifs taken directly from the shawl. Red, white and black are common colours seen on women's traditional textile of the Angami tribe as well as other naga tribes. Such colour combinations are usually avoided when it comes to contemporary products.

An interesting piece of information that the researcher came across was the fact that gender identity is not strictly considered when it comes to household textiles which are known to be genderless. Home textile items are easier to work with according to the weavers as there is no gender constrict however, even with that concept in mind, the weavers tend to avoid gender based motifs for contemporary products. The weavers would weave such textiles strictly only in the form of the conventional wraparounds or shawls.



Product set 10

A.

B.



**Product set 10:** While observing product set 10, the weavers clearly stated that they would be willing and comfortable to make product B, as the motifs seen on the bag as inspired, contemporary motifs which are perfect for making modern products. The colours are more subtle than the usual traditional colours and would be suitable and popular even on the global market. For product A however, the weavers pointed out that the textile known as ‘Pfhemhou’ is used as a wraparound and is worn by women of the Angami tribe. Since the textile is used by women, it would be appropriate to use it on a women’s bag. Even then, the weavers stated that they would prefer making product B in order to avoid any type of inconvenience because of the use of a traditional textile.

Mind-Mapping

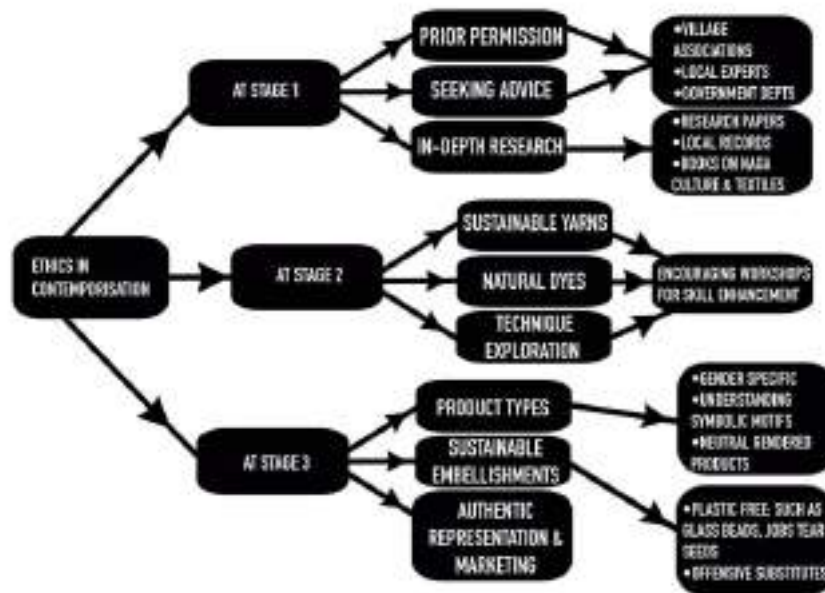


Figure 2: Ethical process of contemporisation of Naga textiles.

Mind mapping was done after content analysis of interviews and photo elicitation. A flowchart is drafted to show the ethical methods of contemporisation. The information regarding the customs and etiquettes to avoid cultural appropriation are identified and discussed below.

From the above analysis, appropriate etiquettes or methods were identified for contemporisation of Naga textiles. They are as follows:

1. Understanding the meaning of ‘Ethical’ collaboration with The Naga tribes

To ensure that there are a variety of design options to explore with, designers and experts attempt to work with textiles and designs from various tribes. In some cases, local associations or village heads are not very keen with a designer working with textiles from another tribe other than the tribe that the designer belongs to. Nevertheless, it had never been pointed out as something which is strictly prohibited as the designers and experts state that various weavers from Nagaland have been extensively working with



designers and organisations from outside the state as well. A requirement from the designer or organisation's part would be to study the textiles of the tribes that they are working on as meticulously as possible with further in-depth discussion and guidance from local experts/associations.

The Naga tribes are known to have similarities but they could also vary greatly from one another in the matter of traditions and customs depending on the level of literacy or even migration patterns and location. Some tribes tend to be more strict with their traditions as compared to others.

## 2. Engaging in considerate collaboration And co-designing

Collaborations with entrepreneurs, designers and weavers are important to help the craft grow and develop. It was observed that in the region, many are not open to collaborating at times because they are afraid that their work would be copied, duplicated, sold under someone else's name and damage the reputation of the original creator.

The Naga textile market has undoubtedly become very commercial. Whilst participating in workshops, some of the weavers themselves are not as keen in uplifting their culture and heritage and are more interested in financial aid and gain out of it.

The importance of traditions, methods and techniques should be clearly explained to the weavers to encourage collaboration. Taking the first step towards a project after learning the proper ethics and carrying out accurate research is important, as weavers are at times not confident in taking the first step.

## 3. Understanding Appropriate Products Types

Designers and experts who are successful in creating Naga textile products for the contemporary market, tend to work with products that are not gender specific such as home furnishing textiles; cushion covers are a popular product type along with throws, wall hangings, wall frames, sofa mats, table runners and mats.

Bags, shawls, stoles and mufflers come in second while garments such as dresses and tops are the least worked upon products unless the local people are making them for themselves. Experts tend to make products that are not gender specific because the Nagas are strict with the gender identity of their textiles. Each motif has to be used in the appropriate category. It is a very sensitive subject in Nagaland and most of the local experts and weavers would avoid being involved in projects with such types of products.

## 4. A Focus On Techniques

According to experts, design intervention is still lacking while co-designing textiles in North East India. Before working with any craft, extensive study is required to understand the constraints, the sensitive points to stay clear off and the strengths of a craft to focus on. Such strength in the case of Naga textiles, are techniques.

At present, the experts tend to focus on exploring with techniques and methods of weaving rather than just on the motifs alone. Experimenting with techniques is important in order to grow as a creative and would allow the experts/designers and weavers to make unique, never-done-before products.

a) Methods and techniques of weaving have differed greatly from old vintage pieces. Studying old pieces and attempting to replicate them is a way of working on new pieces while retaining the cultural essence. This practice would bring about revival of old methods and techniques which in turn would add to the sustainability factor of a product (hand spinning, natural dyes). From surveys and focus group discussions, the weavers had shared that they have tried replicating older textiles belonging to their parents or grandparents and have successfully been able to do so.

b) Attempts at reviving natural dyes in Nagaland is one related to the above paragraph. A majority of the weavers do not dye or spin their own yarns anymore and have resorted to buying readymade, pre-dyed yarns from the market. Synthetic pre-dyed yarns are easily available and extensively used for weaving textiles in Nagaland today. In the olden days, Naga textiles were naturally dyed with organic materials that were readily available around them or at times grown by the weavers themselves. Although some raw materials may not be available in abundance as they were in the olden days, attempts at reviving natural dyes can be brought about by borrowing knowledge from other communities. According to the weavers, workshops on natural dyes had been conducted earlier in the past by organisations and government departments. These workshops have benefited weavers by sharing knowledge on natural dyes from other communities as well. Some weavers and designers practise natural dyeing of yarn today with materials that are available in neighbouring regions if not in Nagaland itself.

c) Textural exploration- Textural exploration is another option of experimenting with techniques. A handful of experts and weavers are keen to make weaves that have dimensional textures instead of the usual textiles that were flat by design. Weaving is a very tactile medium and can be easily manipulated by hand. Exploration, paired with choices of yarn creates the ability to add volume. Flat designs also have texture which may seem playful to the eye (for eg; griddle effect; an effect extensively used when weaving contemporary Naga textiles) or felt on the tip of the hand. This is something that people may not think about often. Mixing the flat weaves with the dimensional textures (for eg; Rya loops, pile weave, Soumak weave) or weaving sections with heavy texture; and others with flat textures could create unique pieces. Weaving irregular lines and diverse-sized shapes are also contemporary weaving techniques observed to be done by one of the Experts.



d) Patchwork/ collage look- Designers and experts have started reimagining textile pieces such as wall hangings or frames that are woven to emanate the look of patchwork or collage work. The textile piece is divided into sections with different types of supplement weft patterns, woven on different sections; giving it a contemporary look. Such types of pieces are woven keeping a neutral colour story which has great capability for the global market.

### 5. Understanding The Weight Of Symbolic Textiles

The Nagas have shawls that are considered to be sacred and can only be used by people who have earned it or men with high status in society. The experts would usually keep away from working with these sacred textiles as it is a sensitive issue among the tribe. Instead they would use the motifs and designs that have been considered to be more lenient and free for contemporisation.

According to the weaver's experiences, it is said that the main, unique traditional motifs cannot go through even minute changes or get customised as it is frowned upon and at most times prohibited by village associations.

Additionally, swapping genders when it comes to the traditional textiles is still considered an offence unless the textile pieces are meant for unisex use. Even a tiny motif from a men's shawl or warrior shawl should not be used for women's products. Before co-creating with Naga weavers, it is important to inform and seek proper permission from village associations so that products can be made with proper knowledge and guidance.

### 6. Retaining Sustainability Of Products Woven In Nagaland

To retain sustainability while contemporising Naga textiles, one must use genuine sustainable raw materials. Today, weavers use polyester and acrylic yarns but experts have been pushing original and genuine products made from Cotton yarn, Eri silk.

In theory, bamboo should be one of the most sustainable and is usually labelled as eco friendly; but the multi-step process of making it is not. This could at times lead customers into believing that they are supporting sustainable products.

Experimenting with new sustainable yarn is also another way to retain the essence of the craft. During the year 2018-2019 the researcher had studied designers (such as Heirloom Naga and Woven treads) as well as weavers experimenting with Eri silk, Linen and have managed to create beautiful products. This concept along with natural dyeing of yarns would retain the sustainability factor in Naga textile products.

### 7. Understanding present-day customs

Customs have arisen in recent years, which are now accepted in the present by the Naga communities. During the olden days, certain shawls were earned by warriors after a successful headhunt or after giving a big feast. On the other hand, the youth today, would wear these shawls when they graduate or when they have completed a significant chapter in their life.

According to the weavers, Christianity does not affect the designs they weave or the attire they wear at present; unlike in the late 1840s, when the British restricted the Nagas from wearing their textiles, as they were considered to be related to their animistic beliefs. The Nagas have learned to accept Christianity hand in hand with their traditional customs. Today, Nagas are known to be proud of their traditional attire and textiles and wear them irrespective of their religious beliefs. At present, traditional wraparounds and shawls are observed to be extensively worn while attending church, during festivals and other special occasions. At times designers also create runway collections out of these textiles with some collections being appropriate and some unfortunately labelled as cultural appropriation.

### 8. Documentation of Naga textiles

Traditions in Nagaland have at all times been passed down by word of mouth, folk stories or "oral traditions" and have almost never been documented until the arrival of the British. According to the experts, even if these traditions were shared only through word of mouth, there are certain values and customs that have to be respected and protected.

There are pros and cons with the conversion to Christianity. During this time, a number of the village elders started burning or burying their old textiles and sold off their ornaments as a sign of being converted from animistic to Christianity.

A large amount of genuine textiles and ornaments were lost in the process. The only sources of knowledge available on tradition and methods were the stories passed down from the older generations and additionally old textile pieces that had survived through the conversion. Studies conducted by various anthropologists and ethnographers have shed some light on the authentic traditions of the Nagas. With the coming of Christianity, in the 19th century (1846-1847) the traditional motifs also began to change. There seemed to be lesser use of animistic motifs not only in their textiles but also on their wooden crafts, gates etc. When discussing colours, the weavers had mentioned that the elders would share what each colour signified. According to the elders, red signifies bloodshed as a tribute to their ancestors. Black is usually associated with hardships and green for victory. White signifies bone or peace which differs from shawl to shawl. This according to the elders was the belief among most of the Naga tribes

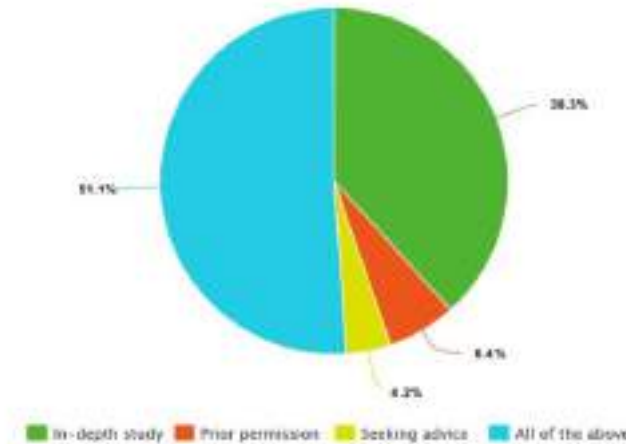
Limited old pieces of textiles are available with the weavers and locals due to the fact that they would weave the textiles in order to gift or sell them away. In some instances weavers have also lost old textile pieces, some have had the unfortunate incident such as accidentally having their house burned down around 1994/1995, which ultimately lead to loss of authentic traditional items and textiles. Therefore, documentation in all states is important to assimilate authentic knowledge.



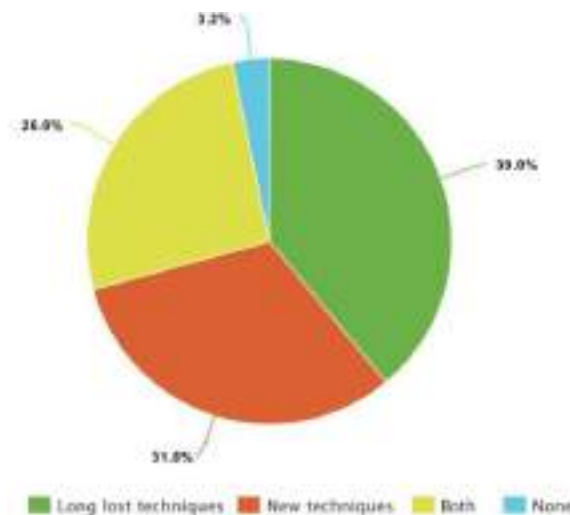
### DATA ANALYSIS - FEEDBACK SURVEY

A feedback survey was conducted with a sample size of 328 respondents in order to test the original users' attitude towards the etiquettes/ methods identified after the entire research was complete. The level of importance of some methods over others, are highlighted in this section. The information regarding the methods/ etiquettes to avoid cultural appropriation were identified, compiled and discussed.

The feedback survey is an attempt at understanding the authenticity of these etiquettes as well as to understand whether there is a common understanding of cultural appropriation among the original users, local experts and the weavers. Data analysis of the feedback survey is discussed below:



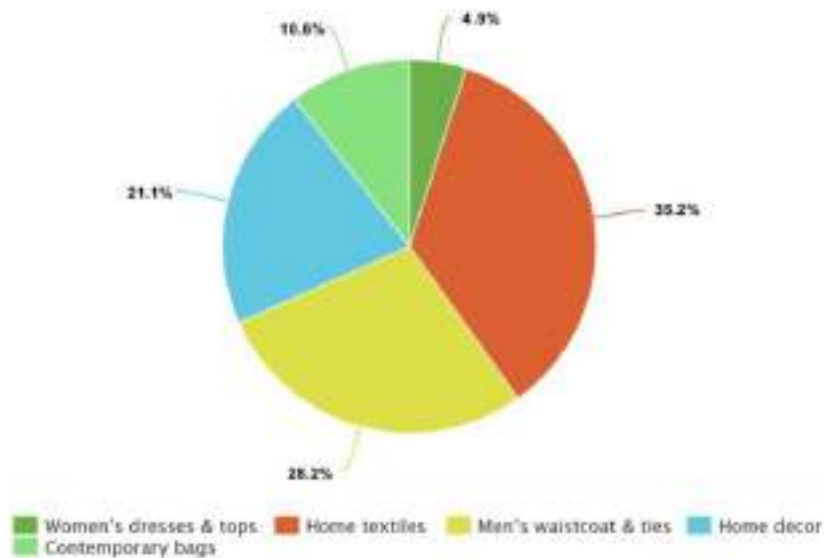
1. 51.1% of original users that the ethical methods to avoid cultural appropriation include not only doing an in-depth study of the culture and textiles of the community but also seeking prior permission from village associations before starting a project and seeking advice from experts. 38.3% say that doing an in depth study is the best way to avoid cultural appropriation.
2. 39.0% expressed interest in handloom pieces woven by reviving long-lost methods and techniques as they agreed that old textiles were a lot more sustainable and environmentally friendly. Another common reason was the fact that there would be more awareness regarding the authentic and traditional methods.  
31.8% expressed interest in textiles woven using new techniques stating that they believed that there would be more options and weavers would be able to explore extensively.



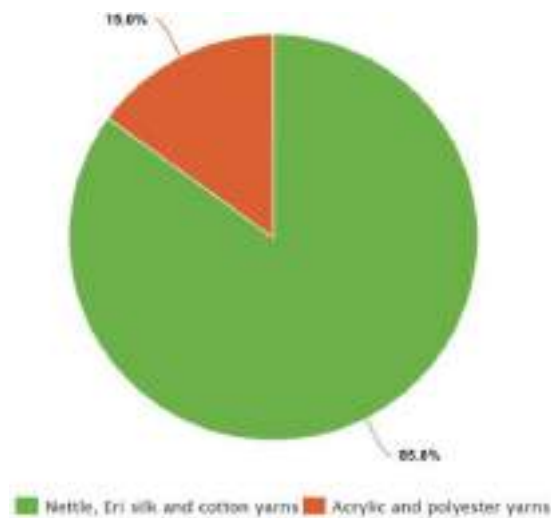
3. According to the respondents, Home textiles at 35.2% and Men's accessories at 28.2% are the most appropriate product categories for the contemporary Naga textile market. Home textile is the safest option as it does not involve gender. Men's



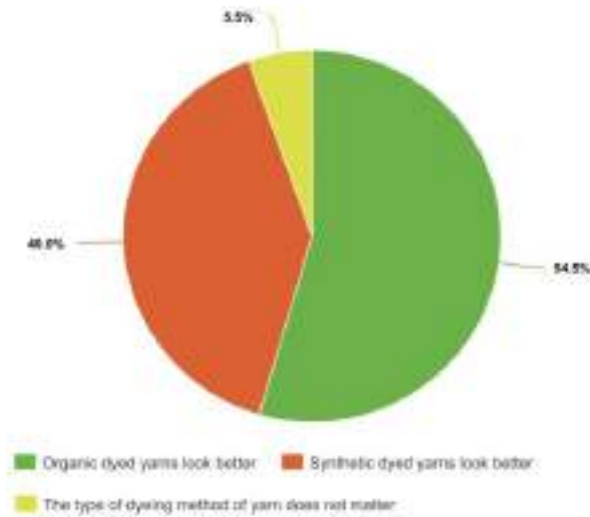
accessories however, are pieces that have been made for years therefore, it is an appropriate category as long as the gender is not swapped. Women's dresses and tops (4.9%) are the least appropriate category as it is very easy to cause offence while designing them.



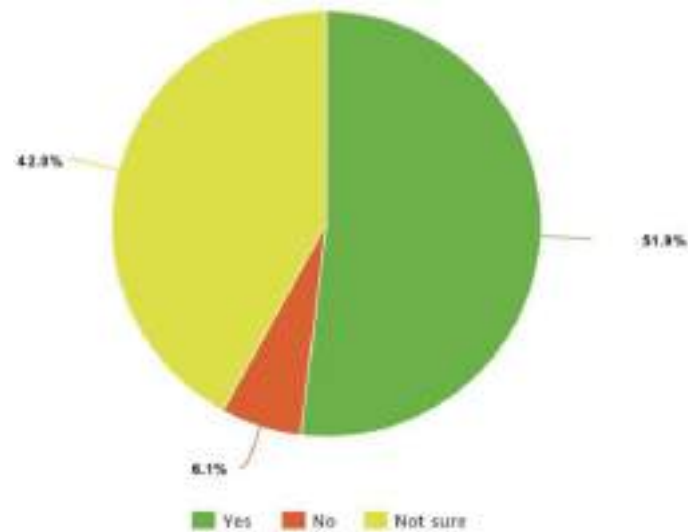
4. 85.0% respondents expressed interest in textiles woven using sustainable yarns, stating that the textile pieces would have overall more authenticity the second reason was that they are more environmentally friendly. 15.0% stated that they were interested in textiles woven using yarns such as Acrylic and polyester as these yarns have been used extensively in the past years therefore, some respondents have gotten used to textiles woven from these yarns.



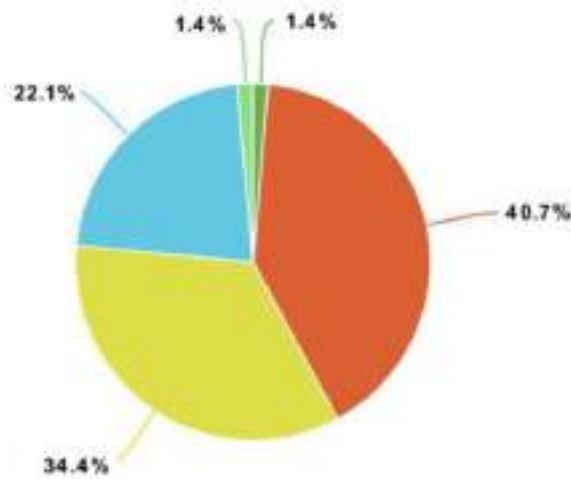
5. A booming 54.5% preferred handloom textiles that are organic/ naturally dyed. 40.0% preferred synthetic pre-dyed yarns because of the variety of colours available and 5.5% stated that the dyeing method was either not an important factor to them or is something that they are not aware of.



6. 51.9% stated that texture is an important aspect of Naga textile as textural techniques such as tufting (done on spear motifs); had always been used since the olden days, to add to the aesthetic appeal of the finished textile. 42.0% respondents were not aware of textural techniques used in Naga textiles.

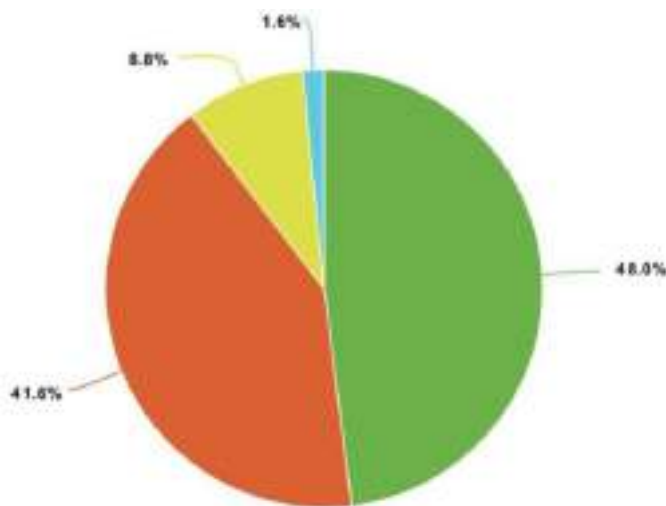


7. When asked to rank elements to avoid most when modernising Naga textiles, Gender swapping was ranked at number 1, as the most offensive followed by customising of sacred motifs and incorrect representation and marketing. Experimental silhouettes and changing of colours tied for the last rank.



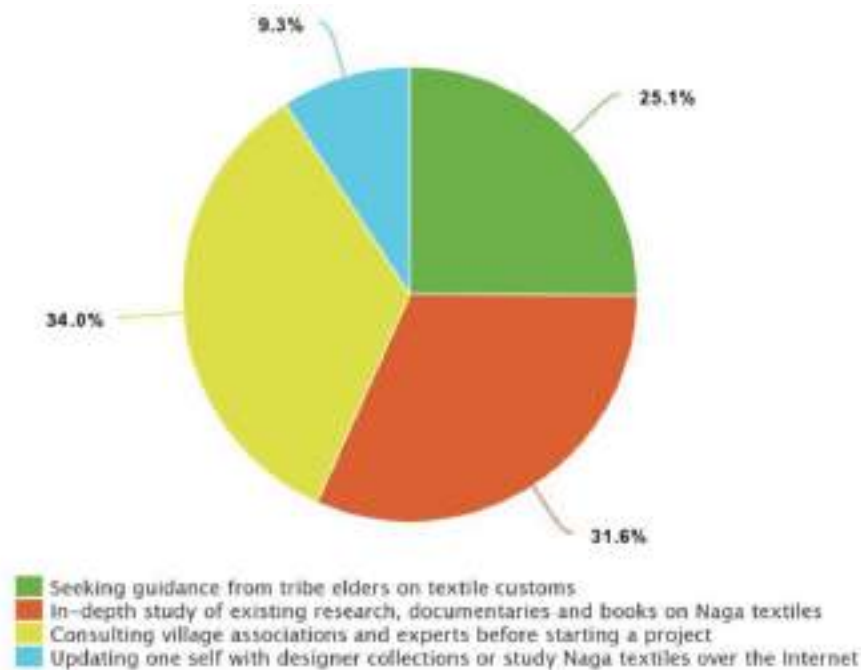
■ Experimental Silhouettes    ■ Gender swapping textile products  
■ Incorrect representation    ■ Changing colours    ■ Customising sacred motifs

8. When asked how important it is to document textiles and costumes of each Naga tribe, 48.0% said that it is extremely important, 41.6% stated that it is important, 8.8% did not have an opinion about it (most respondents were older people who were not literate). The 1.6% who said Not important were also people similar to the previous group.

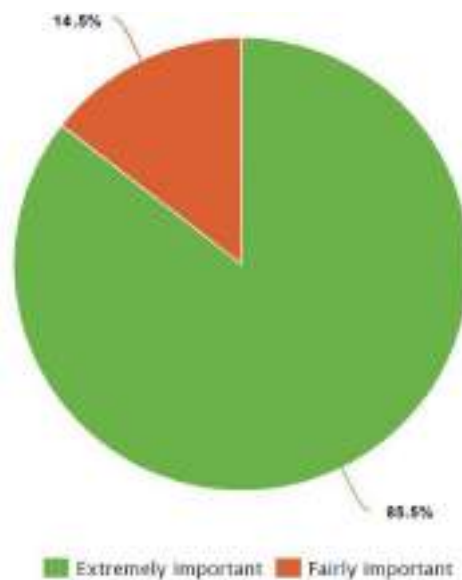


■ Extremely important    ■ Important    ■ Neutral    ■ Not at all important

9. 34.0% respondents believe that the best way for people to avoid cultural appropriation would be by consulting village associations as well as in-depth study of existing documents. 25% said that seeking guidance from tribal elders would be the best way while 9.3% said one should update oneself over the Internet.



10. When asked how important it was for other people to represent the original users' textiles and costumes appropriately; 85.5% stated that appropriate representation is extremely important. 14.5% respondents said that it is fairly important. None of the respondents said that it was not at all important.



## CONCLUSION

The documentation of textile crafts aids in preserving the stories, symbolism, and techniques of the craft. A historical and cultural study of the Naga tribes would be valuable to craft enthusiasts and historical academicians who are interested in the study of textile craft. The study on Naga textiles would certify transformative research that would assimilate appropriate knowledge on culture and ethical contemporisation of Naga textiles. Photo elicitation aided in understanding ethical methods of contemporisation of Naga textiles from the weavers themselves.

Brainstorming and mind-mapping was done and these ethical methods were recorded and presented in the form of a flowchart. The methods were then further discussed. The feedback survey regarding methods of contemporisation of Naga textiles revealed a sense of acceptance and confidence in the original users in terms of contemporisation of textiles, when the methods were applied. The idea





of appropriate contemporisation of the craft led to the acceptance of modernisation of Naga textiles by the original users. The findings of the study contribute to the idea of responsible designing, use of authentic or organic materials to retain the cultural essence, promotion of traditional techniques and assimilates knowledge on the symbolism of textiles woven in Nagaland.

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# TRACING THE DEVELOPMENT OF INDIAN ENGLISH WRITING: AN OVERVIEW OF ORIGIN AND PROGRESS

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## ABSTRACT

Nowadays the writings of Indian writers who are writing in English are becoming acclaim from around the world. they're the best sellers of this era. there's a lot of work being done in the local languages but those writers are experiencing lesser rise and development. Hence, it are often said that the research problem is that despite its own developed network of vernacular languages and literature, how is it that Indian writers who are writing in English are rising and growing at such a rapid pace. So a search was pursued with three questions viz. the explanations for the rise and growth of Indian English writers, from when such an increase and growth commenced and what is the impact of the rise and growth of Indian English writers on the society, language and literature of India. This research took an applied method and the specified data was collected from secondary sources. The conclusion reached on the idea of the analysis of the data was that most Indian English writers come from affluent backgrounds. Even though once they write about the middle and lower classes they portray it in a manner that someone belonging to the upper classes will do. This helps them to attach to the world. But there's lack of connect with the vast majority of the population of this country. it had been only after LPG (Liberalization-Privatization-Globalization) that the doors and windows of India were opened for the rest of the world. This was the period when actually for the first time everyone saw the event of foreign readership of the Indian English writers. This was the time of the early 1990s. This was the period when the domestic readers also started taking the Indian English writers and rediscovering many of them. And, as a results of this increased interaction between India and the rest of the world, India's relevance will increase within the global podiums.

**KEY WORDS:** Indian English writers, society, language, colonial

## INTRODUCTION

India is one among the earliest human civilizations of the world. The Indus Valley civilization existed and flourished about five thousand years ago. Since then this country has developed its own set of culture, language, systems, traditions and norms. This country was separated within the north by the Himalayas and in the west, south and east by the Arabian Sea, Indian Ocean and the Bay of Bengal respectively. Thus, through some millenniums it was seen that India existed within herself and was cut faraway from the world. Availability of resources, suitable climate for agriculture and a strongly tied social organization helped this country to survive through ages even when she was cut off from the rest of the world. This isolation in the pre historic and historic ages, helped in the event of Indian languages and Indian culture. Indian languages were self-sufficient and didn't have to depend on any foreign language for its survival or development. These vernacular languages had their own set of grammars and most of them shared a common point of origin, i.e. Sanskrit. In these languages, the traditional scriptures were written, hymns were framed that were passed on from generation to generation and everyday communication was done.

Indian writing in English is primarily a results of the English colonial rule in India spanning almost two centuries. there's an undeniable relation between the literary work and the

historical background out of which it arises. In spite of the western imperialism and colonialism the Indian culture has grown incredibly over the past 2 hundred years. it's a well-known fact that the Englishmen came to India on the pretext of trade and immediately realized that a stable political control would substantially increase their profits. The Industrial Revolution in England could only sustain itself through the capital made in the Indian territories in the form of revenue collection. They then commenced to annex different territories in and around India and set up a colonial empire. British rule completely ruined the agricultural self-sufficiency of the farmers and the trade of silk cloth saw a downslide thanks to the English factory produced cloth more easily and cheaply available.

The weavers and artisans lost their job and had to sustain themselves by working in cotton plantations. The old existing order underwent an entire and systematic destruction and overhaul bringing misery, poverty and death to many Indians. After some years of colonial rule and consolidation, English empire got embroiled in a hotly debated and discussed issue of introduction of English language in educational institutes. during a watershed decision English was introduced within the Indian education system, and was understood to be a special epistemological template during which not only the language but lifestyle and culture was imposed. because it is apparent with scorn and despise towards Indian languages, the



only purpose regarding English was to strengthen their rule and brainwash the colonized; and to not empower or produce scholars. Moreover, the colonizers only had contempt and disdain for the established languages, knowledge, beliefs, religion and academic institutes, labelling them as being irrational, pagan, barbaric, unscientific and immoral. With the introduction of English language the missionaries got a far better hold on the country and political the empire established the notions that it is a benevolent authority and has now taken the responsibility of bringing light within the form of knowledge to the ignorant population. As a results of English education a few writers and poets converted to Christianity and imitated a method of writing prose and poetry like the English Romantics and classics.

The colonizers were initially largely successful in creating 'a class' of interpreters between them and therefore the masses. Education as a tool within the hands of the English proved to a great ideological weapon to legitimize their authority within the colonies. Evidently a hierarchy is made in which the western education model encompasses wisdom and knowledge as against the colonized people that are imbeciles. The education introduced was naturally lopsided and it not only valorised English traditions and way of life, it also provided the newly urban English educated a really limited and constricted space for liberal thought. The Indians began to believe that the colonizers had an ethical responsibility to fulfil as the country was depicted to be infected by depravity, bestiality and religious bigotry. The evangelists propagated Christianity in schools indirectly by teaching biblical scriptures instead of English grammar. These pioneering works of poetry, fiction, drama, travel, and belles-lettres are little read today except by specialists, but once they were published they were, by the mere fact of being in English, audacious acts of mimicry and self-assertion

English as a language came to India with the arrival of British. When the British started using English as the official language during this country, at that point the vernacular languages of India were quite developed. that they had a history of a few thousand years attached to them. The reason behind this being the hard work put for the development of these languages for a few millenniums. But still, English started gathering importance. After independence in 1947, English gained more importance. A generation was created where Indians are more comfortable in English, than in their native languages. The writings of Indian writers who are writing in English are getting acclaim from round the world. they're the best sellers of this era. this is often a very interesting situation. Had India not been one among the earliest civilizations with a developed network of its own languages, then things would be expected and there would have been nothing to research about. But it's not like that. there's a lot of work being wiped out the local languages but those writers are experiencing lesser rise and development. Hence, it is often said that the research problem is that despite its own developed network of vernacular languages and literature, how is it that Indian writers who are writing in English are rising and growing at such a rapid pace.

Among the later writers, the foremost notable is Salman Rushdie, born in India and now living within the USA. Rushdie, together with his famous work *Midnight's Children* (Booker Prize 1981, Booker of Bookers 1992, and better of the Bookers 2008), ushered during a new trend of writing. He used a hybrid language – English generously peppered with Indian terms – to convey a topic that could be seen as representing the vast canvas of India. He is usually categorized under the magic realism mode of writing most famously associated with Gabriel García Márquez. Nayantara Sehgal was one among the first female Indian writers in English to receive wide recognition. Her fiction deals with India's elite responding to the crises engendered by political change. She was awarded the 1986 Sahitya Akademi Award for English, for her novel, *Rich Like Us* (1985), by the Sahitya Akademi, India's National Academy of Letters. Anita Desai, who was shortlisted for the Booker Prize 3 times, received a Sahitya Akademi Award in 1978 for her novel *Fire on the Mountain* and a British Guardian Prize for *The Village by the ocean*. Her daughter Kiran Desai won the 2006 Man Booker Prize for her second novel, *The Inheritance of Loss*.

Ruskin Bond received Sahitya Akademi Award for his collection of short stories *Our Trees Still Grow in Dehra* in 1992. he's also the author of a historical novel *A Flight of Pigeons*, which is predicated on an episode during the Indian Rebellion of 1857. Vikram Seth, author of *The Golden Gate* (1986) and *A Suitable Boy* (1994) is a writer who uses a purer English and more realistic themes. Being a self-confessed fan of Austen, his attention is on the story, its details and its twists and turns. Vikram Seth is notable both as an accomplished novelist and poet. Vikram Seth is also a prolific poet.

Another writer who has contributed immensely to the Indian English Literature is Amitav Ghosh who is the author of *The Circle of Reason* (his 1986 debut novel), *The Shadow Lines* (1988), *The Calcutta Chromosome* (1995), *The Glass Palace* (2000), *The Hungry Tide* (2004), and *Sea of Poppies* (2008), the primary volume of *The Ibis* trilogy, set within the 1830s, just before the Opium War, which encapsulates the colonial history of the East. Ghosh's latest work of fiction is *River of Smoke* (2011), the second volume of *The Ibis* trilogy. Rohinton Mistry may be a n India born Canadian author who is a Neustadt International Prize for Literature laureate (2012). His first book *Tales from FirozshaBaag* (1987) published by Penguin Books Canada may be a collection of 11 short stories. His novels *Such an extended Journey* (1991) and *A Fine Balance* (1995) earned him great acclaim.

Shashi Tharoor, in his the good Indian Novel (1989), follows a story-telling (though during a satirical) mode as within the Mahabharata drawing his ideas by going back and forth in time. His work as UN official living outside India has given him a viewpoint that helps construct an objective Indianness.

Vikram Chandra is another author who shuffles between India and therefore the United States and has received critical acclaim for his first novel *Red Earth and Pouring Rain* (1995) and collection of short stories *Love and Longing in Bombay* (1997).



His namesake Vikram A. Chandra may be a renowned journalist and the author of *The Srinagar Conspiracy* (2000).

Suketu Mehta is another writer currently based within the United States who authored *Maximum City* (2004), an autobiographical account of his experiences within the city of Mumbai. In 2008, Arvind Adiga received the person Booker Prize for his debut novel *The White Tiger*.

Recent writers in India like Arundhati Roy and David Davidar show a direction towards contextuality and rootedness in their works. Arundhati Roy, a trained architect and therefore the 1997 Booker prize winner for her *The God of Small Things*, calls herself a "home grown" writer. Her award-winning book is about in the immensely physical landscape of Kerala. Davidar sets his *The House of Blue Mangoes* in Southern Tamil Nadu. In both the books, geography and politics are integral to the narrative. In his novel *Lament of Mohini* (2000), Shreekumar Varma touches upon the unique matriarchal system and therefore the sammandham system of marriage as he writes about the Namboodiris and therefore the aristocrats of Kerala.

## CONCLUSION

English is not really an alien language to us. It is the language of our intellectual make-up - like Sanskrit or Persian was before - but not of our emotional make-up. We are all instinctively bilingual, many of us in our own language and in English. We cannot write like the English. We should not. We can only write as Indians. We have grown to look at the large world as a part of us. Our method of expression therefore has to be a dialect which will someday prove to be as distinctive and colourful as the Irish or the American. Time alone will justify it. The readership and production of numerous writings both in quality and quantity in vernacular languages in India is by far larger than the English counterpart. One has to assess the readership of Indian English writing which is at best nominal in India, the target thus, seem to be the widely English speaking western world. Given the fact that English today is the language not only of upward social mobility and outward geographical mobility, but also a major tool for accessing knowledge at the higher level." One cannot remain blind to the major characteristic feature of Indian English literature, both linguistic and cultural, that its influence extends beyond the limits of any elitist paradigm.

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## TECHNOLOGICAL ASPECTS OF OBTAINING AMINOALDEHYDE OLIGOMER MODIFIED WITH CROTONALDEHYDE

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### ABSTRACT

Today, there is a growing demand for oligomers containing amino groups in the world, including in woodworking, textile, plastics, as well as in many other industries, such as the fur industry. In our republic, the work aimed at the purposeful use of waste from cocoon processing plants is developing rapidly. The resulting oligomers are used as fillers in the leather-fur industry. Because today, obtaining hydrophilic fillers using local raw materials is one of the urgent problems of science. Taking this into account, in this article oligomers based on croton aldehyde and diethanolamine were obtained from cocoon waste and the extraction technology was explained. Mechanisms of synthesis of oligomers are presented. The sequence and schemes of technological processes are presented.

**KEYWORDS:** croton aldehyde, diethanolamine (DEA), sericin, cerine, amino acid, condensation, vacuum chamber, modification, aminoaldehyde

### 1. INTRODUCTION

In recent years, the new Uzbekistan has achieved certain results in the localization of the raw material base in all industries and the production of import-substituting materials on their basis [1-5].

The main component of sericin is the amino acid cerin, present in the sewage of silk factories. The Chinese epic links the development of the history of silk and cocoon processing with the most ancient dynasties that existed before 3000 BC. Uzbekistan, located on the Great Silk Road, also has a long history of production of silk and silk products [5-10].

The purpose of this study is to obtain an oligomer based on sericin with the presence of diethanolamine (DEA) in the presence of croton aldehyde from JSC "Navoiyazot" and to evaluate the effect of technological parameters on the oligomerization reaction in the mass. It is known that the mass interaction of aldehydes and amines depends on their structure, concentration and other factors. Consideration of

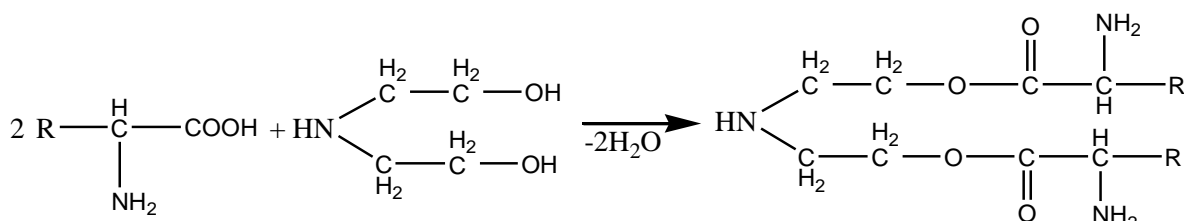
concentration effects in reactions allows in most cases to estimate the effect of reagents on their reactivity [11-14].

### 2. MATERIAL SAND METHODS

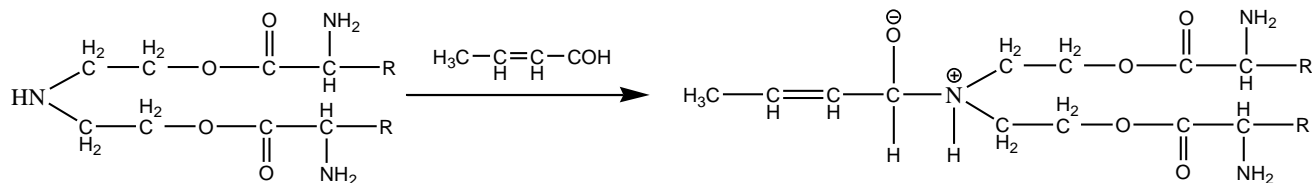
The object of the study is the synthesis of new derivatives of aminoaldehydes before and after filling natural leather samples. The subject of research are cericin, amino acids, monoethanolamine, crotonaldehyde and diethanolamines. The main component of sericin is the amino acid cerine, which is present in the wastewater of cocoons.

In the synthesis of nitrogen- and sulfur-retaining oligomers in the solution, initially, diethanolamine (DEA) reacts with cericin to form a monomer. After the formation of monomers, condensation of croton with aldehyde is carried out, followed by oligomerization of these monomers.

The above-mentioned processes can be generally represented by the following reaction schemes. At the beginning of the reaction, cericin reacts with amino acids in a 2:1 mole ratio with DEA.

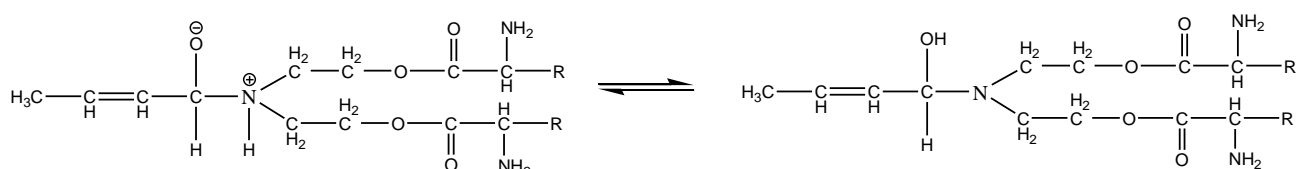


The resulting ester undergoes a Mannich reaction with secondary amines, and the intermediate form is represented by the following form.



Secondary amines are more reactive than primary amines in the Mannich reaction.

The intermediate form regroups to form a monomer containing a double bond.



The reaction product has the following properties: brown solid, non-volatile, the content of the main composition is 96.5%, additives - 3.5%.

At a constant ratio of reagents, the percentage of oligomer increases when the reaction temperature increases from 323 to 343 K, the further increase in temperature increases the homogeneity of the oligomer, and also causes an increase in its molecular mass (by cryoscopy) from 3200 to 4958. These identified properties are probably due to the formation of biradicals of unsaturated groups in croton aldehyde during heating and the increase in the degree of polymerization due to the double bond.

### 3. RESULTS

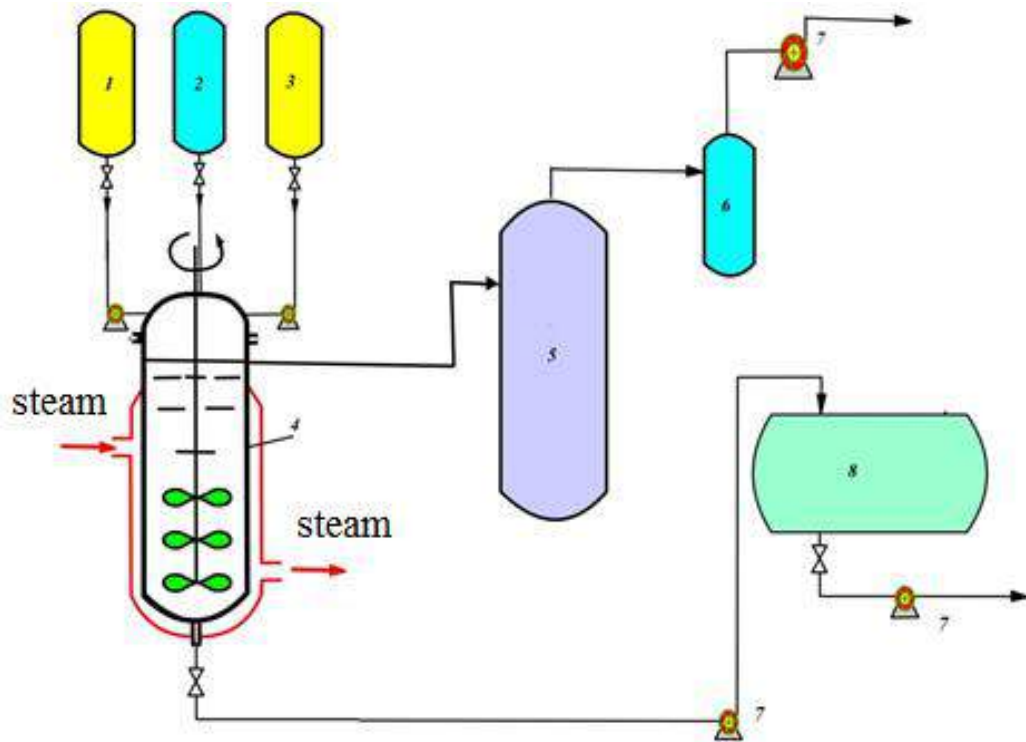
The complete prevention of the formation of intermediate states is of particular importance in obtaining the modified aminoaldehyde oligomer. Oligomers are modified

with them or aldehydes in order to ensure their solubility in organic solvents, their good penetration with glue and enamels in leather finishing, and to increase their resistance to water.

The difference in the proposed technological processes is mainly due to factors such as the amount of reactants, temperature, duration of the process and ratio of reagents. The technology includes the following steps:

- 1) obtaining oligomer;
- 2) modification;
- 3) separation of residues while controlling the temperature and amount of reagents.

Based on the results of the research conducted in this way, the technology of obtaining aminoaldehyde oligomers, and then applying it to leather filling, was developed. Figure 1 shows the principle technological scheme for obtaining a modified aminoaldehyde oligomer.



**Figure 1. The principle scheme of obtaining aminoaldehyde oligomer modified with croton aldehyde: 1- sericin dosage capacity; 2- dosing capacity for DEA; 3-Dosing capacity for croton aldehyde; 4- reactor for obtaining oligomer; 5- condenser; 6 – vacuum chamber; 7- vacuum pump; 8 – oligomer storage capacity.**

For production purposes, it is desirable to obtain the modified oligomer in the form of a powder or a concentrated solution. Attempts to evaporate and dry the modified aminoaldehyde oligomer under various conditions have been unsuccessful. For example, when evaporating a modified aminoaldehyde oligomer at around 100°C, water evaporates very slowly, and the drug loses its solubility. Evaporation of the drug at low temperatures (50-60°C) leads to the formation of a pasty, opaque mass that is poorly soluble in water. Therefore, there is a need to develop a technology for obtaining a concentrated modified aminoaldehyde oligomer

that does not require evaporation, and we obtained such oligomers.

Concentrated modified aminoaldehyde oligomers obtained under production conditions can be used even after a month. Only in this case, in order to reduce the viscosity of the solution, it is advisable to dilute the drug with water before use.

When studying the degree of absorption in skin samples treated with the obtained composition, the degree of absorption is also high in accordance with adhesion.

**Table 1. The degree of absorption of the material**

The composition of the component, mass in%, oligomer	The composition of the component, mass in%, croton aldehyde	Absorption rate%	
		On a surface	By Bakhtarma
10	90	16	32
20	80	18	33
30	70	20	34
40	60	22	38
50	50	21	42
60	40	23	47
70	30	19	41
80	20	15	33

Skins (experimental samples) treated with croton aldehyde, synthesized oligomers and their compositions were studied. As it was found above, when croton aldehyde is introduced into the composition, the most optimal and

acceptable concentration is 40:60%.



#### 4. CONCLUSIONS

The data obtained show that the maximum yield corresponds to a ratio of 1:1, and the dependence of the oligomer yield on the ratio of the initial substances also has a high index property. Improved compositions of croton aldehyde with an oligomer in the upper layer of ether films of the finishing coating are obtained, which improve the water resistance of polymer coatings, as well as the adhesion and thermal stability of film formers.

It has also been found that the degree of absorption and adhesion of the synthesized oligomer to the material improves without prejudice to other properties of the material, and it was found expedient to use it as a filler in leather and fur production.

#### 5. ACKNOWLEDGEMENTS

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# DEVELOPMENT OF THE WORLD ECONOMY AND GLOBALIZATION SYSTEMS OF INTERNATIONAL ECONOMIC RELATIONSHIPS

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## ANNOTATION

*The article discusses issues related to the development of the world economy and globalization of the system of international economic relations.*

**KEY WORDS:** *globalization, integration processes, economic relations, national economies, information processes, problems.*

# РАЗВИТИЕ МИРОВОЙ ЭКОНОМИКИ И ГЛОБАЛИЗАЦИИ СИСТЕМЫ МЕЖДУНАРОДНЫХ ЭКОНОМИЧЕСКИХ ОТНОШЕНИЙ

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## Аннотация

*В статье рассматриваются вопросы, связанные с развитием мировой экономики и глобализацией системы международных экономических отношений.*

**Ключевые слова:** *глобализация, интеграционные процессы, экономические отношения, национальные экономики, информационные процессы, проблемы.*

## RELEVANCE OF THE TOPIC AND PROBLEM STATEMENT

At the present stage of development of countries and societies, the market economy appears to be one of the decisive factors of social progress. At the same time, globalization and integration processes have the most significant influence on the complex and extraordinary processes of world economic development. To realize the objectively explanatory essence, features of such processes, it means to really build the policy and practice of economic management both nationally (in a particular country), and at the world level. First of all, we are talking about a deeper theoretical, theoretical and methodological understanding of these processes, and then - the development of practical programs and plans.

## ANALYSIS OF RECENT RESEARCH.

World globalization, integration processes are studied by different sciences and in many aspects, and therefore it is rather difficult to characterize the special scientific literature on this issue. In general terms, these are, first of all, the works of such foreign and domestic scientists as I. Alekseenko, G. Anilionis, I. Bek, V. Berens, O. Belorus, S. Vovkanych, I. Voronov, V. Zhuravlev, N. Zotova, M. Kosolapov, I. Kresina, D. Meadows, O. Neklessi, J. Renders, D. Soros, V. Singer, J. Stiglitz, A. Utkin, M. Cheshkova, O. Chumakov, V. Sheiko, M. Shepelev, Ch. Kulmatova, A. Azizova, B. Khodieva and many others. At the same time, the Uzbek researcher of globalization processes Ch. Kulmatov emphasizes that globalization radically affects the formation of global and regional relations between



countries and societies [7]. The well-known Russian political scientist K. Gadzhiev [2] considers geopolitics in a similar vein, although he also singles out in the cited monograph a special subdivision "The Correlation of Market Economy and Democracy" [Ibid. : 139-140]. Ukrainian researchers E. Borshchuk, B. Danylyshyn and others emphasize the direct impact of globalization on the formation of new economic relations in including economic contradictions [3].

Note that in the presence of a sufficiently large number of special scientific processes devoted to world globalization processes, the issues of their influence on the development of the world economy, international economic relations are still poorly studied.

The purpose of this article is to study the main aspects of the influence of world globalization, integration processes in the development of the world economy and international relations in the sphere of economics. Presentation of the main material. The concepts of "economy", "world economy", "globalization", "integration of countries and societies", with all the diversity of their scientific understanding and explanation, have a rather "transparent" character. Under the "world economy" is understood not just some, figuratively speaking, a sum, a set of national economies, but the so-called "world economy", formed at the end of the 19th century. "The world economy," write Uzbek economists, "is a set of national economies participating in the international division of labor and interconnected by the system of international economic relations" [6, p. 511]

Since the international economy is characterized by a developed sphere of international exchange of goods and factors of production, the emergence of specific international forms of production activity, the acquisition of an independent international financial system, specific mechanisms and means of international regulation of the economy, etc., it should be taken into account not only that such the economy has acquired a great and noticeable openness, but it is precisely that the world market has formed. The overwhelming majority of economists believe that the main features of such a market are:

- a) goods, production that have gone beyond national boundaries;
- b) movement of goods (due to both internal and external supply and demand);

c) optimization of the use of production factors; d) ensuring the competitiveness of goods and their manufacturers [5, p. nine].

World "globalization", "integration processes" in theoretical terms, differ only in the explanation of their essence, characteristics, influence on all the diversity of life of people, societies, the existence of countries.

The system-forming sign of the phenomenon of "globalization" is considered to be the English globe, in the meaning of which this term was allegedly first presented in his famous work Sources of History and Its Purpose by the outstanding German political scientist K. Jaspers (1948) [4]. In the most common sense, there is a definition of the process of globalization as "a general civilization process that has a huge impact on the political and other spheres of human life" [8, p.107]. That is, we take into account precisely the fact that globalization, as a unifying, integration process, is divided into globalization: economic, technological, political, cultural, ideological, etc.

Modern market relations have a fairly extensive history. Yes, the Russian political scientist K. Gadzhiev believes that the main and defining turning points of its origin and functioning were: the English bourgeois revolution of the mid-17th century, the revolution of 1688, the war for the independence of the United States (1776-1783), the Great French Revolution of the late 18th century. century and several bourgeois revolutions of the late XIX century [2, p. 143].

The formation, strengthening and development of the so-called world-economy, - say the Ukrainian political scientists M. Obushny, A. Kovalenko, A. Tkach, - are a natural consequence of the natural process of growth, migration, interaction and concentration of capital, the merger of regional or national "islands" of the market economy into an integral system. It also means the division of the countries of the world into a dominant developed center that makes a profit, and a backward (or catching up) previous one that loses profit [8, p. 113].

In other words, globalization is a rather complex and largely contradictory process that cannot be characterized only with a plus sign. By the way, in this regard, there are remarks of the Ukrainian political scientist V. Bebig, who emphasizes that at the end of the XX - beginning of the XXI century, the initial globalization processes took place mainly in the



economy, as an integration economic process and “the maturation of a universal, planetary understanding of environmental, technological and man-made problems” [1, p. 78].

Until now, they have been supplemented with a global character of information processes, problems of protecting human life (terrorism, massive epidemiological diseases, migration and other processes). We also add to this the globalization of interstate, international relations, which do not bypass any country in the world.

In the context of globalization, world integration, every country in the world feels not in need, but has the need to agree on the conditions of its own management both at the microlevel (within its own country) and at the macrolevel (between countries). That is, the state and peculiarities of the national economy of any country in the world are already becoming more dependent not only on other countries, on the world economy, but even on: the so-called professional zones (territories with benefits, peculiarities in taxation, lending, customs regulation, etc.); from free trade zones (FTZ); from the functioning of the customs union; from the functioning of the common market and economic union.

They also distinguish and characterize two main difficulties of world economic integration. First: international capital movement Second: world labor migration. Now - at the beginning of the XXI century, the most acute and unregulated is the world labor migration, which also applies to modern Uzbekistan. Many experts also argue that there is not only a direct connection between politics and the economy, but also the fact that “the more a nation achieves success in the economy,” writes the famous political scientist S. Lipset, “the more chances for this nation to become a democratic [ten].

## CONCLUSIONS

World globalization and integration are complex, multidimensional and objective processes with many manifestations, among which one of the most noticeable is socio-economic.

Since world history is not only conflicts, wars, confrontations between countries and peoples, but also a significant and positive exchange, the enrichment of mankind with numerous achievements in various areas and norms of life, then modern globalization should be

considered in a two-dimensional plane, as positive and negative. The fact that globalization in socio-economic terms contributes to a large and positive integration of countries and societies, and at the same time generates and deepens complex differentiation processes that require international efforts to resolve them is an indisputable fact.

The essence of world globalization lies in the achievement of such a level of economic, political and other interdependence of countries, regions of the world, when it is possible and necessary to create a single world legal field and world bodies of economic and political governance.

We also note that world globalization primarily concerns two main aspects: the formation of an appropriate model of economic management and a fundamentally new system of public administration.

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# ACTIVATION OF THE CONSERVATORY STUDENTS' COGNITIVE ACTIVITY IN RUSSIAN LESSONS WITH THE HELP OF NEW INFORMATION TECHNOLOGIES

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## ANNOTATION

*The advantages of using computer programs over traditional teaching methods, the functionality of electronic educational resources, the features of the use of information and communication technologies in Latin lessons at a medical university are considered.*

**KEY WORDS:** *an information technology, computer education, examinations, a lesson, the electronic text.*

## АКТИВИЗАЦИЯ ПОЗНАВАТЕЛЬНОЙ ДЕЯТЕЛЬНОСТИ СТУДЕНТОВ КОНСЕРВАТОРИИ НА УРОКАХ РУССКОГО ЯЗЫКА С ПОМОЩЬЮ НОВЫХ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ

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## Аннотация

*Рассмотрены преимущества использования компьютерных программ над традиционными методами обучения, функциональные возможности электронных образовательных ресурсов, особенности применения информационно-коммуникационных технологий на уроках русского языка в государственной консерватории Узбекистана.*

**Ключевые слова:** *информационные технологии, компьютерное обучение, проверка знаний, урок, электронный текст.*

Современность предъявляет все более высокие требования к обучению русскому языку в государственной консерватории Узбекистан. Объемы информации растут, и часто традиционные способы ее передачи, хранения и обработки оказываются неэффективными. Разрабатываются пути повышения результативности общего образования, вкладываются большие средства в разработку и внедрение новых информационных технологий. Применение информационно-коммуникационных технологий на уроках русского языка в консерватории прежде всего позволяет активизировать задачу формирования навыков самостоятельной познавательной и практической деятельности обучаемых [1].



Проводимые психолого-педагогические исследования, среди которых можно выделить работы Я.А. Ваграменко, А.А. Кузнецова, Е.И. Машбиц, Е.С. Полат, В.В. Рубцова, Б.К. Тихомирова, говорят о большом потенциале использования методики обучения, основанной на применении информационно-коммуникационных технологий. [1]. Применение данной методики обеспечивает индивидуализацию процесса обучения, адаптацию к способностям, интересам и возможностям обучаемых, развивает их творческую деятельность и самостоятельность, открывает доступ к новым источникам знаний и информации. Компьютерные обучающие программы имеют много преимуществ перед традиционными методами обучения. Они позволяют развивать различные виды речевой деятельности и использовать их в разных комбинациях, помогают осознать языковые явления, сформировать лингвистические способности, создавать коммуникативные ситуации, автоматизировать языковые и речевые действия.

Компьютерное обучение несет в себе огромный мотивационный потенциал. Действительно, использование мультимедиа позволяет заинтересовать каждого студента-музыканта, насытить урок разнообразными материалами, расширяет возможности варьирования различных форм воздействия и работы, делая урок ярче и насыщеннее. Особая роль принадлежит, конечно, визуальным материалам — фото, плакатам, видеофрагментам, анимациям и т.п. Однако для эффективного внедрения данного вида обучения в систему предметного среднего образования необходимо соблюдение ряда педагогических и психологических условий.

В настоящее время меняется принцип отображения информации, представленной в виде текста. Линейный принцип представления такого рода информации уступает место «клиповому принципу», фрагментарному, образному предъявлению знаний, сведений и т.д. Экранно-компьютерное представление учебной информации формирует особый тип мышления [2]. Информационно-коммуникационные технологии дают возможность оперативного реагирования на быстроизменяющийся мир, что немаловажно при изучении русского языка, в частности его лексики.

Рассмотрим вопрос о функциональных возможностях электронного текста. Несомненно, возможности такого текста шире возможностей текста, хранимого на бумажном носителе. Назовем преимущества электронного носителя информации:

- возможность компактного хранения большого количества информации;
- быстрого тиражирования и распространения учебной информации;
- членения текста и его корректировки;
- использования текста несколькими независимыми пользователями;
- дополнения текста другими семиотическими системами, такими как звук и изображение.

Урок, построенный с использованием информационных технологий, позволяет реализовывать принцип дифференцированного и индивидуального подхода к обучению.

Как показывает практический опыт, даже те студенты, которые на традиционном уроке чувствуют себя неуверенно или с неохотой выполняют задания, в компьютерной аудитории с удовольствием выполняют работу. Роль преподавателя здесь больше тьюторская, чем контролирующая, поэтому студент и преподаватель представляют не две противоположные стороны, а работают вместе, продвигаясь к достижению общей цели. Также можно использовать графические возможности компьютера. Это особенно важно при ознакомлении с новой лексикой, так как изображение на мониторе позволяет ассоциировать фразу непосредственно с действием.

Компьютерная технология может осуществляться в трех вариантах:

- «проникающая» технология (применение компьютерного обучения по отдельным темам, разделам, для решения отдельных дидактических задач);
- основная, определяющая, наиболее значимая из используемых в данной технологии частей;
- монотехнология (когда все обучение, все управление учебным процессом, включая все виды диагностики, мониторинг, опираются на применение компьютера) [3].



Использование средств мультимедиа в структуре современного урока в консерватории должно быть методически обоснованным и целеустремленным. Безусловно, каждый преподаватель самостоятельно решает вопрос о необходимости работы с данной образовательной технологией.

Но и здесь мы можем выделить некоторые общие правила:

- компьютер применяется там, где есть возможность автоматизировать деятельность и сэкономить время для обработки результатов (контролирующие, тестирующие программы);
- компьютер применяется для обучения. Здесь речь идет о применении всевозможных обучающих программ, к выбору которых надо подходить очень ответственно. Не все программные продукты, производимые сейчас, имеют хорошие рекомендации. В Интернете постоянно публикуются рейтинги образовательных ресурсов, отзывы тех, кто пользовался теми или иными программными средствами. Преподаватель сам принимает решение применять или нет обучающие программы и какие именно применять;
- компьютер применяется для демонстрации учебного материала.

В соответствии с целесообразностью формируются подходы к организации мультимедийного урока:

— применение одного компьютера в аудитории. Как правило, он используется для демонстрации визуальных материалов при объяснении и закреплении нового материала. В комплексе с компьютером используется проекционное оборудование, а также интерактивная доска;

— работа в компьютерной аудитории. Такая форма организации урока применяется обычно для контроля знаний студентов, когда за короткое время знания большого количества студентов контролируются преподавателем. Наличие оборудования позволяет эффективно применять такие формы контроля знаний, как тестирование (при использовании программ MS WORD, Excel, Power Point), проверка знаний в режиме реального времени (такая форма работы организуется при помощи коммуникационных программ ICQ, Skype). Также возможна работа в чате и на учебном форуме.

После определения подхода к организации урока необходимо соотнести цели и формы работы с соответствующим этапом урока.

На уроках русского языка компьютер может применяться на разных этапах урока и учебного процесса в целом:

- на этапе объяснения нового материала;
- первоначального закрепления материала;
- контроля и проверки знаний.

В системе обучения компьютер выполняет следующие функции:

- технико-педагогические (обучающие и управляющие программы, диагностирующие, моделирующие, экспертные, диалоговые, консультирующие, расчетно-логические);
- дидактические (компьютер как тренажер, репетитор, ассистент, устройство, моделирующее определенные ситуации);
- оперативного обновления учебной информации, получения оперативной информации об индивидуальных особенностях обучающихся;
- корректировки, контроля и оценки их деятельности, ее активизации и стимулирования.

Использование новых информационных технологий на различных уроках имеет преимущества перед стандартной системой обучения в следующем:

- повышается интерес, мотивация учебной деятельности;
- осуществляется дифференцированный подход;
- за один и тот же промежуток времени выполняется больший объем работы;
- облегчается процесс контроля и оценки знаний;
- развиваются навыки учебной деятельности (планирование, рефлексия, самоконтроль, взаимоконтроль).



Традиционный урок как основная организационная форма обучения оказался адекватной формой и в условиях изменения целей и ценностей образования, и в условиях технологической революции в области средств обучения, когда с бумажным учебником стали конкурировать электронные дидактические средства обучения (мультимедийные учебники, интерактивные обучающие тренажеры, электронные энциклопедии и медиатеки). Современный мультимедийный урок строится по той же структуре, что и традиционный: актуализация знаний, объяснение нового, закрепление, контроль. Используются те же методы: объяснительно-иллюстративный, репродуктивный, частично-поисковый и др.

Таким образом, на смену традиционным технологиям обучения должны прийти новые информационные развивающие педагогические технологии. С их помощью на уроках должны реализоваться такие педагогические ситуации, в которых деятельность преподавателя и студентов основана на использовании современных информационных технологий, и носит исследовательский, эвристический характер. Для успешного внедрения этих технологий преподаватель должен иметь навыки пользователя ПК, владеть умениями планировать структуру действий для достижения цели исходя из фиксированного набора средств; описывать объекты и явления путем построения информационных структур; проводить и организовывать поиск электронной информации; четко и однозначно формулировать проблему, задачу, мысль и др.

В настоящее время в государственной консерватории формируются условия для решения большинства из выше перечисленных проблем. Суть новых информационных технологий — обеспечение доступа преподавателя и студентов к современным электронным источникам информации, создание условий для развития способности к самообучению путем организации исследовательской творческой учебной работы учащихся направленной на интеграцию и актуализацию знаний, полученных по различным предметам.

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## THE ROLE-PLAYING IN CLASS RUSSIAN?

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### SUMMARY

*The teacher always tries to make learning effective. This teacher is largely to help role-playing games. As a result of the game, students develop memory, attention, perception is improving. And most importantly, the students gradually begin to see the learning process as something joyful and creative.*

**KEYWORDS:** *motivation, role play, learning function.*

## КАК НАДО ПРОВОДИТЬ РОЛЕВЫЕ ИГРЫ НА ЗАНЯТИЯХ РУССКОГО ЯЗЫКА В ИНОЯЗЫЧНЫХ ГРУППАХ ВУЗА?

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### Аннотация

*Учитель всегда старается сделать обучение эффективным. В этом учителю во многом помогают ролевые игры. В результате игры у учащихся развивается память, внимание, улучшается восприятие. И самое главное, ученики постепенно начинают воспринимать процесс обучения как нечто радостное и творческое.*

**Ключевые слова:** *мотивация, ролевая игра, обучающая функция.*

Необходимость постоянного совершенствования системы и практики образования обусловлена социальными переменами, происходящими в обществе. Вопросы повышения качества обученности и уровня воспитанности личности обучаемого были и остаются приоритетными в современной методике преподавания русского языка как иностранного. Основной целью обучения иностранному языку на современном этапе развития образования является личность обучаемого, способная и желающая участвовать в межкультурной коммуникации на изучаемом языке и самостоятельно совершенствоваться в овладеваемой им иноязычной речевой деятельности. Переход на прогрессивные позиции означает для методистов-практиков создание новых типологий упражнений и заданий, необходимых для реализации учебного процесса.

Изучение русского языка может показаться совершенно скучным и неинтересным занятием, если этот процесс протекает монотонно, включает один вид деятельности и никак не мотивирует обучаемых с интересом заниматься русским. Задача преподавателя – таким образом преподнести обучающий процесс, чтобы студент захотел учить русский, стремился понимать его, был готов говорить на нём, сделать процесс обучения



занимательным, создать у студентов бодрое рабочее настроение, облегчить преодоление трудностей в усвоении учебного материала.

В обучении языку особое место занимают такие формы занятий, которое обеспечивают активное участие в занятии каждого студента, повышают авторитет знаний и индивидуальную ответственность студентов за результаты учебного труда. Эти задачи можно успешно решать через технологию игровых форм обучения.

Игровые технологии занимают важное место в учебно-воспитательном процессе, так как не только способствуют воспитанию познавательных интересов и активизации деятельности студентов, но и выполняют ряд других функций:

1. правильно организованная с учётом специфики материала игра тренирует память, помогает студентам выработать речевые умения и навыки;
2. игра стимулирует умственную деятельность студентов, развивает внимание и познавательный интерес к предмету;
3. игра один из приёмов преодоления пассивности студентов;
4. в составе команды каждый студент несёт ответственность за весь коллектив, каждый стремится как можно быстрее и успешнее справиться с заданием.

Таким образом, соревнование способствует усилению работоспособности всех студентов.

Включаясь в ролевые игры на занятиях русского языка, студенты представляют себя в роли кого-то другого в конкретной ситуации, ведут себя надлежащим образом согласно правилам этой игры. Социальные (врач, продавец, водитель), межличностные (друзья, однокурсники), психологические (нейтральные позитивные, негативные персонажи) роли, которые исполняют студенты, способствуют тому, что они учатся общаться и обсуждать вопросы, понимать и оценить чувства других людей, решать проблемы. Конечной целью любой ролевой игры на занятиях русского языка является получение новых знаний и отработка их до навыков.

Чтобы играть в ролевые игры на занятиях русского языка надлежащим образом, необходимо сформировать у студента нужные социальные умения общения и ознакомить их с диалогической речью на русском языке. В этом помогают упражнения и тренировку выражений этикетного плана, развитие навыков реплик, создание *диалогов на русском языке* по образцу, чтение и воспроизведение этих диалогов наизусть, проигрывание диалога в парах.

Ролевая игра мотивирует речевую деятельность, так как обучаемые оказываются в ситуации, когда актуализируется потребность что-нибудь сказать, спросить, выяснить, доказать, чем-то поделиться с собеседником.

Студенты наглядно убеждаются в том, что язык можно использовать как средство общения.

Ролевую игру можно отнести к обучающим играм, поскольку она в значительной степени определяет выбор языковых средств, способствует развитию речевых навыков и умений, позволяет моделировать общение студентов в различных речевых ситуациях.

Другими словами, ролевая игра представляет собой упражнение для овладения навыками и умениями диалогической речи в условиях межличностного общения. В этом плане ролевая игра обеспечивает обучающую функцию.

В ролевых играх воспитываются сознательная дисциплина, трудолюбие, взаимопомощь, активность студента, готовность включаться в разные виды деятельности, самостоятельность, умение отстаивать свою точку зрения, проявить инициативу, найти оптимальное решение в определенных условиях, т.е. можно говорить о воспитательной функции ролевой игры.

Место игр на занятиях и отводимое игре время зависит от ряда факторов: подготовка студентов, изучаемого материала, конкретных целей и условий занятия и т.д. Так, скажем, если игра используется в качестве тренировочного упражнения при первичном закреплении, то ей можно отнести 15-20 минут. В дальнейшем та же игра можно проводиться в течение 3-5 минут и служить своеобразным повторением уже пройденного материала, а также разрядкой на занятии.

Ролевая игра – это речевая, игровая и учебная деятельность одновременно. При решении игровых задач речевая активность сочетается с мыслительной и эмоциональной: в игре необходимо быстро принять решение,



проявить находчивость, смекалку, фантазию, сыграть роль. Во время игры студенты находятся постоянно в состоянии «речевой готовности», внимательно слушают преподавателя и друг друга; многократное повторение образцов речи, мотивированное игровым действием, не вызывает у них утомления и скуки. В этих условиях произвольное внимание и запоминание обеспечивают хорошее усвоение языкового материала. Игровые ситуации ценны не только тем, что мотивируют употребление изучаемого материала на каждом данном занятии, но и, главным образом, тем, что поддерживают высокую мотивацию изучения русского языка как иностранного. По мнению психологов, мотивация, создаваемая игрой, т.е. игровая мотивация, должна быть представлена в учебном процессе наряду с коммуникативной, познавательной и эстетической мотивациями. При этом не соблюдать и не учитывать психологические принципы нельзя.

Итак, ролевая игра в обучении имеет ряд существенных преимуществ;

- способствует созданию благоприятного психологического климата на занятии;
- усиливает мотивацию и активизирует деятельность студентов;
- даёт возможность использовать имеющиеся знания, опыт, навыки общения в разных ситуациях.

Игре предшествует большая подготовительная работа:

- для проведения игры преподавателю необходимо подготовить учебные пособия.
- Нужно подробно объяснить правила игры (можно приготовить каждому студенту схему игры, либо распечатки упражнений, либо карточки с вопросами).

▪ Перед началом ролевой игры преподаватель ставит перед собой, а затем и перед студентами обучающую цель данной игры.

▪ Ролевой игре следует отводить достойное место на всех этапах работы над темой, так как она способствует расширению сферы общения, а это предполагает предварительное усвоение языкового материала в тренировочных упражнениях и развитие соответствующих навыков, которые позволяют студентам сосредоточиться на содержательной стороне высказывания.

▪ При подборе ролевой важно учитывать не только интересы студентов, но и своеобразие их темперамента.

▪ Целесообразно время от времени давать студентам, занимающим в жизненной практике положение ведомых, роли главных героев, а лидерам коллективов поручать роли персонажей, находящихся в зависимом положении.

▪ Особенно тщательно отбираются роли для студентов, не пользующихся авторитетом в коллективе. Такие ребята должны получить роли положительных личностей, имеющих влияние и популярность по сюжету игры.

▪ Можно использовать индивидуальную, парную и групповую формы подготовки.

▪ По завершении ролевой игры следует мотивированная оценка преподавателем участия каждого студента в подготовке и проведении конкретной ролевой игры. Кроме языковой правильности преподаватель комментирует выразительность ролевого проведения, а также инициативность ребят на всех этапах работы.

Успех использования игр зависит, прежде всего, от атмосферы необходимого речевого общения, которую преподаватель создаёт в аудитории. Важно, чтобы студенты привыкли к такому общению, увлекались и стали вместе с преподавателем участниками одного процесса.

Конечно, урок русского языка – это не только игра. Доверенность и непринуждённость общения преподавателя со студентами, возникшие благодаря общей игровой атмосфере и собственно играм, располагают студентов к серьёзным разговорам, обсуждению любых реальных ситуаций.

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## RESEARCHING THE INFLUENCE OF R. TAGORE'S LYRICS ON OYBEK'S WORK

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### ANNOTATION

*In this article, the author studied the influence of the lyrics of Rabindranath Tagore on the works of the Uzbek writer and poet Mussa Tashmuhammad Aibek.*

**KEY WORDS:** *lyrics, democracy, nationality, translations, classics, poetry, literature, genre.*

## ИССЛЕДОВАНИЕ ВЛИЯНИЯ ЛИРИКИ Р. ТАГОРА НА ТВОРЧЕСТВО АЙБЕКА

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### Аннотация

*В данной статье автор исследовал влияние лирики Рабиндраната Тагора на творчества узбекского писателя и поэта Муссы Ташмухаммада Айбека.*

**Ключевые слова:** *лирика, демократия, народность, переводы, классики, поэзия, литература, жанр.*

Aibek is one of the outstanding representatives of Uzbek literature of the 20th century. His work is so diverse and multifaceted that it is difficult to find such a rich heritage in the history of Uzbek literature, which belongs to the pen of one writer. Starting his career as a lyric poet, Aibek subsequently created immortal works in various forms of poetry and prose, especially in the genres of poem and novel.

Aibek is the real name of Musa Tashmukhamedov, People's Writer of Uzbekistan, academician. He was born on January 10, 1904. He wrote poems, poems, novels. He translated into Uzbek "Eugene Onegin" by A. S. Pushkin,

"Faust" by W. Goethe, "Masquerade" by M. Yu. Lermontov, works by Mgorky, V. G. Belinsky.

Kindness, beauty, love, justice - were eternal themes, a tradition in oral folk art and are still sung by poets, reflected in the works of writers. When it comes to tradition, we immediately see the great creations of our great ancestors, their edifying work for us, for the current generation, will always be a tradition, a school of edification and teaching. The appeal of great representatives of art to traditions is natural and inevitable. Since it helps to compare two events, to recognize their new, unknown facets, it makes it possible to see the hitherto undiscovered aspects of phenomena.



That is, they seem to throw sparks to each other, which are reflected as rays. Robindranath Tagore and Aibek! Hearing these names, incomparable owners of literary talent are embodied before us. Robindranath Tagore and Aibek lived in the same century. They are separated by several decades, thousands of immeasurable distances and a completely different environment, environment, society. But there is a kind of "field" that unites them. This, undoubtedly, is harmony in creativity, nationality, homeland, love, justice and virtue. R. Tagore's lyrics show love for the people, love for national traditions. He exalts the Indian way of life, traditions and customs, the Indian language.

In the poems of R. Tagore and Aibek, hospitality and good nature inherent in their people are glorified. This means that what was started by our great ancestors, our generation, our contemporary poets continue to put into practice. Each creator throughout a whole literary, social, political activity lives and works for the interests of a person and the people, sets the most pressing problems of life, the problems of modernity, honors humanism as a topic for disclosure. This means that the creator devotes all his creativity to the interests of the people, and thus will undoubtedly be a people's servant, a people's singer. It should be noted that folk art occupies a dominant place in literature. Because real literature and art are in the very heart, in the very depths of the soul of the people. Also, R. Tagore, along with the fact that he skillfully used the works of oral folk art, and called on poets, creators to turn to the original and the pearl of literature, which is oral folk art. Aibek also sought in his work to saturate, saturate his works with this inexhaustible source.

R. Tagore exalted his language, he insisted that the possibilities of expressing thoughts, words are endless: "Those who prefer to create in their native language and think that it is easy are greatly mistaken. The truth is that their native language, being native to them, is not difficult for them to write in it. This language is familiar to them from childhood, all its riches and advantages are open to them. Aibek had exactly the same opinion.

Gaining independence made it possible to create miracles of literary creativity, to study the creative experience of classical and modern literature more widely. "Poetry of the period of independence: analysis.

The life and work of the outstanding Uzbek poet, writer, whom we can rightfully call the second "R. Tagore" of modern Uzbek literature, his name will forever remain in the memory of his admirers.

Aibek (1905-1968) - real name, Musa Tashmukhamedov, Uzbek poet and writer, novelist and translator, who worked under the pseudonym Aibek. People's Writer of Uzbekistan (1965). Academician of the Academy of Sciences of Uzbekistan (1943). The statesman Aibek was born into a poor family of a weaver in 1905 on January 10 in Tashkent. He began writing as a student at the Faculty of Economics of the Central Asian State University, from which he graduated in 1930. The first collection of poems "Feelings" was published in 1926. Aibek's first novel "Sacred Blood" (1943) depicts the life of the Uzbek people during the First World War.

For his historical and biographical novel "Navoi", written in 1945 and dedicated to the life and work of the classic of Uzbek literature - Alisher Navoi, Aibek received the State Prize in 1946. This historical and biographical novel brought wide popularity. The novel "The Wind of the Golden Valley" (1950) about collective farm everyday life. The lives of the working people of Pakistan, their struggle for peace and democracy are devoted to the poems "Pakistan Impressions" (1950), the poems "Zafar and Zahra" (1951), "Truth-Lovers" (1954), the story "In Search of Light" (1956). The novel "The Sun Will Not Dim" (1958) tells about the heroism of the Uzbek soldiers during the 2nd World War.; the autobiographical story "Childhood" (1962, State Prize of Uzbekistan named after Khamza), the novel "The Great Way" (1967), dedicated to the events after the 1917 revolution in Turkestan.[4]

Aibek is also known as a translator. He translated into Uzbek "Eugene Onegin" by A. S. Pushkin, "Faust" by V. Goethe, "Masquerade" by M. Yu. Lermontov and works by other writers and writers - M. Gorky, V. G. Belinsky and others.

A well-known poem by Oybek dedicated to Pushkin contains the following verses:

*Олтин мисраларга нақшланган фикр,  
К,албинг қуёшидан куйилган туйғу —  
Сунмайди, эй шоир, утса юз аср,  
Ҳайкалинг сингари чидамли, тунж у.  
Тошларни чанг қилиб учирар замон,  
Бир учқун йуқотмас шеъринг ёлқини.*



*Богчанг бир баҳорга ҳаммиша макон,  
Севади ҳар кўнгили, ҳар ҳаёл уни!*

Oybek is a poet in prose and prosaic in poetry. He is a talented poet who can sing the smallest quirks in poetry. He describes portraits, eye and eyebrow movements very clearly. At the same time, his prose is expected to the level of lyrical poetry. Uzbek poet Hamid Olimjon said that "Oibek can enter a person's heart, touch the delicate strings of the heart." [1].

The work of R. Tagore is an incomparable manifestation of spiritual freedom for Aibek. The owner of priceless works, the talented poet Aibek in his work, taking his sources from the works of R. Tagore, enriched the poetry of the period of the Uzbek people.

In such poems by Aybek as "Guzal Chimyon", "Poems of Samarkand", "Leningrad Poems", "Autumn Day", "Leaves are Falling", "Ah, Nothing is Forgotten", "Midnight", "Butterfly on Asphalt", "Memory Anna Akhmatova. one can see the influence of R. Tagore's work.[3]

Aibek studied the poems of R. Tagore, such as "Clouds are entering the yard of Srabon, the heights are rapidly darkening", "All destruction", "Hero of Bengal", "The rains have dried up, a lonely voice sounded of separation", "Woman", "Life", "Life priceless", "From the cloud - the roar of a drum, a mighty rumble", "Night", "Ordinary girl", "I love my sandy shore", "Indian".

*Индиец, ты гордость свою не продашь,  
Пусть нагло глядит на тебя торгош!  
Он прибыл с Запада в этот край,—  
Но шарфа ты светлого не снимай.  
Твердо иди дорогой своей,  
Не слушая лживых, пустых речей.  
Сокровища, скрытые в сердце твоём,  
Достоинно украсят смиренный дом,  
Венцом незримым оденут чело,  
Владычество золота сеет зло,  
Разнузданной роскоши нет границ,  
Но ты не смущайся, не падай ниц!  
Своей ницетою будешь богат,  
Покой и свобода дух окрылят.*

*(Russian translation)*

Oybek's poetry is one ocean; the critics' analyses are on the shores of the ocean. As deep and enigmatic the ocean bottom is, so is Oybek's

creativity. We believe that the new generation of researchers will find a way to uncover the mysteries of the ocean.[2.]

Oybek studied R. Tagore's work as an absent teacher. He fell in love with his lyrics. That's why in Oibek's work, we feel R. Tagore's warmth and tenderness.

Despite the fact that the work of R. Tagore, the classic representative of world literature, the Nobel Prize laureate, and Oibek, the great representative of Uzbek literature, are in common, the works of these two writers will become a field of research for many years to come.

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# THE VIEWS OF THE GREAT SCIENTIST OF THE EAST ON INDDI

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## ANNOTATION

*This article deals with the work of the Great scientist of the East Abu Raykhon Beruni about India. He deeply studied the tradition, religion, history, philosophy, geography and life of the Indian people. The scientist compares the ontological views of Indian, Greek and some Sufi thinkers.*

**KEY WORDS:** *religion, tradition, customs, Sufism, observation, analysis, synthesis and generalization, views.*

## ВЗГЛЯДЫ ВЕЛИКОГО УЧЕНОГО ВОСТОКА ОБ ИНДИИ

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## Аннотация

*В данной статье идёт речь о работе Великого ученого востока Абу Райхон Беруни об Индии. Он глубоко изучал традицию, религию, историю, философию, географию и жизни Индийского народа. Ученый сравнивает онтологические воззрения индийских, греческих и некоторых суфийских мыслителей.*

**Ключевые слова:** *религия, традиция, обычаи, суфизм, наблюдение, анализ, синтез и обобщение, взгляды.*

We are the heirs of a rich history, high culture, great spirituality. In Central Asia, in addition, our great and respected grandfather Abu Raykhan Muhammad ibn Ahmad Beruni, who enriched our medieval culture with his priceless masterpieces and immortal works for the whole world with his encyclopedic knowledge and mind, enlightened the life of ordinary people with the light of knowledge. He is a great scientist who devoted his life to science. Each of his works, opinions on the mentioned problem and its solution is not only a simple find, but also a reflection of our national spirituality, an important and

important masterpiece, replenished in the treasury of sciences.

The natural-science views of Abu Rayhan Beruni are important. Beruni's works "Osor al-Bakiya" and "India" appeared as a result of scientific observations. According to the scientist, a subjective opinion can be expressed in information about the result of direct objective observation.

Man, according to Beruni, differs from animals in intelligence. But the thinker turned to God to explain how this property, fundamentally different from animals,



appeared in man, and said that God created man from the beginning as such a rational, magnificent being. At the same time, Beruni, trying to rely on material factors and the laws of nature, makes a number of valuable assumptions about the social life of man.

He expressed great thoughts about the role of the geographical factor in determining the structure of a person and his whole life: "... (Folk) buildings are different in color, appearance, character and customs, not only because of different genealogies, but also because of the soil, water, air and earth (the place where people live) are also from a variety"[1]

In his work "India", Beruni analyzes the differences between Muslim and Indian traditions and suggests that they depend on geographical conditions. Beruni continued to analyze the role of the external factor and believed that even the diversity of languages depends on geographical conditions. "The reason for the diversity of languages is that people are divided into groups and kept apart from each other" [2], he says.

Of great importance for his time was the recognition by the thinker of the important role of the geographical factor in the life of man and society.

Abu Rayhan Beruni developed methods such as observation, analysis, synthesis and generalization, especially comparison - comparative comparison, from the methods of scientific knowledge. It can be seen that the scientist widely used the method of comparison in the analysis of creation, structure and philosophical concepts of being in the work "India". He compares the ontological views of Indian, Greek and some Sufi thinkers. According to Beruni, the Greeks called God the root cause and looked for the divine in all material elements (Thales, water, Heraclitean fire, etc.). Sufis believe that earth, water, fire and air have divine power and that the light of God is present in everything. If such a teaching is called pantheistic, then it can be observed in Hindu philosophy. Hindus call the existence of the supreme god - Brahman, and say that all things and beings in nature are different manifestations of Brahman. Beruni, comparing the above views, says that there is a similarity in their views, and this similarity is manifested in the spiritualization and deification of nature.

Sankhya, one of the major Indian philosophical schools, holds that spirit (purusha) and matter (prakriti) constitute the basis of existence and that they are

interdependent. Beruni analyzes this connection and gives the following allegorical example? "The inhabitants of the desert, cut off from all sides and become deadly, flee, and when only the blind and paralyzed cannot escape, despairing of helplessness and hunger, they collide with each other and look for a way out of death. Then the paralyzed blind man said, "I can't walk, but I can show you the right way, You are my reflection." if possible, please forgive me, I will show you the way, and we will help each other, "then the blind will agree, and together they will get rid of this trouble. [1] In this example of Alloma, the paralysis is the spirit (purusha), and blindness is matter (prakriya). Purusha is able to see and perceive all things, but he is motionless. Prakriya, on the contrary, moves actively, but its movements are irregular and chaotic. Only their union, union will direct the action in the right direction, instead of chaos, order will arise, and both will achieve their goal.[3]

Thus, it follows from Beruni's opinion that the world is based on the unity of material and spiritual substances. Similar comments by Abu Rayhan Beruni can be found in India. For those who want to do deep research and study Indian philosophy, culture, history and religion, India is a vast garden. In this respect, every scholar can find there the flower he needs, and even if the reader is an Indologist, he can choose bouquets of flowers himself. Because Beruni, as a gardener of knowledge and enlightenment, a figure who left huge gardens to generations, gave a beautiful description of the philosopher-scientist A. Irisov[4].

Many of the works of our compatriot, great encyclopedic scientist - astronomer, mathematician, geographer, writer, philosopher, historian - Al Beruni, who made a great contribution to world science, are still kept in London, Paris and Moscow.

According to the recommendation of the International Astronomical Committee, giving the name of Beruni to one of the planets shows the respect of mankind for him.

Beruni proved that the earth is spherical in his works a thousand years ago.

Currently, the works of Al Beruni are being taught and studied in universities of many countries of the world.





According to sources, Beruni knew more than 50 languages and mastered them. He traveled to many Asian countries and studied the customs, lifestyle, religion, and science of the peoples of those lands. He studied the works of Hind philosophers especially diligently.

Beruni left behind a huge legacy. This legacy is his priceless books and works.

We are proud of the great scientist Al Beruni. It can be said that he is the pride of all mankind.

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# PREVALENCE OF WORKPLACE VIOLENCE AGAINST PRIMARY HEALTHCARE WORKERS IN PORT HARCOURT

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## ABSTRACT

**Background:** Workplace Violence (WPV) is commonest in the health sector globally and this constitutes a great hazard especially for primary healthcare workers (PHCW). Yet not much studies have been carried out in this area for PHCWs in the Niger Delta region especially in Port Harcourt City and Rivers State Nigeria.

**Method:** Descriptive cross-sectional study. The study population was 230 PHCWs (doctors, nurses, Community health extension workers). The sample size of 95 workers was determined using Cochran's formula. Respondents were randomly selected through a multi-staged sampling method. A standardized questionnaire adapted from "Workplace Violence in the health sector" (WHO, ILO, PSI) was self-administered to the 105 respondents (10 extra respondents for non-response).

**Result:** The result showed a response rate of 90.5%; Cronbach's Alpha co-efficient of 0.84 (good internal consistency). Respondents were aged of 19 - 60 years old. Mean age was 42 years. Majority of the respondents (80%) were females. Most (75.6%) of them were married. The prevalence of WPV was 28.4%. There was no statistical significance between the age ( $p = 0.086$ ), and sex ( $p = 0.361$ ) and prevalence, but there was between professional cadre ( $p = 0.041$ ) and most of the nurses experienced WPV during the period under study.

**Conclusion:** In conclusion, healthcare workers in Port Harcourt City are experiencing WPV. This finding should be of great concern for authorities, healthcare worker and the public. It is recommended that the Rivers State Ministry of Health should educate/risk communicate to workers, patients/relative and sensitize the public in order to mitigate its occurrence.

**KEYWORDS:** Violence, workplace, healthcare worker

## I. INTRODUCTION

Violence in the workplace has been a big challenge in almost all occupational settings<sup>1</sup> Globally, it is a great concern for developed and developing nations<sup>2</sup> because of its negative consequences on individual(s), organizations and the entire society<sup>3</sup>. According to the Occupational and Safety Administration (OSHA), over two million persons are affected by WPV yearly<sup>4</sup>. The WHO defines it as a 'deliberate utilization of force, intimidation or actions, against someone or a set of persons, in work-related circumstances, that may culminate in or has high tendency to cause damage, mortality, psychological trauma, or deprivation<sup>5</sup>.

WPV is most prevalent in the healthcare sector<sup>6</sup> and three to four times higher than in other sectors<sup>7</sup>. Global, mortality from WPV has been stated to be 2.3 million annually and 0.3 million of these figures was attributed to occupational violence and injuries<sup>8</sup>. Violence and aggression against healthcare workers is cannot be justified under any circumstances and in any form<sup>9</sup>. Violence against healthcare workers translates to violence against the community and society<sup>10</sup>.

The prevalence of WPV differ across the nations and regions<sup>11</sup>. Whereas the overall prevalence in Pakistan was

reported as 38.4%<sup>12</sup> In Enugu metropolis, South-east Nigeria, the prevalence against Primary Healthcare workers was 25.4%<sup>13</sup>. Previous studies have shown that there are differences in the prevalence of WPV between males and females. WPV prevalence was higher in female healthcare workers (64.9%) than in males 57.5%<sup>14</sup> and in Ghana, sub-Saharan Africa, the prevalence was higher in females (79.2%) than in males (20.2%) counterparts<sup>15</sup> while the prevalence was slightly higher in females (69.9%) than 68.4% in males<sup>16</sup>.

Another study carried out in south-east Nigeria showed that the prevalence of WPV was higher in females (87.2%) than in males (81%) healthcare workers<sup>17</sup>. Professional cadre plays a significant role in the prevalence of WPV. Frequently, nurses are most affected as (18; 9). It is hoped that the outcome this study will guide policy makers/managers to make informed decisions to mitigate WPV in PHCs.

## II. METHODOLOGY

**Study Design and setting:** A descriptive cross-sectional study was carried out. This study was carried out in Port Harcourt City, Rivers State Nigeria. The city is located between latitude 405'30" N and 514'25" N; and longitudes 540'30" E and 711' 07" E (see Figure 3.1). It shares borders with the



following LGAs: Ohio/Akpor in the north, Eleme and Okrika in the east, Okrika in the south and creeks leading to Degema LGA in the west. It has a projected population (National Population Census 2006) of 891,778 distributed in 20 political wards. Port Harcourt City is cosmopolitan and it is the capital of Rivers State. The study area has a tertiary and two secondary facilities and 14 public primary health care facilities that was the focus of this research

**Study Population:** 230 PHCWs: doctors (17), Nurses (62), Community Health Extension Workers (81), Medical Laboratory Scientist/Technicians (19), Pharmacy Technicians/Assistants (15), Environmental Health Officers (14), Medical Record Officers/others (22) workers who have served in the LGA for the 12 months preceding this study.

**Sample Size and Technique:** The study adopted a multi-stage procedure. All the 230 staff were stratified according to professional cadre (job specifications). There was a total of five (5) cadres. A sample size of 105 was determined using Cochran’s formula 19 at 95% Confidence level. A simple random procedure was then applied.

**Study Tools:** Tool was a semi- structured questionnaire adapted from an already existing template ‘Workplace Violence in the health Sector- ILO, ICN, WHO, and PSI, 20 were self-administered to the participants. The questionnaire

had sections on sociodemographic features of respondents, experience of WPV and associated factors.

**Data Analysis:** Data obtained were manually sorted and fed into the computer in excel spread sheet, checked for completeness and analyzed using the Statistical Package for Social Science (SPSS), version 16. Statistical data were presented in charts and tables, frequency count and percentage.

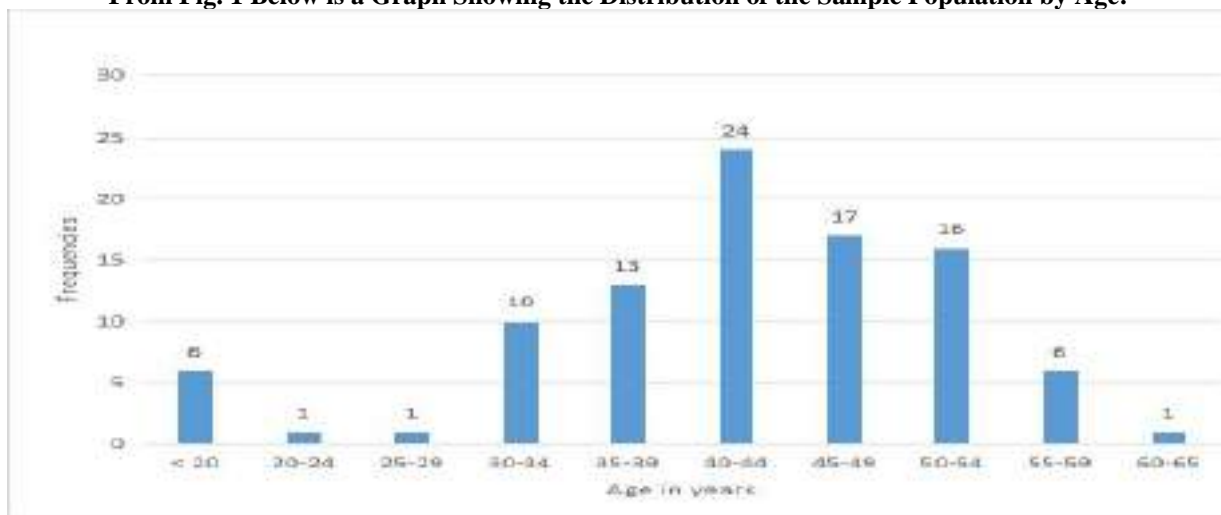
**Ethical Considerations:** Ethical approval was granted by the Research and Ethics Committee (REC) of the University of Port Harcourt. A written approval was also obtained from the RSPHMB to administer the questionnaires to staff in the facilities. All participants gave written consent to participate and were assured of confidentiality of information given. Anti-plagiarism test was done by the School of Graduate Studies, University of Port Harcourt.

### III. RESULTS

A total of 95 (Response rate: 90.5) questionnaires were completed well enough for analysis out of 105 administered to 19 (20%) males and 76 (80%) females aged between 18 to 60 years old. The mean and median age group 42 and 47.5 years respectively. Cronbach’s Alpha co-efficient was 0.84

#### Socio Demographic Characteristics of Respondents

From Fig. 1 Below is a Graph Showing the Distribution of the Sample Population by Age:



This showed that 18 (18.9%) of the healthcare staff were aged 34 years and below, while age 35 to 49 years were 54 (56.8 %) and the rest (age 50-65 years) were 23 (24.2 %). Age group 40 to 44 years had the highest frequency of 24 persons (25.3%). The mean age was 42 years (group 40-44) and the median age were 47.5 (age group 45 – 49 years) with male and females at 76 (80%) and 19 (20%) respectively.

#### Marital Status of Respondents

Table 3.1 below showed that majority of the respondents 75 (75.7) were married while 13 (13.7%) were cohabiting 5 (5.3%) respondents each were single and widowed.

**Table 3.1: Marital Status**

Status	Frequency	Percentage
Single	5	5.3
Married	72	75.7
Cohabiting	13	13.7
Widowed	5	5.3

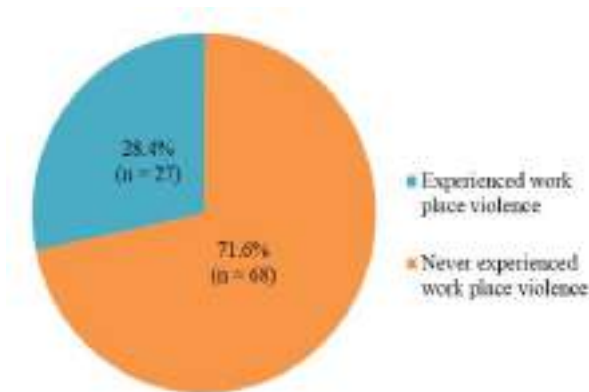
The results in Table 3.2 above shows that majority of the participants were nurse/midwives 30 (31.6%), followed by CHEWs/CHOs 23 (24.2%), Clerks/Others formed 13 (13.7%). Pharmacy Technicians and Laboratory staff formed 10 (10.5%)

respectively. A total of 9 (9.5%) were doctors. Figure 3.2 below showed that the prevalence of WPV against PHCWs was 28.4%

**Table 3.2: Professional Cadre**

Profession Cadre	Frequency	Percentage
Medical Doctors	9	9.5
Nurse/Midwives	30	31.6
CHEWs / CHOs (none nurse)	23	24.2
Pharmacy Technician	10	10.5
Laboratory scientist	10	10.5
Others/Clerks	13	13.7

Prevalence of WPV Against PHC Workers



**Figure 3.2: showing that 27 (28.4%) of PHCWs experience WPV while 68 (71.6%) did not**



**Table 3.3: Experience Work Place Violence**

Variables	Yes n (%)	No n (%)	Total n (%)	P-value
<b>Age category</b>				
<20 years	5 (83.3)	1 (16.7)	6 (100.0)	0.086
21 – 30 years	1 (50.0)	1 (50.0)	2 (100.0)	
31 – 40 years	5 (21.7)	18 (78.3)	23 (100.0)	
41 – 50 years	12 (29.3)	29 (70.7)	41 (100.0)	
51 – 60 years	4 (17.4)	19 (82.6)	23 (100.0)	
Total	27	68	95	
<i>Fisher's exact test = 13.672</i>				
<b>Sex</b>				
Male	7 (36.8)	12 (63.2)	19 (100.0)	0.363
Female	20 (26.3)	56 (73.7)	76 (100.0)	
<i>Chi Square = 0.828</i>				
<b>Professional Cadre</b>				
Physician	4 (44.4)	5 (55.6)	9 (100.0)	<b>0.041*</b>
Nurse	21 (70.0)	9 (30.0)	30 (100.0)	
Pharmacy Technician	4 (40.0)	6 (60.0)	10 (100.0)	
Laboratory scientist	1 (10.0)	9 (90.0)	10 (100.0)	
CHO/CHEW	11 (47.8)	12 (52.2)	23 (100.0)	
Others/Clerks	2 (15.4)	11 (84.6)	13 (100.0)	
<i>Fisher's exact test = 12.163</i>				

The results in Table 3.3 showed that, there is no statistically significance ( $p > 0.05$ ) between age of the respondents ( $p = 0.086$ ) and their sex ( $p = 0.363$ ) with experience of WPV (that is Fisher's exact test of 13.672 and 0.363 for age and sex respectively). The result showed in Table 4.3 showed a statistically significance 0.041 ( $p < 0.05$ ) between professional cadre and experience of WPV (Fisher's exact test = 12.163) The result revealed that among nurses, 21 (70%) experienced, followed by CHEWs 11 (47.8%) and 4 (44.4%) doctors. The least affected cadre was the 2 (15.4%).

#### IV. DISCUSSION OF FINDINGS

This study has shown that healthcare workers in Port Harcourt are experiencing violence in the workplace (28.4%). This prevalence is similar to that (25.4%) in Enugu, south-east Nigeria (Stanley & Nwosu, 2020) and another in Ethiopia where the prevalence was as high as against nurses was 26.7% 21 But there are disparities between this and the outcome of a similar research in Osun where the prevalence was 66% 22.

This contrast can be attributed to regional and cultural differences. This research has also showed that majority (91.5%) of the respondents were more than 30 years old most likely due to lack of employment in the health sector for several years in the state.

Majority (75.7%) of the respondents were married and 13.7% of them were cohabiting. This may be explained by the culture of early marriage which commands societal honour and respect in the southern part of Nigeria. There were more females (80%) than males (20%) in this study and is similar to the results in another study in Ghana with females (79.2%) and males (20.8%) respectively 15 Hancock, 2017). It is similar to that in Saudi Arabia were 60% of respondents were females 20 These too might be attributed to the fact that most of the activities carried out in the facilities are maternal and child health services that are not usually attractive to males.

The outcome showed a significant difference in the occurrence of WPV among the professional cadres in this study with majority (31.6%) of nurses and CHEWs (24.2%)



experiencing doctor experiencing WPV while the list affected were doctors (9.5%). CHEWs experienced more WPV after nurses because their work is similar to those of nurses (direct contact with patients). Here, in a Nigeria study Abodunrin et al, (2014) showed that the prevalence of WPV was highest (53.7%) among nurses, followed by doctors (31%) and 15.3% for others.

## V. CONCLUSION

This study has revealed that healthcare workers in Port Harcourt City are exposed to workplace violence. All cadres of staff are affected but nurses and community health extension officers are most affected because their work specification involves direct contact with patients/relatives. Females are more affected because they are more in number than the males in the PHC facilities. It is recommended that the state Ministry of Health should educate health care workers on prevention and control of WPV and sensitize the public against violence to healthcare workers.

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# COMPARISON ON SELECTED PHYSICAL FITNESS COMPONENTS AMONG TRADITIONAL EVENTS PARTICIPANTS OF KALARI AND SILAMBAM

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## ABSTRACT

The aim of the present study is to comparison on selected physical fitness components among traditional events participants of kalari and silambam. For the present study 40 male players were selected during the traditional events participants. Between the age group of 19-25 years i.e. 20 male kalari and 19 male silambam Players of various districts in Tamilnadu were taken for the study. The 50 meter run test was used to assess the speed and Flexibility among kalari and silambam Players. The results of the study show that the kalari is having very good speed and Flexibility compare to the silambam Players. It is recommended that kalari and silambam players must be given good speed and Flexibility to enhance the performance.

**KEYWORDS:** Speed and Flexibility

## INTRODUCTION

A kalari is a gymnasium or training space primarily associated with the martial art of Kalaripayattu. The word kalari comes from Malayalam and Tamil. In the past, village schools in Kerala, typically run by the traditional astrologer families, were known by the name kalari or Ezhuthu Kalari. Traditionally, the kalari is constructed by digging a hollow in the ground, forming a sunken area four feet in depth, forty-two feet in length and twenty-one feet in breadth. This is usually called kuzhikalari. Kuzhi means "portions formed by caving in the earth" in Malayam. The entrance to the Kalari is in the east, to let in the morning sunlight, and leads into the 42-foot leg running east-west while the 21-foot leg runs north-south. Another consideration taken when constructing the kalari is that it is built in the south-west side of the main plot. The floor of the kalari is leveled using mud. In southern and central Kerala, some kalaris were constructed in a circular form, with weapons and other instruments being placed on one end, and students sitting outside the circular arc to watch the training ( Ayyappan, A 1965).

Silambam is a weapon-based Indian martial art originating in South India in the Indian subcontinent. This style is mentioned in Tamil Sangam literature. The World Silambam Association is the official international body of Silambam. References in the Silappadikkaram and other works of the Sangam literature show that Silambam has been practiced since at least the 4th century BC. It derives from the Tamil word silam, meaning hill. The term silambambu referred

to a particular type of bamboo from the Kurinjimala (kurinji hills) in present-day Kerala. Thus silambam was named after its primary weapon, the bamboo staff. It may have earlier used for self-defense and to ward off animals in the Kurinji hills and later evolved into the present-day martial art. Bamboo staffs – as well as swords, pearls and armor – were in great demand from foreign traders. The ancient city of Madurai formed as the point of focus of Silambam's spreading. The Silambam staff was acquired by the Egyptians, Greeks and Romans and was spread back to the Middle East, Europe and North Africa.

**Physical fitness** is a systematic process extending over a long period. For best results the system of training has to be based and conducted on scientific facts and lines where it is not possible to do that, the training has to be based on the results of successful practice which has withstood the test of time sport. The physical fitness on condition is the namely, speed, strength, agility, explosive power, flexibility, cardio respiratory endurance and coordinate abilities. These all motor abilities and their complex forms are the basic requirement for human motor actions. Therefore, the sports performance in all sports depends to a great extent on these abilities. The improvement and maintenance of physical fitness of condition is perhaps the most important aim of physical training.

## METHODOLOGY

For the purpose of this study, altogether forty traditional event participants were selected randomly 18 to 25 years of age from various districts in Tamilnadu. Their age



group ranges from 18 to 25 years. They were divided into two groups of 20 each. The Kalari and Silambam Players are made to Speed and Flexibility were selected as dependent variables

and it was measured by 50 meters dash and sit and reach test in each batch of two members. The timing was taken by researcher. The selected tests were measured by following units for testing:

Criterion Variables	Test Items	Unit Measurements
Speed	50 meters dash	Seconds
Flexibility	Sit and Reach	Centi Meters

### STATISTICAL TECHNIQUE

Descriptive statistics the analysis of variance (ANOVA) will be used to find out the significance among the mean differences, whenever the 'F' ratio for will be fixed to test hypothesis. The adjusted test will be found to be significant Scheffe's Post hoc test will use. In all cases 0.05 level of significance.

### RESULTS AND DISCUSSIONS

The impact of independent variables on each criterion variables was considered by 'F' ratio on the data achieved for speed and flexibility. The means of kalari and silambam have been analyzed and existing in Table II.

**TABLE – II**  
**MEAN AND 'F' – RATIO FOR THE PRE AND POST TESTS ON SPEED AND FLEXIBILITY OF KALARI AND SILAMBAM**

S.No	Variables	Mean	Mean	Source of variables	Sum of square	df	Mean square	'f'–ratio
1.	Speed	6.74	6.95	Between	0.933	1	0.466	2.99*
				Within	13.54	37	0.156	
2.	Flexibility	29.90	27.80	Between	192.82	1	57.87	3.15*
				Within	1595.36	37	18.33	

\*Significance at 0.05 level of confidence (2.70).

The table II shows that, they obtained 't'–ratio between the pre and post-test means of kalari group were 6.74, 6.95 and silambam group were 27.80, 29.90 respectively. The table values required for significant difference with df 37 at 0.05 level of confidence. Since the obtained 'f' – ratio value of experimental and control group on speed and flexibility were

greater than the table value 2.99, 3.15 it was concluded that the kalari group had significantly improved speed and flexibility.

Mean and 'F'– ratio for the pre and post tests on speed and flexibility of kalari and silambam were graphically represented in the figure 1 and II.





FIGURE -I

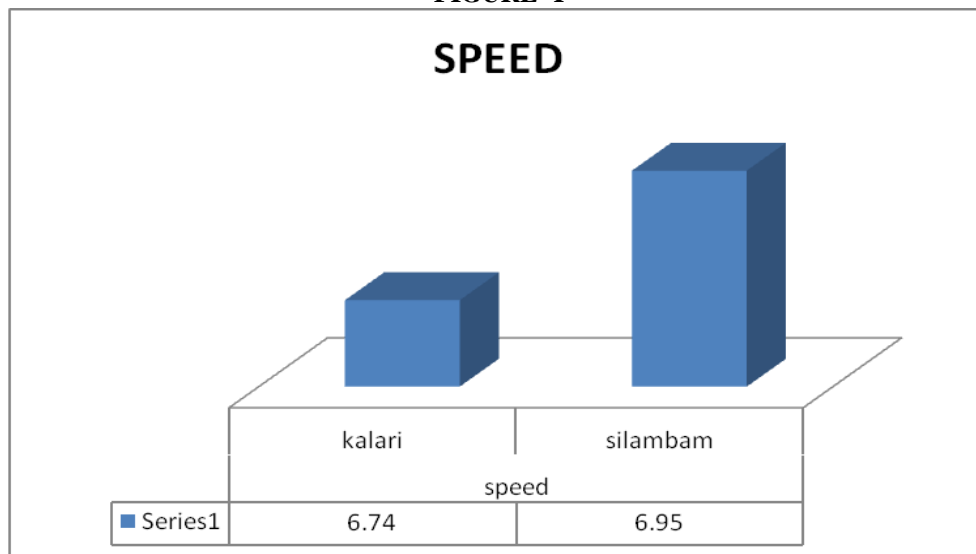
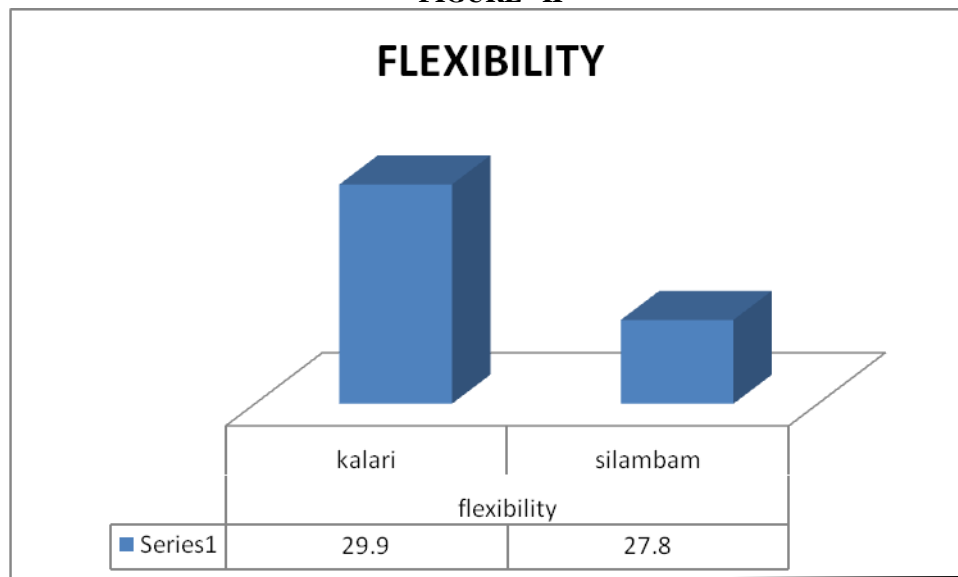


FIGURE -II



## DISCUSSION AND CONCLUSION

On the basis of the result of the study, it can be concluded that there was a significant difference between the kalari and silambam of traditional events participants in relation to speed ability. kalari players have speedier in comparison to silambam players due to the nature of the game, training schedule, ground length and flat running according to game demand. Sorabh Trikha (2014). Has conducted a study on Comparative Status of flexibility and Speed between Different Team Games, he found significant difference between Football and Hockey players in relation to speed ability. Some other studies conducted by Natraj H.V. & Chandrakumar, M. (2006), Uppal and Roy (1986) and Angyan (1989) were support the result of the present study.

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# A STUDY TOWARDS THE ROLE AND POLICY OF INDIA IN BALOCHISTAN SEPARATION MOVEMENT

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## ABSTRACT

*The aim and objective of this study was to explore the role and policy of India in Balochistan Separation Movement. In this study, the exploratory research design was used. The historical facts are retrieved from the international journals. The Mendeley desktop and Mendeley reference manager was used for the referencing. The APA 7<sup>th</sup> edition referencing style was used. The study concluded that India will make a geopolitical investment in Balochistan. India needs additional energy resources to compete with China and other adversaries, and Balochistan can assist India in achieving that goal as it possesses abundant energy resources. • In response to China's militarization of Balochistan's coastline region, Hyrbair Marri stated that after gaining freedom, the Baloch people have no desire to wage war against any country. It will do more to promote harmony between China and India. • China and Pakistan are constructing military facilities in Balochistan, while India is making no preparations. India would benefit from assistance from the Baloch people. The Indian state will be able to better defend its interests in that region if Balochistan is free.*

**KEYWORDS:** India; Balochistan; Separation Movement, India

## 1.0 INTRODUCTION

Balochistan gets ready for independence when the British leave India in 1947. The unflappable Mir Azam Khan completely complied with the directives of the British administrators in Quetta. The Baloch state of Kalat experienced a critical era during the 1930s. For obvious reasons, the British were preparing to leave and split India. On June 3, 1947 Viscount Louis Mountbatten announced the final plan for partitioning of British India into India and Pakistan. The Kalat Government made a series of meetings and presentations with representatives of the Viceroy and official of the future Government of Pakistan in Delhi. A consensus was reached upon following points, regarding the future of Balochistan. The British Government should take precautionary measures to help Kalat in the matter as per the Treaties of 1839 and 1841. Kalat state will be independent on August 5, 1947, enjoying the same status as it originally held in 1838, having friendly relations with its neighbors. On August 12, 1947, Kalat Khan of the Baloch of British Pakistan formally proclaimed Balochistan's independence. Nawabzada Muhammad Aslam Khan was chosen to serve as the independent state's first prime minister. Winston Churchill, the British prime minister, was dispatched to Karachi to conduct talks with the Pakistani government. (Naseer, 1979). The Khanate of Kalat's accession to Pakistan was rejected in 1947 by the House of Commons and the Darul Awam (House of Commons). Muhammad Ali Jinnah tried to persuade the Khan of the Baloch that a merged Balochistan would be better and that an independent Balochistan was not possible. Muhammad Ali Jinnah tried to persuade the Khan of the Baloch that a merged Balochistan would be better and that an independent Balochistan was not possible. Similar to Balochistan, Makuran, another Khanate province, was compelled to declare its "independence" in 1948. Pakistan tried

additional methods to weaken the Baloch State after failing to reach its goal. The Khan was coerced by the Pakistani government into ceding control of the Baloch state to Pakistan. The Khan made threats to address the UN and the International Court of Justice. He also urged Mr. Muhammad Ali Jinnah and the Pakistani government not to abandon him and his countrymen. On March 27, 1948, Mir Ahmad Yar Khan, the Khan of Kalat, signed the Agreement of Accession, referring to it as a "dictate of history." The imperialist power's great plans to protect its interests in the area crushed the Baloch people's hopes for an independent and respectable status. On April 1, 1948, Pakistan took full control of the Khanate again. (Dashti, 2012) Despite international pressure, Pakistan's dirty war on its own people continues unabated. This time, it was notable student leader Karima Mehrab Baloch who was the focus of the organization's indiscriminate extermination of Baloch activists. This is what Karima Mehrab wrote in her asylum application: "I was terrified for my life, and the threat to my life was growing by the day." Her apprehensions proved to be correct. Karen Karima, a former chairman of the Baloch Students Organization-Azad (BSO-Azad), has been living in Canada since November 2015 as a refugee because she had been targeted for her political involvement in Pakistan. Her body was discovered in Toronto the day after Christmas, after she had been missing since Christmas Eve. Fellow Baloch and other Pakistani minorities claim that she has received numerous threats as a result of her work against the Pakistani government. Due to the fact that she is just the second notable Baloch advocate to be found dead under strange circumstances in the last two years, the Baloch diaspora has been organising protest rallies across Europe and Canada, calling for a thorough investigation into her death. Earlier in April 2020, the body of Baloch journalist Sajid Hussain Baloch was discovered near the



Swedish city of Uppsala, many weeks after he had gone missing.

## 2.0 LITERATURE REVIEW

The previous literatures were explored to drag the facts about the India and Balochistan connection. The facts and information regarding the role and policy of India towards Balochistan were discussed under: During a trip to Bangladesh in June 2015, Indian PM Narendra Modi said India had no remorse over helping the Mukti-Bahini Movement establish Bangladesh. The brutality of Mukti Bahini in East Pakistan, which resulted in an Indo-Pakistan war in 1971, was observed by the entire world. Gwadar, which can be militarized to provide access to the Persian Gulf and the Middle East oil and gas, benefits China the most from its massive investment. Afghanistan is attempting to strengthen the leadership of separatists opposing the government by aiding an insurgency in Baluchistan (Daily Times 2009c). The US has concentrated on enlarging its target region to include a significant rebel haven near Quetta. India and the U.S. can come up with a united plan to limit China's influence. The dossier includes all the details and proof of RAW meddling and its participation in terrorist activities in Balochistan, the Federally Administered Tribal Areas (FATA), and Karachi. (Akhtar, 2011) India has a history of interfering with its neighbors' internal affairs. India has fought in wars against China (1962 war), Pakistan (three wars), Nepal (India interfered in the internal affairs of the royal family), and Sri Lanka (India supported the Liberation Tigers of Tamil Eelam (LTTE) in the Sri Lankan civil war). These interventions aim to topple neighboring governments and have an effect on their foreign policy. Given Gwadar's enormous geopolitical and economic significance for Pakistan, the Chinese presence there has been seen as a challenge to Indian aspirations of regional hegemony. In order to establish hegemony in South Asia and the Indian Ocean region, India has adopted an Indo-centric policy. (Khetran, 2017) Balochistan in Pakistan can put some pressure on the government of Pakistan to settle its problems with India. The instability may also make Pakistan more amenable to the South Asian Free Trade Agreement (SAFTA) and stronger economic ties with India. According to Nawab Akbar Khan Bugti, if the area remains in a state of anarchy, it will be impossible to build the Central Asian pipeline or the Iran-Pak-India pipeline. The notion of national sovereignty and unity in Pakistan will be put to death if Balochistan gains independence. It is almost probable that a confrontation that would fester and deplete the nation will involve the Pakistani army. It would undoubtedly mean the end of Pakistan as a military force that might pose a significant threat to India. But India and its neighbors would have serious security worries if Pakistan became unstable, riven by conflict, and collapsed. Six brigades and 70,000 Pakistani soldiers are stationed in Waziristan. According to Sardar Attaullah Mengal, the Pakistani government has a colonial mentality and is acting in self-defense. He predicts that things will get worse as other ethnic groups start to support the Baloch. The ethnic-national conflicts developing in Balochistan may be the end of Pakistan as we know it if they are not properly handled. (Bansal, 2006) India has frequently voiced its concern with Balochistan's

breaches of human rights, including at the UN. However, some doubt if this demonstrates a sincere concern on India's part, pointing out that the nation largely uses Balochistan to counteract Pakistan's criticisms of the country's stance on the Kashmir issue. Balochistan, in the eyes of an increasing number of individuals, has been added as another front in the proxy conflict between India and Pakistan. (Lunn, 2018)

## 3.0 METHODOLOGY

The historical facts are investigated and subjected to a critical analysis in this study. For the review of the literature, Mendeley's desktop application and reference manager were employed. The APA (American Psychological Association) 7th edition was used for the referencing. The prior information concerning the study was brought up using the exploratory research design.

## 4.0 CONCLUSION

India relies on the west and other countries, but they forget that it is much safer and effective to have real allies next door. No one knows what will happen in the next two decades. China is rising and has built military islands in the South China Sea. The Middle East is changing; new bases and military installations are being built by Pakistan and China in Balochistan. In an interview from November 2019, Hyrbyair Marri, the founder of the Free Balochistan Cause and the fifth child of renowned Baloch nationalist Nawab Khair Bakhsh Marri, discussed why India should support the Baloch people and the freedom movement. Here are some of the things he said when explaining how India helped the Baloch liberation movement: India will make a geopolitical investment in Balochistan. India needs additional energy resources to compete with China and other adversaries, and Balochistan can assist India in achieving that goal as it possesses abundant energy resources. • In response to China's militarization of Balochistan's coastline region, Hyrbyair Marri stated that after gaining freedom, the Baloch people have no desire to wage war against any country. It will do more to promote harmony between China and India. • China and Pakistan are constructing military facilities in Balochistan, while India is making no preparations. India would benefit from assistance from the Baloch people. The Indian state will be able to better defend its interests in that region if Balochistan is free. As a result, India's desire for regional hegemony, old grudges against Pakistan, and the game-changing CEPC project are the driving forces behind India's aggressive and illegal behavior toward Pakistan. India's engagement in Balochistan and other regions of Pakistan is proof that it does not want Pakistan to be a strong military and economic nation. In an effort to destabilize Pakistan and portray it as a failing state, the Indian espionage network actively supports terrorist actions there. Pakistan maintains a close eye on the unrest in the region and has assured China that the Pakistan Army will protect the CPEC. Pakistan has security challenges as a result of India's substantial military engagement in Afghanistan. A dossier on Indian meddling in Pakistan's domestic affairs was handed to the UN because both the civilian and military leadership of Pakistan are fully aware of this meddling. A flagrant violation of international law and the UN



Charter is the Indian meddling in the internal affairs of the countries in the region. In order to prevent India from meddling in the domestic affairs of its neighbors in the future, the UN is urged to censure it based on the evidence provided by Pakistan.

### Future Scope of the Research

This study focused on the role and policy decision towards the Balochistan separation movement. Therefore, future researcher can consider the following three research problems for further study: What steps the UN is taking to regulate the situation in Balochistan. As is evident from what we all know, there is a war between Pakistan and Balochistan that is hurting the state's citizens. These years have seen a great number of deaths from insurgencies, including many women and children. Sad to say, nothing is being done to stop these evils from taking place in the globe. In what ways are other nations supporting or assisting Balochistan? Supporting the Balochis has it any self-serving benefits? Are the Balochis receiving direct assistance from these other nations?

- Why is Balochistan being prevented from becoming a separate country by Pakistan?

Balochistan is therefore striving to establish its own identity in the global context despite being so rich in resources and beliefs. I propose that it be given the position on the global stage for which it has fought for so long.

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### Conflict of interest

The authors declare that they have no competing interests

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# AN EXPLORATORY STUDY OF THE FUNDAMENTAL CAUSE OF THE SEPARATIST MOVEMENT IN BALOCHISTAN

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## ABSTRACT

The aim and objective of this study was to analyze the fundamental cause of the separatist movement in Balochistan. In this study, the exploratory research design was used. The historical facts are retrieved from the international journals. The Mendeley desktop and Mendeley reference manager was used for the referencing. The APA 7<sup>th</sup> edition referencing style was used. The study concluded that the situation in Balochistan is very complex and day by day it is worsening. There is no sign of government rule in the province. The target killing, kidnapping for ransom, enforced disappearance, explosions, sectarian violence and attacks on the government installations is happening in usual.

**KEY WORDS:** Balochistan; Separatist Movement

## 1.0 INTRODUCTION

The origin of the Baloch as a group of nomadic pastoralist tribes and their evolution into a national entity has been puzzling for observers of events in Central Asia and Middle East. On the origin of the Baloch in the ancient times, the thread running through is the migrations of the Balashchik (later the Baloch). (Dashti, 2012)<sup>1</sup> The history of the Baloch has been lost in the dust of history due to various reasons. Only some passing references can be found in classical Persian descriptions of ancient times. Baloch came into contact with the British when they occupied Punjab and Sindh in the nineteenth century. The only tools left for establishing the origin of such a people can be the linguistic and cultural connections. This was mainly due to the unavailability of documented evidences, which could have been used to fit the Baloch in the larger schema of the Iranian national entities and languages. Balochistan has experienced cycles of political compromise and the growth of the Baloch ethnicity. Baloch sub-nationalism has received support from nations hostile to Pakistan in its violent form. In the past, an external component has been a significant one that many onlookers overlook. Pakistan will also need to deal with the concerns of provincial rights, autonomy, and a fair share of the province's natural resources more effectively. The importance of an external factor, which many observers tend to overlook, in the case of earlier Baloch insurgencies cannot be overstated. (Akhtar, 2017)<sup>2</sup> The

Pakistani government must create a thorough political plan to make sure that the Baloch people once again believe that their government is legitimate. Antagonism between the ethnic Baloch population and the federal government has a long history that dates back to the 1947 partition of India. The establishment of an effective governmental and educational system is the best long-term plan to end the persistent strife in Balochistan. (B.Sh.Muhammad, 2014)<sup>3</sup> India's engagement in Balochistan and other regions of Pakistan is proof that it does not want Pakistan to be a strong military and economic nation. Pakistan maintains a close eye on the unrest in the region and has assured China that the Pakistan Army will protect the CPEC. On the basis of the Pakistani dossier, the UN is urged to censure India. (Khetran, 2017)<sup>4</sup> Insurgency has been the hallmark of Balochistan turmoil for decades. Pakistan has to formulate its counterinsurgency policy to combat this violence and terrorism. The political leadership should be facilitated to bring the angry Baloch leaders back to table. The armed forces and especially the FC must work to improve its image in Baluchistan. (Gilani, 2017)<sup>5</sup> An analysis of emerging Pakistani-Iranian ties by the Norwegian Peacebuilding Resource Centre includes a section on cross-border insurgency. Kupecz (2012) provides a conflict analysis of the insurgency in Pakistan's Balochistan province. A journal article by Pande (2016) has a brief section on bi-lateral relations between Pakistan and Iran with respect to the Baloch insurgency. (Bakrania, 2017)<sup>6</sup>

<sup>1</sup> Dashti, N. (2012). Baloch Balochistan. www.trafford.com%0A

<sup>2</sup> Akhtar, N. (2017). Balochistan Conflict: Internal and International Dynamics. Pakistan Journal of Social Sciences (PJSS), 37(1), 190–202.

<sup>3</sup> B.Sh.Muhammad. (2014). Dynamics of the Nationalist Insurgency in the Balochistan Province of Pakistan. Пути К Миру И Безопасности, 1, 50–74.

<sup>4</sup> Khetran, M. S. (2017). Indian Interference in Balochistan : Analysing the Evidence and Implications for Pakistan. Strategic Studies, 37(June 2015), 112–125

<sup>5</sup> Gilani, S. M. S. (2017). Counterinsurgency in Balochistan in the Long View. Pakistan Journal of Criminology, 9(3), 133–142. <http://search.proquest.com/openview/0b0a66058fa2ffec5c4252029554ebab/1?pq-origsite=gscholar&cbl=2034993>

<sup>6</sup> Bakrania, S. (2017). Cross-border conflict drivers and breaks – Pakistan, Afghanistan, Iran and Iraq. 1–17.



## 2.0 LITERATURE REVIEW

The previous authors have explored on historical facts about Balochistan separatist movement. Some important facts are discussed as under: There have been four clashes between Pakistani and Baloch soldiers since partition. The first two were brief, occurring in 1948 and 1958, respectively. The third and fourth conflicts brought on by separatism happened in 1962 and 1973, respectively. The political elite of Baluchistan has assimilated with mainstream parties like PPP and PML-Q. (Hussain, 2013)<sup>7</sup> The Islamic Republic of Iran's government and the Baloch people have been at war ever since Pakistan annexed Balochistan in 1947. This thesis contributes to discussions on conflict and education politics in Baluchistan, Pakistan. It does this to make it easier to appreciate the conflict's many historical contexts. In order to aid in the understanding of the conflict's many causes, this thesis contributes to discussions on the politics of education and conflict in Balochistan, Pakistan. (Faiz, 2015)<sup>8</sup> Balochistan is Pakistan's smallest and least developed federating unit, while being the largest province in terms of geographic extent. Balochis' suffering has led to a series of uprisings in Pakistan against the federal government throughout the years. Unfortunately, the Baloch people have developed a number of serious grievances as a result of their isolation from Pakistan's mainstream politics. (Javaid, 1987)<sup>9</sup> After 2005, Balochistan had been experiencing political unrest. The report of the parliamentary committee on provincial autonomy outlined a number of difficulties and offered numerous suggestions for public policy. The package suggested that the concurrent list be repealed, the CCI and NFC's operations be streamlined, army units be withdrawn from the Sui area, and cantonment building be put on hold. (Nazir, 2008)<sup>10</sup> For Afghanistan and other landlocked Central Asian nations, Gwadar port may serve as a conduit for international trade and energy transit. Baloch nationalism has spread throughout society and is no longer just practiced by Nawabs and Sardars. Despite this, internal divisions along ideological and tribal lines have frequently caused their political leaderships to fail. Balochistan's political climate at the moment is characterized by two competing tendencies. The renowned warrior Sher Mohammad Marri declared in the early 1990s that "Baloch nationalism has permeated the public and is not restricted to the Nawabs and Sardars alone." (Breseeg, 2001)<sup>11</sup> There are three nations that practice Baloch nationalism: Iran, Pakistan, and Afghanistan. Each nation has Baloch nationalist organizations like the PRMI, BLA, and PNLA. The Baloch

people have converted to several religions over the course of history, from Zoroastrianism to Islam. The Baloch people, who are Central Asian Kurds, are compelled to reside in three separate Islamic nations. Anderson argued that there was a second system, called the dynastic realm. On the other hand, the Baloch people have persisted in uniting around the Kalat as a nationalistic symbol, especially those in Pakistan. (Hernandez, 2012)<sup>12</sup> According to the president of the Balochistan Union of Journalists, Hammad Siapad, the Resident Editor of the Jang Quetta newspaper, Mr. Akhtar Mirza, was subjected to intense pressure from militant organisations and was threatened with imprisonment for an extended period of time. As a result, he suffered cardiac arrest and died. According to him, we had included his name on the list of journalists who had been assassinated because he had been murdered as a result of the threats issued by terrorist organisations. Journalism in Balochistan is difficult, and journalists are faced with fresh challenges on a daily basis. (Niaz et al., 2020)<sup>13</sup> Monitoring Balochistan's human rights conditions by the U.N. could be a limited but effective instrument for keeping pressure on Pakistani authorities. Despite hostility from Pakistan's security establishment, India must take the lead in promoting the Baloch cause, offer crucial diplomatic backing, and intervene. The United States might be hesitant to settle this dispute until after its troops have been safely evacuated from Afghanistan. The sole purpose of Chinese mediation will be to guarantee the safety of the CPEC projects. The European Union has little sway in the region, and Chinese mediation will be restricted to ensuring the security of the CPEC projects. The United States may be unwilling to mediate on this issue until after its soldiers have been safely removed from Afghanistan. (Arya, 2020)<sup>14</sup>

## 3.0 METHODOLOGY

In this research, the historical facts are critically examined and explored. The Mendeley desktop and Mendeley reference manager was used for the review of literature. The referencing was performed in the APA (American Psychological Association) 7<sup>th</sup> edition. The exploratory research design was used to drag the previous facts about the said study.

## 4.0 CONCLUSION

Strategically Balochistan is the most important region not only for Pakistan but for South and Central Asia as well. It is encompassing a rare combination of weather, resources and topography. There are three main ethnic communities in the

[https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/13057/K4D\\_HDR\\_Cross-Border\\_Conflict\\_Drivers\\_PK-AF-IR-IQ.pdf?sequence=1](https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/13057/K4D_HDR_Cross-Border_Conflict_Drivers_PK-AF-IR-IQ.pdf?sequence=1)

<sup>7</sup> Hussain, M. (2013). Rising Nationalism in Pakistan as a Tool of Public Administration. *The Dialogue*, VII(2), 186–202.

<sup>8</sup> Faiz, J. (2015). Politics of education, conflict and conflict resolution in Balochistan, Pakistan. February. <https://westminsterresearch.westminster.ac.uk/item/9v617/politics-of-education-conflict-and-conflict-resolution-in-balochistan-pakistan>

<sup>9</sup> Javaid, U. (1987). Concerns of Balochistan: Effects and Implications on Federation of Pakistan Umbreen. *Journal of Political Studies*, 1(2), 113–125.

<sup>10</sup> Nazir, M. (2008). Federalism in Pakistan: early years. August.

<sup>11</sup> Breseeg, T. M. (2001). Baloch Nationalism: Its Origin and Development up to 1980.

<sup>12</sup> Hernandez, E. (2012). Balochistan and Nationalism. In Thesis Report.

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.832.4964&rep=rep1&type=pdf>

<sup>13</sup> Niaz, B., Hassan, A., & Irtaza, S. (2020). Role of Media in Minimizing Religious Extremism and Ethnic Instability in Balochistan, Pakistan. *Global Regional Review*, V(IV), 12–20. [https://doi.org/10.31703/gr.2020\(v-iv\).02](https://doi.org/10.31703/gr.2020(v-iv).02)

<sup>14</sup> Arya, S. (2020). Baloch Nationalism : International Perspectives and Support. *SPRING*, 130–138.



region with indigenous roots to this land i.e. Brahui, Baloch and the Pashtunes. The situation in Balochistan is very complex and day by day it is worsening. There is no sign of government rule in the province. The target killing, kidnapping for ransom, enforced disappearance, explosions, sectarian violence and attacks on the government installations is happening in usual. The capital city, Quetta has been the main target. The situation is so dangerous that the province is moving toward anarchy. The people are not safe in their homes. The sectarian violence in Balochistan has increased in the recent time. The attacks on the Shai community in Quetta which killed at least 89 peoples leaved the city with grief. Same types of attacks have been occurred many times and occurring at regular intervals. This attack on the Shai sect is considered to be the most dangerous attack causing many deaths and leaving many people injured. The present insurgency in Balochistan is the output of mistrust among the political forces and the insurgents. The political forces who want to solve the problems through peaceful means i.e. through negotiation with in the constitution of Pakistan. On the other hand, the insurgents believe in the violence. They want to solve the problem by force through unconstitutional means. Political will is required to bridge the gulf between the insurgents and government. Make them sure that their rights will be delivered to them under the constitution and they will be given more opportunity to improve their living standard. There should be no role of the intelligence agency in the political affair of the province, so that the political forces should make their own decisions in a political domain. The role of agencies must be restricted to the law and order situation and other safety measures. In Balochistan particularly, their role is increasing day by day. The nationalists have always complained about this increasing influence of the agencies. Sardar Akhtar Mengal arrived to Pakistan after the self imposed exile and presented his six points in the Supreme Court of Pakistan in which he criticised the role of agencies in the province. The extra judicial and enforced disappearance in the province is the most volatile issue needed to be resolved wisely. This menacing practice should be stopped as it is enhancing the mistrust of the people on the security agencies and enhance the hatred with the state. Anyone involved in the charges should be produced in the court to face and defend his charges. If he is found guilty should be punished. This will improve the image of the security agencies and reinstate the trust of the masses. Another equally important thing is to enhance the participation of Baloch people in every walk of the life. Provide them the opportunity to settle down their own problems. The ongoing mega projects in the province should have opportunities for the Baloch people. The main concern of the Baloch people is that their ethnic dominance is decreasing and according to their estimate one day, they will become minority in their own province which is a point of concern for them. The social structure of Balochistan is continued to be based on the tribalism. Let them decide their own faith but provide them with more education. The more educated Baloch will play a constructive role in the development of Balochistan in particular and Pakistan in general. There is a need to take prudent actions to resolve the Balochistan issue, otherwise it is going on the wrong side i.e. anarchy and disturbance. The external power will take the opportunity to use it against the

state of Pakistan. The Baloch nationalists are required to be taken in confidence to resolve this burning issue amicably.

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#### Conflict of interest

The authors declare that they have no competing interests.

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# IMPACT OF PRACTICAL EDUCATION ON HUMAN RESOURCE DEVELOPMENT OF A NATION

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## ABSTRACT

*The study focused on the impact of practical education on human resource development of a nation. It was guided by one research question and one hypothesis. The survey research design was adopted with a population of 5,583 students. The simple random sampling techniques was used to arrive at 1,954 sample size. The questionnaire was used for data gathering and the split-half method was used for computing the reliability coefficient using Pearson Product Moment Correlation. The reliability coefficient arrived at was 0.73. Percentage and Chi Square (x<sup>2</sup>) statistics were used for data analysis. The findings showed that there was a significant relationship between practical education and the enhancement of human resource development.*

**KEYWORD:** Practical education, Development, Human resource, Skills

## INTRODUCTION

To have a self-sufficient society, the underdeveloped, unschooled and the deprived, most of whom have unused abilities. If these abilities are completely developed, it will immensely be of benefit to them and whole nation. Practical education according to Ozoemena (2013) is the ability of using reading and writing skills to acquire information that will enable the individual actively function and be of benefit economically, socially, politically and culturally in his or her community. Therefore, the ability to recite and put pen to paper helps the individual contribute meaningfully to society development. A society having most of the citizens as not being literate cannot have significant development. Thus, attempt should be made in scaling up various educational programmes in a society.

Consequently, a society that does not pay attention to the contributions of her people progresses slowly in relation to national growth. The quality and the level of efficiency of human resource or personnel of an organization is a function of achieving organizational objectives (Asiyai & Okoro, 2019). It is important therefore for management of the organization to put in enough effort in getting and improving the required human resources, ensuring that they are utilized very well. Conversely, from experience, it was revealed that majority of publicly owned organizations showed more interest in human resource development and recruitment than utilizing the available ones. It is very important to train and retrain the citizens so as to meet the increasing demand for skilled manpower resources so as to help foster national and economic development of any nation.

To be literate goes beyond mere ability to read, write and calculate which is no longer adequate for people to operate successfully in a scientific and technological age. Also, being literate is not just about adapting to existing conditions but about having the problem solving and critical – thinking skills necessary to bring about any changes needed (Okoro, 2022; Ololube & Egbezor 2012). Countries with longstanding literacy programmes are becoming increasingly concerned about “what comes next” after basic skills are taught. Innovative methods are being developed to address the goals of learners in social, economic and cultural areas. There is need for a country to determine what constitutes literacy in the light of her present situation and in relation to the wider society in which her citizens have to operate.

The concept of individual development should be the main aim of education, involving empowerment and freedom from subjugation and embarrassments. Education should focus on enabling the individual to be himself and become himself. Development is said to have a purpose which is the freedom of the individual. However, one can only free or improve on himself. As a tool of freedom or liberation and public transformation, the ability to resolving contradictions lies in education. Education can be an avenue of empowerment through giving emphasis to independent and critical thinking, thoughtful examination of happenings and openness to transformation. Practical education is people-centred and innovative, equipping the individual to soundly make decisions and analyze problems. The skills needed to analyze contrary values and circumstances in the society should be developed by the individual. Practical education does not only identify right or wrong in particular situation but enables



individual take suitable decision and actions when the need arises. The moral ability to uncover and stand against oppression and falsehood comes from having practical education. This study therefore examines the impact of practical education on the human development.

**Research Questions**

One research question was state to give the study focus:

1. To what extent has practical education provided useful skills for enhanced human development?

**Hypotheses**

The following hypotheses were formulated to guide the researcher in achieving the objectives of the study.

1. There is no significant relationship between practical education and the practical skills for enhanced human development.

**MATERIALS AND METHOD**

This study employs the survey research design to investigate the contribution of functional education on the development of human resources. The populations of the study consist of 5,583 students from twenty five acquisition centres in 18 Local Government Area of Ondo State. The sample size consists of 1,954 students which is thirty-five percent of the total population of students undergoing training in the five acquisition centres. The simple random sampling techniques was used for the selection of the sampled acquisition centres by balloting, while the stratified random sampling technique was used to arrive at the

five acquisition centres across the 18 Local Government Area. The main instrument for the study is the questionnaire. It was validated by two experts in the Department of Educational Administration and Foundations. Thus, it was adjudged ambiguity free and had face and content validity.

The researcher administered 50 copies of the questionnaire to randomly selected students in five non- formal education centres in Sapele which is outside the study location. The split-half -method (odd even) was used for computing the reliability coefficient using Pearson Product Moment Correlation. The reliability coefficient arrived at was 0.73. The hypotheses were tested at 0.05 alpha levels with chi-square ( $X^2$ ).

The researcher and two other research assistants went to the various non-formal education centres to administer the questionnaire. A total of 1,954 questionnaires were administered and the number that was successfully completed and returned was 1,675 questionnaires.

The statistics used in analyzing data collected in the study, was the percentage and chi-square statistical test. This was used to find statistically significant relationship between functional education and human resource development.

**RESULTS AND DISCUSSION**

**Presentation of Results**

This chapter involves the collation of the collected data as well as the presentation of results and discussion. The data and results obtained are presented in tables and are tested statistically using the chi-square.

**Table 1: Analysis of responses according to their training centres.**

S/N	Training Centres	Frequency	Percentage (%)
1	Skill acquisition centre, Akure South LGA	173	10.3
2	Igbokodo skill acquisition Centre, Ilaje LGA	390	23
3	JKC computer centre, Irele,Irele LGA	336	20
4	Ministry of Niger Affairs skill acquisition, Ijare, Ifedore LGA	251	15
5	Ondo state skill acquisition centre,Owo, Owo LGA	525	31.3
	Total	1,675	100

Percent of the total number of responses in each of the skill acquisition centres.

**Research Question**

To what extent has practical education provided practical skills for enhanced development?

**Table 2: Percentage of the extent to which practical education provided students with practical skills.**

Responses	Frequency	Percentage (%)
Agreed	1,120	67
Disagreed	356	21
Undecided	199	12
Total	1675	100

Table 2 shows that the extent to which functional education provided students with practical skills for development is 67% which is the percent of students in training that agreed that

functional education provides students with practical skills while just 21% disagreed and 12% were undecided. We can therefore accept that practical education provides the trainees with practical



skills. Furthermore, the hypothesis is tested using the chi-square statistical test at 0.05 level of significance with the degree of freedom of 8.

### Hypothesis

There is no significant relationship between functional education and the practical skills for enhanced development.

**Table 3: Summary of the chi-square test on the significant relationship between practical education and the practical skills for enhanced human development.**

Responses	SAC Akure South	Igbokoda SAC.	JKC Irele	MNA Ifedore	Ondo State SAC. Owo	Total	X <sup>2</sup> Cal.	X <sup>2</sup> Crit.
Agreed	116(115.68)	265( 260.78)	229(224.67)	164(167.83)	346(351.04)	<b>1,120</b>	<b>41.12</b>	<b>16</b>
Undecided	29(20.33)	60(46.33)	25(39.92)	22(29.82)	63(62.37)	<b>199</b>		
Disagreed	28(36.77)	65(82.89)	82(71.41)	65(53.35)	116(111.58)	<b>356</b>		
<b>Total</b>	<b>173</b>	<b>390</b>	<b>336</b>	<b>251</b>	<b>525</b>	<b>1675</b>		

At a degree of freedom of 8 and at 0.05 level of significance, the critical value (table value) is 16. The calculate value is 41.12 which is greater than the critical value of 16. Based on this, the null hypothesis is rejected and the alternative which states that there is a significant relationship between practical education and the skills and development of students is accepted.

### DISCUSSION OF RESULTS

The hypothesis revealed that practical education provides the students with practical skills which enhance their development. It was discovered in the Ondo State skills acquisition centre and the Igbokoda acquisition centre that the students were being trained to acquire different skills. Some of these skills are: soap making, cream making, tailoring, hair dressing, candle making, welding, metal work, auto-mechanic and auto-electricity. From the information gathered during the study, most of the students have been able to acquire the basic skills and have graduated successful. Also in JKC computer centre, Irele, most of the student were youth who have graduated from the secondary school but could not gain employment with their certificate and has not been able to further their education. In these non-formal education centres, functional education is impacted to students who need skills development and remedial education to school dropout. Adult and learners are therefore motivated to develop an interest in acquiring new skills. It was also the view of (Ozoemena, 2013) that adult literacy programme have been found to motivate learners to develop interest in acquiring reading and writing skills and help to form a positive attitude towards ICT and media use in the context of lifelong learning. Through functional education, the students are trained in a relevant skill, which enable them have the self-confident to move around independently and to seek employment with large firm without fear. Those who already have some skills before are being re-train to become a professional and thereby increase their productivity. Egbezor and Okanezi (2012) is of the opinion that the purpose of adult literacy education is to help move people from whatever level of consciousness they currently operate to a level of critical consciousness, wherein they can ask questions about things around them, as well attain capacity to change their

lives positively to the benefit of the society. There is need to provide skilled workforce, and the teaching and re-teaching new attitudinal changes of workers (Egunyomi, 2009; Efanga, 2007). According to Ihejirika (2012), practical education could be job centred. For example, a worker in the industry needs to develop his or her skills for optimal efficiency and output via re-training and attending workshops and seminars. Therefore, practical education acquisition centres has been able to provide the basic skills to the students which enable them to be employable or self-employed.

### CONCLUSION

The research findings revealed that functional education teaches life planning educational skills. Skills acquisition centres in Ondo State has been training students in various skills and trades. The skills learnt in non-formal education enhance the procurement of employment. The certificate issued to graduates of non-formal educational programmes could be used to seek employment in either the private sector or public parastatals. Besides, such acquired skills could be used for self-employment if the person so desires. Sometimes when there is no wage employment, a graduate of non-formal education programme could start his or her own business and even become an employer of labour. Also, the study revealed that participation in practical education programmes can generate income for themselves through the acquired skills which can in turn reduce the poverty level of the citizens. This implies that the people who could not fend for themselves before now can acquire necessary skills. These acquired skills can make them to be useful to themselves and the society. Conclusively, practical education helps in enhancing the efficiency and productivity of employees. This could be through the different training services given to employees on and outside the job.

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# CHALLENGES FACED BY WOMEN IN AREAS OF UNREST AT THE INITIAL STAGE OF COVID-19 OUTBREAK. FOCUS ON THE NORTHWEST REGION OF CAMEROON

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## ABSTRACT

*The aim of this study is to show the challenges faced by women living in areas of conflict during the initial stage of the covid-19 outbreak. The North West Region of Cameroon, specifically Bamenda, which is the region's main town, was chosen for this study because of the high intensity of social unrest which has contributed to the displacement of many women into this city. Due to the increased vulnerability in the suburbs and the different sorts of abuses experienced as a result of the unrest, many women were prompted to move from these suburbs to the central city for refuge. Living in such precarious conditions, many displaced women found it so challenging to put into practice the measures prescribed by the government to fight against Covid-19 as a result of the continuing conflict in the region. Furthermore, attitudes and practices toward the prevention of the spread of the coronavirus in this area were not easy to manage especially amongst women who were already exposed to hardship. With an already fragile healthcare system due to the prevailing fierce conflict that started in 2016, the outbreak of the COVID-19 pandemic just increased the burden of an already paralysed region. Faced with limited access to healthcare services and many controversies on the origin of the virus many people turn to alternative or complementary medicine for prevention and treatment. Alternative health care practices were carried out individually as well as collectively to prevent the spread of the pandemic in this area. Women in the North West Region, who are already living in a risky situation because of the social unrest, turn to indigenous methods to manage the outbreak and spread of COVID-19 in this area. Relying on indigenous knowledge about disease aetiology enabled them to provide diverse solutions to curb the spread of the pandemic in an environment already aggrieved by social unrest.*

**KEYWORDS:** COVID-19, Health, Social Unrest, Pandemic, Women.

## 1. INTRODUCTION

Every society has a way of demonstrating its plight, whether individually or collective. This usually stems either from frustration, disappointment, and disagreement, anger resulting from unmet needs, desire and relegation, which usually lead to conflict (Mayer B, 2000). However, conflict can be explained from three dimensions. Firstly conflict can be seen as perception that is, the conviction that one's own needs, wants, interests and values are discordant with that of another person and secondly it can be expressed as a feeling through anger, fear, sadness, worries and hopelessness while the third dimension suggest that conflict is expressed through actions which are usually carried out differently by the concerned (Mayer B, 2000). Be it in a developed or developing society, conflict through action usually leads to destruction and social unrest which appears to be correlated across both space and time, with regional waves of unrest such as the Arab uprisings or recent protests in Latin America appearing to be a relatively common phenomenon (Barrett et al 2000).

No matter the origin of the unrest as mentioned above, those who suffer disproportionately are usually women and children whereby the devastating implications of war have left many of them socially handicapped and psychologically disabled (Maina G, 2012). However it is critical to understand

what the challenges are, and how they knit into other challenges that confront women in post-conflict societies, especially those challenges that are directly linked to their health (Maina G,2012). Also, women and girls have unique health needs but they are less likely to have access to quality health services, essential medicines and vaccines which end up posing serious threat to their health during a widespread health crisis (United Nations 2020).

It is absolutely vital that when we talk of a crisis, we understand how it affects communities and more so the ones already with increased vulnerabilities or marginalised characteristics (Sana M, et al 2020). During the second half of 2019, when the coronavirus broke out in China, Wuhan province, major protests and other forms of conflict were going on in locations as diverse as Bolivia, Chile, France, Hong Kong, India, Iraq, and Lebanon (Sana M,et al 2020). More than 37 countries experienced massive anti-government movements in the last few months of 2019 alone (ibid). Furthermore, over the course of 2019, anti-government protests occurred in 114 countries with 31 percent more than just a decade ago and in all of these, women are at the center of multiple discrimination especially refugees and internally displaced (Samuel et al 2020).

In Europe, one of the key concerns for women and women's health has been the questioning of essential services



and what it constitutes in each administration, these raised several questions of equity within health and prioritisation of resources (Claire W 2020).

Unrests have not been limited only to particular countries or continent but the frequencies have been higher in some and less in others. For example, sub-Saharan Africa saw the largest increase in anti-government protests in the world, with annual protests increasing by 23.8 percent each year more than twice the global average of 11.5 percent (laurel W, 2020). In the midst of these uprising, the World Health Organisation (WHO) declared the first coronavirus case in Africa on February 2020 in Egypt and by 30<sup>th</sup> April, there were already 37393 confirmed cases in the whole of Africa and 1598 deaths. Though WHO declared it a global pandemic, it did not stop protesters from protesting (ONUFEMMES 2020). This seriously influenced the spread of Covid-19 and increased the burden of precarious communities in Africa especially women who were at the forefront of the battle against the pandemic and made up almost 70% of the health care workforce but under-represented in leadership and decision making processes in the health care sector (OECD, 2020). During crisis, women are more prone to risks due to gendered nature of the health workforce, which involves more women fighting the disease at the forefront and are also subjected to limiting work and economic opportunities (OECD, 2020). Protesters targeted health facilities even at the peak of the coronavirus pandemic, hence putting women more at risk, like the case in Libya, where a hospital treating COVID-19 patients was bombed in early April, and in May 2021 a maternity hospital in Afghanistan was attacked (United Union Women, 2021). Ongoing threats and experiences of violence such as these increased the burden of COVID-19 as individuals avoided accessing health facilities and seeking the medical care they desperately needed especially pregnant women and nursing mother (UN WOMEN, 2021).

In Cameroon, protest and social unrests have been frequent, though they were very recurrent in the 90<sup>s</sup> as a result of differences in political opinions (Delancy, M D et al), The most recent phase of discontent began in October 2016, when thousands of teachers and lawyers in the Anglophone regions took to the streets to protest what they termed a systematic marginalisation by the Cameroon government of jurist, who were only conversant with French civil laws and not the common law that applied to the Anglophone regions (Billy A, et al 2016). Also, teachers recruited by the government and deployed to the Anglophone regions were faulted for not being able to speak in English, since then, all efforts to bring the situation under control have been challenging to the government and some organization in charge with peace keeping and human rights, thereby leading to the creation of arm groups in this section of the country (Billy A, 2016).

Since after that period, there have been continuous fighting, indiscriminate torture, murder, arson of villages, and rape of women and young girls in this part of the country (ibid 2016). Three years into the conflict, the unpleasant face of the

coronavirus pandemic took the stage. The first case of the coronavirus was confirmed in Cameroon on March 2020 and the number kept soaring. With this, Cameroon recorded the highest number of deaths from the pandemic in August 2020 than any African country with about 400 confirm cases of death from the virus, Cameroon remains the 10<sup>th</sup> most affected African country with the highest number of COVID-19 Cases in 2020 (International Crisis Group, 2020). Though many people did not believe in its existence, media sources like the Cameroon Radio and Television kept reporting high case fatality in major cities like Yaoundé, Douala and Baffousam which later spread to other regions including North West region with its prevalence in urban settings like Bamenda, which is one of the hotspots of the ongoing crisis in the Anglophone regions. (Nkansah, S N, 2019) This region recorded 1959 cases of coronavirus in March 2021 with an increase case fatality rate from 4.1% to 5.8% from these figures, one could say that Chronic vulnerability and structural suffering as a result of the ongoing crisis in this area imposed many challenges on the management of the coronavirus pandemic especially on women who were experiencing heightened level of insecurity at all levels (OCHA, 2020). These women had been grieved by economic hardship, distorted social structure and mistrust of information from the authorities and those around them even before the outbreak of the virus. However, the combined effect of the COVID-19 outbreak and the conflict had led to serious economic hardship on women who were struggling to catch-up from the effects of the conflict. This headed to other challenges like increased poverty, gender violence and food insecurity.

## 2. METHODOLOGY

A qualitative approach was used to conduct this study and the design was descriptive. It was carried out in Bamenda which is the capital city of the North West region.

### 2.1. Sampling procedure and sample size

To get the sample for this study, a sampling procedure was used. We tried to get respondent who have been displaced by the ongoing crisis from other parts of the Northwest region and were residing in Bamenda town. This was gotten through purposeful sampling, where participants were obtained through snowball sampling technique. Respondents such as nurses and doctors were also chosen through this method. With the help of purposive sampling, 15 males and 25 females' displaced persons were selected as respondents for the study. Five health workers were also chosen from the different health structures hosting COVID-19 patients.

### 2.2. Data collection procedure

For the purpose of this research, both primary and secondary data were collected. Secondary data were gotten from journals and books while primary data were gotten from respondent with the help of some data collection tools such as interview guide, observation guide, pens, paper, and recorder. The data was



collected in 2020 when the corona virus was gaining ground in this region.

### 2.3. Method of data collection

In carrying out this research, different methods were used to get information from our respondents. Such as interviews and observations

#### 2.3.1. Interview

Due to the pandemic and the ongoing crisis, a one on one interview method was used to collect data from respondents. This method was used to get information on people's perception of Covid-19 outbreak, how they managed the outbreak within the ongoing crisis and the challenges they faced.

#### 2.3.2. Observation

This method was used to get information on the different practices carried out by these women. Where they searched for therapy and how they apply it. It was also used to get information on the types of activities they carry out to sustain their lives

## 3. RESULTS

### 3.1. Perceptions of covid-19

Beliefs and perceptions of ill-health are influenced by the socio-cultural context and indigenous healers, who form an alternative health service in many societies (Kahissay et al, 2017). Public health is an area that is particularly susceptible to disruption as a result of social unrest, and continuous unrest predisposes people to an inherent elevated risk of poor health outcome (Robert, 2018). However, the etiologies of health problems are perceived differently in all societies. Though origins of illnesses and diseases may be traced in social or spiritual realms according to anthropological perspectives, all cultures have disease theory systems which include ascription and concepts that explain causality (Ndenecho, 2011). However, some diseases are particularly embedded in the society in which they are found, they directly derive meanings which shape how society respond to those afflicted and influence the experience of that illness (Edjenguèlè, 2009). From the above statements one can say that strife and social unrests ease the spread and transmission of diseases especially among displaced women who have little or no access to information related to their health.

Examples can be drawn from the second cholera epidemic in the United States of America, where contagiousness was associated to recent immigrants and to African-Americans while in India, the British believed that it stemmed from the barbaric superstitions and traditions from Hindu pilgrim (Robert et al, 2020). This is the case with the current coronavirus pandemic. The causes of the COVID-19 pandemic have been socially constructed even though some research findings came up with claims that it was zoonotic jumps from animals (intermediate host) to humans. One can still consider that

illnesses and diseases are socially constructed at the experiential level based on how persons and groups try to understand and live it. Scientific explanations still play a vital role in understanding their causes. Attempting to make sense of the causes of the coronavirus outbreak and trying to contain it within this period of social unrest in Bamenda many people perceived the cause of the outbreak differently. Sampling the opinions of the various respondents, we realized that these people have a wide variety of opinion related to the causes of the coronavirus pandemic outbreak.

We understood from our interviews that many people associated the COVID-19 to several layers of causality which exist and varies from supernatural, natural and social. Since Europe and America recorded the highest numbers of death cases during the first wave, some people thought the pandemic was a form of punishment in those parts of the world. During our discussion with some women in this area it was assumed that with advanced technology in the Western world and their inability to master and provide immediate treatment for COVID-19 indicated that the virus had a supernatural origin. Another factor that kept coming up during our focus group discussion with some women was the fact that many people had violated the law of nature turning away from God's original plan for man.

Men are getting married to men while women are getting married to women and abortion is being legalised in many countries which is considered a bad practice. Some people were of the opinion that the disease was fabricated in the laboratory by the Chines to gain control over the world's economy and became the next world power. While others believe they were indications that the world was coming to an end. This brought us to the different perspectives societies have about the causes of diseases. Though blame game for the causes of the pandemic was on China because it started there, many people still thought that the pandemic was a weapon produced in the laboratory to weaken strong economic powers in the world. Still from the interviews, others believed that COVID-19 was a conspiracy by the Western World to reduce the population of the world and the vaccine they are producing is to cause sterility in women and young girls. This is the same with the fifth Cholera epidemic outbreak in Naples which the people thought it was a conspiracy theory by the government to reduce the population of the poor (Robert et al 2020).

### 3.2. The Influence of covid-19 on women's lifestyle

During the process of data collection, we observed that many women had been removed from their original environment to a new one as a result of the ongoing unrest. In this case, they found it hard to manage the outbreak of the coronavirus in their new location. They explained that the frustration they were experiencing by trying to adapt in a different environment as a result of the social unrest in this area and the COVID-19 outbreak had further changed their lifestyles. Women who were carrying out small business to sustain their families could not



longer do it because of the pandemic. Some displaced women were at the battle front of taking care of their sick husbands in the hospital and providing care for the kids in the house. They said at one point they became sick and did not know whether they were attacked by coronavirus or malaria. Due to their pivot role in the family as caregivers most of these women did not have time to visit the hospital for checkup. Perceptions about the etiology of the pandemic were embedded within different realities experienced by women.

The drastic change of lifestyle as a result of the social unrest impacted negatively on women in such a way that they even perceive the COVID-19 to be less harmful as compared to the suffering they were experiencing due to the unrest. These women lived in areas with limited economic opportunities, poor accommodations and limited health facilities. In order for them to survive in this new environment, they need to come up with some coping strategies. During our stay on the field, we noticed that the most frequent coping strategy used by some women was transactional sex, even those with small businesses also used this coping strategy to enable them earn financial security.

This coping method however increased the risk of other disease transmission, unwanted pregnancies and unsafe abortion among adult women and young girls. The outbreak of the coronavirus and its controlled measures which included confinement, social and physical distancing as a means to limit its spread had a negative effect on these women. Those involved in transactional sex as a means to survive found it difficult to do so because of limited cash flow from their clients due to the health threat caused by coronavirus. Others, who indulged in small businesses just to make ends meet, saw the businesses crumbling because of limited goods flow as a result of closed borders. Women however stood high chances of contracting COVID-19 because of the gender role ascribed by the society to them as caregivers. In most cases they needed to fend for themselves and their families and, the situation was even very critical in female headed households.

### 3.3. Women's exposure and transmission of covid-19

Infectious disease prevalence can vary significantly between societies because of differences in culture, social structure, ecological setting, and historical context (Munyakwa, 2015). However, infectious diseases cannot be understood through biology alone but rather must be considered within the context of the cultural and social worlds they inhabit, nonetheless disease transmissions exist in an interactive model where the physical environment, human host, disease agents and sociocultural practices are taken into consideration (Munyakwa, 2015). During moments of unrest, women are more exposed to diseases outbreak because of limited resources. Apart from that, the frequency of women in the hospital is usually high, this is because they have more health needs which require regular checkups; if not for their children it will be for themselves and other members of the community. For example, pregnant women are supposed to attend anti-natal clinic every month

and as the pregnancy comes to term, their visits are more regular.

With the advent of the coronavirus pandemic, most pregnant women disrupted their anti-natal follow up and some of them decided to deliver their children at a traditional birth attendants or at home where they thought the risk of contracting the virus will be low and the cost of delivery will also be small. At the initial stage of the outbreak, of COVID-19, there was little data on adverse pregnancy outcomes in pregnant women with COVID-19 but data from previous coronaviruses (SARS-CoV and MERS-CoV) suggests that pregnant women may be at higher risk of severe illness, morbidity, or mortality compared with the general population (Zarchi, 2020). As COVID-19 virus was still spreading, more infections in pregnant women were likely to be seen and COVID-19 infection in pregnant patients were said to have increased the risk of maternal mortality (Zarchi, 2020). We also realized that the fact that some informants did not believe in the existence of the virus, facilitated its spread. Such people were not serious in respecting the barrier measures put in place by the government (wearing of mask, washing of hands and keeping physical distancing) on the other side, since friendship and solidarity ties keep bringing people together either for fellowship, marriages, births or dead of love ones and continuous even during moments of strife, such people may be more vulnerable to COVID-19 than the rest as stated.

*'I believe my mother contracted COVID-19 during my sister's traditional marriage. During the marriage, barrier measures were not followed; we just ignored the existence of COVID-19 and focused on the ceremony. Some few days after my mother fell sick but did not go to the hospital, when we saw the way she was coughing and complaining, that is when we realised it was COVID-19. We did not take her to the hospital immediately; we tried to redress the situation at home. When the situation was not improving, we decided to take her to the hospital. At the hospital, we were informed that her system had been destroyed by COVID-19. After some few days, she gave up the ghost.'* (UMDIV, Age 37, Bamenda, May, 2021, 2pm).

In such encounters, most people probably forget about the silent killer (COVID-19) and went about shaking hands, embracing and speaking without wearing face mask. During moments of unrest in this area, there is usually high movement of people especially when there are sporadic gun shots. Women carried their children and moved from one part of the town to the other irrespective of their health situation, just to seek refuge. Most women run without putting on face mask while others shouted as they ran, thereby exposing themselves to the coronavirus through airborne transmission.

Airborne transmission is however different from droplet transmission as it refers to the presence of microbes within droplet nuclei. These nuclei are said to be particles that have the tendency to remain in the air for long periods of time, and be transmitted to others over distances greater than 1 meter. In this case, many people ran a high risk of contracting this virus during





moments of unrest, especially when they were trying to escape from their perpetrators. The fact that they were yelling, screaming, chanting and exerting themselves, provided opportunities for the virus to spread (Apoorva, 2021). Those who were asymptomatic stood a high chance in the transmission of COVID-19. Since they did not manifest any signs or symptoms of the disease, they went about their activities without any measures.

### 3.4. The influence of conflict on health services within the context of covid-19

Conflicts usually keep populations in awful poverty, internally displaced or seeking asylum, they however have poor access to essential services and consequentially vulnerable to infectious diseases (Iheanyi, 2009). The ongoing social unrest in the Northwest region of Cameroon has helped to breakdown the already weak social services in most part of the area. It has also pushed service providers to abandon their duty posts and move to other towns for safety.

These sudden movements have drastically affected service provision both at the private and public levels. Even though other services have been affected as a result of the crisis, healthcare services have been the most affected segment, most especially the public health sector which is considered to be one of the driving force of Cameroon's health care system, whose core objectives are based on disease prevention as well as providing and improving health services to its population (Boniol et al, 2019). Some workers who left their duty post as a result of the unrest and could not live in other towns because of limited financial resources, had to seek employment in some private and public structures in Bamenda. We realised from our interviews that most of the jobs available were typically those of cleaning, guarding, baby-sitting and nursing, which were usually done by women and they earned very little salaries from these jobs.

At the level of healthcare, it was noticed that female staffs were at the center of in and outpatient services in hospitals, health centers and clinics. The majority of frontline healthcare professionals globally are women whose access to healthcare had been worsened by the pandemic (Boniol et al 2019). Even with little pay packages, female staffs put in much effort to provide health services to pregnant women and lactating mothers so as to help reduce their susceptibility to other diseases and sustain the already weak health system caused by the ongoing crisis. One of the ways that the state helped to mitigate the spread of COVID-19 within the ongoing crisis in this region was to provide three quarantine centers through the ministry of public health. The first one was situated at the general hospital, the second at the Bingo Baptist hospital Nkwen and the third at the District hospital in Nkwen, to enable stress-free access to health services for COVID-19 patients. Poverty, conflict, social norms and gender discrimination made women and girls more vulnerable to contracting COVID-19 and less likely to access critical services including general healthcare

(Zarchi, 2020). From our analyses, we noticed that many women had less access to healthcare information because they were less empowered and did not trust the sources of information even when it was coming from the authorities. This is because of the discrimination and marginalisation they faced as a result of the on-going crisis. The coronavirus pandemic caused some health structures to lay off some of their worker while others imposed stay at home measures to some nurses who made up the majority of staffs in the health sector. These workers went without salaries for the period of time they stayed at home. On the other hand, medical personnels found it extremely hard to travel with test kits and vaccination for Coronavirus to other divisions as a result of the social unrest. They were afraid to travel to these areas because of the intermittent kidnaps and fire exchange between the military and the separatist fighters.

In areas where people had access to health care services, there were limited material resources like beds, oxygen, test kits and medication. Some patients even refused going to the hospital with the fear that they will be declared COVID-19 positive when they were not suffering from it. In March 2020, the World Health Organisation issued interim guidance for maintaining essential services during the outbreak, which was comprised of advice to priority services related to reproductive health and efforts to avert maternal and child morbidity and mortality (Medecien Sans Frontier, 2020). A research carried out in Likoni, Kenya, health centers where women normally deliver, were shut down and health workers reassigned to the COVID-19 crisis (Medecien Sans Frontier, 2020). This was the same with the prenatal/maternal integrated health center situated at Nkwen, which was destined for mother and child care but was later transformed into a quarantine center for COVID-19 patients.

### 3.5. Stigma and fear linked to the covid-19 pandemic

We noticed that, the unknown aspects about illness, creates fear, myths, and rumors that can help amplify social stigma. The outbreak of coronavirus disease in 2019 (COVID-19) created social stigma and discriminatory behavior towards individuals who were perceived to had any contact with the disease (Prama et al 2020). Generally, those tested positive for COVID-19 were quarantined or isolated for 14 days. Even when the illness ended up in dead, their families had no right over their corpses. This caused a serious disruption in cultural practices carried out during funerals. Rites of separation like the one done by majority of women who lose their husbands (widowhood rite) were also halted. It was observed that people became angry when the deaths of their relatives were attributed to COVID-19. This was because it was not going to follow the normal burial rites.

Those who died from the virus were buried by the council workers. One of the elites in this area specified that giving last respect to deceased family members was very important. According to the social and cultural practices of the people, family members and friends travel from different towns and countries to offer their last respect to the deceased and lend



their support to the bereaved family. Women who are usually at the center of organisation during such moments to make sure that there is enough to eat and drink were also very afraid not to contract the virus. Prayers and ritual practices are very essential during funerals. Some families usually take their corpses to church for prayers, believing that the deceased soul will gain eternity while others performed some ritual practices to send away the spirit of death from their families and to enable the soul rest in peace.

At the peak of the coronavirus outbreak, the corpses of those who died as a result of coronavirus were not given proper burial rites both traditionally and religiously. People were restricted from taking part in this burial ceremony to avoid contamination. This new burial style provoked tension and fear amongst people in this town. Some women believe the spirit of their deceased relatives especially their husbands might hunt them and cause more deaths in the family because they were not buried properly. Some said they were afraid to die during that period because their corpses will be buried by the city council workers and no one will be able to trace their graves, we noticed from our interview that most people did not take their illnesses to the hospital; they said the doctors related every illness to the coronavirus and were afraid theirs could be linked to the virus. It was noticed that some people were not even afraid of the virus but complained of the isolation or quarantine if they were declared positive. They believed that any person who was isolated will surely die since corpses of those who died as a result of the virus were confiscated and buried without the consent of the family. Some family members refused to accept that the council should bury their relatives claiming they did not die of COVID-19.

*'My uncle went for checkup at the St Mary hospital at Ntarikon. The nurses did some tests and asked him to stay in the hospital because he had coronavirus. After two days he died and the hospital staff refused to give us the corpse, they said it will be handed to the council for burial. When we insisted, they sent us out and locked their gate. We went to the quarter and explained to our neighbours. In less than 30 minutes there was a crowd at the hospital gate reclaiming the corpse of my uncle. The angry mob forced themselves in the hospital and got the matron well beaten and they released the corpse of my uncle'. (Izak, Male, 10/6/2020, 10 am, Bamenda).*

Some people assumed that the drama surrounding the coronavirus was too much especially in an area where people were already undergoing structural suffering as a result of social unrest. The COVID-19 pandemic also induced fear in frontline workers whose majority are women. Coming in contact with infected persons, pre-exposed many of them to the disease. This caused serious disruption in those families whose members work in hospital hosting COVID-19 patients. Survivors of COVID-19 found it difficult to integrate in the society especially women who lacked social protection and financial sustenance. Talking to some of them, we realized that they were really careful not to be contaminated the second time. Those who had not yet had the

experience tried to keep away from them, thus limiting their freedom to interact in the society. One can say that COVID-19 outbreak has stimulated fear and segregation in an area already experiencing serious social, economic and psychological breakdown.

### 3.5. The challenges faced as a result of barrier measures

One can say that people carry out practices to prevent misfortune, disease outbreaks, illnesses and sufferings so as to stay safe. In some societies, biomedical healthcare services are equipped so as to manage any disease emergency. In Cameroon there are health measures put in place to give preventive treatment, which is usually done through vaccination campaigns. This does not stop families from preventing themselves and their children from the unknown by using complimentary treatment. From our interviews we understood that many people considered the coronavirus to be the unknown and those affected were the unfortunate ones.

We observed that the continuous lock down imposed by the separatist fighters before the coronavirus outbreak helped the inhabitants of this town to become accustomed with the issue of quarantine. While the government was thinking on how the lockdown will cripple the economy of the country and looking for ways to manage the issue, those in the affected regions (North West) were already familiar with the lockdown. Though the imposed lockdown had been detrimental to the psychological wellbeing of the inhabitants in this region especially women who have been internally displaced, it helped them to maintain social and physical distancing amongst them during the outbreak. Apart from this, another way of preventing the spread of the coronavirus had been through the wearing of face mask. Though the wearing of face mask had been understood as one of the most effective ways of preventing people from contracting the virus, accepting this new mode of life had been very difficult.

*'I am tired of wearing the face mask. It is very uncomfortable to stay with it the whole day. It is something new to us and very difficult to adopt it as a lifestyle'.*

*(Tritia, Female, 15/6/2021, 5pm, Bamenda)*

From observation on the field, it was perceived that many people were not putting on the face mask as required. Some people put it at the chest level and others put it under their chin or at the level of their mouths while others did not put it at all. Some women made me to understand that putting on the facial mask was not good for them because their husbands will not admire them any longer others said their facial make up will not last under the mask so they were not comfortable wearing it. Some pregnant women complained that they were finding it difficult to breathe with the mask thereby making them remove it frequently. Others said speaking under the face mask was so challenging because the conversation was not flowing, they had to speak loudly or shout.

Still, it was noticed that the separatist fighters refused to put on the face mask because the measures were coming from



the government. This is because they are against any reforms made by the government in this region. According to information gotten from those in charge of maintaining law and order in the town, all those who were seen without face mask at their disposal were considered terrorists and were brought under the law. Those who were found with the mask under their nose were also penalised, culprits where imposed a fine of 6000fcfa and were given a receipt upon payment. This action put the separatist fighters and the law enforcement officers in constant disarray. People travelling from other towns into this town were expected to put on facial mask. If at the main check point travelers were found without it, they also paid a fine of 2000fcfa. Women with low income did not see the need of buying facial mask all the time, instead they choose to stitch several of them and kept changing each day. Those who could not stitch another one kept wearing the same mask all the time irrespective of its hygienic condition.

*'I was embarrassed when the law enforcement officers asked me to pay a sum of 2000fcfa, when I tried to find out what my crime was, they told me I was not putting on my face mask. I had the mask on my face but it did not cover my nose. They treated me like someone who did not have the mask at all' (PAT KAFO, Female, 8/7/2020; 2pm)*

This respondent was surely coming from a town where the wearing of face mask was not as strict as in Bamenda. Feeling embarrassed showed that she was not taking the coronavirus threat serious.

### 3.6. Sorting therapy for covid-19

Healing practices usually go with the awareness and practices put forth by individuals and groups toward a disease. Also, therapy may be sorted individually or collectively depending on the availability of resources and the cultural beliefs and practices associated to the disease outbreak. Episodic and exceptional in nature, epidemics are a real-time crisis that compels immediate response (Kelly et al 2019). However, societies come up with different methods and ways of responding to them. Without any concrete treatment for the coronavirus at hand, many women here have sorted therapy within different healthcare systems. We noticed that most women focused on the use of alternative or complimentary medicine rather than biomedical prescriptions for the prevention and treatment of COVID-19.

### 3.7. Healing practices carried out to fight covid-19

Women who were already facing serious discrimination as a result of the breakdown of health systems caused by the current social unrest, had to look for alternative ways of providing health care for themselves and their families in this period of COVID-19 uncertainty. It was observed that in the absence of a concrete treatment, women in this area struggled to provide therapy for COVID-19 from indigenous knowledge.

Depending on the symptoms experienced by different people in this area, many healing practices were carried out to restore the health of those suffering from the pandemic. Healing practices for COVID-19 ranged from spiritual, dietary and herbal practices. During my interview with some Bamenda city dwellers, many women provided self-care for themselves and their families. They did this by taking items such as limes, ginger, onions, salt, hot water and other herbs or plants such as Artemisia, fever grass and Aleo vera plant. According to some respondent these items are usually used to treat malaria, cough and other respiratory tract infections. Since coronavirus is a respiratory tract infection they indulged in consuming these products indiscriminately without watching for the side effect. Also the fact that most patients notice some signs and symptoms of malaria, it cause them to use Artemisia plant to combat it. Women have been at the frontline in providing these products because of their high demand in the market. Many of the respondent said they got these preventive remedies from media sources and others were told by their relatives and friends.

Others decided to consume a combination of these items in hot water because they thought hot water will make the virus less active in the body. Some people decided to carry out vaporisation therapy where they inhale the vapour from hot water as often as possible to keep their body hot. Some of our respondent said, they heard from other people that the coronavirus manifested like malaria fever so they decided to carry out another form of prevention and healing known as vapour healing, where leaves from different fruit trees such as mango, pear, orange, pawpaw and guavas were harvested and boiled together and the patient was covered with a blanket, while under the blanket the pot containing the boiled leaves is open for the patient to inhale the vapour. They believe that the vapour from these leaves help to break down the malaria parasite in the body, which comes out through sweat. This method has been widely used in this area to provide healing to the coronavirus pandemic. Respondent exposed that this method of healing was usually done individually or collectively. The entire family carries out this practice once or twice a week since it was easy to get the materials needed for it.

Those who could not access the hospital especially in far off areas used this method as often as possible. This is very common in those areas where people have limited access to health care services as a result of the ongoing social unrest. Those who presumed these methods were not sufficient, decided to indulge in prayers and fasting. Faithfulls who thought the virus was sent by God, use prayers and fasting as a way of remedying the situation. Spiritual leaders kept encouraging their followers to pray without ceasing. Talking with some medical staff, it was noticed that hydroxychloroquine drug, zinc and vitamin C were prescribed for those who tested positive and they were isolated to reduce the spread. Those with underlying health problems like diabetes, high blood pressure and cardiovascular diseases were requested to be more careful since they were more susceptible to the virus than people without such health problem.



#### 4. CONCLUSION

This article goes forth to show the challenges faced by women in areas of unrest at the initial stage of the covid-19 outbreak. The Northwest region of Cameroon was chosen because of the ongoing crisis plaguing the town. Though the conflict already had a direct impact on the well-being of these women, the presences of the covid-19 pandemic went a long way to worsen the risks. The presence of the pandemic helped to reinforce the concern of the separatist leaders who think every activity should be halted. The continuous look down and the outbreak of the pandemic actually limited women's access to sustainable livelihood activities. On the other hand the coronavirus outbreak was also used strategically by the government to reinforce its authority in this region and get hold of it by imposing strict measures to everybody with the separatist inclusive. Also, the frequent lockdowns enabled most women to turn to alternative or complimentary healing practices. This is because the resources were easy to access than those in the hospital. Turning to complimentary medicine enabled most families to better manage the pandemic.

This article also portrayed that even though women were living in precarious situation as a result of the unrest, and have been trying to pick up sustainable livelihood activities, the presences of the coronavirus seriously affected their efforts. Although the government struggled to provide suitable responses to the situation of Covid-19 and social unrest no responses were gear specifically to women who were more vulnerable at every stratum.

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# PSYCHOLOGICAL CONTRACT BREACH AND CHANGE-ORIENTED ORGANISATIONAL CITIZENSHIP BEHAVIOUR OF HOTEL INDUSTRY IN NIGERIA

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## ABSTRACT

*The goal of this research is to discover the nature of the link between psychological contract breach and change-oriented organisational citizenship behaviour. The research issue is that, since the fall of the Naira, the emergence of COVID-19, the limits, and income loss, the responsibility of hotel success has been placed on the shoulders of the leader. As a result, the innovative atmosphere is obsolete, and managers are implementing drastic initiatives that are not in line with employee expectations. To acquire a picture of the hotel sector, a cross-sectional survey was used, coupled with other mixed research approaches for a broader view. The figures were gathered through an online poll of 243 hotel employees working in premium hotels in South-South Nigeria. The research findings were obtained through the use of structural equation modelling.*

**KEYWORDS:** *Psychological Contract Breach, Change-oriented OCB, Innovative Climate, Supportive Leadership*

## INTRODUCTION

The conventional idea of OCB gives rise to change-oriented organisational citizenship behaviour. Change-oriented OCB was characterised by Choi (2007) as "individuals' constructive attempts to identify and implement changes in work practises, policies, and procedures to enhance their status and performance" (López-Dominguez et al., 2013). Change-oriented OCB are positive efforts made by management and personnel. This notion is essential as long as organisational and socioeconomic change is inescapable (Akinwale et al., 2021). Failure, like accomplishment, is a genuine possibility. The hotel business, in particular, strives to preserve its competitiveness by adjusting to changes on a regular basis, but the spread of change-oriented organisational citizenship behaviour appears to be an uncommon event. Recent figures show that only around one-third of organisational transformation programmes are regarded effective by their executives. Clearly, successfully executing organisational transformation initiatives is incredibly tough. Employee resistance to change causes many change efforts to fail (Dialoke & Chinwe, 2016).

The unpredictability of the business environment and work changes can generate dread in employees throughout the organisational change process, altering their attitudes and consequently raising their resistance (Akpabio, 2017).

## STATEMENT OF THE PROBLEM

Since the introduction of COVID-19 and the considerable reduction in the value of the Naira, a record number of once world-class hotels have plummeted to ordinary standards. The hotel management team is not interested in

reform; instead, it is acting in a typical radical fashion, violating contracts without regard for employee well-being. Employees are losing interest in their employment, and the organization's attraction is dwindling, so the employer's reaction is counterproductive. Change-oriented OCBs appear to be taken for granted in order to change the narrative that is important at this moment.

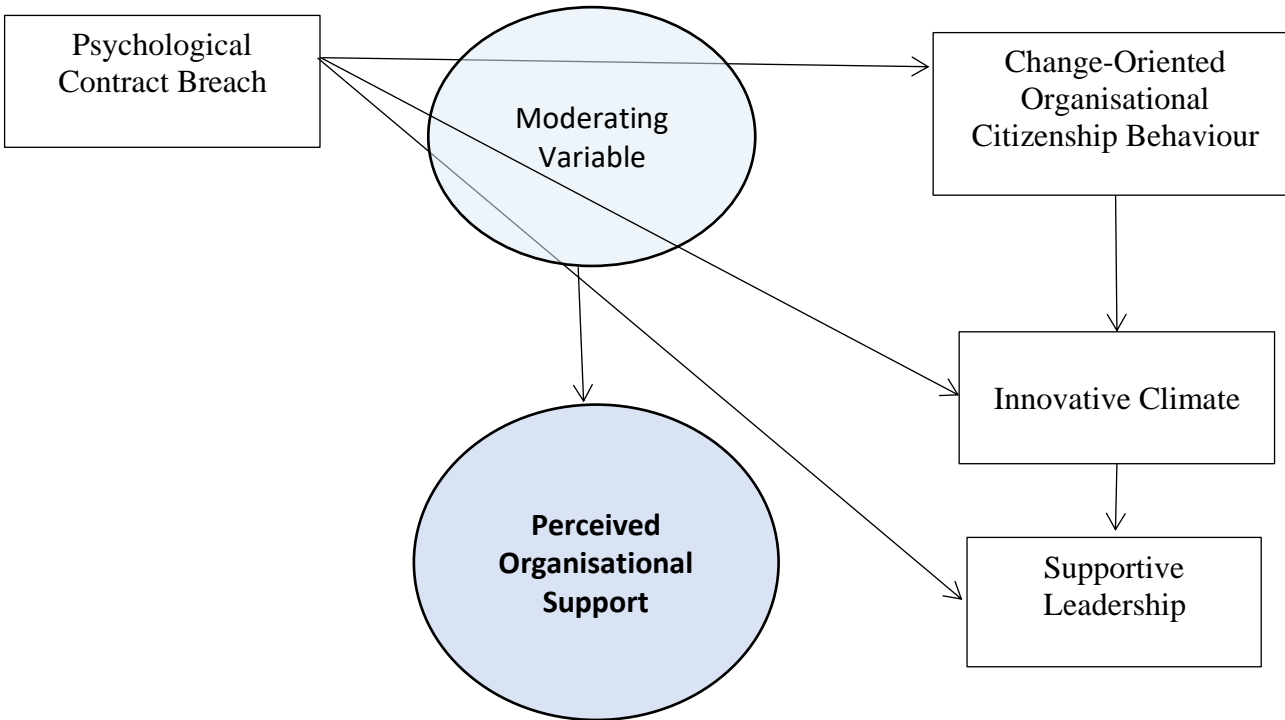
The construct change-oriented OCB, as well as the indicators, are theoretically understudied. Researchers may use the terms OCB (extra-role behaviours) and change-oriented OCB (constructive efforts) interchangeably.

The purpose of this study is to look at the impact of an innovative environment on workers' change-oriented OCB. This study will help to expand understanding on change-oriented OCB in a variety of ways. To begin, this study, unlike the bulk of prior studies, focuses on an OCB dimension that challenges the status quo and so encourages change-oriented organisational citizenship.

Second, by augmenting the classic OCB model with empirical data from a field study on change-oriented OCB, this research will contribute to theory development. It will also aid managers and practitioners by giving practical insights in an underserved field. Third, for future research, the current study addressed earlier research that advised stressing the influence of distinct national or regional settings on change-oriented OCB problems (e.g. Lopez Dominguez et al., 2013; Li, 2016).

To that purpose, the current study undertakes a comparative study that adds to this field of study by assessing hotel employees' attitudes and impressions. To recap, there is substantial empirical evidence that country cultures differ and that managerial methods vary.

### Conceptual/Operational Framework



## LITERATURE REVIEW

### Theoretical Framework

The theoretical lens of Homan's (1958) social exchange theory was used to anchor the link between psychological contract and change-oriented organisational citizenship behaviour in this study. Historically, psychological contracts can be traced back to the emergence of traditional theories such as Barnard's (1938) theory of equilibrium and the inducements vs contributions model of March and Simon (1958) and Menniger (1958), all of which are mentioned in Rousseau's seminal work published in 1989. During the original time, there was sporadic theoretical progress, participation from a variety of fields, and essentially little actual inquiry (Bavik, 2020). Furthermore, the term psychological contract was frequently used to imply very different ideas (Rousseau,1989), with the exception of Argris(1960), who viewed the psychological contract first as an implicit understanding between a group of employees and their foreman and argued that the relationship could develop in such a way that employees would exchange higher productivity and lower grievances in exchange for acceptable wages and job security. In contrast, the modern period is rather distinctive, and is characterised by limited theoretical development, yet extensive, mostly quantitative, empirical work(Grama,2020).

### CONCEPTUAL REVIEW

#### Psychological Contract Breach

A psychological contract breach occurs when an employee believes that his or her organisation has failed to fulfil one or more duties related with perceived mutual pledges (Akhigbe & Yakubu,2021).

Psychological contract breach and violation can result in a variety of emotional undertones, including irritation, disappointment, and wrath (Rousseau,1990). It is clear that the psychological contract is more than just a favourable predictor of change-oriented organisational citizenship behaviour. When expectations are not satisfied, it can be a negative deciding element in cases of breach and violation (Obiakpolor,2020).

A psychological contract, as previously stated, is an employee's assumption that there is a reciprocal responsibility between the employee and the organisation (Amadi,2018). What happens if these expectations are not met? According to various research investigating the employment effects of a psychological contract violation (Dialoke & Chinwe,2016; Suazo & Stone-Romero,2011), there is a significant possibility that when the workplace does not match employees' expectations, they are more likely to be dissatisfied with their jobs. Because a psychological contract violation may have such severe consequences for employers, it is critical to understand how a psychological contract breach might influence employees (Odiño & Jonathan,2021). Any conduct that contradicts the employee's belief in a reciprocal responsibility has the potential to constitute a contract violation in the employee's view (Rousseau,1989). However, Bal et al. (2008) suggested that there is a distinction between psychological contract breach, violation, and rupture. Workers find that the organisation does not fulfil its commitments in a breach, whereas employees express strong feelings that the organisation does not fulfil its obligations in a violation. According to Suazo and Stone-Romero (2011), the reasons for breach and violation of psychological contract are multifaceted, and the period when employees exhibit significant negative feelings is not predictable; it depends on the scenario. Furthermore, routine talks on psychological contract breach



focus on violation while ignoring the possibility of rupture. Deepthi and Baral(2020) explained that often, violation is confused with rupture, which is a condition of permanent collapse in employer-employee interactions. A series of violations leads to the rupture and termination of the work relationship. However, Han and Zhang (2018) suggested that minor violations, whether intentional or unintentional, do not always result in contract termination. Finally, different interpretations of a breach lead to different behaviours among personnel.

### Change-oriented Organisational Citizenship Behaviour

Change-oriented OCB is focused with bringing about change rather than simply exhibiting collaboration and adaptability, and it includes innovative behaviours such as the invention and execution of new ideas or procedures (Bettencourt, 2004). Change-oriented OCB focuses on individual discretionary behaviour aimed towards positive change. In a longitudinal study of 1,923 individuals from a big electronics business in Korea, Choi (2007) revealed that strong vision and an inventive atmosphere predict change-oriented OCB.

Furthermore, psychological empowerment and a sense of personal responsibility for change were shown to be moderately mediated at the individual level and totally mediated at the group level by the influence of work environment factors on change-oriented OCB (Akhigbe & Yakubu,2021). According to research on the idea, organisational level variables have a greater effect on change-oriented OCB than group level variables (Obiakpolor,2020). According to Campbell (2015), there is a clear and practical link between performance management and change-oriented organisational citizenship behaviour, which influences the overall performance of any average firm.

Farahat (2020) defines supportive leadership as a type of change-oriented OCB that is predominantly driven by the socially embedded model. Furthermore, the study looked at the validity of the link between supportive leadership and change-oriented OCB to see if this effect may be minimised or even increased (Iyayi,2018). Furthermore, Choi(2007) contends that the enabling impact of supportive leadership benefits the workplace and employees, creating an atmosphere that includes change-oriented OCBs.

However, De-Clercq et al. (2019) argued against the concept of change-oriented OCB, stating that leaders are known to be influencers in a social exchange, whereas managers take charge and control the resources of organisations, but many authors advocating for the concept of change-oriented OCB fail to recognise the distinction between a leader and a manager, instead using both entities interchangeably. Furthermore, there may be a conflict of interest between employees and managers, and the possibility of resistance to constructive change by either of the members has been undermined in previous studies. To summarise, sustaining organisational success necessitates the creation of a flexible and inventive atmosphere, as well as supportive leadership.

### Innovative Climate

Akinwale et al. (2002) defined innovative climate as "the common perceptions of organisational members about."

Practices and behaviours that encourage the creation of new knowledge and practises." An innovative atmosphere is integrated into an organisation through a number of procedures including the recognition of a potential invention and its appropriateness (Aneke & Folalu,2021).

Employees in this workplace continually produce and share ideas to enhance existing processes, procedures, and rules (Bettencourt, 2004). As a result, addressing OCB is becoming a more significant aspect of employee success (Akpabio, 2017).

Individual creativity must be fostered, nurtured, and supported in an innovative corporate atmosphere (Nwokocha,2015). Employees with inventive and creative potential are more likely to engage in new practises when they feel strong organisational support. Furthermore, if firms can create a favourable organisational environment, it is more likely to result in better levels of motivation, commitment, and employee engagement, leading to enhanced organisational performance (Nosiri & Njemanze., 2017).

Farahat (2020) investigated worker empowerment in order to stimulate creative behaviour. The authors observed that empowering employees may foster innovation. According to Kao (2017)'s research, the more creative the organisational atmosphere, the more employees would be inspired to demonstrate change-oriented OCB. Furthermore, in a multi-level organisation, the study looked at the direct influence of organisational climate on employees' change-oriented OCB. However, Sagnak (2016) contends that a creative atmosphere and success cannot be reached through enterprises with a bureaucratic structure that emphasises top-down relationships, but rather through firms with a decentralised structure of power.

### Supportive Leadership

Supportive leadership is characterised as managers' and supervisors' generally consistent inclination to impact environmental improvements. Individuals with supportive leadership take action to impact their environments, or discover and act on opportunities, demonstrate initiative, take action, and endure until real change occurs. Followers who get enough support demonstrate willingness and determination to pursue a path of action, which are key attributes in self-development models (Amadi, 2018). The workplace is not static since the business environment is always changing, requiring employees to engage with new circumstances on a regular basis. Individuals with the proactive personality trait have a distinct edge over other employees in that it helps them to recognise more opportunities for productivity. When compared to persons who lack the personality attribute, such individuals are more likely to recognise the boundaries of their needed obligations but will go the proverbial "additional mile" to guarantee their efforts are at optimal levels (Iyayi,2018).

According to several researches, psychological contract violation is adversely associated to perceived organisational support (Eisenberger et al,2004). Constructive efforts directed toward positive change are classified as change-oriented OCB. According to Byrne and Hochwarter (2008), because these change-oriented OCBs are not listed in workers' formal job descriptions, failing to demonstrate them should not have a negative influence on the employee's performance or the formal pay plan. Though the change-oriented OCB will help the organisation in the long run, if the psychological contract is



violated, it lowers the employee's confidence level, and the person may feel exploited or deceived psychologically (Akhigbe & Sunday, 2018). There are workers that have a strong predisposition to do well on their own; yet, the promise of help becomes an energy booster to provide their best effort if the organisation provides it.

### Perceived Organisational Support

Employees' perceptions of the extent to which the organisation cares about them and values their contributions to the organisation are characterised as perceived organisational support (POS) (Aselage & Eisenberger, 2003). Employees' self-esteem is boosted by organisational support, and they have the impression that their company values them. The presence of support, the lack of contract breaches, and high contract fulfilment all contribute to a positive cycle in which employees reciprocate and enhance their constructive effort on the job. However, psychological contract breakdown among persons with high POS may result in emotions of betrayal since the assistance they got did not correspond to the psychological contract they had with the organisation. As a result, in accordance with the principle of reciprocity (Byne & Hochwarter, 2008), the employer might rectify the imbalance by lowering job stress.

However, Rhoades and Eisenberger (2002) contend that before perceived organisational support can be properly managed, managers must also deal with the modification of rigid organisational structures to allow for the free flow of information resources, whether through physical or digital communication. According to Sagnak et al. (2018), the notion did not recognise the issue of certain managers not being flexible in their approaches of empowering staff, hence perceived organisational support might be useless.

### Empirical Review

Akhigbe and Yakubu (2021) investigated the association between psychological contract fulfilment and organisational citizenship behaviour in Rivers State, Nigeria. A cross-sectional survey-quasi-experimental approach was used for the investigation. The survey included a total of 2454 personnel from three public Universities in Rivers State. The population yielded a sample size of 344. The study employed the standard random sampling approach. The primary data for the study was gathered through the use of duplicates of a well-structured questionnaire. The Spearman rank order correlation coefficient was used to analyse the data. According to the findings, the aspects of psychological contract fulfilment (transactional contract fulfilment and relational contract fulfilment) show a substantial association with the measures of organisational citizenship behaviour (helping behaviour and loyal boosterism).

Akinwale et al. (2021) obviously disagreed with the importance of psychological contract. They assessed the breaking of psychological contracts and discretionary behaviour by Nigerian academics in their study. A survey was used to collect information from 378 academics who were chosen at random from a pool of 7,131 academics at Federal Universities in North-central Nigeria. The findings of the

hypothesis testing demonstrated that the content and type of psychological contracts cannot predict employee behaviour. The majority of Universities in the North-central zone did not adhere to the psychological contract, as evidenced by negative statistical estimates and Levene's t-values.

Owing to the content of the reviewed literatures, the following hypotheses are formulated

### HYPOTHESES

**H<sub>1</sub>:** there is no significant relationship between psychological contract breach and innovative climate

**H<sub>2</sub>:** there is no significant relationship between psychological contract breach and supportive leadership

**H<sub>3</sub>:** perceived organisational support does not significantly moderate the relationship between psychological contract breach and change-oriented organisational citizenship behaviour of hotel employees in South-South Nigeria.

### METHODOLOGY

To acquire knowledge within the time frame of the study, a cross-sectional survey technique was used; Because the research topic 'psychological contract violation and change-oriented OCB' is best examined by extracting objective comments from hotel personnel themselves rather than management reports that may not reflect the reality of the workplace, the population of this study is at the individual and micro level. However, in order to reduce the size of this population to a manageable size, the study's target population is 1086 workers working at 19 luxury hotels in South-South Nigeria, specifically Bayelsa and Rivers States (the Old Rivers State cluster). The sample table was used by Krejcie and Morgan (1970) to establish 285 as an adequate sample size. To collect data for analysis, an online survey generated with Google forms was employed. Two hundred and forty-three (243) people took part, however only 239 completed questionnaires were valid for analysis. Following the mixed methods approach, structural equation modelling (SEM), AMOS, and SPSS 25.0 were used to assess the hypothesised model, along with descriptive statistics and other statistical approaches.

### RESEARCH RESULT

#### Decision Rule

- if probability value (P value) is smaller than or equal to .05 reject the null hypothesis, there is evidence against null hypothesis; conclude that there is a statistical significant relationship, there is evidence to conclude.
- If the p value is greater than .05 do not reject the null hypothesis; there is no evidence against null hypothesis, there is no effect.

**H<sub>1</sub>:** There is no significant relationship between psychological contract breach (violation of contract) with innovative climate of hotel employee in South-South Nigeria.





**Table 1: Test of Hypothesis 1**

Null	Structural Path		Path coefficient ( $\beta$ )	T-values (t)	Level of significance (p)	
H <sub>1</sub>	Psychological contract breach	→	Innovative climate	0.138	5.248	0.000

Table 1 shows that there are positive and significant associations between Psychological contract violation and Innovative Climate ( $\beta = 0.138, t = 5.248, p = 0.000$ ). As a result, the study finds a favourable and substantial association between psychological contract violation and innovative climate. As a result, the study rejects the null hypothesis in favour of the alternate hypothesis that there is a substantial association

between psychological contract breach (violation of contract) and the creative atmosphere of hotel employees in South-South Nigeria.

**H<sub>2</sub>:** There is no significant relationship between psychological contract breach(violation of contract) with innovative climate of hotel employee in South-South Nigeria.

**Table 2: Test of Hypothesis 2**

Null	Structural Path		Path coefficient ( $\beta$ )	T-values (t)	Level of significance (p)	
H <sub>2</sub>	Psychological contract breach	→	Supportive leadership	0.138	5.181	0.000

Table 2 relationship analysis shows that there are positive and significant pathways between Psychological Contract Breach and Supportive Leadership ( $\beta = 0.138, t = 5.181, p = 0.000$ ). As a result, the study finds a positive and substantial relationship between Psychological Contract Breach and Supportive Leadership. As a result, the study adopts the alternative hypothesis that there is a substantial association between

psychological contract breach (contract violation) and supportive leadership of hotel employees in South-South Nigeria.

**H<sub>3</sub>:** Perceived organisational support does not significantly moderate the relationship between psychological contract breach and change-oriented organisational citizenship behaviour of hotel employees in South-South Nigeria.

**Table 3: Test of Hypothesis 3**

Null	Structural Path			Path coefficient ( $\beta$ )	Level of significance (p)	
H <sub>3</sub>	Perceived organisational support(POS)	→	Psychological contract breach	Change-oriented OCB	0.214	0.000

When Perceived organisational support (POS) was included in Table 3, partial correlation was utilised to evaluate the moderating influence of POS on the link between psychological contract breach and change-oriented organisational citizenship behaviour. The findings suggest that ( $\beta = 0.214, p = 0.000$ ) is significant. As a result, Perceived organisational support greatly limits the link between psychological contract violation and change-oriented organisational citizenship behaviour. As a result, the null hypothesis is rejected, and the alternate hypothesis is accepted. As a result, we reiterate that perceived organisational support moderates the association between psychological contract breach and change-oriented organisational citizenship behaviour among hotel employees in South-South Nigeria.

conventional realm of radical managerial behaviour, constructive efforts of innovativeness and supportive leadership are increasingly regarded to generate individual accomplishment and organisational competitive advantage.

However, the findings demonstrate that workers have varied conceptions in their psychological contract, which influences their attitude to any type of leadership style exhibited by managers. Employees that are innovative are willing to take action to examine present problems or to bring potential issue areas to the notice of management. Employees will also be more cautious and allow the situation to dictate the strategy with appropriate leadership backing; and be confident to occasionally act first or wait for information and orders to act upon.

**RESEARCH IMPLICATIONS**

According to the study's findings, organisations where each employee group's commitments are reciprocated and expectations are not violated have employees who are willing to engage in constructive efforts for good change. Beyond the

**CONTRIBUTIONS TO KNOWLEDGE**

This study contributes to the understanding of change-oriented OCB and employee empowerment in a variety of ways. For starters, unlike most prior research in the literature, which have constantly discriminated between several OCB internal



characteristics solely, this study focuses on a separate dimension of OCB that challenges the status quo and hence promotes positive organisational change. Second, by supplementing the classic OCB model with actual data from a field study on change-oriented OCB, this work adds to theory development. With practical findings in an area that has seldom been examined, it has contributed value to the decisions of managers and hotel sector actors. To summarise, this study is one of the first to put to the test a model based on reciprocity in psychological contracts and change-oriented OCB.

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# ENHANCING HUMAN PRODUCTIVITY THROUGH HUMAN RESOURCE MANAGEMENT TECHNIQUES

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## ABSTRACT

*In this paper we study and analyze a set of Human Resource Management (HRM) techniques and understanding of their relationship to human productivity. We have classified the set of HRM techniques for the firm sizes which are small, medium, and big sized firms. This segregation was done on the basis of the number of employees working in the firm. First, by theoretically analyzing the HRM techniques, it was observed that HRM techniques and productivity are highly correlated, and also by theoretical study only we select the most prominent set of HRM techniques, then out of those HRM techniques top three techniques for each of the firm sizes was statistically estimated by performing TOPSIS analysis which is a Multi-Criteria Decision Making (MCDM) tool. The results are tabulated for the set of top three HRM techniques for each of the firm size.*

## INTRODUCTION

An effective human resource management (HRM) framework is the most important resource for an organization as it is related to the productivity is closely related of the employee as well as to the productivity of the organization. The HRM provides avenues for providing insights to various areas wherein productivity can be improved significantly. Various studies have demonstrated that the executions of proper administration frameworks and procedures add to usefulness enhancements under the observation of cost and investment risk. HRM frameworks are firmly connected with business techniques, hence it decidedly influences business execution too.

Human resource management techniques can be briefly described as a comprehensive approach to managing employees and an organization's culture and environment and range over a wide band some of which are mentioned here; Mentoring, Workplace Climate Assessment, Performance Evaluation, Incentive Systems, Improve Work/life Balance, Providing security to employees, Selective hiring: Hiring the right people, Self-managed and effective teams, Fair and performance-based compensation, Training in relevant skills, Creating a flat and egalitarian organization, Making information easily accessible and others. Productivity in simple terms can be defined as a measure of how well resources are utilized to produce output which in our case our human resources, all the mentioned factors contribute towards the productivity of the organization's employees the more efficiently and optimally the HRM practices are managed the higher the scale of productivity reaches and in this paper we will be studying and analyzing this concept using theoretical study and analytical tools. Productivity in simple terms can be defined as a measure of how well resources are utilized to produce output which in our case our human resources, and it will be measured against HRM factors. which would be Flexible working hours, Performance assessment, Training and development, Benefit system, and Working Environment.

## LITERATURE REVIEW

1. (By Mihalj Bakator, Nikola Petrovic, Sladana Boric, Natasa Đalic "impact of human resource management on business performance: a review of literature" The impact of human resource management (HRM) on corporate performance is examined in this research. The major purpose was to conduct a thorough and systematic assessment of literature in the areas of human resource management and company performance, culminating in a brief review report. Because there is a substantial body of literature on the HRM-business performance link, there was plenty of room for a comprehensive review of numerous papers. To be more specific, two hundred and twelve (212) papers were examined, with 187 being eliminated after multiple stages of the review process.
2. (By Liang-Hsuan Chen Shu-Yi Liaw Tzai-Zang Lee) "Using an HRM pattern approach to examine the productivity of manufacturing firms - An empirical study" this paper shows the control of human resource management (HRM) on business performance. The main aim was to thoroughly and systematically survey literature in the domain of HRM, and business performance that evolved in a brief review paper. A wide body of literature label the HRM-business performance link, thus there was many room for an extensive analysis of various articles.
3. (By Magdalena Majowska, Agata Austen) "human resources management effectiveness from a multilevel perspective" Although it has already proven that there is a positive relationship between the effectiveness of HRM and the performance of



the organization, there is a little reason why this positive relationship exists and the reason is the focus on the enterprise level, instead of examining behavioral aspects of every individual in the organizations. . The goal of this paper is to complete the gap in HRM effectiveness research by applying a multilevel approach. The research was conducted to examine how HRM effectiveness was linked to other variables in previous research according to the multilevel logic

4. (By Ray Markey, Candice Harris, Felicity Lamm, Stefan Kesting, Katherine Ravenswood, Gay Simpkin & David Williamson) "improving productivity through enhancing employee wellbeing and participation"

This paper frames the rationale and methodology for an international comparative project exploring the connections between working environment productivity and worker wellbeing and through means of representation of employee representative interest structures in Denmark and New Zealand. It will define and examine the frequently contented terms of efficiency and how worker support and prosperity and the workplace sway on efficiency. This paper utilizes a complex hypothetical system and will evaluate the significance of the issues inspected: investigate the effect {of employment practices and the nature of the workplace on usefulness: and accordingly presell the procedure fostered the task.

1. (By Jolanta Jaskiene) "HRM practices enhancing research performance" This paper aims to show how HRM practice improves research performance. Attention is towards the specific correlates that influence high research performance at institutions of higher education. To respond to the research question a deep analysis of past research studies is done. This study grants an explanation of explicit HRM practices that impact individual research brilliance used and lead to investigation the splendor. HRM practices are arranged into skill improvement, motivation improvement, and opportunity-upgrading practices for research-situated work. Results mirror the references of past examinations to investigate determinants of exploration execution in a complicated and underlying way and uncover a particular arrangement of HRM practices that empower to change of individual attributes into execution
2. (By Naveed Iqbal, Mansoor Ahmad, Matthew M.C. Allen) "This study draws upon social exchange theory to explore the role of impersonal trust as an intermediate value-creating factor between electronic human resource management (e-HRM) and productivity". The purpose of this paper is to seek the extraction and "result of impersonal trust inside associations to give a comprehensive perspective on e-HRM and employee efficiency. This is the principal study to inspect how impersonal trust intervenes the connection between e-HRM and worker efficiency.
3. (By Denise Jackson, Sonia Ferns, David Rowbottom & Diane McLaren) "Improving the work-integrated learning experience through a third-party advisory service" The assistance was established to broke connections among industry and colleges, support boss occupied with WIL, and improve the WIL experience for both the students and managers. It was executed north of a 10-month time frame, covering two semesters, during 2015. 46 students work placement were conducted through service with strong promotional campaign to raise awareness of the benefit of WIL among the employers. Information were assembled from taking part employers and students to assess the help and measure its success. During WIL process discussion, strategies to enhance service to better manage issues
4. (By J. Bruce Tracey) "A review of human resources management research The past 10 years and implications for moving forward" the motive behind the paper is to introduce an audit of the (HR) research that has been published throughout the course of recent years in discipline-based and hospitality explicit journal and recognize key patterns and potential open doors for future exploration. The paper appears as a critical review of extant literature in The overall HR the executives and cordiality HR the board fields.
5. (Corine Boon, Deanne N. Den Hartog, David P. Lepak) "In the essential human resource (HR) the management literature, throughout the course of three decades, a common agreement has fostered that the attention ought to be on HR frameworks as opposed to individual HR practices in light of the fact that the impacts of HR practices are probably going to rely upon different practices inside the framework. In spite of this understanding, the degree to which the essential presumption in the field of connections and collaboration in the framework remains constant is muddled. We present a methodical survey of 495 experimental investigations on 516 HR frameworks in which we examine the advancement of HR frameworks research over the long run and distinguish significant patterns, unequivocally connecting conceptualization and estimation of the HR framework"
6. (by ken mayhew andy neely) "improving productivity— opening the black box "Hourly productivity levels in the UK still remain behind those in some competitor countries. The government gives a lot of policy regard for upgrading usefulness and keeps on accentuating its five drivers—speculation, development, abilities, venture, and contest. This article contends that it is venture extensively characterized that is the way to supported usefulness improvement. The accentuation ought to be on further developing usefulness all the while with working on the nature of creation. Just accordingly will the additions be generally shared. In accomplishing these points there are two requirements for strategy producers. The first is to guarantee preferred coordination of strategy over seems, by all accounts, to be as of now accomplished by the present departmental designs in Whitehall"
7. (by evan m. berman) "hrm in development: lessons and frontiers" This article examines contribution of human resources management (HRM) to reinforcing state organizations being developed settings. It likewise recognizes driving practices and outskirts in HRM practice and exploration. "Specialized" HRM aptitude being developed exists in coordinating hierarchical execution with staffing, advancing decentralization, global undertaking the executives, and preparing, and research likewise shows broad worries with support and hostile to defilement. Boondocks are examined regarding vital HRM, prominently further developed initiative turn of events/ability the executives, labor force commitment in creating



settings, re-examining/professionalization of representative chief relations, extensive HRM techniques, and expanded administration for HRM itself.

## OBJECTIVE & THEORY

In this paper, we have taken into consideration a total of five HRM Techniques that would have a high influence on the productivity of employees, which were selected after a proper review of multiple publications and theoretical study. Each of these five HRM Techniques was then analyzed for three different firm sizes that are small, medium, and big then for each firm size ranks were provided to the five HRM Techniques on the basis of three parameters that are “Impact”, “Need”, and “Feasibility” among which top 3 were considered as the most prominent HRM techniques i.e. having the highest influence on employees productivity thereby we would obtain the correlation between HRM Techniques and Human productivity.

Now let us explain the five HRM techniques that we have taken into consideration-

- (i) Flexible working hours-This technique gives freedom to workers to choose the working hours in which they want to work according to their personal needs.
- (ii) Performance assessment- This is used to measure how well the employee performed their given task and is very much similar to KPIs (Key Performance Indicators)
- (iii) Training & development- In this, the employee is trained and provided knowledge about the kind of work that he/she is going to perform
- (iv) Benefit system- In this, the employee is provided with some extra perks on the basis of the quality of the work that they deliver like bonuses, a trip sponsored by the company, etc.
- (v) Working Environment- Here the social relationship among the employees between the employees and the management is considered, how the physical environment is around the staff and how freely the employees can work.

Also, we would now provide an understanding of the 3 parameters that we would be used to classify the five selected HRM techniques-

- (i) Impact- This factor is used to denote the influence of our selected HRM Technique on Human productivity
- (ii) Need- This factor takes into account the extent to which we require our set of HRM Techniques in order to improve productivity
- (iii) Feasibility- This factor is highly crucial as it provides us with information on whether it is possible to perform the selected HRM Technique.

Since in this research paper we have primarily focused on three different firm sizes namely small, medium and big and they have mainly been classified on the basis of no. of employees that are there in the firm, after doing theoretical research we were able to conclude that firms having members between 0-200 are classified under small for example startups, then firms having members between 200-2000 are considered as medium-sized, for firms having more than 2000 and even up to 1,00,000 members or more are considered as a big firm, for example, any MNC.

## METHODOLOGY

A survey of 61 individuals was conducted which mostly included individuals above 18 that were either graduates or post-graduates. A total of 45 (15 for small size firms, 15 for medium-sized firms, and 15 for big size firms) questions were asked to each and every one of them, and on a scale of 1-5, the individual had to mark the answer. For ex- Let us consider one of our HRM techniques among the five, say “Flexible working hours” and let us consider our three criteria impact, need, and feasibility. Then, the questions asked were Impact of “Flexible working hours”, Need of “Flexible working hours” and Feasibility of “Flexible working hours” where each question was provided with a scale of 1-5 and the individual had to rate that question on the basis of the influence it would have on the human productivity (in the scale of 1-5 where, 1-very low, 2-low, 3-medium, 4-high, 5-very high) say an individual thinks the impact of flexible working hours would be low in “small” scale firm, then he marks the option 2. If he thinks it would be medium in a “medium” scale firm he marks 3. If he thinks it would be very high in a “Big” scale firm he marks 5. Similarly, a questionnaire of 45 questions was prepared and a total of 61 responses were recorded using which we performed our TOPSIS analysis.

For calculating the ranks of HR Techniques in three different firm sizes, that are “small”, “medium” and “large” firms we have performed Fuzzy TOPSIS Analysis which a

Multi-Criteria Decision Making (MCDM) Technique used to evaluate a set of methods on the basis of certain parameters, where those certain parameters are provided weightage by the decision-makers on the basis of which performance rating is calculated which is used to provide ranks to the selected set of methods.

In TOPSIS analysis the weight that has been distributed to the criteria plays a major role in determining the final result, so first using the CRITIC method we have distributed the weight to each parameter that is “impact”, “need” and “feasibility” for each firm size and then we have applied TOPSIS analysis

So basically CRITIC method has been applied three times since we are working with three different firm sizes. After that TOPSIS analysis has also been performed three times for calculating the top 3 HRM techniques for “small”, “medium”, and “big” firms.

Before we begin the CRITIC method for weight determination or TOPSIS analysis, we have prepared a single matrix for both our HRM techniques and criteria together by taking the mean of the 61 values that we have obtained during our survey for the three firm sizes, it is represented below-



Actual Small				Actual Medium				Actual Big			
Criteria \ Technique	Impact	Need	Feasibility	Criteria \ Technique	Impact	Need	Feasibility	Criteria \ Technique	Impact	Need	Feasibility
Flexible working hours	2.4	2.4	1.5	Flexible working hours	3.2	3.2	3.2	Flexible working hours	4	4.7	3.6
Performance assessment	3.2	3.5	2.5	Performance assessment	3.9	4	3.9	Performance assessment	4	4	4
Training & development	4	4.4	3.4	Training & development	3.4	3.2	3.7	Training & development	2.7	3.6	3.7
Benefit system	3.8	3.1	2.1	Benefit system	3.8	3.3	3.8	Benefit system	3.3	3.2	3.8
Working Environment	3	3.2	4.2	Working Environment	3.8	3.5	3.2	Working Environment	3.8	4	3.1

Above are the actual tables which we obtained, in which each cell value of the matrix was obtained by taking averages of the 61 responses collected during the survey, to ease our calculation the tables were then approximated which is represented below-

Approximated Small				Approximated Medium				Approximated Big			
Criteria \ Technique	Impact	Need	Feasibility	Criteria \ Technique	Impact	Need	Feasibility	Criteria \ Technique	Impact	Need	Feasibility
Flexible working hours	2	2	2	Flexible working hours	3	3	3	Flexible working hours	4	5	3
Performance assessment	3	3	3	Performance assessment	4	4	4	Performance assessment	4	4	4
Training & development	4	4	3	Training & development	3	3	4	Training & development	3	4	4
Benefit system	4	3	2	Benefit system	4	3	4	Benefit system	3	3	4
Working Environment	3	3	4	Working Environment	4	3	3	Working Environment	4	4	3

Now we will see how the CRITIC method is used to provide weightage to the criteria impact, need, and feasibility we will show this by calculating weightage for small size firms, and then similarly weightages can be calculated for medium and big firm sizes.

The CRITIC Method for the small-sized firm is discussed below-

(i) Here is our decision matrix-

Criteria \ Technique	Impact	Need	Feasibility
Flexible working hours	2	2	2
Performance assessment	3	3	3
Training & development	4	4	3
Benefit system	4	3	2
Working Environment	3	3	4

The first step is to calculate the best and worst value for each criterion-

Criteria \ Technique	Impact	Need	Feasibility
Flexible working hours	2	2	2
Performance assessment	3	3	3
Training & development	4	4	3
Benefit system	4	3	2
Working Environment	3	3	4
Best	4	4	4
Worst	2	2	2

Then normalize the decision matrix by applying the formula below to each cell-

$$\bar{x}_{ij} = \frac{x_{ij} - x_j^{\text{worst}}}{x_j^{\text{best}} - x_j^{\text{worst}}}$$





After applying the formula we get-

Criteria \ Technique	Impact	Need	Feasability
Flexible working hours	0.0	0	0
Performance assessment	0.5	0.5	0.5
Training & development	0.0	1	0.5
Benefit system	1.0	0.5	0
Working Environment	0.0	0.5	1

(ii) Calculate the standard deviation for each criterion, the matrix is shown below-

Criteria \ Technique	Impact	Need	Feasability
Flexible working hours	0.0	0	0
Performance assessment	0.5	0.5	0.5
Training & development	0.0	1	0.5
Benefit system	1.0	0.5	0
Working Environment	0.0	0.5	1
Standard Deviation	0.447214	0.353553	0.418330013

(iii) Determine the symmetric matrix, for the criteria by using the correlation each criterion has with each other the matrix is presented below-

Symmetric Matrix			
Criteria	Impact	Need	Feasability
Impact	1	0	-0.467707173
Need	0	1	0.422577127
Feasability	-0.46771	0.422577	1

(iv) Calculate the measure of conflict using the formula mentioned-

$$\sum_{k=1}^n (1 - r_{jk})$$

It is represented in the table below-

Criteria	Impact	Need	Feasability	$\sum_{k=1}^n (1 - r_{jk})$
Impact	0	1	1.467707173	2.467707173
Need	1	0	0.577422873	1.577422873
Feasability	1.467707	0.577423	0	2.045130046

(v) Then we calculate the C<sub>j</sub> value by using the formula mentioned below-

$$C_j = \sigma_j \cdot \sum_{k=1}^n (1 - r_{jk})$$

It is shown below-

Criteria	Impact	Need	Feasability	$\sum_{k=1}^m (1 - \eta_k)$	Cj
Impact	0	1	1.467707173	2.467707173	1.1035922
Need	1	0	0.577422873	1.577422873	0.5577032
Feasability	1.467707	0.577423	0	2.045130046	0.8555393

(vi) Then finally we calculate the weights for each criteria using the formula shown below-

$$W_j = \frac{C_j}{\sum_{k=1}^m C_j}$$

The weights are represented in the table shown here-

Criteria	Impact	Need	Feasability	$\sum_{k=1}^m (1 - \eta_k)$	Cj	Weights
Impact	0	1	1.467707173	2.467707173	1.1035922	0.44
Need	1	0	0.577422873	1.577422873	0.5577032	0.22
Feasability	1.467707	0.577423	0	2.045130046	0.8555393	0.34

Similarly, the weights for medium-firm size are-

Criteria	Impact	Need	Feasability	$\sum_{k=1}^m (1 - \eta_k)$	Cj	Weights
Impact	0	0.591752	0.833333333	1.425085	0.780551	0.37
Need	0.591752	0	0.59175171	1.1835034	0.529279	0.25
Feasability	0.833333	0.591752	0	1.425085	0.780551	0.37

And the weight for big firm size are-

Criteria	Impact	Need	Feasability	$\sum_{k=1}^m (1 - \eta_k)$	Cj	Weights
Impact	0	0.354503	1.666666667	2.0211694	1.10704	0.31
Need	0.354503	0	1.645497224	2	0.707107	0.19
Feasability	1.666667	1.645497	0	3.3121639	1.814147	0.50

Now we will discuss how TOPSIS analysis has been applied step by step in order to obtain the required results. Here how the TOPSIS analysis has been applied to “Small” firm size is shown and in a similar manner it can be applied to “Medium” and “Big” firm sizes

**Small Firm**

(i) Initially the weights that we have calculated from the CRITIC Method would be assigned to the three Criteria- “Impact”, “Need” and “Feasability” as shown below-



Weightage	0.44	0.22	0.34
Criteria			
Technique	Impact	Need	Feasability
Flexible working hours	2	2	2
Performance assessment	3	3	3
Training & development	4	4	3
Benefit system	4	3	2
Working Environment	3	3	4

Now the normalized matrix would be calculated using the formula mentioned below-

$$\bar{X}_{ij} = \frac{X_{ij}}{\sqrt{\sum_{j=1}^n X_{ij}^2}}$$

After applying the formula to each cell we had our “normalized matrix” as-

Weightage	0.44	0.22	0.34
Criteria			
Technique	Impact	Need	Feasability
Flexible working hours	0.322329	0.3211151	0.245660115
Performance assessment	0.429772	0.4415333	0.383843929
Training & development	0.537215	0.5887111	0.522027744
Benefit system	0.510355	0.4147737	0.322428901
Working Environment	0.402911	0.4281535	0.644857802

(ii) In this step we will calculate the “Weighted normalized matrix” using the formulamentioned below-

$$V_{ij} = \bar{X}_{ij} \times W_j$$

After applying the formula to each cell we had our “Weighted normalized matrix” as-

Weightage	0.44	0.22	0.34
Criteria			
Technique	Impact	Need	Feasability
Flexible working hours	0.141825	0.0706453	0.083524439
Performance assessment	0.1891	0.0971373	0.130506936
Training & development	0.236375	0.1295164	0.177489433
Benefit system	0.224556	0.0912502	0.109625826
Working Environment	0.177281	0.0941938	0.219251653



(iii) Here we will be calculating the ideal best and ideal worst value, as here all three criteria that we have considered are “beneficial criteria” so the ideal best value(V+) and ideal worst value(V-) for each criterion would be the maximum and minimum value in that respective criteria(In excel this was calculated using the max and min function)-

Ideal best, V+ = Max value of specific criteria  
 Ideal worst, V- = Min value of specific criteria

Here is the matrix for Ideal Best/Worst value-

Criteria	Impact	Need	Feasability
	Ideal Best/Worst		
V+	0.236375	0.1295164	0.219251653
V-	0.141825	0.0706453	0.083524439

(iv) In this step we will be calculating the Euclidean distance from the ideal best(Si+) and Euclidean distance from the ideal worst(Si-) using the formula mentioned below-

$$S_i^+ = \left[ \sum_{j=1}^m (V_{ij} - V_j^+)^2 \right]^{0.5}$$

$$S_i^- = \left[ \sum_{j=1}^m (V_{ij} - V_j^-)^2 \right]^{0.5}$$

After applying the formula we were able to obtain the Si+ and Si- values as represented below-

Weightage	0.44	0.22	0.34		
Criteria	Impact	Need	Feasability	Si+	Si-
Technique					
Flexible working hours	0.141825	0.0706453	0.083524439	0.175577	0
Performance assessment	0.1891	0.0971373	0.130506936	0.105636	0.071722
Training & development	0.236375	0.1295164	0.177489433	0.041762	0.145722
Benefit system	0.224556	0.0912502	0.109625826	0.116713	0.089164
Working Environment	0.177281	0.0941938	0.219251653	0.068846	0.142245

(v) For this step we will be calculating the performance score using the formula mentioned below-

$$P_i = \frac{S_i^-}{S_i^+ + S_i^-}$$

The performance score(P) is represented below-



Weightage	0.44	0.22	0.34			
Criteria	Impact	Need	Feasability	Si+	Si-	Perf. Score, P
Technique						
Flexible working hours	0.141825	0.0706453	0.083524439	0.175577	0	0
Performance assessment	0.1891	0.0971373	0.130506936	0.105636	0.071722	0.404393
Training & development	0.236375	0.1295164	0.177489433	0.041762	0.145722	0.777249
Benefit system	0.224556	0.0912502	0.109625826	0.116713	0.089164	0.433096
Working Environment	0.177281	0.0941938	0.219251653	0.068846	0.142245	0.673856

(vi) In the last step we will be providing “Ranks” to the five selected techniques on the basis of performance scores, the technique with the highest performance score is ranked 1, and the technique with the second-highest score is ranked 2, and so on.

Below we have presented the rankings provided to the HRM Techniques-

Weightage	0.44	0.22	0.34				
Criteria	Impact	Need	Feasability	Si+	Si-	Perf. Score, P	Rank
Technique							
Flexible working hours	0.141825	0.0706453	0.083524439	0.175577	0	0	5
Performance assessment	0.1891	0.0971373	0.130506936	0.105636	0.071722	0.404393	4
Training & development	0.236375	0.1295164	0.177489433	0.041762	0.145722	0.777249	1
Benefit system	0.224556	0.0912502	0.109625826	0.116713	0.089164	0.433096	3
Working Environment	0.177281	0.0941938	0.219251653	0.068846	0.142245	0.673856	2

The top three techniques for “small” business firms are highlighted in red as can be seen in the table above.

In a similar fashion, we will be calculating the ranks for the same set of five HRM techniques for “Medium” and “Big” size firms and the final ranks would be provided to them.

The final ranks obtained for “Medium” firm size are shown below-

Weightage	0.37	0.26	0.37				
Criteria	Impact	Need	Feasability	Plus	Minus	Perf. Score, P	Rank
Technique							
Flexible working hours	0.145862	0.1108152	0.148208565	0.05326	0.006926	0.115075	5
Performance assessment	0.177769	0.138519	0.180629189	0	0.05717	1	1
Training & development	0.154978	0.1108152	0.171366153	0.03705	0.025833	0.410809	3
Benefit system	0.173211	0.1142782	0.175997671	0.025097	0.04035	0.616533	2
Working Environment	0.173211	0.1038892	0.148208565	0.047656	0.027349	0.36463	4

The final ranks obtained for “Big” firm size are mentioned below-



Weightage	0.31	0.19	0.5				
Criteria	Impact	Need	Feasibility	Si+	Si-	Perf. Score, P	Rank
Technique							
Flexible working hours	0.155036	0.0996351	0.210374129	0.037125	0.062406	0.627002	2
Performance assessment	0.155036	0.0847959	0.247498975	0.014839	0.07699	0.838404	1
Training & development	0.10465	0.0847959	0.228936552	0.05571	0.040815	0.422844	5
Benefit system	0.124029	0.0678367	0.235124026	0.046106	0.04745	0.507186	3
Working Environment	0.147285	0.0847959	0.191811706	0.05815	0.045884	0.441051	4

**CONCLUSION**

After performing TOPSIS analysis we were able to obtain the top three HRM Techniques for three different firm sizes which are collectively represented in the table below-

Firm Size	Small	Medium	Big
Rank			
1	Training & development	Performance assessment	Performance assessment
2	Working Environment	Benefit system	Flexible working hours
3	Benefit system	Training & development	Benefit system

Now we will provide a theoretical explanation for each of the techniques that came as top three in each firm size after we have performed the statistical TOPSIS analysis.

➤ **SMALL-SIZED FIRM-**

- Training & Development-** This technique would have the highest influence on productivity as in a small-sized firm the number of employees is already few and if those few employees are not trained properly then they would fail to accomplish the task efficiently thus their productivity will decrease.
- Working Environment-** It is important because a small-sized firm already have less than 200 members so among such a small group if the social relations of employees with their management are not good then and the environment is stressed then the employee would not be able to give his best thereby his/her productivity will decrease.
- Benefit system-** Clearly if we provide extra perks to the employee like bonuses, gift vouchers etc on the basis of the quality of work he/she delivers then the employees would try to improve the quality of their work even more which will increase their productivity but it is ranked as three since it is not possible for a small size firm like startup to give extra perks.

➤ **MEDIUM-SIZED FIRM -**

- Performance Assessment-** It is necessary to keep track of how an employee is performing by measuring his KPIs as it directly indicates how productive the employee is, so if performance assessment is done at regular intervals the employee would try to maintain his KPI which will increase his productivity and it is essential in a growing firm such as a medium-sized firm.
- Benefit system-** As is the case of small scale firm the benefit system would have a similar impact but here it is ranked 2 since for a medium-sized firm it is more possible to provide extra incentives than a small-sized firm
- Training Development-** For a medium-sized firm also it is necessary to train the newly recruited employee since their selection procedure is not highly efficient as that of a big firm so for the employee to work optimally training is required.

➤ **BIG-SIZED FIRM**

- Performance Assessment-** Measuring the KPIs is highly essential in a big firm as it has a large number of employees so until and unless the KPIs of the employees are tracked properly their productivity can decrease.
- Flexible working hours-** As in a big firm the pressure and work load both increases so to remove that load flexible working hours can be provided in which they would work for say eight hours a day but not continuously as per their convenience.
- Benefit system-** It can be seen this criterion would always play a role in increasing productivity as the employee develops a tendency to deliver quality work since he/she would be awarded for that it is ranked third here even though it is easily feasible for a big firm to provide benefits as the above two mentioned criteria played a better role for influencing human productivity in this case.



We can also conclude that the benefits system i.e. providing the employee with extra benefits such as bonuses, free vacations, vouchers, or gifts if they deliver quality work is a common top three HRM techniques in each firm size, also training and development along with performance assessment( used to measure the KPIs of the employee) plays a major role in human productivity as they are repeated twice, then we have a working environment and flexible working hours which also have significant importance.

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# THE EFFECTS OF USING HARMONISED LEARNING ACTIVITIES IN CHEMISTRY ON STUDENT'S ACADEMIC PERFORMANCE AND CRITICAL THINKING SKILLS

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## ABSTRACT

*Improving educational outcomes requires concentrated efforts and part of the solution involves helping students to improve their critical thinking skills. This study focused on the effects of the developed harmonised learning activities in selected topics in Chemistry on the students' academic performance and critical thinking skills. This quasi-experimental design involved one hundred fifty (150) junior high school students and twenty (20) science teachers from six public schools in Liliw, Magdalena and Majayjay, Laguna. The activities were carried out for three months simultaneously in the participating schools. The level of students' academic performance was measured and evaluated using the mean standard deviation and T-test.*

*Research findings showed that the level of acceptability of the harmonised learning activities in selected topics in Chemistry in terms of objectives, content, and activities are extremely acceptable. The level of performance in the experimental group has a verbal interpretation of "did not meet expectation" in terms of pre-test. In terms of post-test the level of students' performance in the experimental group has a verbal interpretation of "very satisfactory". The null hypothesis tested at 0.05 level of significance indicated that there is a significant difference between the students' performance on pre-test and post-test of the experimental group. This means that the harmonised learning activities influenced the students' performance positively; it is an effective tool that enhances, improves and fortifies the critical thinking skills of the students. School administrators may encourage teachers to produce self-made instructional materials which in turn will help improve the quality of education.*

**KEYWORDS:** *harmonised learning activities; critical thinking skills and academic performance*

## 1. INTRODUCTION

Science Education is one of the key components of the K to 12 Curriculum which has faced a number of challenges relative to the achievement of the target competencies (Condino, 2019). Based on the National Achievement Test result on students' aptitude as reported (Andrada, 2012) science area continues to be one of the most difficult fields in basic education. These results tend to guide the Department of Education in searching for interventions to improve the quality in public schools and to provide appropriate learning tools for the learners.

There are several factors affecting Filipino student performance in science such as number of teachers and training attended, learning process, instructional materials, curriculum, administrative support, and funding (May-as, 2014). The quality of learning materials also influences student accomplishments and practice of process skills. Teachers must strive to adapt to students' level of knowledge and needs by making innovations on the learning materials and strategies that will be easily understood by a variety of learners (Martinez, 2016).

Critical thinking skills envisions the development of the students scientifically, technologically, and environmentally literate and productive members of the society who are critical problem solvers, responsible stewards of nature, innovative and

creative citizens, informed decision makers, and effective communicators (Wong (2013).

## 2. PURPOSE OF THE STUDY

The purpose of the study is to develop harmonised learning activities in Chemistry and find out its effects on the junior high school student's academic performance and critical thinking skills.

## 3. LITERATURE REVIEW

A key feature of effective teaching is the selection of learning materials that meet the needs of students and fit the constraints of the teaching and learning environment. Teachers should be encouraged to develop instructional / learning materials specifically on topics which are abstract that contain practical application of concepts and principles (Gonzales, 2015). Lev Vygotsky viewed that instructional materials have the capacity to develop student's level of thinking (low-highest), and can be used in problem solving activities (Cherry and Lehman, 2019). The selection of teaching tools is a crucial determinant of the degree to which the anticipated cognitive learning outcomes of an academic course are realised. Therefore, one major task that any instructor must undertake is to select the optimal combination of teaching methods that will help them and their students in the best way possible achieve the anticipated





cognitive learning outcomes of the course. As such, choosing optimal teaching tools can be a greatly effective course of action to enhance learning in the classroom (Edalati, 2016).

Killen (2015) stated that teachers can design activities which will cater to varied levels of student performance. Jimenez (2014) in his study revealed that not all of the learning competencies are fully acquired by the students; thereby he recommended an intervention program to improve their level of competence. Since not one instruction fits all, teachers may customise activities based on the student’s needs. Teachers should be creative in teaching the learners so that the lesson will be more interesting and retain in the mind of the students (Mendoza, 2018).

Relevant and meaningful activities which engage students and connect prior knowledge result in a long-term memory stage (Vergara, 2016). As stated by Bacay (2012) activities are done during the application of concepts to enable students to master and improve their performance and be able to identify the correct areas that are being improved.

#### 4. METHODOLOGY

##### 4.1. Preparation of the Harmonized Learning Activities Using the ADDIE Model (Analysis, Design, Development, Implementation and Evaluation)

###### 4.1.1. Analysis Stage

Assess the learning characteristics and needs of the target student respondents to determine the overall goals and produce the learning material that will address the student level of abilities.

###### 4.1.2. Design

Identify the learning objectives, create activities, practice exercises and assessment aligned in the DepEd curriculum guide for junior high school students. Outline the content and teaching strategies to match the learning goals which were carefully made to enhance the student’s needs and interests.

###### 4.1.3. Development

Create the appropriate learning material using lecture, slides, animations, graphics, video, audio, photographs and other

tools. Upon completion of the required materials make sure each topic was kept harmonised with the learning objectives.

##### 4.2. Implementation

One hundred fifty (150) junior high school students were included as student respondents and twenty (20) Science teachers from different schools in Liliw, Magdalena and Majayjay, Laguna assessed the validity of the harmonised learning activities in Chemistry which included Liliw Senior High School (4) teachers, Liliw National High School (4) teachers, Nagcarlan Senior High School (5) teachers, Magdalena Integrated High School (2) teachers, Sta. Catalina National High School (3) teachers and Suba National High School (2) teachers.

##### 4.3. Evaluation

The harmonised learning activities were utilised by one hundred fifty (150) junior high school students from six public schools in Liliw, Magdalena and Majayjay, Laguna.

**4.3.1. Pre-test.** All students took the fifty (50) item multiple choice test questions based from the learning competencies.

**4.3.1.2. Actual use of the learning material.** The harmonised learning activities were utilised for the one quarter lessons.

**4.3.1.3. Post-test.** At the end of the lesson, all students took the post-test which was identical to the pre-test.

**4.4. Treatment and analysis of Data.** The data collected was subjected to the appropriate statistical treatment followed by the interpretation of the results and findings.

#### 5. RESULTS AND DISCUSSION

The corresponding analysis and interpretation of the tabulated data were presented in the following tables.

##### 5.1. Level of Acceptability of the Harmonized Learning Material

Tables 1 to 4 show the level of acceptability of the harmonised learning material as assessed by the teacher respondents in terms of its objectives, content, and activities.

**Table 1. Level of Acceptability of the Harmonized Learning Material in Terms of Objectives.**

Statement	Mean	Standard Deviation	Remarks
1. Specific and simple	4.90	0.31	Strongly Agree
2. Measurable and attainable	4.85	0.37	Strongly Agree
3. Reliable and time bound	4.90	0.31	Strongly Agree
4. Suited to the needs of the students and teachers	4.85	0.37	Strongly Agree
5. In line with the learning competencies in the K to 12 Curriculum	5.00	0.00	Strongly Agree
<b>Weighted Mean</b>	<b>4.69</b>	<b>0.54</b>	<b>Extremely acceptable</b>



**Legend:**

Point	Range	Remarks	Verbal Interpretation
5	4.21 – 5.00	Strongly Agree	Extremely Acceptable
4	3.41 – 4.20	Agree	Very Acceptable
3	2.61 – 3.40	Moderately Agree	Moderately Acceptable
2	1.81 – 2.60	Disagree	Slightly Acceptable
1	1.00- 1.80	Strongly Disagree	Not acceptable

The overall mean of 4.69 indicates that the objectives of the harmonised learning material in selected topics in Chemistry was extremely acceptable. Thus, the teachers strongly agree that the objectives of the material are relevant to the learner’s need and it can be used as an effective learning tool. On the other hand, the objectives of the Harmonized Learning Material is in line with the learning competencies of the K -12 Curriculum with (M = 5.00, SD = 0.00)

As observed in the developed learning material, the objectives can be specific, simple, reliable, time-bound, and in line with the set competencies, but there would be a challenge on how

would it be measurable and attainable as well as suited to the needs of the students and teachers; in a way that sometimes the teaching-learning process must adapt with the schedule set by the learners and the school.

It was supported by the studies made by Burns (2010); Alelaimat (2012) and Vergara (2017) that the content of the learning material should fit to the learning objectives; congruent to the previous and present lesson; communicate in specific, behavioural languages which will give direction to class discussion.

**Table 2. Level of Acceptability the Harmonized Learning Material interims of Contents**

Statement	Mean	Standard Deviation	Verbal Interpretation
1. suitable, interesting, current and up to date	4.85	0.37	Strongly Agree
2. contributes to the acquisition of concepts and understanding of the lesson	4.85	0.37	Strongly Agree
3. has information appropriate to the level of comprehension of the students	4.85	0.37	Strongly Agree
4. has correct sequence and progression	4.90	0.31	Strongly Agree
5. is clear enough to be taken up for specific material	4.85	0.37	Strongly Agree
<b>Weighted Mean</b>	<b>4.66</b>	<b>0.56</b>	<b>Extremely Acceptable</b>

**Legend:**

Point	Range	Remarks	Verbal Interpretation
5	4.21 – 5.00	Strongly Agree	Extremely Acceptable
4	3.41 – 4.20	Agree	Very Acceptable
3	2.61 – 3.40	Moderately Agree	Moderately Acceptable
2	1.81 – 2.60	Disagree	Slightly Acceptable
1	1.00 – 1.80	Strongly Disagree	Not Acceptable

The overall mean of 4.66 indicates the level of acceptability of the harmonised learning material in selected topics in Chemistry in terms of content that was interpreted as extremely acceptable. The teachers commented that the content of the harmonised learning material has correct sequence and progression with (M = 4.90, SD = 0.31).The material contains information appropriate and suitable to the learners.

As stated in the DepEd Manual Chapter 4 Section 3.3 (2013); learning materials should be properly planned, selected and utilised. Salcedo (2016) recommended the use of instructional materials to make the lesson explicit to the learners.The findings were in congruent with those of Tagala (2010) and Francisco (2019) that the content must meet the interest, knowledge, understanding, abilities, needs, and experiences of the students.



**Table 3. Level of Acceptability of the Harmonized Learning Material in terms of Activities**

Statement	Mean	Standard Deviation	Remarks
1. Congruent to the objectives of the lesson	4.90	0.31	Strongly Agree
2. Answers the expected outcome of the content	4.90	0.31	Strongly Agree
3. Has information appropriate to the level of comprehension of the learner	4.90	0.31	Strongly Agree
4. Has correct arrangement and development	4.90	0.31	Strongly Agree
5. Is clear enough to be taken up for specific method	4.85	0.37	Strongly Agree
<b>Weighted Mean</b>	<b>4.68</b>	<b>0.62</b>	<b>Extremely Acceptable</b>

**Legend:**

Point	Range		Verbal Interpretation
5	4.21 – 5.00	Strongly Agree	Extremely Acceptable
4	3.41 – 4.20	Agree	Very Acceptable
3	2.61 – 3.40	Moderately Agree	Moderately Acceptable
2	1.81 – 2.60	Disagree	Slightly Acceptable
1	1.00 – 1.80	Strongly Disagree	Not Acceptable

Table 3 reveals that in terms of activities presented by the harmonised learning material has an overall rate of extremely acceptable with an overall mean of 4.68. The teachers strongly agree that the Harmonized Learning Material is congruent to the objectives of the lesson. The activities contain information suitable for the learners. The expected outcome based on the content, has information appropriate to the level of comprehension of the learner and has correct arrangement and development with (M = 4.90, SD = 0.31) and clear enough to be taken up for specific methods with (M = 4.85, SD = 0.37). The learning tool made by the researcher is found extremely acceptable in terms of its activities which can be used to

improve the teaching-learning process.

McMillan (2011) and Turger (2014) stated that activities should be meaningful and customised based on student’s needs to enhance their engagement into active, constructive, intentional, authentic and cooperative ways to improve their academic performance. As such, learning will be more engaging as the learners could see the connection between the lessons to their personal perceptions (Andrada, 2012) and (Bantoc, 2014). Their findings were supported by Wong (2013) in his study that enables the development of scientifically, technologically and productive members of the society who are critical problem solvers, innovative and creative citizens.

**Table 4. Level of Student’s performance in experimental group in Terms of pre-test and post-test**

Test	Lowest Score	Highest Score	Mean	SD	Verbal Interpretation
<b>Pre-test</b>	10	17	13.25	1.864	Fair Satisfactory
<b>Post test</b>	30	40	35.95	2.112	Very Satisfactory

**Legend:**

Scale	Verbal Interpretation
40 - 49.99	Outstanding
30 - 39.99	Very Satisfactory
20 - 29.99	Satisfactory
10 - 19.99	Fairly Satisfactory
0 - 09.99	Did not meet expectation

Table 4 shows the level of student’s performance in the experimental group in terms of pre-test and post-test. Out of 40 students, in their pre-test, the lowest found score is 10 while in the post test, it rises to 30. The highest score in pre-test is 17

and, in the post, test increases to 40. The students showed fairly satisfactory performance in the pre-test (M=13.25, SD= 1.864).

Post-test, obtained the (M=35.95, SD= 2.112) verbally interpreted as very satisfactory. This means that the use of the



self-made materials of the teacher produces significant change on the performance of the students.

The findings of Torre Franca (2017) and Delucchi (2014) revealed that through the use of pre-test and post-test design a significant change was observed after the use of instructional modules; that pretest-posttest tool once put into practice allows

the teachers to see if what is being covered in the lesson or unit is already mastered. Pre-test help measure true learning; pre-test can give students a preview of what will be expected of them. This help students begin to focus on the key topics that will be covered (Kelly, 2017).

**Table 5. Difference between the students’ performance of the Experimental group in their pre-test and post test**

Achievement	t-value	t-critical	p-value	Analysis
Pre-test and Post test	-55.994	2.023	0.0000	Significant

Table 5 presents the difference between the students’ performance on pre-test and post test of the experimental group. The data were statistically treated using the t-test of two sample means. The performance in pre-test is paired to the performance in post-test. The p value of 0.0000 which is less than the alpha value of 0.05 signifies that there is a significant difference in the performance of the students.

It shows that the harmonised learning material helps the students to perform better and improve critical thinking skills. Schalich (2015) found that by comparing pre-test and post test the teachers can see what students actually learned from the lessons that were developed. students master and improve their performance and be able to identify the correct areas that are being improved. The results revealed that the harmonised learning material was found to be effective in teaching Chemistry. The use of the tool influences the academic performance and enhances the critical thinking skills of the students in the classroom positively.

**6. CONCLUSION**

Based on the findings of the study, the following conclusion was drawn:

The null hypothesis tested at 0.05 level of significance is rejected, which indicates that there is significant difference between the pre-test and post-test of the experimental group. The use of harmonised learning activities in science which can help to boost the student’s critical thinking skills is offered for educators making them a cognitive guide of the learner’s learning.

**7. RECOMMENDATIONS**

In view of the findings and conclusion stated in the study, the following recommendations are proposed; (1) School administrators should encourage the teachers and other practitioners to give a greater importance to the use of harmonised learning materials in teaching least learned Science concepts. By doing this, the learners are not passive recipients of information, but they actively construct their knowledge in interaction with the environment and through the reorganisation of their mental structures. (2)The school administrators may support the teachers by providing additional seminars and training on the production of self-made instructional materials and other teaching strategies that will fit to the learner’s needs. This will develop the teaching and learning process and in turn

help improve the quality of education. (3)School heads may motivate the science teachers to utilise the harmonised learning activities to enhance the student’s process and skills. This will enable the student’s to be given an opportunity to explore chemistry in their own preference style.

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# RECENT ADVANCES IN GRAPH THEORY AND ITS APPLICATIONS

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## ABSTRACT

*The study of mathematics is important in many fields. One of the key areas of mathematics used in structural models is graph theory. This organizational structure of various items or technologies encourages new discoveries and modifications to the state of the art in these fields. The Koinsberg Bridge problem marked the beginning of the field graph theory in 1735. This article describes the usage of graphical theory in a variety of diverse fields, however it mostly focuses on information science, electrical engineering, linguistics, physics, chemistry, computer network science, biotechnology, and applications of graphical theory. In order to understand scheduling concepts, engineering technology implementations, and an overview, several publications on graph theory have been reviewed.*

## 1. INTRODUCTION

It is simple to display a diagram with many points and lines connecting many pairs of those points in a variety of real-world scenarios. The points could, for instance, indicate people with lines joining couples with friends or contact centers with lines displaying connections. It should be noted that in such diagrams, the main interest is whether a line connects two specific spots or not; the manner in which they are connected is immaterial. A statistical abstraction of these kinds of conditions serves as the concept of a graph. Principles of graph theory are frequently employed in many disciplines to investigate and model diverse applications. This includes researching atoms, creating chemical bonds, and examining molecules. Graph theory, for instance, is employed in sociology to analyse diffusion processes and determine actor popularity. The theory of graphs is used to study biodiversity and conservation, with vertex points serving as habitats for particular species and edges serving as migration routes. This information is crucial for researching how diseases and parasites reproduce as well as the impact of migration on other animals. This information is crucial. The notions of graph theory are frequently applied in the field of computer science [1]. Algorithms used in graph theory include Breadth First Search, Depth First Search, Topological Sort, Bellman-Ford, the Dijkstra algorithm, Minimum Trees, the Kruskal Algorithm, and the Prim's.

## 2. HISTORY OF GRAPH THEORY

The Koinsber Bridge Dilemma in 1735 served as the impetus for the graphic idea. The Eulerian graph principle is a solution to this conundrum. The Eulerian graph is a structure that Euler developed after studying the Koinsberg Bridge puzzle. Kuratowski demonstrated that A.F. Mobius's concepts of a complete graph and a bi-partisan graph were models of leisure issues. The Kirchhoff principle of trees uses graphical technical principles to estimate current in electrical networks or circuits. Kirchhoff created a linked graph without cycles in

1845. Thomas Guthrie made the well-known four-color publication's discovery in 1852. The Hamiltonian graph was a hypothesis that Thomas, P. Kirkman, and William Hamilton devised in 1856 after studying polyhydra cycles and observing journeys that visited several spots exactly once. H. Dudeney talked about a problem with puzzles in 1913. Actually, it took Kenneth Appel and Wolfgang Haken a century to address the four-color conundrum. This time period is regarded as the genesis of graph theory [2]. Caley learned particular analytical forms from the differential calculus to study the trees. It also has a number of implications for theoretical chemistry. Enumerative graph theory is developed as a result of this. Anyhow, Sylvester published "Graph" in 1878 and made a comparison between algebra and molecular-diagram covariants by using the term "quantum invariants" [3]. When Ramsey experimented with colours in 1941, a branch of graphic science known as severe graphic theory was discovered. The four-color mystery was solved in 1969 thanks to Heinrich's computers. A random principle of graphics has been developed as a result of research on asymptotic graph connectivity.

## 3. APPLICATIONS OF GRAPH THEORY

Principles of graph theory are frequently used in a variety of domains to investigate and model various applications. This includes learning about compounds, creating chemical bonds, and learning about atoms. Similar applications of graph theory can be found in sociology, such as determining a performer's level of popularity or looking at diffusion mechanisms. In biology and conservation, the vertex represents the geographic regions where animals can be found, and the edges show the direction of animal migration or movement through geographic areas. This information is essential for studying breeding patterns, tracking the spread of illnesses and parasites, and researching how migration affects other animals[4,5]. In research operations, theoretical graphic principles are frequently applied. For instance, the tour salesperson's



conundrum determines the shortest stretch in a weighted graph, identifies the ideal work-man match, and determines the shortest path between two vertices in a diagram. Additionally, it is used to model game theory, operational networks, and transportation networks[6]. The description of the finite game technique is given by a digraph. Here, the edges denote the movements, while the vertices denote the locations. The use of graph theory in science and technology is widespread. Any of the subsequent are provided:

**Computer Science-** In computer graphics, the theory of algorithms is used to analyse algorithms like the Dijkstra Algorithm, Prim's Algorithm, and Kruskal Algorithm. The calculating flow is described via application areas like graphs. In order to depict contact networks, graphs are utilised. Graphs display how the findings are arranged. Schemes for graph transformation work by manipulating graphs according to predefined rules. Graph databases guarantee the safe, ongoing archival and querying of structured graph data. Finding the shortest path or network direction uses graph theory. The principle of the chart is used to calculate the shortest path between two nodes in Google Maps, where various locations are represented as vertices or points, and roads are recognised as corners.

**Electrical Engineering** - When building circuit links, electrical engineering uses graph theory. Topologies are the names given to these relations. Sequence, bridge, star, and parallel topologies are only a few examples.

**Linguistics-** Graphs are generally used in linguistics to parse a language tree and a language tree grammar. When lexical semantics is used, especially for computers, it facilitates the modelling of word sense when a word is interpreted in relation to the word. In linguistic study, finite state morphology using finite-state transducers and phonological approaches, such as optimum theory based on grid diagrams, are frequently used as diagrams.

**Physics and Chemistry-**Chemical substances are modelled using chemistry graphs. In statistical biochemistry, any sequences of cell samples may be excluded in order to resolve discrepancies between two sequences. The sample sequences are represented as the vertices of a graph that represents this. Where there is a dispute between the sequences, an edge is drawn between two vertices. The objective is to eliminate all potential vertices (sequences) to resolve all conflicts. In conclusion, graphic theory has a unique impact in a number of fields and is already permeating many days. The use of graph theory specifically in computational sciences is examined in the section that follows. In physics and chemistry, chart theory is used to examine molecules. By compiling data on graph-theoretical properties in connection to atom topology, it is possible to quantitatively study the 3D configuration of intricate artificial atomic systems. Additionally, statistical mechanics makes use of graphs. Diagrams may be used to depict the local relationships between the interacting parts of a system and the dynamics of the physical processes acting on those structures in this area. Graphs can also illustrate porous medium microchannels where the larger pores are represented by the boundaries and the vertices. Both the molecular structure and the molecular grid can

be constructed using graphs. Additionally, it enables us to illustrate the relationship between atoms and molecules and makes it easier for us to contrast one molecule's structure with another.

**Computer Network-** The ties between linked computers in the network obey the concepts of graph theory in the computer network. Graph theory is often used for protection of the network. We will use the vertex coloring algorithm to paint the map in four colours. Vertex Coloring Algorithm may be used to delegate a maximum of four distinct frequencies to any mobile network GSM (Grouped Special Mobile).

**Social Sciences.** In sociology, graph theory is also used. For example, to explore the dissemination of rumor or to calculate the credibility of actors by the use of tools for social network analysis. Friendship and knowledge graphs describe whether or not individuals meet one another. Some individuals may affect the behavior of others in influential diagrams. In collaborative graphs model, two individuals operate together in a similar context, for example participating in a film together.

**Biology.** Nodes in biological networks are bimolecular such as chromosomes, proteins or metabolites and edges that link the nodes signify interactive, physical or chemical interactions between the bimolecular concerned. In transcriptional regulatory networks, graph theory is used. It is seen in metabolic networks as well. Graph theory is also useful in PPI (protein interaction) networks. Characterizing drug goal partnerships. drug target interactions.

**Mathematics.** Operational analysis is the essential area of mathematics. Graph theory offers numerous practical organizational analysis uses. Like: Minimum route expenses, A issue with the schedule. Graphs reflect the roads between the towns. We may construct hierarchically organized details such as a family tree with the aid of a sort of graph.

#### 4. CONCLUSION

Programmers and designers, graph theory is an extraordinarily rich field. Graphs can help solve some very complicated issues, such as lower costs, visualization, program analysis, etc. To calculate an optimum traffic routing, network devices, such as routers and switches use graphics. This paper focuses mainly on presenting the recent developments in the field of graph theory and its various applications in the field of engineering. In particular, the concept of graph theory is outlined in an overview. Researchers in different streams, such as engineering, social science, general sciences etc., benefit from this. There is a wide discussion of each domain application, which is very beneficial to any researchers.

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# ATTITUDE OF INTRODUCENTS TO SOME ENVIRONMENTAL FACTORS AND ASSESSMENT OF THE DEGREE OF THEIR DECORATIVENESS

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## ANNOTATION

*The article deals with the attitude of introducers to some environmental factors and the assessment of the degree of their decorativeness. In the process of mastering introducers, the reaction of plants to unfavorable soil and climatic conditions is of great importance.*

**KEY WORDS:** *introduced species, soil, climate, factor, reaction, conditions, irrigation, agricultural technology.*

In the process of development of introducers, the reaction of plants to unfavorable soil and climatic conditions (lack of moisture, duration of dry periods, low winter and high summer temperatures, etc.) is of great importance [2, 3, 4, 6]. If factors such as dryness and degree of salinity of the soil, dryness of the air with the modern development of agricultural technology (the presence of artificial irrigation, soil washing, shading, spraying, etc.) are amenable to artificial regulation by man, then the limiting influence of the air temperature factor (both very low and very high) to a decisive extent determines the degree of success of the introduction.

## RELATION TO LOW AND HIGH SUMMER AIR TEMPERATURE

In the arid climate of Karakalpakstan, one of the main factors determining the success of the introduction of a particular plant species is its winter hardiness. The manifestation of a high degree of winter hardiness largely determines the suitability of this plant for its wide practical use in the area of introduction. According to the degree of winter hardiness of introduced species, there is a classification by A. Rehder [7], according to which the zones allocated by him are limited by the absolute minimum observed within different parts of the species range:

**Table 1**

**Degrees of winter hardiness of introduced species**

I zone - below ...-50°C;	V zone - from ...-10°C to ...-5°C;
II zone - from ...-50°C to ...-35°C;	VI zone - from ...-5°C to ...+5°C;
III zone - from ...-35°C to ...-20°C;	VII zone - from ...+5°C to...+10°C.
IV zone - from ...-20°C to ...-10°C;	

The studied species belong to four climatic zones, with the largest number of introduced species coming from zone IV (4 species).

The vegetation period of introduced species of the genus *Acer* is from 199 to 237 days, depending on the plant species and the weather conditions of the year. Observations have shown that with a long and warm autumn, shoots of almost all species of the genus *Acer* have time to mature.

For the entire observation period (2006-2008) winter 2005-2006. Boston was the coldest. In January 2006, in the second decade, the minimum was -26.6°C., in the third decade -21.6°C. In February, in the first and second decades, the minimum temperature was below -19°C. However, the minimum air temperature in winter did not reach the absolute minimum (-31°C). There were no mass damages of skeletal branches by low winter temperatures in introduced species.



In February, the air temperature began to rise significantly. To assess the resistance of introduced plants to low winter temperatures, a scale developed in the GBS of the Academy of Sciences of the USSR was used [1].

When using this scale for assessing the degree of damage in plants by low winter temperatures, winter hardiness was determined by 7 indicators in a point expression:

Winter hardiness of one point - (the plant did not suffer from low temperatures).

Winter hardiness of two points - (no more than 50% of the length of annual shoots froze).

Winter hardiness of three points (frozen 50-100% of the length of annual shoots).

Winter hardiness of four points (biennial and older parts of the plant are frozen).

Winter hardiness of five points (frozen crown to the level of snow)

Winter hardiness of six points (the plants froze completely and did not recover).

When using this scale for assessing the degree of damage in *A. campestre* plants by low winter temperatures, the results of winter hardiness were determined as two points - (no more than 50% of the length of annual shoots were frozen). The rest of the species did not receive any damage.

In the arid conditions of Karakalpakstan, the second factor limiting the success of introduction is the high summer air temperature (+38 - +42°C in June-August) for introduced species living within zones I-IV according to A. Rehder.

To determine the success of the introduction of a particular species, taking into account the degree of influence of high summer temperature, a scale was used, in which, according to the nature of the damage received, 5 groups were distinguished according to the degree of relation to high summer air temperature [5]:

I - group - plants do not suffer from high summer temperatures - 20 points;

II - group - in the hot period, part of the leaf blades burns - 15 points.

III - group - leaves in the mass burn and fall off (summer leaf fall) - 10 points.

IV - group - plants are severely damaged by high air temperature, even with strong shading, and often fall out at juvenile age - 5 points.

V - group - plants are damaged by high summer temperatures and fall out already in the state of seedlings - 1 point.

The number of species by climatic zones and the degree of damage they receive are indicated in table 1.

As can be seen from the data in Table 1, 4 species (*A. ginnala*, *A. campestre*, *A. tataricum*, *A. semenovii*) belong to the first group in terms of resistance to high summer temperatures (20 points) and do not receive visible damage. Although the introduced species of the species of the genus *Acer*, whose ranges are located within zone IV, are species of a more southern origin, they are all mostly floodplain and live along the banks of rivers and streams; under conditions of relatively high humidity. At the same time, they show high adaptive qualities in Bustin conditions.

Table 2

The number of species of the genus *Acer* according to the degree of relation to the high summer air temperature by zones

Climate zones	Total species	Group according to the degree of attitude to high air temperature (points)			
		I	II	III	IV
II	1			10	
III	1		15		
IV	4	20			
V	1		15		

*A. pseudoplatanus* and *A. saccharinum* were in the second group in terms of resistance to high air temperature (15 points). In these species, part of the leaf blades burns in the heat. At the same time, the ranges of

these species differ significantly from each other. The range of *A. saccharinum* extends into Canada in the north, while in *A. pseudoplatanus* it extends far into the south of Europe.



They are to some extent exposed to the negative effects of high summer temperatures. Among the introduced species, only for *Acer negundo*, the range, which is located within the II zone, is characterized by a biological feature: in the hot months (June, July) it has summer leaf fall, i.e. this species, reducing the evaporating surface, sheds part of the leaves that were previously stained into yellow. This species was included in the III group according to the degree of resistance to high summer temperatures (10 points).

In conclusion, it should be noted that, in general, the effect of high summer air temperature does not have a significant negative effect on the seasonal growth and development of the studied species.

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## CULTIVATION OF TOPINAMBUR UNDER DIFFERENT RATES OF APPLICATION OF ORGANIC FERTILIZERS IN THE CONDITIONS OF THE SOUTHERN ARAL REGION

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### ANNOTATION

*The article discusses the features of the cultivation of Jerusalem artichoke at different rates of organic fertilizers in the conditions of the South Aral Sea. Jerusalem artichoke is becoming increasingly popular in the world, primarily as a raw material for obtaining inulin, feed and bio-fuel.*

**KEY WORDS:** *fertilizers, insulin, biofuel, feed, leaves, flowers, tubers.*

### INTRODUCTION

Jerusalem artichoke (*Helianthus tuberosus*) belongs to the Asteraceae family. This perennial herbaceous plant in some years and under favorable conditions reaches a height of three meters. The stem dies off for the winter, and new shoots grow from the tubers in the spring. The leaves are simple and large, sometimes up to 20-25 cm long, the whole plant is pubescent. Inflorescences - baskets with a diameter of 4-8 cm with bright yellow reed flowers, fruits - achenes, like those of a sunflower. Flowering, depending on the place of cultivation, lasts from September to November.

Today, this crop is cultivated on almost all continents, but is not as important as potatoes, wheat or rice (Starovoitov V.I., Starovoitova O.A., Zvyagintsev P.S., Mandryka E.A., Lazunin Yu.T., 2015). It is grown in production as an annual crop, which, in general, does not impose special requirements on conditions. Considering that this perennial plant forms a large biomass, the soil must also be sufficiently loose for the successful formation of tubers. It is best if these are well-fertilized light loams. The optimal pH values are in the range of 6.0-7.5. The site is preferably well lit or you can choose a place with a little shading.

Jerusalem artichoke is a functional food product (prebiotic). Tubers are rich in inulin, pectin, vitamins:

ascorbic acid, B1, B2, beta-carotene, microelements, contain a complex of proteins and amino acids, incl. irreplaceable, which are nutrition for the human thymus, responsible for the immune system in the body (Zhevorra S.V., Starovoy-tov V.I., 2015; Starovoitov V.I., Starovoitova O.A., 2015).

**Purpose of the study** – to formulate and substantiate the cultivation of Jerusalem artichoke with the introduction of various doses of organomineral fertilizers. Compliance with the features of the agricultural methods of growing Jerusalem artichoke can significantly increase the yield.

### MATERIAL AND METHODS

The object of research is Jerusalem artichoke and the technology of its cultivation. To increase the yield of tubers and biomass, it is necessary to carefully select varieties, planting dates, effective methods of weed control, fertilization, watering and harvesting [1, 7, 8].

Experimental conditions: meadow-alluvial, medium loamy, medium saline soils, chloride-sulfate type of salinity. The content of humus in the plow horizon is 0.88 mg/kg, gross nitrogen 0.1, phosphorus 0.24, potassium 2.6 mg/kg. In the conditions of the South Prearalie on saline soils, sowing was carried out on a flat soil surface.



## RESULTS AND DISCUSSION

Scheme of experience. Studies have shown that the most popular varieties of Jerusalem artichoke grown in Uzbekistan are Fayz Baraka and Muzhiza.

These are universal varieties that can be used in production. Considering that Jerusalem artichoke is an unpretentious plant, an extremely effective agricultural crop, responds to additional fertilization, at the same time it significantly improves soil quality [12, 13], we studied the following fertilizer rates for two varieties of Jerusalem artichoke Fayz Baraka and Mujiza:

1. Without fertilizers.
2. Organic fertilizers are normally 20 t/ha.
3. Organic fertilizers are normally 30 t/ha.
4. Organic fertilizers at a rate of 40 t/ha.
5. Organic fertilizers at the rate of 50 t/ha.
6. Norm of mineral fertilizers N100 P60 K100

Pre-planting field processing is the same as for potatoes, and depends on the type of soil. The quality (shape) and yield of Jerusalem artichoke depend on the density of the soil, therefore, immediately before planting, the soil is loosened by plowing, milling or cultivation [12, 13].

The planting density of Jerusalem artichoke is 15...30% lower than that of potatoes, depending on the size of the tuber nest. When Jerusalem artichoke is grown as a perennial plant, the crop is reproduced in the second and subsequent years from the tubers left in the ground after harvesting [2, 5].

The date of planting of Jerusalem artichoke tubers is selected depending on a number of conditions; the planting of tubers in the soil in 2021 was carried out in early spring on March 4-5. Harvest, depending on the variety, is usually formed in 120-140 days. Jerusalem artichoke was planted with whole tubers, tubers weighing from 45 to 60 g were used. The optimal density is 30...60 thousand pieces/ha.

A planting density of 30...35 thousand tubers per 1 ha is considered reasonable with row spacing of 75 cm, i.e., 3 ... 4 tubers per 1 m<sup>2</sup>. Distance –23...30 cm between seed tubers within a row; 75 cm - between rows. The planting depth is more than 10.0 cm, as the zone is considered to be a semi-arid zone.

In the early stages, the plant directs most of the nutrients to the growth of the stem, shoots and leaves and their successive development. After the beginning of flowering, in the second half of summer, the number of

leaves in Jerusalem artichoke begins to noticeably decrease.

By autumn, an intensive outflow of nutrients into the tubers from the entire green mass of plants begins, as a result of which the tops of the plants die off and dry out. Sometimes the leaves of Jerusalem artichoke completely die off after several frosts, but in most cases remain on the trunks.

From the moment flowering begins, carbohydrates synthesized in the leaves begin to flow along the stem to the tubers. Most of the dry matter is deposited in tubers in the form of fructans (inulin, fructose) and storage proteins.

The initial stage of tuber formation occurs 12-14 weeks after planting, at the beginning of flowering. Stabilization of the number of tubers occurs on the 16th week. after landing. The time of tuber formation occurs relatively early, during the growing season in early July.

The process of tuberization occurs due to the rapid division of cells and their growth. At the same time, the initial structural framework necessary for storing reserve nutrients for subsequent assimilation is formed long before the start of the influx of carbonaceous compounds, during the period of tuber growth. The start of winter stockpiling is stimulated by photoperiodic plant responses, even in accessions for which neutral daylight is the optimal photoperiod for flowering.

Harvesting Jerusalem artichoke begins with the removal of green mass, since mechanized harvesting of tubers is possible only after harvesting green mass. The green mass in September is mowed and taken out of the field to be used for feed (or fuel pellets) or crushed and scattered across the field.

Crushing green mass and spreading it across the field have two goals: improving the conditions for mechanized harvesting of tubers and using green mass as organic fertilizers. Since in the trunk of Jerusalem artichoke, especially in its lower part, there are still quite a lot of carbohydrates going to the tubers, mowing of the green mass of Jerusalem artichoke is carried out at a stem cut height of 20 ... 40 cm. The green mass, since it is a valuable fodder, is harvested by forage harvesters for large-stemmed crops and taken out of the field or crushed and scattered on the field, like green manure, with a KIR-1.5 bottler or a similar machine [10,12].

The size of the Jerusalem artichoke tuber nest is 1.5 ... 2.0 times larger than that of potatoes, its destruction due to the powerful root system requires great effort. The



mechanical connection of the tuber with the stolon in autumn is 2–3 times higher than in spring, so the load on the working bodies of harvesters is higher. Therefore, after mowing the stems, it is better to start harvesting after 10 days.

A pause between the harvesting of green mass and tubers is done for the accumulation of tuber mass due to the outflow of plastic substances from the trunk into the tubers. At this time, tubers are maturing and their mechanical connection with stolons is reduced. In conditions of large volumes of harvesting and the need to obtain raw materials for processing, the harvesting of tubers of most varieties can be started immediately after the removal of the stem mass. For harvesting, it is recommended to use potato harvesters, loader diggers or diggers [10].

Due to the complexity of harvesting and its short terms, limited weather conditions that allow the use of harvesting equipment to preserve good tubers, part of the harvesting can be postponed to spring. The seed material is often harvested in the spring for replanting. Studies have shown that by spring the tuber nest increases significantly, and this must be taken into account when harvesting.

Shoots in our conditions begin to appear 1-2 weeks after planting, mainly depending on the soil temperature. The germination of Jerusalem artichoke is high and

amounted to 88...97% (Table 1). Growth and development of weeds is observed, measures for the destruction of weeds were carried out by 2-3 manual weeding of plantings of Jerusalem artichoke: one pre-emergence and two until the plants reached a height of 30 cm.

Studies in different geographical conditions have shown that early planting of tubers allows plants to optimize photosynthesis in response to long daylight hours, increasing light intensity and maximum temperatures during the growing season. Planting varieties of early ripening in February-March guarantees a high yield of tubers already in August.

According to the literature, the yield of tubers and their size in highly fertile areas is twice as high as in low-fertile areas. Typical requirement for fertilizers for Jerusalem artichoke: N (nitrogen) - from 70 to 100 kg/ha; P (phosphorus) - from 80 to 100 kg/ha; K (potassium) – from 150 to 250 kg/ha [9, 10]. According to our data (Table 1), with an increase in the rate of application of organic and mineral fertilizers, the yield of both green mass and tubers increases. When applying 20 t/ha of organic fertilizers, compared with the control without fertilizers, the yield of green mass increased by 7.0 t/ha for the Faiz baraka variety, by 8.4 t/ha for the Muzhiza variety; tubers productivity by 11.2 and 15 t/ha, respectively.

**Table 1**  
**Indicators of growth and development of Jerusalem artichoke varieties**

	Norms of organic and mineral fertilizers / varieties	Germination of tubers, %		Green mass, in the flowering phase, t/ha		Tuber yield, t/ha	
		Faiz Baraka	Mujiza	Faiz Baraka	Mujiza	Faiz Baraka	Mujiza
1.	Without fertilizer	90	94	20	23,6	0,8	1,0
2	20 t/ha.	88	95	27	32	12	16
3	30 t/ha.	90	96	35	39	24	27
4	40 t/ha	91	93	47	50	41	45
5	50 t/ha.	93	95	48	52	43	48
6	N100 P60 K100	95	97	45	46	32	35

The most optimal option was the application of 40 t/ha, while the most optimal yield according to the experiment is noted, green mass for the Faiz baraka variety is 47 t/ha for the Muzhiza variety is 50 t/ha; the yield of tubers was 41 and 45 t/ha, respectively.

A further increase in the rate of application of organic fertilizers slightly increased the yield of both green

mass and tubers of Jerusalem artichoke varieties. The effect of mineral fertilizers on the yield of green mass and tubers was equal to the application of 30-40 t/ha of organic mineral fertilizers. Given the aftereffect and natural origin, the high cost of mineral fertilizers, the preference for organic fertilizers should be noted.



After harvesting, Jerusalem artichoke tubers are poorly stored in winter, quickly fade, and are affected by fungal diseases. Therefore, usually a small part of the tubers is harvested in the fall and used for animal feed or silage preparation, and the main part - in the spring, so as not to store a large number of tubers and prevent their natural decline. It is advisable to use piles and trenches for storing tubers of autumn harvest. For better storage, they are laid in layers of 10 cm, alternating with soil or sand.

## CONCLUSIONS

1. According to the results of the cultivation of Jerusalem artichoke at various rates of organic fertilizers in the conditions of the South Aral Sea, it follows that the study of the technology of growing Jerusalem artichoke is an important component in growing in organic farming.
2. The productivity of both varieties of Jerusalem artichoke was optimal when applying 40 t/ha of manure. In comparison with the variant without fertilizers, the increase in tuber yield was 7 t/ha for the Fayz baraka variety and 8 t/ha for the Muzhiza variety. Given the aftereffect and safety of use, preference should be given to the application of organic fertilizers.
3. Jerusalem artichoke is a new crop for industrial cultivation on saline soils with different norms of organic fertilizers, therefore the technology of its cultivation should be studied and improved.

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## ECOLOGICAL GROUPS OF DESERT PLANTS IN NUKUS CITY AREA, NORTHWESTERN KYZYLKUM

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### ANNOTATION

*The article deals with the main ecological groups of desert plants in the area of the city of Nukus in the Northwestern Kyzylkum. The article presents the results of monitoring the current ecological state of natural biological objects, identified the species diversity of plants, classified and evaluated the tendency of plants to adapt to the environment according to environmental criteria.*

**KEY WORDS:** *ecological group, object, monitoring, species, classification.*

One of the important issues in monitoring of the current ecological status of natural biological objects around the city of Nukus in the North-West Kyzylkum, first of all, is to identify the diversity of plant species that form a major part of the desert ecosystem, classify and assess the tendency of plants to adapt to the environment through ecological criteria.

As a result of scientific research conducted in 2005-2018, there were identified 248 species of tall plants growing in the sandy deserts of Tashkudukkum near the city of Nukus in the Kyzylkum. Their diversity was studied during floristic, ecological and geobotanical expeditions, and the role of promising plant species in strengthening the mobile sands and barchans around various towns and villages of the Republic of Karakalpakstan was proved.

The observations in nature at different times of the year focused on the importance of 71 species of higher plant species dominating different desert biocenoses (or common ecosystems) in the biodiversity formation within the plant species distributed in the region. It was found that these species make up the bulk of the vegetation cover.

The herbarium samples collected during the expeditions were identified in the National Herbarium of Uzbekistan (TASH) of the Institute of Botany of the Academy of Sciences of the Republic of Uzbekistan.

The ecological groups of the dominant species in the vegetation cover of the studied area were determined

depending on the mechanical composition of the soil, the amount of salt in the soil, the moisture content of the soil and the water requirements of the plants. The division of plant species into ecological groups was based on the classifications of P.A.Genkel [3], N.I.Akjigitova [1], I.N.Beydeman [2] and T.Rakhimova [4].

As a result of the analysis, 4 of the 71 plant species common in the Tashkudukkum area around Nukus in the North-West Kyzylkum depend on the mechanical composition of the soil, 5 on the salt content (salt resistance), 5 on the soil moisture level and 4 on the water requirements of the plants were divided into ecological groups (Table 1).

For many years, representatives of each ecological group have adapted to the abiotic environmental factors: soil, water, climate and negative atmospheric air - the extreme heat of the dry summer months and the extreme cold of the winter months in the sandy desert. During the study, it was once again confirmed that as a result of biomorphological variations, plant species in different ecological groups in the desert region change their position through the evolutionary natural laws of the vegetation cover. It has been proved that in different areas of the sandy desert the formation of landscapes with changes in the pedosphere layer goes in different directions.





Table 1

The main ecological groups and economic importance of the dominant species of the flora of Tashkudukkum around the city of Nukus in the North-West Kyzylkum

No. of types	Dominant species	The main ecological groups				Economic importance
		Depending on the mechanical composition of the soil	Depending on the amount of salt in the soil (salt resistance)	Depending on the moisture level of the soil	Depending on the water requirements of the plants	
1	2	3	4	5	6	7
1.	<i>Bassia hyssopifolia</i>	Halophyte	Eugalophyte	Eukserophyte	Ombrofit	Phytomeliorant, fodder
2.	<i>Kochia prostrata</i>	Halophyte	Eugalophyte	Eukserophyte	Trichophyte	Phytomeliorant, alkaloid
3.	<i>Kalidium capsicum</i>	Halophyte	Hypergalophyte	Poikyloxerophyte	Phreatophyte	Phytomeliorant, essential oil and alkaloid
4.	<i>Halostachys belangeriana</i>	Halophyte	Hypergalophyte	Hemixerophyte	Phreatophyte	Phytomeliorant, poisonous
5.	<i>Salicornia europaea</i>	Halophyte	Hypergalophyte	Eukserophyte	Trichophyte	Phytomeliorant
6.	<i>Horaninovia anoloma</i>	Psammofit	Hemigalophyte	Stypakerofit	Ombrofit	Sand-strengthening, alkaloid
7.	<i>Horaninovia ulicina</i>	Psammofit	Hemigalophyte	Stypakerofit	Ombrofit	Sand-strengthening, alkaloid
8.	<i>Salsola arbuscula</i>	Halophyte	Eugalophyte	Hemixerophyte	Phreatophyte	Phytomeliorant, tannic, dye, alkaloid
9.	<i>Salsola orientalis</i>	Halophyte	Eugalophyte	Eukserophyte	Trichophyte	Phytomeliorant, alkaloid, medicinal, fodder
10.	<i>Salsola paletziana</i>	Halophyte	Eugalophyte	Hemixerophyte	Phreatophyte	Phytomeliorant, medicinal, tannic, fodder
11.	<i>Salsola paulsenii</i>	Halophyte	Eugalophyte	Stypakerofit	Trichophyte	Phytomeliorant, fodder
12.	<i>Salsola richteri</i>	Halophyte	Eugalophyte	Hemixerophyte	Phreatophyte	Phytomeliorant, alkaloid, medicinal, fodder
13.	<i>Haloxylon aphyllum</i>	Halophyte	Eugalophyte	Hemixerophyte	Phreatophyte	Phytomeliorant, alkaloid, fodder
14.	<i>Haloxylon persicum</i>	Psammofit	Halogenoid	Eukserophyte	Trichophyte	Sand-strengthening, tannic, fodder
15.	<i>Halimocnemis karelinii</i>	Halophyte	Halogenoid	Stypakerofit	Ombrofit	Phytomeliorant, fodder
16.	<i>Gamanthus</i>	Halophyte	Halogenoid	Eukserophyte	Ombrofit	Phytomeliorant,



	<i>gamocarpus</i>					fodder
17.	<i>Climacoptera lanata</i>	Halophyte	Hypergalophyte	Eukserophyte	Trichophyte	Phytomeliorant
18.	<i>Suaeda acuminata</i>	Halophyte	Hypergalophyte	Eukserophyte	Trichophyte	Phytomeliorant
19.	<i>Suaeda microphylla</i>	Halophyte	Eugalophyte	Hemixerophyte	Phreatophyte	Phytomeliorant, medicinal, fodder
20.	<i>Atraphaxis spinosa</i>	Гипсофит	Hemigalophyte	Eukserophyte	Trichophyte	Tannic, honey-like, fodder
21.	<i>Calligonum acanthopterum</i>	Psammofit	Halogenoid	Eukserophyte	Trichophyte	Sand-strengthening, tannic, fodder
22.	<i>Calligonum aphyllum</i>	Psammofit	Halogenoid	Eukserophyte	Trichophyte	Sand-strengthening, tannic, fodder
23.	<i>Calligonum aralense</i>	Psammofit	Halogenoid	Eukserophyte	Trichophyte	Sand-strengthening, tannic, fodder
24.	<i>Calligonum caput-medusae</i>	Psammofit	Halogenoid	Eukserophyte	Trichophyte	Sand-strengthening, tannic, fodder
25.	<i>Calligonum leucocladum</i>	Psammofit	Halogenoid	Eukserophyte	Trichophyte	Sand-strengthening, tannic, fodder
26.	<i>Limonium gmelini</i>	Halophyte	Crinogalophyte	Eukserophyte	Trichophyte	Phytomeliorant, dye, tannic, medicinal, fodder
27.	<i>Limonium otolepis</i>	Halophyte	Eugalophyte	Stypakerofit	Trichophyte	Phytomeliorant, dye, tannic, medicinal, fodder
28.	<i>Tamarix elongate</i>	Halophyte	Eugalophyte	Hemixerophyte	Phreatophyte	Phytomeliorant, medicinal, dye, tannic, essential oil, honey, fodder
29.	<i>Tamarix ramosissima</i>	Halophyte	Eugalophyte	Hemixerophyte	Phreatophyte	Phytomeliorant, medicinal, dye, tannic, essential oil, honey, fodder
30.	<i>Capparis spinosa</i>	Гипсофит	Hemigalophyte	Eukserophyte	Trichophyte	Tannic, honey-like, fodder
31.	<i>Descurainia sophia</i>	Halophyte	Halogenoid	Refugio-xerophyte	Ombrofit	Medicinal, fodder
32.	<i>Strigosella scorpioides</i>	Psammofit	Halogenoid	Refugio-xerophyte	Ombrofit	Fodder
33.	<i>Strigosella turkestanica</i>	Psammofit	Halogenoid	Refugio-xerophyte	Ombrofit	Fodder
34.	<i>Leptaleum filifolium</i>	Psammofit	Halogenoid	Refugio-xerophyte	Ombrofit	Fodder
35.	<i>Lepidium perfoliatum</i>	Psammofit	Halogenoid	Refugio-xerophyte	Ombrofit	Fodder
36.	<i>Chrozophora</i>	Psammofit	Halogenoid	Refugio-xerophyte	Ombrofit	Fodder



	<i>sabulosa</i>					
37.	<i>Euphorbia densa</i>	Psammofit	Halogenoid	Refugio-xerophyte	Ombrofit	Fodder
38.	<i>Ammodendron conollyi</i>	Psammofit	Halogenoid	Eukserophyte	Trichophyte	Sand-strengthening, medicinal, dye, tannic, essential oil, honey, fodder
39.	<i>Smirnowia turkestanica</i>	Psammofit	Halogenoid	Eukserophyte	Trichophyte	Sand-strengthening, medicinal, fodder
40.	<i>Astragalus ammodendron</i>	Psammofit	Halogenoid	Eukserophyte	Trichophyte	Medicinal, fodder
41.	<i>Astragalus lehmannianus</i>	Psammofit	Halogenoid	Eukserophyte	Trichophyte	Medicinal, fodder
42.	<i>Astragalus villosissimus</i>	Gypsum	Hemigalophyte	Eukserophyte	Trichophyte	Sand-strengthening, medicinal, dye, alkaloid, fodder
43.	<i>Alhagi pseudalhagi</i>	Psammofit	Hemigalophyte	Hemixerophyte	Phreatophyte	Medicinal, dye, tannic, essential oil, greasy, honey, fodder
44.	<i>Melilotis albus</i>	Psammofit	Hemigalophyte	Hemixerophyte	Phreatophyte	Medicinal, dye, tannic, essential oil, fodder
45.	<i>Haplophyllum bungei</i>	Psammofit	Hemigalophyte	Hemixerophyte	Phreatophyte	Medicinal, dye, tannic, essential oil, fodder
46.	<i>Zygophyllum oxianum</i>	Psammofit	Hemigalophyte	Hemixerophyte	Phreatophyte	Medicinal, dye, tannic, essential oil, fodder
47.	<i>Peganum harmala</i>	Gypsum	Hemigalophyte	Hemixerophyte	Trichophyte	Medicinal, greasy, dye, alkaloid
48.	<i>Nitraria schoberi</i>	Halophyte	Crinogalophyte	Hemixerophyte	Trichophyte	Phytomeliorant, medicinal, alkaloid, dye
49.	<i>Psammogeton foetida</i>	Psammofit	Hemigalophyte	Hemixerophyte	Phreatophyte	Medicinal, dye, tannic, essential oil, fodder
50.	<i>Ferula karelinii</i>	Psammofit	Hemigalophyte	Hemixerophyte	Phreatophyte	Medicinal, dye, tannic, essential oil, fodder
51.	<i>Karelinia caspia</i>	Halophyte	Hemigalophyte	Poikyloxerophyte	Trichophyte	Phytomeliorant, alkaloid, dye, fodder
52.	<i>Artemisia diffusa</i>	Psammofit	Halogenoid	Poikyloxerophyte	Ombrofit	Sand-strengthening, medicinal, essential oil, coumarin, fodder
53.	<i>Artemisia scoparia</i>	Psammofit	Halogenoid	Poikyloxerophyte	Ombrofit	Sand-strengthening, medicinal, essential



						oil, coumarin, fodder
54.	<i>Artemisia terrae-albae</i>	Psammofit	Halogenoid	Poikyloxerophyte	Ombrofit	Sand-strengthening, medicinal, essential oil, alkaloid, fodder
55.	<i>Cousinia dichotoma</i>	Psammofit	Halogenoid	Poikyloxerophyte	Ombrofit	Sand-strengthening, medicinal, essential oil, alkaloid, fodder
56.	<i>Lycium ruthenicum</i>	Halophyte	Crinogalophyte	Hemixerophyte	Trichophyte	Phytomeliorant, medicinal, alkaloid, dye, fodder
57.	<i>Convolvulus divaricatus</i>	Gypsum	Hemigalophyte	Poikyloxerophyte	Ombrofit	Medicinal, alkaloid, fodder
58.	<i>Convolvulus erinaceum</i>	Gypsum	Hemigalophyte	Poikyloxerophyte	Ombrofit	Medicinal, alkaloid, fodder
59.	<i>Heliotropium arguzioides</i>	Psammofit	Halogenoid	Poikyloxerophyte	Ombrofit	Sand-strengthening, medicinal, alkaloid, fodder
60.	<i>Arnebia decumbens</i>	Psammofit	Halogenoid	Poikyloxerophyte	Ombrofit	Sand-strengthening, medicinal, alkaloid, fodder
61.	<i>Nonnea caspica</i>	Psammofit	Halogenoid	Poikyloxerophyte	Ombrofit	Sand-strengthening, medicinal, alkaloid, fodder
62.	<i>Allium sabulosum</i>	Psammofit	Halogenoid	Refugio-xerophyte	Ombrofit	Fodder
63.	<i>Carex pachystylis</i>	Psammofit	Halogenoid	Refugio-xerophyte	Ombrofit	Sand-strengthening, fodder
64.	<i>Carex physodes</i>	Psammofit	Halogenoid	Refugio-xerophyte	Ombrofit	Sand-strengthening, fodder
65.	<i>Stipagrostis karelinii</i>	Psammofit	Hemigalophyte	Refugio-xerophyte	Ombrofit	Sand-strengthening, fodder
66.	<i>Stipagrostis pennata</i>	Psammofit	Hemigalophyte	Refugio-xerophyte	Ombrofit	Sand-strengthening, medicinal, fodder
67.	<i>Poa bulbosa</i>	Psammofit	Halogenoid	Refugio-xerophyte	Ombrofit	Sand-strengthening, fodder
68.	<i>Anisantha tectorum</i>	Psammofit	Halogenoid	Refugio-xerophyte	Ombrofit	Sand-strengthening, fodder
69.	<i>Eremopyrum buonapartis</i>	Psammofit	Halogenoid	Refugio-xerophyte	Ombrofit	Sand-strengthening, fodder
70.	<i>Eremopyrum orientale</i>	Psammofit	Halogenoid	Refugio-xerophyte	Ombrofit	Sand-strengthening, fodder
71.	<i>Eremopyrum triticeum</i>	Psammofit	Halogenoid	Refugio-xerophyte	Ombrofit	Sand-strengthening, fodder



In summary, most of the plants distributed in the Tashkudukkum area are species adapted to grow in sandy and saline soils. These plants allow the selection of promising species in the development of degraded soils, phytomelioration and strengthening of mobile sands and barkhans.

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# SCREENING IN MEDICAL CAMPS - AN EFFECTIVE TOOL FOR EARLY IDENTIFICATION AND TIMELY INTERVENTION THAT CAN AID TO REDUCE DIABETES BURDEN IN INDIA

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## ABSTRACT

**Background:** India faces a major challenge of Diabetes as it's a developing country with limited resources. It may be because of various factors like obesity, sedentary lifestyle, urbanization, unhealthy food habits. Though the awareness for signs and symptoms of diabetes may be less in rural areas due to poor resources and medical facilities as well as lack of education, people in urban areas are also equally unaware and negligent about their blood sugar levels and overall health due to the stress of making a living and surviving in a metropolitan city. Many a time, patients are not aware that they have diabetes until they present with certain complications in the form of gangrene or infections or certain cardiovascular complications. Sometimes the patients are aware that they have diabetes but do not follow the drug regime and lifestyle changes thus, landing themselves with complications of diabetes and burdening the already burdened healthcare system in India. It's the need of the hour to have a robust screening and awareness programme for diabetes, thus preventing complications. Medical camps can bridge the gap between the disease process and diagnosis so that disorders like diabetes may be caught in a prediabetic phase and proper followup, diet regimen and lifestyle changes may be advised to these prediabetic individuals. Also, those patients who are detected with diabetes may be advised to use oral hypoglycemic drugs or insulin after confirmation of their diabetes by oral glucose tolerance test, fasting blood sugar, post prandial blood sugar and HbA1C levels.

**Aim:** This study was conducted to assess the prevalence of diabetes amongst patients who attended medical camps and to compare the prevalence in relation to gender and age.

**Materials and Methods:** A cross sectional record based study was done. 876 patients were screened for Random Blood Sugar (RBS) levels with a Glucometer in camps organized by a tertiary care centre in nearby areas of Navi Mumbai. The data regarding age, sex and RBS levels were collected. A random blood sugar (RBS) value of >200 mg/dl in a patient with classic symptoms of hyperglycaemia or hyperglycaemic crisis was defined as having diabetes.

**Results:** The overall prevalence of diabetes was 26.94%. Among the study population, 440 (50.22%) were males and 436 were (49.77%) females. The Prevalence was higher in the female population, 32.5%, as compared to males 21.36%. Most of the diabetes cases were in the age group of 50-65 years in females and below 35 years of age in males. It was also found that 29.6% of the diabetics were newly diagnosed.

**Conclusions:** Medical camps can serve and bridge the gap between early diagnosis and treatment of Diabetes. RBS by glucometer is a cost effective test that can be used for mass screening of Prediabetes and Diabetes in camps. As Diabetes can lead to various complications, such camps can be effectively used for screening, diagnosis and initiation of treatment, thereby help reduce the burden of diabetes in India.

**KEY WORDS:** diabetes, prediabetes, random blood sugar, RBS, camps, screening, HbA1c, fasting blood sugar, postprandial blood sugar, blood sugar



## INTRODUCTION

According to the Data from the World Health Organization (WHO) the prevalence of diabetes across the globe was estimated to be 9 % among the adult population as of 2014.<sup>[1]</sup> There are nearly 69.2 million people across the world living with diabetes.<sup>[1]</sup> The prevalence of Diabetes in India is 7.8 % and is a challenging health condition to India.<sup>[2]</sup> The population in an age group of 20 to 70 years has almost 8.7 % of Diabetes.<sup>[3]</sup> 87 million people in India have been predicted to have diabetes by 2030.<sup>[3]</sup> Diabetes is known to have various acute metabolic and late systemic complications in the form of retinopathy, nephropathy, cardiovascular diseases which in turn poses a major economic challenge. Unfortunately, more than half of the diabetics in India remain unaware of their diabetes status, which adds to the disease burden.<sup>[4]</sup> India has more than 62 million individuals diagnosed with Diabetes as of 2014 and, hence India has become the Diabetes Capital of the World.<sup>[5]</sup> A study conducted by the Indian Council of Medical Research (ICMR) showed that in the year 2011, 62.4 million people in India had Diabetes and by the year 2030 there will be an exponential rise in these diabetes cases in India to 101.2 million.<sup>[3]</sup> People should be screened for Diabetes so that proper treatment can be initiated and complications can be prevented. Active and exhaustive screening efforts are the need of the Hour.<sup>[6]</sup> Undiagnosed Diabetes is seen many times because patients usually go through a prediabetic phase for several years which is referred to as Abnormal Glucose Regulation [AGR].<sup>7</sup> Hence, such type of population should be targeted by adequate and comprehensive screening programmes. Also, large amount of mortality and morbidity due to Diabetes may be avoided by adequate screening and treatment. Keeping this in view, the current paper aims to estimate the prevalence of undiagnosed and uncontrolled type 2 diabetes mellitus identified through camps conducted by a tertiary care centre in Navi Mumbai region.

## METHODS

### Study Type and Settings:

This is a cross-sectional record based study wherein data was collected retrospectively from the camp register for patients who had attended the medical camps conducted by a tertiary care centre in various areas of Navi Mumbai. A sample size of 876 was

obtained. All patients who have attended medical camps and have undergone a blood glucose level check by glucometer.

### Data Collection and Analysis

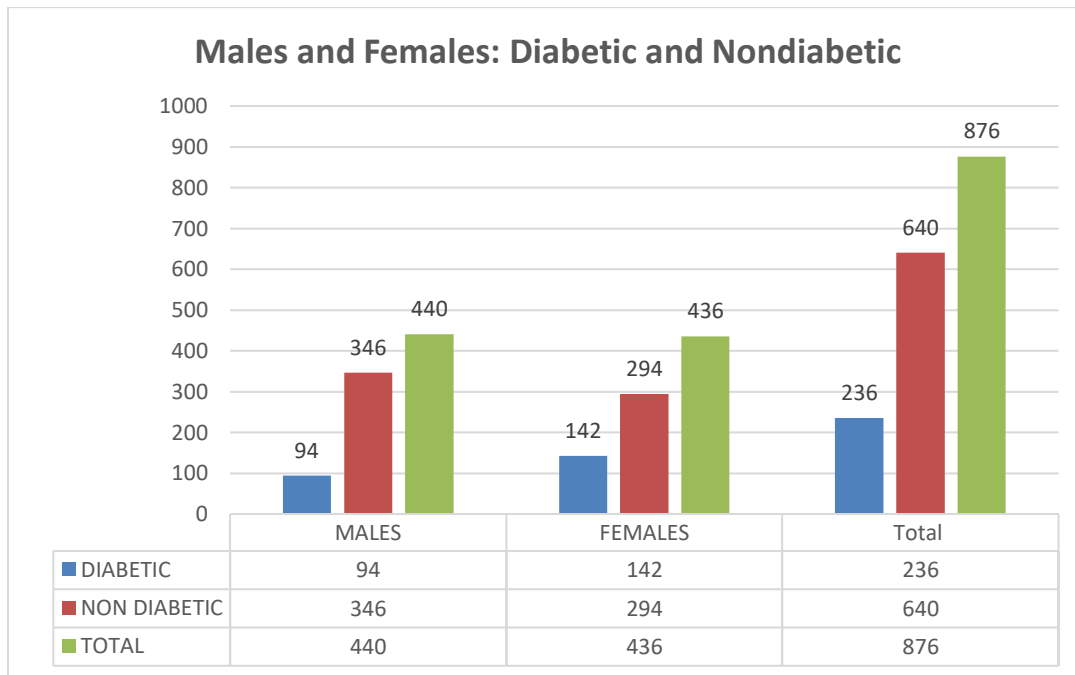
RBS values, age and gender of the patients were collected from the camp register for a period of one year. An operational definition of RBS glucometer values of >200 mg/dl was defined as having diabetes. This was done by referring Mayo Clinic criteria to diagnose patients as diabetic when RBS levels were 200mg/dl or more.<sup>[8]</sup> Similarly, WHO mentions that RBS levels greater than 200mg/dl may be used as a screening tool for diagnosis of diabetes.<sup>[9]</sup> The American Diabetic Association also states that if a patient presents with classic symptoms of Hyperglycemia with a RBS level value greater than 200mg/dl is defined to be having Diabetes.<sup>[10]</sup> Data obtained was entered into excel sheets and then statically analyzed using SPSS ver.20 software.

## RESULTS

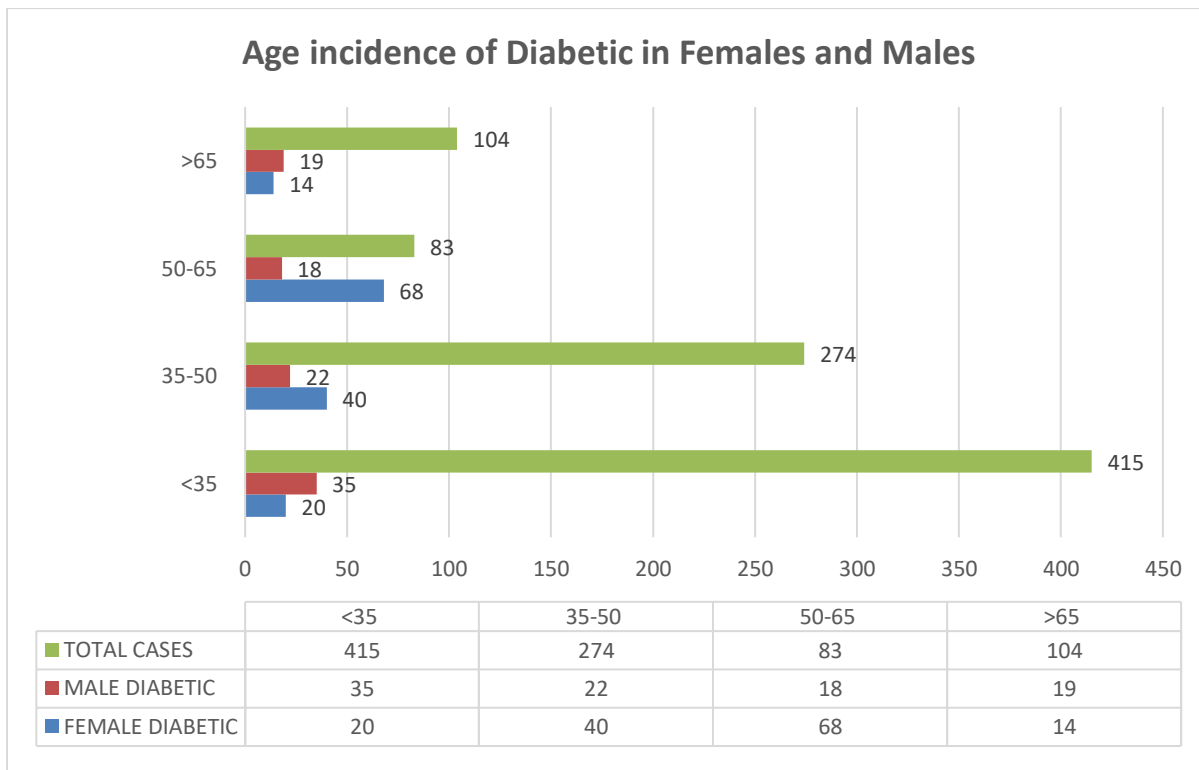
In the current cross sectional record based study data was collected from 876 adults who had attended various medical camps at different places in Navi Mumbai organized by a tertiary care centre over a period of one year. Out of these 876 individuals 440 were males (50.22%) and 436 were females (49.77%). Out of 440 males 94 (21.36%) individuals had blood sugar levels greater than 200mg/dl. Out of 436 females 142 (32.5 %) had blood sugar levels greater than 200mg/dl. 28 (29.78%) out of 94 males were newly diagnosed with diabetes. 42 (29.57 %) out of 142 females were newly diagnosed with Diabetes. The overall prevalence of Diabetes was 26.94%. The prevalence for males was 21.36 %, whilst the prevalence for females was 32.5%. The maximum number of Diabetic patients in females were found to be in the age group of 50 to 65 years. The maximum number of Diabetic patients in males were found to be in the age group of less than 35 years. The prevalence for newly detected diabetes was 29.6 %. Of the 70 newly detected cases, 42 were females and 28 were males. In females the maximum number of patients with newly detected Diabetes were in age group of 35-50 years. In males the maximum number of patients with newly detected Diabetes were in age group 35-50 years.



**Figure 1: Sex wise distribution of Diabetic patients in Females and Males**

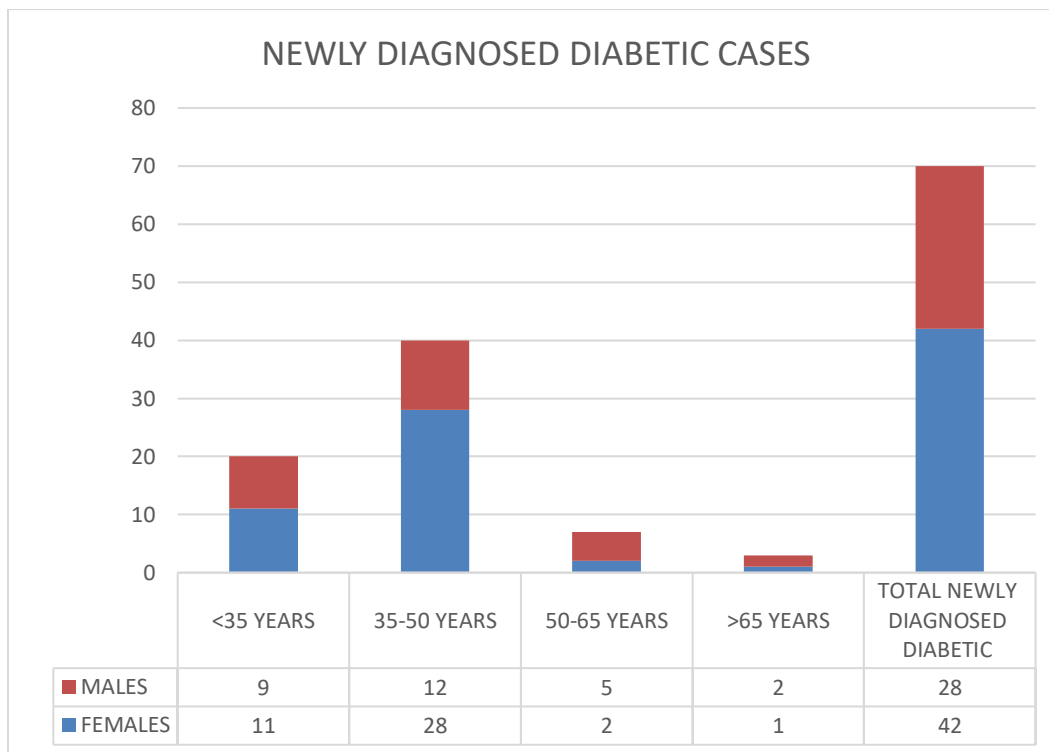


**Figure 2: Age wise distribution of Diabetic patients in Females and Males**





**Figure 3: Age and Sex wise distribution of Newly Diagnosed Diabetic Cases**



## DISCUSSION

This cross sectional record based study was carried out to assess the prevalence of Diabetes in the Navi Mumbai Population. There are various National Programmes being run in India to prevent and control diabetes, cardiovascular diseases, stroke as well as cancer, and RBS can be used as a screening tool for diabetes under the umbrella of these National Programmes.<sup>[11]</sup> The major advantage of doing RBS with a Glucometer is that it can be used in camp screening where large numbers of patients are attending camps and the time, and skilled manpower required to collect blood from veins can be saved as RBS can be done by a layperson also.<sup>[12]</sup>

The prevalence of Diabetes found in our study was 26.94 %, which is more than the prevalence reported by various studies carried out in metropolitan cities.<sup>[13,14]</sup> The prevalence of Diabetes ranges from 8-18 % in individuals age group greater than 20 years in various studies which have been carried out in large in metropolitan cities in India (Mumbai, Delhi, Calcutta, Chennai, Bangalore, and Hyderabad).<sup>[13,14]</sup> This is worth worrying and indicates the need of more screening for early diagnosis. As the duration of Diabetes increases beyond 10 years it becomes more difficult to control diabetes and conditions of these patients becomes worse.<sup>[14,15]</sup> Thus, making timely detection and intervention a crucial step in reducing diabetes burden in India.

In our study we found the prevalence of Diabetes was higher in females (32.5 %) as compared to males (21.3 %). This is similar to study conducted by Singh P S *et al.* who also found

a higher prevalence in females as compared to males.<sup>[16]</sup> This is also similar to the findings of Ahmad *et al.* who also showed that prevalence of diabetes was higher in females.<sup>[17]</sup> The reason for the higher prevalence in females could be that females do not prioritize their health and tend to neglect their health or do not go to a physician even if they are suffering from health issues.

The current study found that the prevalence for newly detected diabetes was 29.6% which is similar to the study conducted by Singh PS *et al.* wherein they found the newly detected diabetes prevalence to be 35.77%.<sup>[16]</sup> Of the newly diagnosed diabetic cases, more were females and were in the age group of 35-50 years. The reason could be that in this age group, majority of the females have had their responsibilities of rearing children and looking after family-done so that they may start focusing on their own wellbeing and health and hence, turn up to such type of community screening checkups frequently.

The overall higher prevalence in our study could be because it was conducted in a metropolitan area like Navi Mumbai that witnesses a stressful lifestyle due to rapid urbanization. Less physical activity, stress for cost of living and sustaining life in big cities as expenses are more for a living could be triggering factors. Similar findings were also observed in Maharashtra by Patil and Gothankar. They observed prevalence of 36.55% and key factors that played a role were, socioeconomic class, less physical activity, and high waist

circumference.<sup>[18]</sup> The IDF has estimated that almost 52.1 % of all people with diabetes are unaware that they have diabetes and



hence, here comes the role of proper screening, health education, robust community-based screening and awareness for diabetes.<sup>[19]</sup>

## LIMITATIONS

The study was conducted on individuals attending health camps in Navi Mumbai, hence the findings may not be valid for general population. Also the diagnostic criteria used was Random Blood Sugar Level (>200 mg/dl) by glucometer in patients presenting with classic symptoms of hyperglycemia which is not sufficient for Diagnosis but can surely and effectively be used as a screening tool.

## CONCLUSION

A robust screening programme should be initiated and encouraged for early diagnosis of diabetes and prevention of complications. Apart from early diagnosis of Diabetes and Prediabetes, camps can be used as effective tools to educate the masses about diet regimen, glucose monitoring at home, regular eye checkups, care of non-healing wounds and ulcers and various complications, associated with Diabetes. Medical camps can serve and bridge the gap between early diagnosis and treatment of Diabetes. RBS by glucometer is a cost effective test that can be used for mass screening of Prediabetes and Diabetes in camps. As Diabetes can lead to various complications such camps can be effectively used for screening, diagnosis and initiation of treatment and thus, help can reduce the burden of Diabetes in India.

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# EMERGENCE & GROWTH OF E-BANKING IN INDIA: A COMPREHENSIVE OVERVIEW

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## ABSTRACT

*E-banking, sometimes referred to as digital banking, internet banking, or online banking, is a system that makes it possible to conduct financial activities online, such as money transfers, loan and EMI payments, cash deposits, and cash withdrawals. In today's world, e-banking makes a significant impact to economic growth, especially in emerging nations like India. The focus of banks has changed from conventional banking to the digital banking system. In order to provide their clients with higher-quality services, banks are implementing a variety of strategies and electronic channels. A variety of e-banking methods, including ATMs, debit/credit cards, e-wallets, USSD, NEFT, RTGS, IMPS, UPI etc. are available to quickly and efficiently perform financial transactions. The Indian government has implemented a number of successful measures to encourage electronic banking. The RBI has also established goals to increase the usage of e-banking and cashless transactions in society. The goal of the current study is to examine the development and trend of e-banking methods, particularly with regard to the financial year 2017-2018 to 2021-2022. This study's research method made use of secondary data from online databases of books, academic papers, and relevant articles about e-banking.*

**KEYWORDS:** *E-banking, Digital banking, Cashless transactions, Economic growth.*

## INTRODUCTION

India's banking industry has come a long way. Customers demand innovative products and services. Customers can profit greatly from e-banking by using features like digital access to bank accounts, online financial transfers, online bill payment, etc. The face of banking has evolved as a result of competition, ongoing technological advancements, and changing lifestyles. In the current market, banks are searching for fresh approaches to offer and differentiate themselves from the competitors. Customers no longer want to wait in line at banks or on hold for the most basic services, whether they are corporate or retail. They expect and require the opportunity to carry out their monetary transactions wherever and whenever they desire. With the number of computers growing annually, banks are increasingly finding that providing financial services electronically is the best way to satisfy their customers' needs. Debit cards, credit cards, ATMs, e-wallets, internet banking, UPI, mobile banking, and other choices are now available to customers in place of more conventional methods of transaction. Cheques were the primary means of payment for a long time before technological advancements occurred, and earlier electronic payments could only be sent in large lump sums for high value transactions. Through e-banking, even little payments are now simpler, making it easier for consumers to settle their payments.

## MODES OF E-BANKING

i. **ATM (Automated Teller Machine):** The user-friendly, computer-driven ATM is open twenty-four hours a day, seven days a week. It is entirely menu-driven and provides customers with step-by-step instructions on

how to use it. A customer can use his ATM card to enter the ATM room and his Personal Identification Number (PIN) to carry out the several transactions, including cash withdrawals and deposits, payment services, user login, receipt of transaction summaries, PIN alteration requests, and updates to personal data. Most ATMs have four output sections and two input sections. Card readers and keypads are input devices, and screens, receipt printers, cash processors, and speakers are output devices.

ii. **Debit or Credit card:** A plastic card called a debit card is utilized as an additional means of payment while making transactions. It functions similarly to an electronic check when money is taken out of an account. A debit card can be used to make ATM withdrawals as well. To secure a debit card payment, a PIN number is utilized. Every user can easily obtain a debit card from the banks, and the card has a transaction threshold of the account balance. Third parties can readily accept it, and there are no additional fees for debit card purchases. The credit card, on the other hand, is a plastic card that the bank issues to the account holder for use in making purchases of goods and services over the outstanding balance. The customer is assigned a credit limit by the issuing bank. For the client, it is equivalent to a cash advance. It functions as a debit card for all transactions, but it also gives the user the option to check the balance of their account. For payments made in excess of the account balance, the bank assesses interest. When making a transaction, the cardholder authorizes payment by signing on the receipt with their card information and paying the balance using their security code. To benefit



from all credit card benefits, the customer must pay their credit card payments to banks. Customers may also use grace days to settle their invoices.

- iii. **BHIM App:** Bharat Interface for Money app uses UPI as its foundation. It was created by National Payment Corporation of India. It is utilized for quick, straightforward, and cheap money transfers between bank accounts. Without placing the money in a wallet, payments can be made using this application. To begin using the service, connect a debit card to the app. The money transfers interface is simple and convenient to use.
- iv. **NEFT (National Electronic Fund Transfer):** The RBI oversees this electronic payment mechanism. It was founded in November of 2005. Customers can electronically transfer money from one bank to another by using NEFT, but both banks must support the service. It makes the transmission of funds in batches every six months simpler. There is no upper or lower bound for transferring funds. An electronic message is used for the transfer.
- v. **RTGS (Real Time Gross Settlement):** Real time gross settlement is described as executing the transaction as soon as directions are received, as opposed to waiting until later in the day. Gross settlement is the term used to describe the settling of funds transfers based on unique instructions. Money transmitted via RTGS is registered by the RBI, making it a definitive transfer that the transferor cannot reverse. There is no specified max transfer limit; the min limit is 200000 rupees. The bank offers RTGS service during all business days and hours. According to RBI guidelines, the beneficiary's account in RTGS must be credited within 30 minutes of receiving the notice for the money transfer. As a result, it transfers the money as soon as the sending bank sends the transfer request. It truly is a quick method of transferring funds.
- vi. **IMPS (Immediate payment service):** In India, it is a real-time, instant interbank electronic money transfer mechanism. National Payment Corporation of India oversees the regulation of IMPS. Mobile phones are utilized to access this service, which is open twenty-four hours a day. Even on major holidays, this service is offered year-round. Using the account number and IFSC code, IMPS can also be completed through online banking.
- vii. **USSD:** Unstructured supplementary service data is referred to as USSD. It is a mechanism that GSM cell phone is used to interact with service providers' computers. Prepaid services, mobile money assistance, and menu-based data services can all be utilized for this, as well as to solve phone network issues. A phone number is dialed for the USSD service, and the response is shown on the phone's screen or relayed as a voice message by a computer. This method takes only a few seconds, but it takes many minutes to solve other issues.
- viii. **ECS (Electronic clearing services):** It is an electronic method of transferring money from one bank account to another that makes use of clearing house facilities. There are two different types of ECS:

- ECS debit: Amounts paid into one account from many accounts, such as house taxes, water taxes, bills, etc.
- ECS credit: By using ECS, organizations can carry out their high-volume transactions without forgetting or missing the deadlines. Amounts transmitted from one account to another as dividends, interest, remunerations, or pensions are accepted.

## LITERATURE REVIEW

**Dr. Shankara Patali Y (2014)** outlined today's banks operate differently as a result of advancements in technology, competitiveness, and lifestyles. Since consumers no longer need to travel to the bank in person, e-banking allows them to save time & expense. Every bank is aware that in order to exist, they must provide their consumers some form of e-banking. Because clients engage more with offered services when using e-banking, banks are better able to sustain their relationship with customers. It also boosts bank revenues and makes it simple for them to establish a competitive edge through the uniqueness of their banking services, which enhances their reputation.

**S. Jothi et.al (2015)** in their study showed that customers' perceptions of e-banking are significantly influenced by security and customer satisfaction. In this study, young people viewed e-banking favorably, whereas older clients struggled to keep up with technology. Banks should therefore improve their services to meet the needs of both young and senior consumers. E-banking services should be developed taking into account the needs and challenges of utilizing e-banking for those with low educational backgrounds. People from all walks of life and professions require varied e-banking service characteristics. Expected service features would foster an environment where customers would feel more satisfied and their needs would be met. Banks should therefore develop their online banking services to meet the needs of various business, professional, and income groups.

**Reeta & Manju Asht (2016)** stated although Indian banks are making sincere efforts to adopt cutting-edge technology and install e-delivery channels, the general public is still sceptical of the idea, and there are still many problems concerning the safety and confidentiality of money and relevant data. As a result, banks should make some special provisions to guarantee the complete security of their customers' funds. Technical errors should be prevented by using qualified and experienced experts in the field of computers to prevent data loss. E-banking services should be tailored based on factors like age, gender, occupation, and others so that people's demands and requirements can be addressed properly.

**T. Selvakumar (2017)** concluded that Indian banks are transforming their conventional appearance and moving toward digital banking. A positive transformation has occurred in the banking sector as a result of IT advancement. They are attempting to use information technology for banking operations and provide their clients banking goods and services that are based on technology. Indian banks are working to unify their services and products into a single location for its consumers, but in comparison, private and foreign banks operating in the Indian economy are more modernized and offer a wider range of digital services.



**Suhas, D. & H. N. Ramesh (2018)** discussed that with the aid of digitalization, we are edging closer to a cashless world, which will improve performance of the banks. Now that banks are aware that a financial system cannot succeed without information technology, the banking sector's contribution to the economy has increased. With the use of electronic banking, all banking services may now be handled swiftly and conveniently. We can see the development in recent years in the installation of ATMs, the issuance of debit and credit cards, NEFT, RTGS, and mobile banking.

**B. Bhelly & Dr. Sunil (2019)** explained that the sector is transitioning from a seller's market to a buyer's market, and it has finally had an impact on bankers, who have had to adjust their strategies from "traditional banking to convenience banking" and "mass banking to class banking." In the future, e-banking will not only be a preferred method of banking, but also an accepted method. Since the banks that operate globally have identified electronic banking as one of the key strategies for future development, it is evident that electronic banking is gaining ground in newly industrialized countries. With a focus on developing countries, it may be possible to capitalize on opportunities associated to electronic banking channels.

**S. Ranjith (2019)** observed that E-banking services need to be user-friendly, rapid, simple, quick to access, and convenient. Even if there are numerous obstacles and problems in the way of India's E-Banking system's seamless adoption, E-banking certainly has a promising future because most customers use the E-Banking facility to make payments, shop, and other activities, younger generation has already accustomed to this transition and sees it more as an advantage than a difficulty.

**R. Aggarwal & S. Aggarwal (2020)** stated that the banking business has seen a significant beneficial transformation thanks to technological innovation. It makes it possible for anybody, anywhere to conduct financial transactions at any time. With

only one click, a user can now pay and collect money from any location. Only e-banking makes international commercial transactions viable in this era of globalization. Debit/credit cards, digital cash, mobile banking, EFT, UPI, e-wallets, NEFT, RTGS, IMPS, and other methods are accessible for both normal transactions and financial transfers. It offers banks and clients both ease of use, portability, speed, and convenience. E-tax and DEMAT accounts make it simple to access transactions in the tax and securities industries.

**Anil Smriti & Rajesh Kumar (2021)** discussed that E-banking will not only be a preferred method of banking in India in the next years, but also an accepted method. Compared to public sector banks, private sector banks account for a larger share of the POS terminal market. Mobile wallets are primarily used in the country to pay for prepaid means of payment. With the accessibility of digital channels, the Government of India and several government organizations are working to increase the safety, security, and dependability of e-banking.

### OBJECTIVES OF THE STUDY

- To recognize different e-banking services and products used by Indian banks.
- To give an insight and evaluate the usage of technology in the Indian banking sector.
- To investigate types, growth or progress and scope of e-banking services in Indian banking sector.

### RESEARCH METHODOLOGY

The current study is purely descriptive. The secondary data used for the study was gathered from the Reserve Bank of India's bulletin, annual reports, Report on Trend and Progress of Banking in India, as well as a number of reputable journals, newspapers, white papers, and RBI websites.

### DATA ANALYSIS & INTERPRETATION

**Table 1: Total no. of outstanding cards (Debit/Credit) at the end of the financial year**

No. of outstanding cards	As on 31.03.2018	As on 31.03.2019	As on 31.03.2020	As on 31.03.2021	As on 31.03.2022
Debit Card	861076200	905813162	828561639	898201796	917665707
Credit Card	37484955	47088647	57745105	62049087	73627330

(Source: RBI Annual reports)

The number of outstanding cards at the end of the financial year is shown in Table 1. In terms of debit cards, there is an increase in 2019 but a decrease in the number in 2020; nevertheless, after that, we can observe a steady increase in the following years. In

terms of credit cards, there is a consistent increasing trend. Table 1 is depicted graphically in Fig 1.

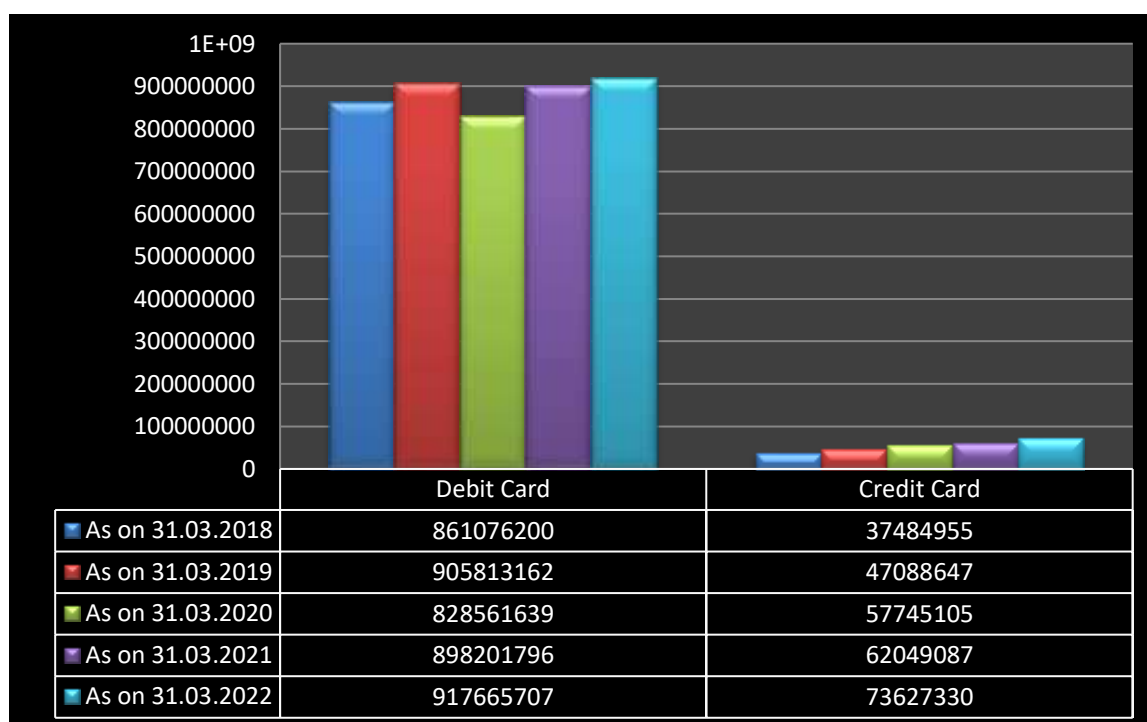


Figure 1: Outstanding no. of debit and credit card as on end of the financial year

Table 2: E-Banking Statistics from Financial Year 2017-18 to 2021-22:

E-banking Services	Financial Year 2017-18		Financial Year 2018-19		Financial Year 2019-20		Financial Year 2020-21		Financial Year 2021-22	
	Volume (in Mn)	Value (in Bn)	Volume (in Mn)	Value (in Bn)	Volume (in Mn)	Value (in Bn)	Volume (in Mn)	Value (in Bn)	Volume (in Mn)	Value (in Bn)
NACH	2375.33	9752.88	2861.38	13383.60	3401.77	17629.99	3626.20	19032.78	3821.96	21724.55
IMPS	1009.84	8924.98	1752.91	15902.57	2579.17	23375.41	3278.34	29414.96	4659.70	41686.46
UPI	915.23	1098.32	5353.40	8769.70	12518.62	21317.30	23330.65	41036.54	45967.52	84175.72
RTGS	124.46	1167124.78	136.63	1356881.87	150.7	1311573.17	159.2	1055998.49	206.24	1275076.57
NEFT	1946.18	172228.55	2318.85	227936.03	2744.37	208178.05	3092.79	251309.10	4040.73	268374.69
Mobile Banking	1872.27	14738.52	6200.15	29583.26	13926.27	57815.15	25545	91757.92	50815.30	149915.02
ATM Cash Withdrawal	3503.44	13357.49	4017.41	15125.62	4311.59	16150.98	3661.67	14979.84	3791.86	15753.94
Card Usage (POS)	459.55	488.23	695.02	808.23	822.59	1146.81	701.99	1169.38	843.90	1487.12
Card Usage (eCom)	208.11	166.09	432.06	366.90	658.13	610.40	679.68	926.72	672.46	965.92

(Source: RBI Annual reports)

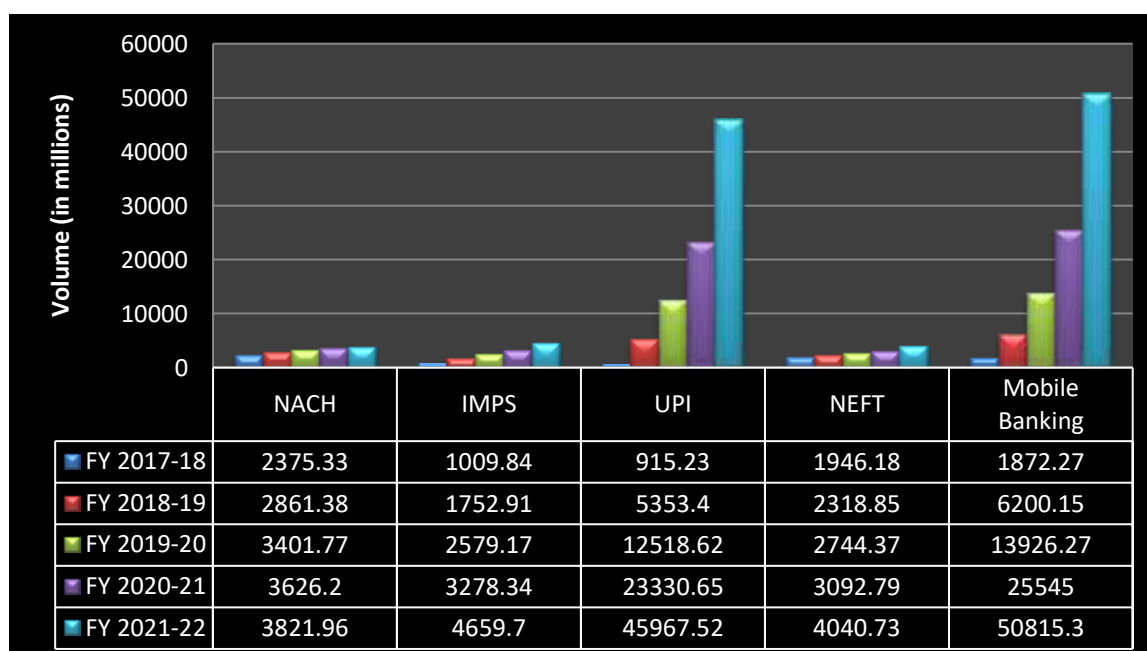


Figure 2: Volume of NACH, IMPS, UPI, NEFT & Mobile Banking from financial year 2017-18 to 2021-22

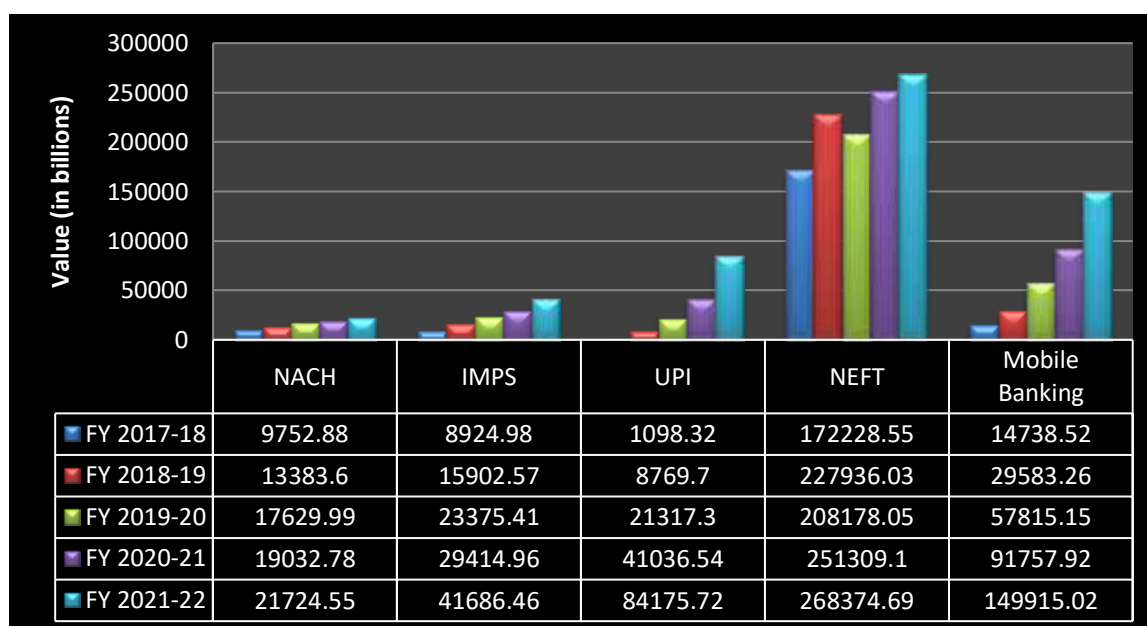


Figure 3: Value of NACH, IMPS, UPI, NEFT & Mobile Banking from financial year 2017-18 to 2021-22

The volume and value of NACH, IMPS, UPI, NEFT & Mobile Banking are displayed in Table 2 and are depicted in graphical form in Fig 2 & 3 respectively. The volume and value of NEFT

and NACH all exhibit a steady rising trend. But in the case of UPI, IMPS and mobile banking, the volume & value consistently exhibit a rapid increase tendency.

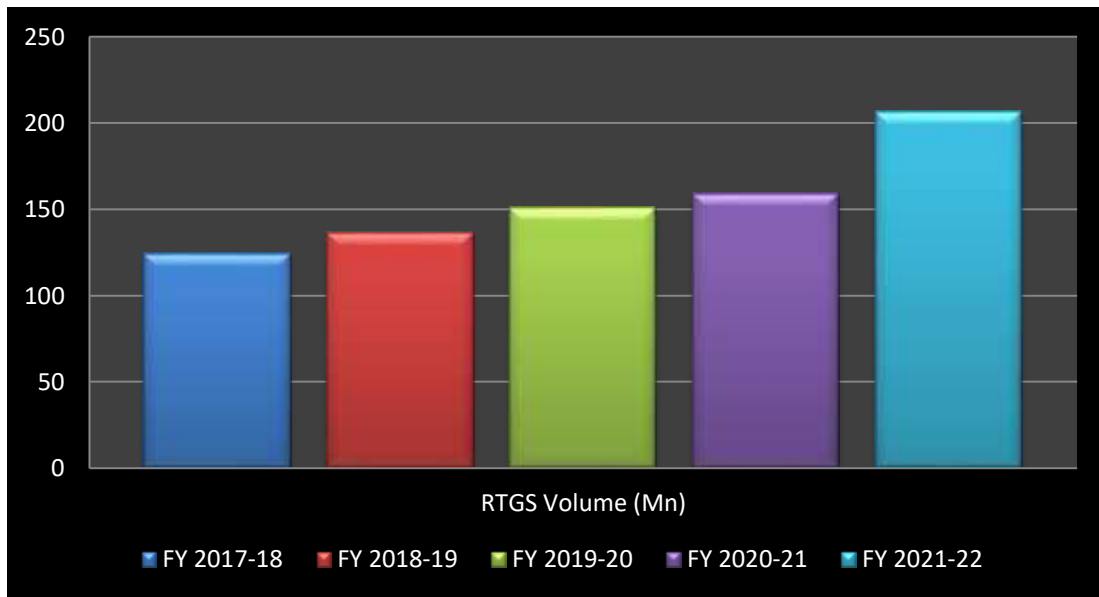


Figure 4: Volume of RTGS from financial year 2017-18 to 2021-22

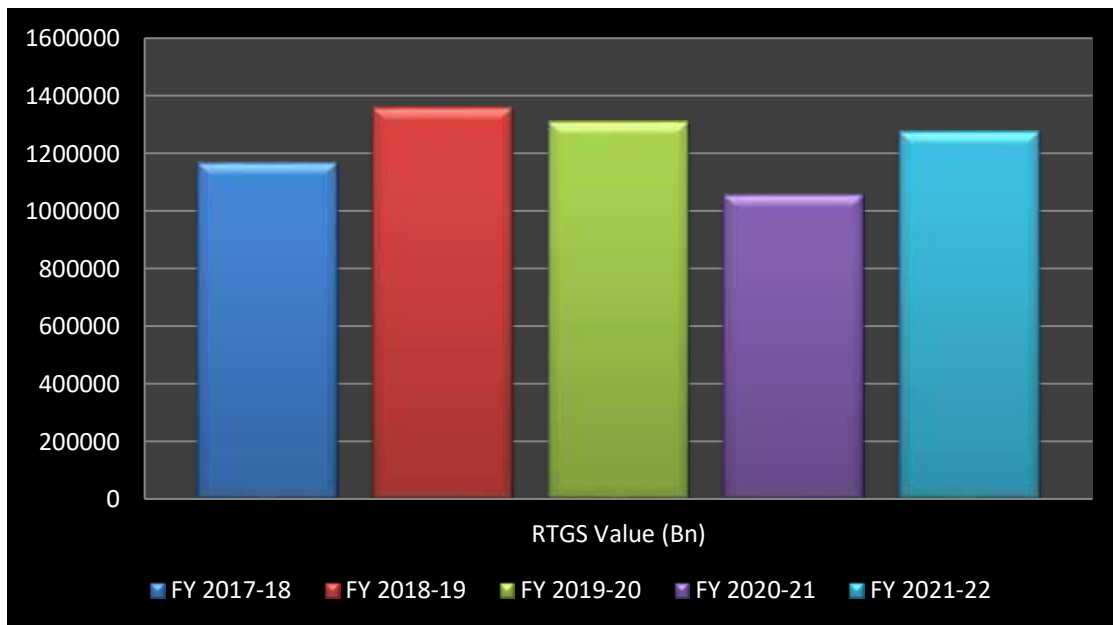


Figure 5: Value of RTGS from financial year 2017-18 to 2021-22

Table 2 lists the RTGS volume and value, which are represented graphically in Figs. 4 and 5 accordingly. The volume of RTGS is increasing each financial year; however, the trend for the value of RTGS is not stable. It is rising in the financial year

2018–19, declining in 2019–20 and 2020–21, and then rising once again in 2021–2022. So, the value of RTGS is showing a dynamic trend whereas volume is showing a steady upward trend.



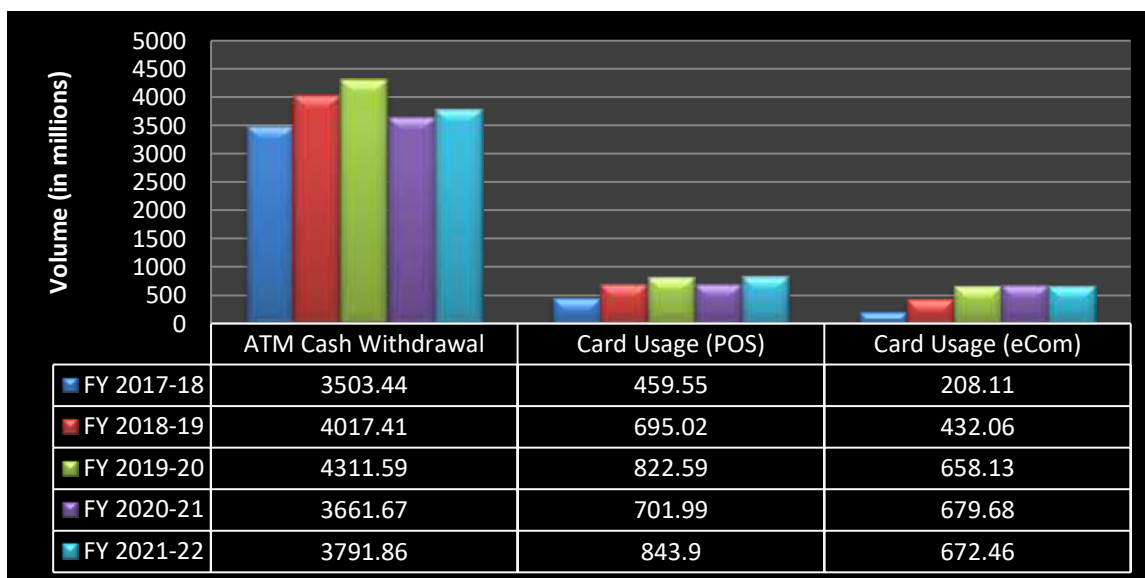


Figure 6: Volume of ATM cash withdrawals, Card usage (POS & e-Com) from financial year 2017-18 to 2021-22

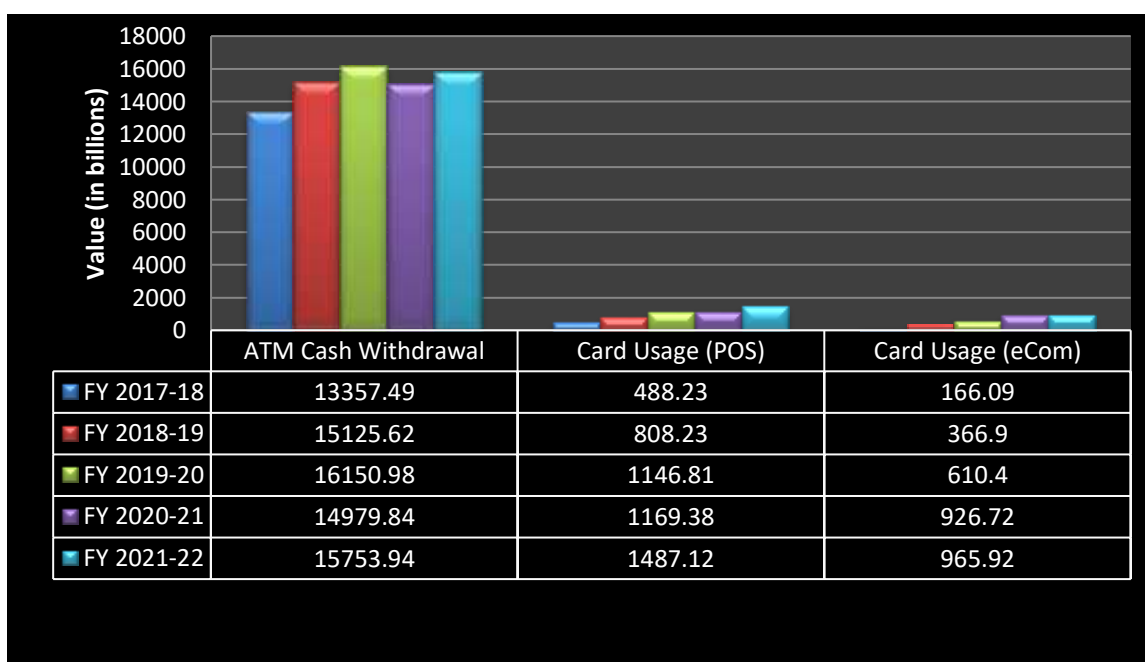


Figure 7: Value of ATM cash withdrawals, Card usage (POS & eCom) from financial year 2017-18 to 2021-22

The volume and value of ATM cash withdrawals, Card usage (POS) & Card usage (eCom) are shown in Table 2 & are represented graphically in Fig 6 & 7. The data demonstrates that the volume & value of ATM cash withdrawals are increasing in the first two financial years, but in financial year 2020-21 it is falling and again rising in financial year 2021-22, exhibiting a dynamic trend. However, the volume of card usage (POS) almost shows a positive upward trend in all the financial years except in 2020-21 whereas card usage (eCom) shows a similar trend but it is falling in the financial year 2021-22. A consistent upward growing trend has been seen for both the values of card usage i.e., POS & eCom.

## CONCLUSION

E-banking is a rapidly expanding idea in the banking industry. The banking business has seen a significant beneficial transformation due to technological innovation. It makes it possible for anybody, anywhere to conduct financial transactions at any moment. It helps the user save time and resources while ensuring transaction accuracy. With only one click, a user can now send and collect money from any location. Only e-banking makes international commercial transactions viable in this era of globalization. Debit/credit cards, IMPS, mobile banking, NEFT, RTGS, UPI, e-wallets, IMPS, and other methods are accessible for both everyday transactions and financial transfers. It offers banks and clients both ease of use, accessibility, efficiency, and safety. In comparison to other e-banking choices; UPI, IMPS, Mobile banking, and card usage



are all growing tremendously each year, according to RBI data releases. There is not significant increase in ATM cash withdrawals so it indicates users prefer cashless transactions now-a-days. The government is now promoting e-banking, and appropriate rules have been established for the security of financial transactions. E-banking is growing rapidly in India as a result of all these benefits. Digital transactions have quickly superseded cash transactions.

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# QR CODE BASED SYSTEM FOR CONTROLLING LIGHT USING IOT

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## ABSTRACT

*The term Home Automation refers to the automatic control of household features activity and appliances. It means this features of activity are controlled by using internet to make life more convenient. It is a set of hardware electronic and communication that work to integrate devices with one another by the use of internet. This paper describes a smart home automation system with the help of QR codes. QR Code has been used to switch “on” and “off” the light bulb by using mobile scanner application. A Mobile Scanner application has been designed for this project to scan QR codes, and this application has been designed for android mobile. The NodeMCU has been used to control the light bulb. After scanning QR code the Android application sent the command to web based application. NodeMCU is already connected with the internet and fetching command in real time with web based application. The two types of commands are used with the help of programming I.e. on and off. So what type of command has been received by NodeMCU, depending upon what type of QR code has been scanned by the user. This system and project is very unique and can be easily process anywhere in the world while scanning the QR Code with develops secure application.*

**KEYWORDS:** *IoT, QR Codes, Automation System*

## I. INTRODUCTION

IOT is called internet-of-things which is a system that connects with the internet. Today's time is of the Internet and it is spread all over the world. In today's time all People use the Internet. People's use of the Internet is called the Internet of Humans and the devices that communicate with the Internet are called Internet of Things. In other words internet-of-things can also be called that whatever physical devices are there, if they share and communicate their data with internet they are called internet of things. Along with sharing the data, these physical devices can also collect their data by using the Internet. By using IOT, anyone who works in their daily life can control all those things such as Smart Watches, Mobile Phone, Fan, Tube, TV etc. [1][2]. To connect all these things together, a physical device are needed, that physical devices connects with the internet. So talking about today's time, the use of IOT in today's time is being used in big industries and also being used in schools and colleges. The human life becomes very easier by the coming the concept of IoT. All the things like to Fan, Tube, TV etc. are easily control by the mobile phones. Suppose if we are outside the house we can use our mobile to turn “on” and “off” all the lights of our house. There are many benefits of IoT as well but along with it also has some disadvantages. If the Physical devices have to work in a proper way, then they will have to be connected with the internet, if the physical devices are not connected with this internet, then system will not be able to work. So all these physical devices need internet to work [3][4].

## II. METHODOLOGY

This paper describes a smart home automation system with the help of QR codes. QR Code has been used to switch “on” and “off” the light bulb by using mobile scanner

application. The basic design and development of this project has been divided into two parts the first is Hardware Architecture and second is software Architecture. In hardware part design of this project is constructed, while for this software part a complete development of this project is operated by using a programming code.

### a. Hardware Architecture

#### NodeMCU

NodeMCU is an open-source platform used for IoT. It has a chip of esp8266. So basically it's WIFI module. It is type of module that is used to connect the with IOT sensors. Any type of sensor can be connected with NodeMCU. It comes under in a different versions like 0.9 and 1.0. It has widely used for the many applications of IoT. It contains a lot of pins and these pins are used for connecting the sensors. It can easily operates under the voltage of 5 volts and 3.3 volt [5][6]. For the connection of analogue and digital Pins, it has only one analogue pin. The Image of NodeMCU as shown in figure 1.



**Figure 1: Image of NodeMCU**

### Working of NodeMCU

NodeMCU can be easily programmed with the help of arduino IDE software. A simple Micro USB cable is required for the power to NodeMCU. Arduino IDE software has been used to program to this module with the help of ESP 8266 library. So the job of NodeMcu is that it's Wi-Fi module that is connected to the internet, without internet it can't work. For example, if we have connected the light of the house with NodeMCU. With the help of mobile, it can turn that light "on" and "off". When you turn on the light on the mobile, the signal will go to the server. The server that will be connected with NodeMCU, then with the help of this NodeMCU will turn off the light.

### Relay Module

Relay module is an electrical switch it has been used for the many applications of IOT and also being used for general purpose. It has many types like single, Two, Four channel etc. by depending upon the type of use. The input voltage of this module ranges from 0 to 10 volt. Relay module has both input and output terminals. It has been applicable for both AC and DC load and it has generally six pins. For the working of relay module it consists of electric current to open and close the contacts. These contacts are control by the switch with the help coil. This coil attracts the contacts of switch and pulls them together when activated and small spring inside in this module pushes them apart when the coil is not excited. The image of relay module as shown in figure 2.



Figure 2: Image of Relay Module

### Connecting Wires

Connecting wires are the wires which have been used for the connections of Electrical equipment and Small sensors.

### Light Bulb

A general purpose light bulb has been used for this project. It is a type of light bulb in which, filament off the light when heated to Incandescence by an electric current passes through it. Image of light bulb has been used in research has shown in figure 3.



Figure 3: Image of light bulb placed on the wall

### b. Software Architecture

#### Arduino IDE

Arduino IDE is an open source software programming software used to control controllers. it supports C language and also provides many libraries for different types of controller boards. After written the programming code in Arduino IDE, then this programming code loaded into board by using micro USB. The layout of this Arduino IDE as shown in figure 4.

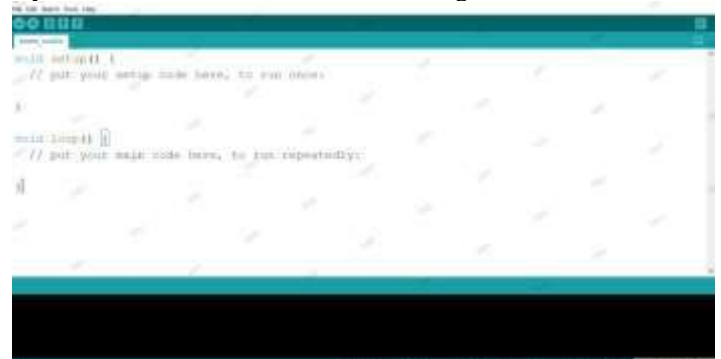


Figure 4: Layout of Arduino IDE

#### Android Application

Android application has been designed for this project. This Android application has been designed using MIT app inventor and size of this application is a size of only 2 MB. The basic purpose of this Android application is to scan the QR code and transmit the signal to web based application. Figure 5 shown developed Android application to scan QR code.

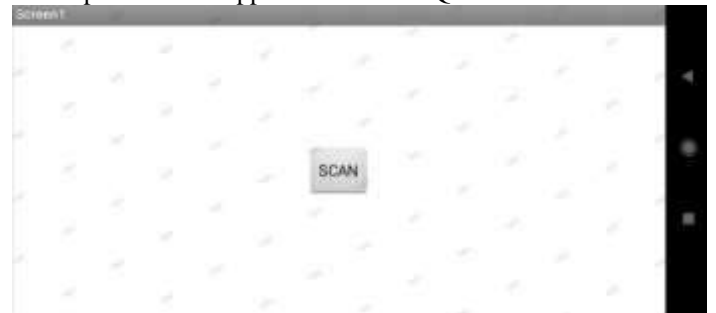


Figure 5: Layout of Android application to scan QR code by tapping SCAN button

#### QR Codes

The two QR code has been made to switch "on" and "off" the light by using online local website. After generating the QR code, the print has been taken out for both "on" and "off". Figure 6 shown, QR codes has been used in research and the flowchart of this project and show in figure 7.



Figure 6: QR Codes placed on wall

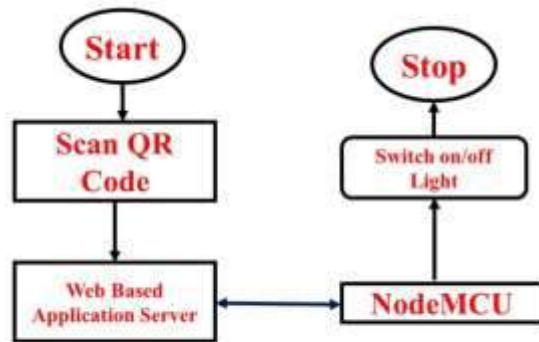


Figure 7: Flowchart

### III. RESEARCH WORK

The system includes NodeMCU, Relay Module, light bulb, Android application and QR codes. The block diagram of this system and show in figure 8. The NodeMCU has been connected with light bulb and relay module. It's can easily operate with the voltage of 5v and battery has been used to power supply to NodeMCU. Voltage has been applied to this wife module between 5v to 10v. It has been compiled by using Arduino IDE. QR codes are scan by using an android application. This android application is connected with a web based application. Google sheet has been used as a web based application. After scanning QR code the android application sent the command to Google sheet. Node MCU is already connected with the internet and fetching command in real time from Google sheet. The two types of commands are used with the help of programming I.e. "on" and "off". So what type of command has been received by NodeMCU, depending upon what type of QR code has been scanned.

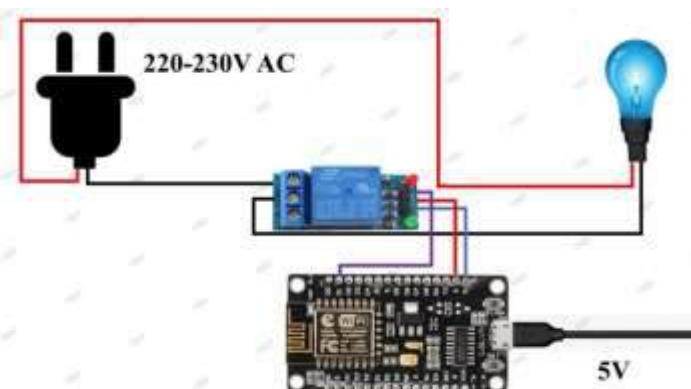


Figure 8: Block diagram of the system

### IV. CONCLUSION

Scanning the QR code and control the light by using IoT makes this research is very unique, secure and suitable for daily life. Nowadays the lights can be easily control with the help of IoT based technology anywhere in the world. But sometimes this technology gives many limitations. But the research as a shown in this paper makes this IoT Technology more secure and convenient. Because for scanning of code requires an android application, that is connected with the based application server, and NodeMCU is already connected with web based application server with the help of internet. This research project and system is suitable for all classrooms, households, hotels, offices and building etc. Finally the main advantage of this system is very easy to use, low cost, unique and Secure. For future research, more QR codes can be used with the help of IoT to make the research uniquely and secure for human life.

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# HI-TECH VEGETABLE FARMING IN KERALA: BETWEEN PROSPECTS AND CHALLENGES

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## ABSTRACT

*As a consumer-based economy, Kerala must rely on imports for a large portion of its food supply. The state frequently looks to its neighbouring states, Karnataka and Tamil Nadu, to meet its vegetable needs. However, chemical pesticide residue was found on most of the imported vegetables from these states. In 2009–10, the state began implementing high-tech vegetable farming in order to produce safe-to-eat products and to overcome various hurdles of conventional vegetable cultivation. In its early stages, the venture was wildly successful, rapidly expanding to all regions. By the following year, 2013–2014, growth in the number of newly established farms had slowed. The main reasons for the failure of the endeavour were the presence of pests and plant diseases, the decreased price of the products, the lack of sufficient support from the government, and the decrease in output caused by the accumulation of moss and dust on the roofing sheets.*

**KEY WORDS:** *High-tech farming, Vegetable Cultivation, Greenhouses, Polyhouses*

## 1. INTRODUCTION

Vegetables were first grown in the fertile soil close to early settlements. The ever-increasing human population necessitated novel approaches to vegetable cultivation, which were eventually developed in order to meet the resulting enormous demand. Though there are other methods, the most common is still growing crops in an open field with soil. In addition, urban agriculture has led to the development of container gardening to compensate for the lack of fertile soil in pots and polybags. Protected greenhouse (GH) or polyhouse vegetable farming has become increasingly popular in recent years around the world. When compared to open fields, vegetable production was greatly boosted by the GHs (Sanwal et al., 2004). Over 115 countries now use the GH method of vegetable cultivation (Sabir & Singh, 2013). Despite its initial use in 1980, it has never been put to any practical purpose outside of research laboratories in India. Later, in 2012–13, the technology was used on 58,000 hectares across 30 states and union territories. Chhattisgarh, Gujarat, Maharashtra, Madhya Pradesh, and Uttar Pradesh are among the leading states adopting this method of farming (Saravayya et al., 2014). Kerala has recently decided to implement a GH system, especially for vegetable cultivation, due to a lack of arable land and the prevalence of small land holdings (98% of holdings).

Farmers were compelled to invest in GHs for vegetable farming due to the state's unique characteristics, including high input costs and a shortage of water and labour (Franco et al., 2018).

But the other unique aspects of the state necessitated the use of the GH system in vegetable cultivation. It is estimated that the state spends around Rs. 1500 crore annually on vegetable imports from its neighbouring states. In 2012, the state only produced 22% of the needed vegetables (Verma, 2016). The state's goal was to increase vegetable production from 2016's 6.5 lakh tonnes to 9.5 lakh tonnes by 2018 (The New Indian Express, April 7, 2018). The average daily consumption of vegetables by Keralites is less than the recommended dose by the Indian Council of Medical Research (The Hindu, February 08, 2010). Even with imports, each person in the state could get about 290 grams of vegetables every day. This was less than the 400 grams per day that the World Health Organization recommends (except for potatoes and other starchy tubers).

Open-field vegetable cultivation is not feasible on a large scale in the state due to the long duration of the rains (typically between June and November). As a result, the cost of vegetables goes up during the wetter months and down during the warmer summer months. Revenue for farmers was consistently low because of the cobweb phenomenon, or the



inverse relationship between changes in output and changes in price. The only viable solution to the production and consumption issues is the greenhouse cultivation of vegetables. This article explores the potential and difficulties of growing vegetables using high-tech methods that shield crops from pests and severe weather.

## 2. RESEARCH PROBLEM

Vegetables are among the many necessities that the state of Kerala, a consumer market to the west of the Western Ghats, must import. The prolonged monsoon showers make it impossible to grow vegetables in open fields year-round. What's more, most of the imported vegetables from the neighbouring states had chemical pesticide residue. As a result, people are hesitant to consume enough vegetables to meet their nutritional needs. There are two major issues with vegetable production and consumption in the state. The first is that Kerala's unusual climate makes it impossible to grow vegetables year-round. The second is that people are not eating enough vegetables because they are concerned about possible chemical pesticide residues on imported vegetables. Therefore, experts have suggested greenhouse cultivation for protected vegetable growing, which simultaneously lessens the need for the use of harmful chemical pesticides and allows for year-round vegetable production. Greenhouse vegetable cultivation is common in many parts of the world and India, and in 2009-10, the state of Kerala introduced and promoted this method among farmers. After initially gaining traction, the method has since plateaued and begun to decline. Therefore, it's important to figure out what makes the state unique and what opportunities and challenges that brings for growing high-tech vegetable cultivation in greenhouses.

## 3. OBJECTIVES OF THE STUDY

1. To identify the factors which support greenhouse vegetable cultivation in the state of Kerala
2. To analyse the growth pattern of greenhouse vegetable cultivation in the state of Kerala.
3. To analyse the factors which create hurdles in the trajectory of greenhouse vegetable cultivation in the state of Kerala.

## 4. METHODOLOGY

The research in this article draws from a variety of sources, both primary and secondary. The secondary sources used to compile this analysis were written by a wide range of authors. The bulk of the primary information came from state agricultural departments. Inferences were drawn using tables, percentages, and ratios. Inferences were also drawn from a qualitative and descriptive analysis of greenhouse vegetable growers' experiences.

## 5. ANALYSIS AND DISCUSSION

Corresponding to the three objectives of this study the discussion is divided into three such as prospects, growth, and challenges of greenhouse vegetable farming in the state.

## Prospects of GH vegetable cultivation

**5.1. Deficiency in the production of vegetables:** Government-owned vegetable procurement agency Kerala Horticultural Products Development Corporation (Horticorp.) estimates that the state requires about 30 lakh tonnes of vegetables annually. However, even with this, Kerala is still only able to meet 40% of its needs with its own agricultural output. Other 60% comes from nearby states (Suchithra, 2015). Vegetable self-sufficiency and year-round access to fresh, high-quality produce are two benefits that could accrue from a state's efforts to encourage vegetable farming and establish an effective marketing infrastructure. A major barrier to the commercialized production of vegetables in the state is the small and uneconomical holding size. Due to population concentration and consequent land use constraints, there is little room for further development. Implementing intensive and scientific farming practices that maximize output per acre could help alleviate the situation. Both are achievable because of the technological advancements in farming made possible by GHs. More can be produced per acre of land and harvesting can occur throughout the year with this method. As a result, growing vegetables in Kerala is best accomplished through the GH method.

**5.2. Higher level of chemical pesticide residue in imported vegetables:** As mentioned earlier Kerala state imports around 60 percent of its required vegetables from neighbouring states such as Tamil Nadu and Karnataka. According to a report published by the Kerala Agriculture University (KAU), between July 2019 and September 2019, pesticide residues were found in 15.67 percent of samples collected from the market. Out of 531 samples collected at random from various markets in the state, 83 contained pesticides. In another study, pesticide residues were found in 14.99 percent of vegetables and 29.16 percent of fruits ("Pesticide Residue in Fruits and Veggies Coming Down," 2020). Without the growing awareness of pesticides and fertilizers, the import of vegetables from Tamil Nadu would have continued uninterrupted with minimal testing of chemicals. Numerous studies have linked pesticides to the growing incidence of cancer and other diseases in Kerala. Dr. VP Gangadharan, a renowned oncologist, said high levels of pesticide residues can cause cancer in two ways. One is the direct effect that leads to gastrointestinal cancer. Second, the indirect effect of disrupting hormone levels on breast and cervical cancer in women. "Every third woman who comes in for cancer treatment has breast cancer," he said (Sanandakumar & Krishnakumar, 2015). The government of Kerala had sent a formal letter to the government of Tamil Nadu mentioning that the vegetables purchased from the state contain three to five times more pesticide residues than the permissible limit. A team of Kerala Food Security officials recently visited farms in nine districts of Tamil Nadu. This was in the backdrop of a campaign launched by the state against the sale of vegetables with high pesticide content imported from neighbouring states (Suchitra, 2015). However, 99 percent of the vegetables grown by Kerala farmers are safe to consume because they don't contain any harmful chemicals, according to findings based on tests done on samples taken from farmers'



fields in several districts during the first half of 2014 (Mathew, 2015). Hi-tech farming under the protection of greenhouses insulates against pest attacks up to a greater extent. Consequently, the need for the application of chemical pesticides on crops was very rare. Even though its application is unavoidable in the early stage of plant growth, one can avoid it in the fruit-plucking stage. Therefore, most of the vegetable crops cultivated in greenhouses are "safe to eat" and fetch higher prices. Thus, GHs are helpful in ensuring farmers a regular income and safe food for consumers throughout the year.

**5.3 Hard climate and fluctuation in production:** The major rainy season in Kerala is the southwestern monsoon, which starts at the end of May or early June. There will be bursts of torrential rain in the next few months. Lying on the windward side of the Western Ghats, Kerala receives ample rainfall as it is the first state to be struck by the monsoon winds. Kerala's monsoons lead to almost 85 percent of the rainfall obtained in Kerala (*Kerala Climate*, n.d.). Subsequently, the northeast monsoon starts in October. This unique climate of approximately 6-month showers hinders open-field cultivation of vegetables throughout the year.

The total area under vegetable cultivation during 2018-19 was 41,809.11 hectares. It accounts for 4.42 percent of all food cropland. The total vegetable area decreased by 9.82 percent in 2018-19 when compared to the previous year (*Agricultural Statistics 2018-2019, 2020*). Except during periods of heavy rain, most of the vegetables consumed by Keralites in their daily dishes, such as drumstick, amaranth, bitter gourd, snake gourd, okra, brinjal, green chilly, bottle gourd, little gourd (Koval), ash gourd, pumpkin, cucumber, and cowpea, can be grown in the state. Though during the rainy season, vegetable cultivation was not rare in the state, it was not sufficient to meet the requirements of the people. Therefore, heavy imports were necessary to meet the demand. Consequently, vegetable prices usually shoot up during the

rainy season. However, the implementation of the hi-tech system to cultivate vegetables solves the issue because it makes possible the cultivation of vegetables even during the rainy season in the protected environment of greenhouses. The mentioned three points indicate the necessity to adopt hi-tech farming methods in the vegetable production sector of Kerala. Similarly, the success of countries like Israel, which is facing adverse conditions in the world, in this activity also paved the way for the state of Kerala to test this technology. As a result, the state stepped into the sector in 2009-10 by launching a few initiatives in the Thrissur district.

## 6. GROWTH OF HI-TECH VEGETABLE FARMING IN KERALA

As mentioned, high-tech vegetable cultivation was started commercially in the Thrissur district by establishing 4 units in the year 2009–10 and then 6 more units in the following year. Gradually, it spread to other districts and reached its peak of growth in 2013-14 when it covered all districts of the state. Its growth structure is given in table 1. Although its growth was very slow in the early years, it accelerated in 2011-12 and reached its peak in 2013-14. But in subsequent years, there was a decline in the number of new ventures. This declining trend continued till the year 2016-17 and showed a revival in the following year. However, that growth was not sustained in subsequent years, and only 5 new ventures were started in the years 2019–20. According to the State Horticulture Mission (SHM), the agency to promote greenhouse or polyhouse farming in the state, there were 890 units that received subsidies for the establishment of hi-tech farms in the state. However, of those, 837 were individually identified. Idukki was the leading district with 112 farms, followed by Wayanad (107) and Ernakulam (97). Pathanamthitta has the fewest greenhouse vegetable farms (27) in Kerala, followed by Kasargode (30) and Kollam (32).

**Table 1: Growth of hi-tech vegetable farms in Kerala since 2009-10**

Sl no	Year	Number of units	Growth rate
1	2009-10	4	--
2	2010-11	6	50
3	2011-12	33	450
4	2012-13	129	290.91
5	2013-14	237	83.73
6	2014-15	176	-25.74
7	2015-16	86	-51.14
8	2016-17	37	-56.98
9	2017-18	84	127.03
10	2018-19	40	-52.39
11	2019-20	5	-87.5
TOTAL		837	

Source: Various agricultural offices in the state





Table 2 illustrates how greenhouses of various sizes are distributed in different districts. Medium-sized farms (200 to 500 sq. m) were the most visible in the state (55.2%), followed by small farms (25.4%). Greenhouses of all sizes can be found everywhere except in Palakkad and Pathanamthitta districts. There were no small greenhouses in these two districts. Large farms were located mostly in the Thiruvananthapuram district (33) followed by Wayanad (28) and Idukki (20). Medium-sized

farms were mainly concentrated in Ernakulam, Idukki, and Thrissur districts, while small farms were in Wayanad, Idukki, and Thiruvananthapuram districts. Figure 1 shows the pattern of rising and falling in the number of various-sized greenhouse farms in the state. From this, it can be seen that the number of farms of all sizes increased and decreased almost uniformly during the period between 2009–10 and 2019–20.

**Table 2: Districts and size of greenhouse vegetable farms in Kerala**

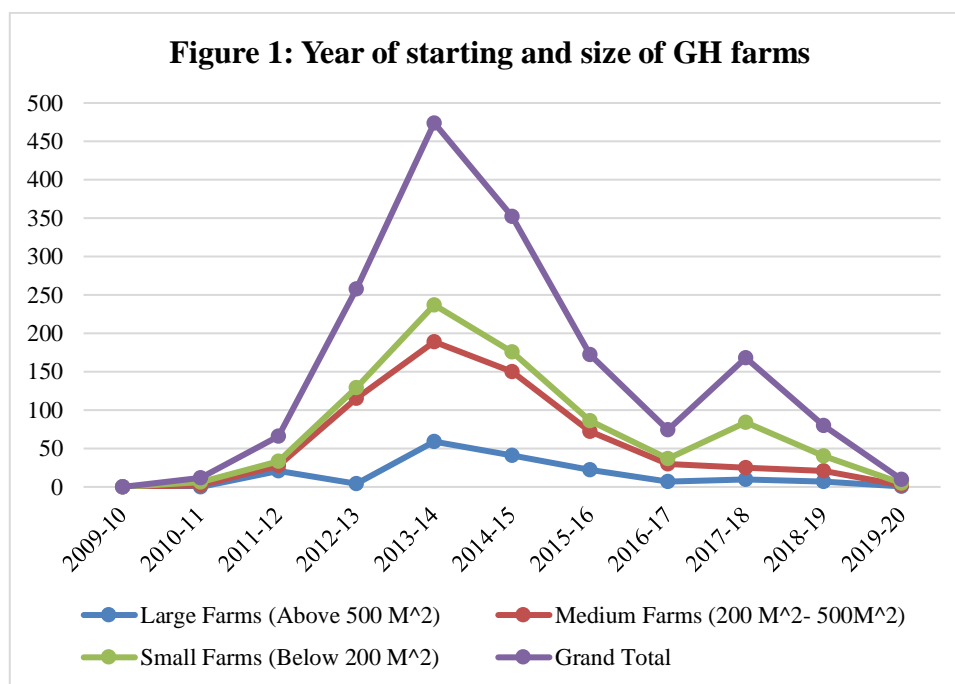
Sl NO	District	Size category			Grand Total
		Large Farms (Above 500 sq. m)	Medium Farms (200 - 499 sq. m)	Small Farms (Below 200 sq. m)	
1	Alappuzha	11	15	9	35
2	Ernakulam	11	72	14	97
3	Idukki	20	64	28	112
4	Kannur	19	16	6	41
5	Kasargode	3	10	18	31
6	Kollam	8	22	1	31
7	Kottayam	6	25	16	47
8	Kozhikode	7	26	15	48
9	Malappuram	12	32	17	61
10	Palakkad	8	32	0	40
11	Pathanamthitta	2	25	0	27
12	Thiruvananthapuram	33	30	26	89
13	Thrissur	4	48	19	71
14	Wayanad	28	45	34	107
	Total	172	462	203	837
	Proportion	20.55	55.20	24.25	100.00

Source: Various agricultural offices in the state

Source: Various agricultural offices in the state

In the state, greenhouse vegetable cultivation began with a small number of farms but has since expanded rapidly. Nonetheless, only a small number of units have been initiated in the past few years, despite the substantial subsidy that is available. With this information in hand, it's easy to see why people would be wary of getting involved with this activity.

This is likely attributable to the sector's low profitability, farmers' inability to handle the complexities of farming, or difficulties in marketing the product in comparison to open-field crops. Anyway, let's take a look at the most significant obstacles to growing greenhouse vegetables in the state.



Source: Various agricultural offices in the state

## 7. CHALLENGES OF HI-TECH VEGETABLE FARMING IN KERALA

Although greenhouse vegetable cultivation has been proven to be feasible in Kerala, the sector is now facing many challenges. As a result of these challenges, the number of new start-ups in the state has been declining significantly since 2013-14. The following section analyses the prominent challenges faced by the GH vegetable farming sector in the state.

**7.1 High cost of production:** There are two types of costs commonly incurred for vegetable cultivation under GHs: the initial cost of construction and the recurring cost of cultivation. According to Greer L. and Steve Diver (2000), a commercial GH with a size of 30 ft. x 100 ft. with complete heating, cooling, and ventilation systems will cost between \$10,000 to \$30,000 to construct and equip. A low-cost GH of the same size can be constructed for as little as \$500 to \$1,500. Besides the initial construction cost, labour and energy are the two largest greenhouse expenses. Rs. 2,36,000 is required as a non-land capital investment for a 500 sq. m polyhouse. The average annual variable cost was Rs. For tomato cultivation, the cost was an average of Rs. 12,494 and the equivalent of capsicum was Rs. 16,334 (Murthy et al., 2009). Nalin Kumar estimated the cost of an approximately 400 sq. m polyhouse in Kerala in 2016. The total cost was Rs. 104485, which he divided into variable expenses of Rs. 69,760 and fixed expenses of Rs. 34725 (Kumar, 2018). Compared to open-field cultivation, greenhouse practice was more expensive. Therefore, despite high cash subsidies, a greater number of farmers are reluctant to switch to GH cultivation. It can be assumed that this is the main reason for the recent waning of this activity in the state.

**7.2 Lack of regular market and low price for the product:** The market potential of the product and remunerative prices are

essential for the survival of any enterprise. However, as greenhouse farming is expensive and complex, it is important to ensure a secure market and higher prices for the produce. The requirement for pesticide application in GH is less than that of the open field, so it is reasonable to demand higher prices for the product. But because consumers can't tell the difference between GH products and other products, they only look at the price and prefer to buy cheap products that were sprayed with poisonous pesticides in open fields. A farmer from Thiruvananthapuram opined that the prices of most of the vegetables usually grown under GHs are not remunerative and, therefore, the farmers cannot sustain this farming practice. One of the main reasons why GH farmers often do not have easy access to the market is that they are not able to make their products available to the vendors regularly. This is due to the inadequacy of the farming methods the farmers follow. The entire part of a greenhouse is cultivated at the same time and then all of it is harvested at the same time. This leads to a situation where they do not have the product to market until the harvest of one season is over and the harvest of the next season begins. Consequently, vegetable merchants are reluctant to buy from them as they are not able to supply the products regularly. But, Mr. Joshi Joseph of Kattipara, Kozhikode, and Mr. Anil Kumar of Alappuzha, who followed the staggered planting method, succeeded in overcoming this crisis. If this method is followed by other farmers also, they will be able to supply continuously and can find a better market for their crops.

**7.3 Insect attack and plant diseases:** Many people believe that the GHs can shield crops from natural disasters, pests, and diseases. Successful implementations of the GH system in countries like the Netherlands, Israel, Spain, etc., have demonstrated this to be the case. However, farmers in Kerala report a different reality. The prevalence of plant diseases is



exacerbated by the state's extreme temperature swings and high humidity, both of which farmers must contend with. Mr. Anilkumar claims that the saw tooth structure commonly used by farmers in Kerala leads to significant temperature swings in and out of greenhouses (GHs), whereas the gable-type structure is optimal because it minimizes such swings. While this is happening, pest infestations are increasing at an alarming rate. For various reasons, farmers must use pesticides. This significantly reduces the allure of GH farming.

#### 7.4 Lack of timely support from experts and officials:

Greenhouse farming is a highly technological method, so farmers need to be well-versed in it. However, in the implementation phase, having access to timely technical guidance is essential. Unfortunately, many regions have not provided farmers with any technical assistance beyond the mandate of the subsidy. This meant that the farmers' problems took longer to solve than necessary. In a conversation, Mr. Arish Babu, a GH farmer from Thrissur, revealed his bitter experience. In the first year he planted tomatoes, they flourished and grew well until they touched the roof. But, none of the tomato flowers survived long enough to develop into fruit before they withered and fell. The crop that year was a total loss, and he tried to get an explanation from the agricultural officers. He tried growing bananas there the next year, but they didn't do well either. The following year, he tried his hand at growing ginger there, and that was a huge success as well. It resulted in a substantial sum of money. The following year, however, was not as fruitful, and yields were significantly lower. Now his greenhouse is full of low-priced Robusta bananas he grew himself. Greenhouse farming has not only failed to turn a profit but has also led to a loss of investment funds. From a social cost and subsidy perspective, GH was a huge loss for this farmer. Further, he specified that the lack of technical support from the officials was the main reason for his loss.

#### 7.5 Disposal of expired covering sheets and consumables:

Disposal of polythene sheets, tags, ropes, and covers used for greenhouses after use is a major challenge for farmers. Roofing and side covering sheets last for a few years only. High rainfall and humidity in Kerala further reduce their duration compared to other regions. In addition, there were plastic tags, ropes, and covers used for each crop in recurrence. Farmers do not have any suitable strategy for the effective disposal of these materials at present. Dumping the sheets at the boundaries of the field or using them for mulching in the open field was a common practice among farmers. Burning tags, ropes, and covers were also not uncommon. All these methods are definitely a threat to the survival of the soil and nature. These shall be disposed of with the help of local self-governing bodies. In addition, tags, ropes, and covers must be made of eco-friendly materials like coir, paper, etc. Furthermore, the quality of the sheets used for roofing and side coverings must be improved.

**7.6 Moss and Dust Clogging on Roofing Sheet:** As mentioned earlier, the roofing sheets of greenhouses in Kerala have a short lifespan compared to other areas. The main reason for this was

prolonged rainfall. Due to continuous rainfall, the sheet was covered with moss, and as a result, the proper penetration of sunlight was obstructed. This causes the production capacity to decrease significantly after the first few years. But greenhouses were not built in such a way that the moss could be easily cleaned properly. There are two ways to fix it, one is to remove the moss with the help of tools including a water jet, brushes, etc., and the other is to change the sheet. Either way, it requires high monetary costs. Mr. Hashim, a high-tech farmer from Aluva, estimates that cleaning the roofing sheet of a 400 sq. m greenhouse cost him around Rs 35,000.

## 8. CONCLUSION

Kerala is a state with great potential for hi-tech vegetable cultivation as the scope of conventional cultivation of vegetables in the open field has numerous constraints. Hi-tech cultivation of vegetables started in the state in the year 2009-10 in the Thrissur district. Subsequently, this system of cultivation extended to all districts of the state. Then, the sector made great progress until the year 2013-14. Then the sector experienced a declining trend in establishing new farms. The high cost of production, lack of regular market and low price of the product, infestation and plant diseases, lack of timely support from governmental agencies, lack of suitable strategy for the disposal of nonbiodegradable waste materials, and moss and dust clogging on roofing sheets were the prominent challenges of this endeavour in the state.

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# EMPLOYMENT RELATIONSHIP QUALITY AND WORKPLACE CLIMATE OF LIBRARIANS

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## ABSTRACT

*The intention of this study was to determine which domain of employment relationship quality best influences workplace climate of librarians. Through non-experimental quantitative research design utilizing descriptive correlational technique and applying the mean, Pearson r, Regression analysis as statistical tools, and 140 librarians were chosen as respondents through the universal sampling technique. The researcher used the employment relationship quality and workplace climate questionnaire. The study revealed a high level of employment relationship quality in terms of fairness and trust. The level of workplace climate was also high in terms of control, support, communications, change, coping, rewards, and resilience. There is an overall significant relationship between employment relationship quality and workplace climate of librarians. Among the indicators of employment relationship quality, trust was the domain which best influences workplace climate.*

**KEYWORDS:** *library and information science, employment relationship quality, workplace climate, correlational design, librarians, Philippines*

## INTRODUCTION

It makes it easier for the abusers especially in the higher position to mistreat others when there is low security, unorganized work system, and lack of responsibility [5]. Perceived factors in the library such as innovation, economy, maturing workforce, and changing employment necessities continue to distract the operation in the workplace climate [15]. Thus, a negative workplace climate can prompt low performance outcomes, fulfillment, inspiration and can influence employees' life both inside and outside of work [7]; [24].

On the other hand, a healthy workplace climate will draw in and hold skilled employees which will, thus, help the organization to adjust to change, explore difficulties, and plan progression for more successful operations. In academic libraries which seeks to offer patrons the excellent service, taking care of the employee's workplace climate is a beneficial long haul of venture [15]. Positive working environment atmosphere is one of the elements that can lead into suitable and effective convenience to various manager benefits, be that as it may, including maintenance of talented representatives, decreased retraining costs, expanded laborer and working environment profitability [11]; [25].

Thus, the relationship between managers and employees sets the overall tone of the workplace. On the other hand, having poor relationship between supervisors and

subordinates can deteriorate an organization's progress by decreasing morale, restricting possible profits and possible disorienting working environment. Good employment relationship produced a productive and effective workplace environment [3]. Also, a study revealed a relationship between employment and workplace climate [14]. Further, explaining that the psychosocial condition between work environment and the suitability of each employee is essential in ensuring proper workflow. Generally, many studies show that having a healthy workplace environment can greatly affects the attitudes and behavior of the employees [16].

## OBJECTIVES

This study is intended to determine the significant relationship between employment relationship quality and workplace climate of librarians. Additionally, it aims to identify which domain of employment relationship quality best influences workplace climate of the librarians.

## METHODOLOGY, SAMPLING, STATISTICAL DESIGN

This study was non-experimental quantitative research design utilizing descriptive correlational technique and applying the mean, Pearson r, Regression analysis as statistical tools, and 140 librarians from Davao City were chosen as respondents through the universal sampling technique.



**Table 1 Descriptive Statistics on the Level of Employment Relationship Quality and Workplace Climate of Librarians**

Variable	N	SD	Mean	Level
<b>Employment Relationship Quality</b>	<b>140</b>	<b>0.59</b>	<b>4.19</b>	<b>High</b>
Justice		0.64	4.39	Very High
Good faith		0.64	4.25	Very High
Trust		0.68	4.17	High
Fairness		0.76	3.95	High
<b>Workplace Climate</b>	<b>140</b>	<b>0.42</b>	<b>3.59</b>	<b>High</b>
Role		0.54	4.45	Very High
Communications		0.78	4.08	High
Control		0.61	4.06	High
Resilience		0.66	4.01	High
Rewards		0.82	3.80	High
Support		0.80	3.77	High
Coping		0.65	3.55	High
Change		0.90	3.46	High
Demands		0.96	3.12	Moderate
Symptoms/Outcomes		0.88	2.90	Moderate
Relationships		1.06	2.26	Low

**Table 2 Correlation of Employment Relationship Quality and Workplace Climate of Librarians**

Independent Variable	Workplace Climate		
	r-value	p-value	Interpretation
<b>Employment Relationship Quality</b>	<b>0.512</b>	<b>0.000</b>	<b>Significant</b>
Justice	.346	0.000	Significant
Fairness	.400	0.000	Significant
Good faith	.504	0.000	Significant
Trust	.527	0.000	Significant

**Table 3 Significance on the Influence of Employment Relationship Quality on Workplace Climate of Librarians**

Employment Relationship Quality	Workplace Climate		
	B	B	Sig.
Justice	-.005	-.008	.933
Fairness	.041	.073	.480
Good faith	.087	.132	.434
Trust	.228	.368	.023
R	.536		
R <sup>2</sup>	.287		
F	13.571		
p	.000		

## RESULTS AND DISCUSSION

**Table 1** shows the result of descriptive statistics. The data exhibit that Employment Relationship Quality has high level (M=4.1; SD=0.59). This high level is due to the results of the following indicators: justice (M=4.39; SD=0.64); good faith (M=4.25; SD=0.64); trust (M=4.17; SD=0.68); and fairness (M=3.95; SD=0.59). Additionally, the high level result of employment relationship quality of librarians is due to the very

high rating given by the respondents on justice and good faith. It was always observed that supervisors follow workplace policies, codes, rules and procedure and treats librarians with respect and honesty. Indeed, justice includes honesty, truth, integrity and fairness [18] and good faith is being decent, act morally and properly that can be used to influence employees in lower position [19]. These practices may result into a good



employment relationship and productive workplace climate, thus, having a better employment relationship sets the overall tone of the workplace that resulted in effective and productive work environment [3].

On the other hand, workplace climate acquired a high level ( $M=3.59$ ;  $SD=0.42$ ) due to the results of the following indicators: role ( $M=4.45$ ;  $SD=.54$ ); communications ( $M=4.08$ ;  $SD=0.78$ ); control ( $M=4.06$ ;  $SD=0.61$ ); resilience ( $M=4.01$ ;  $SD=0.66$ ); rewards ( $M=3.80$ ;  $SD=0.82$ ); support ( $M=3.77$ ;  $SD=0.80$ ); coping ( $M=3.55$ ;  $SD=0.65$ ); change ( $M=3.46$ ;  $SD=0.90$ ); demands ( $M=3.12$ ;  $SD=0.96$ ); symptoms/outcomes ( $M=0.88$ ;  $SD=2.90$ ); and relationships ( $M=2.26$ ;  $SD=0.42$ ). The high level result of workplace climate is due to the very high rating given by the respondents on role and high rating on communications and control including resilience and rewards. Also, support and coping including the change has high rating on workplace climate. The librarians believed that any individuals or teams which are responsible for making decisions have appropriate authority to implement them and also believe that formal communication channels are used effectively to pass information up and down the organization. Also, librarians can rely on their supervisors with work problems and feel that their work is appreciated.

It is indeed true that that support from the supervisor is important [10] and effective communication leads to efficient and productive work environment [27]. These practices are expected to increase workplace climate level since a positive workplace climate produces a work environment with greater social acceptance that may outcome into better effects on socialization results [9]. Observed that a standard deviation always accompanies the mean score. A standard deviation estimates the dispersion of values or data around the sample's mean, describing the sample. In this study, both variables reveals that the responses of the librarians are homogenous or almost alike.

**Table 2** exhibit the correlation of relationship between employment relationship quality and workplace climate of librarians. The overall test of the relationship between variables reveals significant relationship between employment relationship quality and workplace climate of librarians given that the p-value is 0.000 with an r-value of 0.512. Looking at the specific results, the correlation coefficients indicate moderately high, positive, and significant relationship.

The indicators of employment relationship quality that contributed in the overall positive significant are: justice ( $r=0.346$ ;  $p=0.000$ ); fairness ( $r=0.400$ ;  $p=0.000$ ); good faith ( $r=0.504$ ;  $p=0.000$ ); and trust ( $r=0.527$ ;  $p=0.000$ ). The result shows that creating and maintaining good employment relationship leads into a positive and productive workplace climate. Having a good quality of justice in the organization through following and implementing workplace laws and codes properly, applying proper policies and rules, improves workplace climate. Justice can be viewed to be a vital part in the workplace [6]. Hence, justice became the basis of obedience in policies and rules that shows how an individual reacts properly in the workplace [28].

Meanwhile, fairness helps increase librarians' morale though a meaningful role and an effective means in receiving equal treatment from the supervisors which cultivate positive

workplace climate. Having fairness and equal treatment in the organization makes employee become innovative, produce more ideas and share it with other co-workers and supervisors, and help the organization in achieving organizational goals [2]. Also, when an organization is applying fairness in all aspects, it increases the organizational trust that leads into better work productivity and positive workplace [17].

Conversely, good faith is correlated to the domains of workplace climate. Having good faith is being decent, acting morally and properly in the work environment. Additionally, the presence of good faith and behavior gives an abstract and practical procedure structure for communication that being achieved to improve the trust and to lessen the disagreement between the supervisor and subordinates that resulting to a better workplace [19].

Also, trust amongst the librarians is attributed in maintaining harmonious employment relationship that significantly leads to an improved workplace climate. Trust is important in the workplace since sharing of information and networking are involved with the members of the organizations. It reveals that trust is generally part of individual development, sharing of information, and for the development of relationships to the group members in the organization [1]. Effective employment relationship in the workplace involves high level of trust, respect, and support. Trust as one of the indicators of the employment relationship, is an essential factor in receiving of assigned tasks and information from supervisors. Thus, trusting and understanding in the relationship can make the employee and supervisor more effective and efficient in the workplace [20].

Relationship between managers and employees sets the overall tone of the workplace [3]. On the other hand, having poor relationship between supervisors and subordinates can deteriorate an organization's progress by decreasing morale, restricting possible profits and possible disorienting in working environment. Good employment relationship produced a productive and effective workplace environment. Also, a study revealed a relationship between employment and workplace climate [14]. Further, explaining that the psychosocial condition between work environment and the suitability of each employee is essential in ensuring proper workflow. Generally, many studies show that having a healthy workplace environment can greatly affect the attitudes and behavior of the employees [16].

**Table 3** presents the significance on the influence of employment relationship quality on workplace climate of librarians. Showed in Table 4 are the regression analyses on the employment relationship quality and workplace climate of librarians. The regression model with four indicators namely: justice, fairness, good faith, and trust sharing yielded and  $F = 13.571$  and  $R^2 = 0.287$  with  $p < 0.05$  significance level.

The  $R^2$  value of 0.287 implies that 28.7% of employment relationship quality influenced by workplace climate of librarians. The difference is 71.3% is characterized by other components that does not reflect in the study. Moreover, it can also be stated that employment relationship quality significantly influenced the workplace climate of librarians. Also, the data shows that among the parameters of employment relationship quality, trust has the unstandardized coefficient of



.368 with t-value of 2.929 and with a  $p < 0.05$  significance level which is significant. Hence, only trust among the indicators of employment relationship quality influences workplace climate of librarians.

The study demonstrate that employment relationship quality significantly influences workplace climates as cited in the correlation portion of this study. The predictors of employment relationship quality are justice, fairness, good faith, and trust. Among the predictors of employment relationship quality, only trust has significantly influenced workplace climates among librarians. Trust is important in the workplace since sharing of information and networking are involved with the members of the organizations. It reveals that trust is generally part of individual development, sharing of information, and for the development of relationships to the group members in the organization [1]. Also, effective employment relationship in the workplace involves high level of trust, respect, and support. Trust as one of the indicators of the employment relationship, is an essential factor in receiving of assigned tasks and information from supervisors. Thus, trusting and understanding in the relationship can make the employee and supervisor more effective and efficient in the workplace [20].

In fact, trust is a vital element for librarians and the management in achieving productive workplace climate and organizational goals. Librarians are likely to trust supervisors that are willing to share information including the negative ones [13]. Librarians are likely vulnerable when trust is given to the supervisors. As a result, librarians are particularly concerned with supervisor's behavior and attitudes such as being caring, helpful, friendly and generous also being a supervisor with integrity, sincere, consistent and credible [29].

Moreover, trust is a significant factor that influence in the effective communication and work productivity in the workplace. From the relationship-based approach that is according to the philosophy of social exchange and reciprocity, employees that trust the supervisors perceived a high level of employment relationship and committed to support the supervisors including its organizational goals [4]; [8]. Some authors agree that trust has become an essential element in every organization and became the foundations in workplace relationship [22]. Indeed, having trust for both supervisors and co-workers is significant especially in sustaining workplace climate and cooperation [12].

Hence, the finding of the study manifest significant influence between the domains of employment relationship quality and domains of workplace climates as mentioned in the significance of the relationship among variables of this study. It enhances the proposition that there is relationship between employment relationship and workplace climate. [3].

## SUGGESTIONS/RECOMMENDATIONS

In light of the specific findings and conclusions of the study, the following recommendations are suggested:

The study discovered that the overall level of employment relationship quality of librarians was high level. Hence, to maintain the level of employment relationship quality, the top management may conduct training and seminars that may enhance the employment relationship quality in the

organization. Also, the organization may sustain the sense of trust and fairness among the librarians in the workplace that may result into good communication and better productivity.

The study also discovered that the overall level of workplace climate of librarians was high level. Thus, to keep abreast of the level of the workplace climate, the employer or top management may formulate and implement programs that strengthen the relationship and connections between librarians and co-workers. Also, the administrators may promote activities and workshops to enhance time and task management of work demands to prevent stress and burnout of the librarians that may result to high level of turnover.

The result shows that there is a significant relationship between employment relationship quality and workplace climate of librarians. The administrators may maintain effective employment relationship quality to sustain productive workplace climate of librarians. In addition, supervisors need to regularly assess and evaluate the librarians to be updated of their needs and climate in the workplace. Also, the result suggested that the organizations may conduct seminars that will enhance the librarian's relationships in the workplace.

More importantly, effective employment relationship and positive workplace climate are characterized by high level of trust. Therefore, in order to maintain trust in the organization, the top management may value the librarians, involve them in decision making, and establish a positive corporate culture. These are essentials in promoting and building good employment relationship quality and productive workplace climate.

## CONCLUSION

This section presents the conclusions of the study. The data gathered and analyzed established correlation of employment relationship quality and workplace climate of librarians. The respondents demonstrate a high level of employment relationship quality likewise exhibits a high level of workplace climate. It showed significant relationship between employment relationship and workplace climate of librarians. Further, trust, as one of the indicators of employment relationship quality, significantly influences workplace climate of librarians if considered separately without combining all indicators.

The discoveries of the study confirmed the proposition that relationship between managers and employees sets the overall tone of the workplace [3]. Further, it is also strengthens the proposition that employment relationship is one of the significant elements that is retained in the workplace [21]. Also, the importance of assessing the employment relationship and workplace climate is one of the factors that influence the respondents in making future decisions [23]. Indeed, this study found some evidences of a significant and positive employment relationship and work climate. Employment relationship as one of the factors of work climate has significantly affected the performance, work responsibilities, skills, enthusiasm, and innovation of employees in the work [26].





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# IMPACT OF LEADERSHIP STYLES ON ORGANIZATIONAL PERFORMANCE OF FEDERAL COLLEGE OF HORTICULTURE IN NORTH EAST, NIGERIA

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## ABSTRACT

*The study examines the Impact of leadership style on organizational performance with the federal college of Horticulture technology North East. The main objectives of the study is to determine the extent to which leadership influence organization performance an federal college of horticulture technology in North East, and identify the factors that hinder leader – employee relationship in federal college of horticultural technology in North-East, sources of data to obtain information, for the primary source, questionnaire method was use while for the secondary data, the use text books and journals was adopted. The major findings of the research reveals that most staff of the college are highly qualified, experience, and satisfied with their work, the study found that employee performance are encourage through leave grant and promotion which induces effective and efficient performance organization such as intelligence, perseverance, persuasive, pragmatic versality and dynamic e.t.c these qualities tend performance. The study therefore recommends based on the findings that management by objective (MBO) should be incorporated so as to ease the task of leaders towards achieving organizational performance, adequate facilities and conductive working environment be provided as it helps to boost employees' morale which will result to higher performance, provision should be made for the identification and recommendation of staffs with exceptional performance and a reward system should be designed so as to build confidence in the subordinates, recognizing their effects and appreciating them.*

## BACKGROUND TO THE STUDY

Leaders are people who are able to think and act creatively in non- routine situations and who set to influence the actions, beliefs and feelings of others. Shek (2002), it flows from an individual's qualities and actions. However, it is also often linked to some other role such as manager or expert. Here, there can be a lot of confusion. Not all managers, for example, are leaders; and not all leaders are managers.

Silvia (2008), leaders need a new mix of competences to properly shape their board and develop their sub-ordinates to meet 21 century challenges, shifting cultures, rapidly changing technology and other factors will require new patterns of leadership. The 21<sup>st</sup> century leaders will need greater awareness of diverse factors and new sets of competence characteristics that lead to success on the job to help them make relevant, correct and timely decisions in the leadership of change and leadership of people (Dauiesk 2001). An important factor in the leadership process is the relationship that a leader has with individual followers. Successful interaction between leaders and their followers are central to the overall functioning of company Noormal and Syed,(2009); Graen and Uhi - Bein,(1995). High - quality leader - follower relationships have been found to have impact on organizational performance, organizational commitment, delegation, empowerment, and job satisfaction Noormal and Syed, (2009); Gerstner and Day, (1997). One

rationale for this study is that good leader - follower relationships are vital to ensure the effective functional of any organization.

Leadership is a process of interaction between leaders and followers where leader attempts to influence followers to achieve a common goal (Northouse, 2010; Yukl, 2005). According to Chen and Chen (2008), previous studies on leadership have identified different types of leadership styles which leaders adopt in managing organizations (e.g., Davis, 2003; Spears & Lawrence, 2003; House, Hanges, Javidan, Dorfman, & Gupta, 2004; Hirtz, Murray, & Riordam, 2007). Among the prominent leadership styles are transactional and transformational leadership styles (Bass, 1978). Transformational leaders emphasize followers' intrinsic motivation and personal development. They seek to align followers' aspirations and needs with desired organizational outcomes. In so doing, transformational leaders are able to foster followers' commitment to the organizations and inspire them to exceed their expected performance (Sivanathan & Fekken, 2002; Miia, Nichole, Karlos, Jaakko, & Au, 2006; Bass & Riggio, 2006; Bass, 1985, 1998).

With regard to today's complex organizations and dynamic business environment, transformational leaders are often seen as ideal agents of change who could lead followers in times of uncertainties and high risk-taking. In contrast, transactional leaders gain legitimacy through the use of rewards, praises and promises that would satisfy followers' immediate needs (North house, 2010). They engage followers by offering rewards in



exchange for the achievement of desired goals (Bums, 1978). Although transformational leadership is generally regarded as more desirable than transactional, Locke, Kirkpatrick, Wheeler, Schneider, Niles, Goldstein, Welsh, & Chah, (1999) pointed out that such contention is misleading. They argued that all leadership is in fact transactional, even though such transactions are not confined to only short-term rewards.

An effective leader must appeal to the self-interest of followers and use a mixture of short-term and long-term rewards in order to lead followers towards achieving organizational goals of leadership.

### STATEMENT OF THE PROBLEM

In Nigeria, effective leadership is one of the factors that have been regarded as fundamental for organizational success. A capable leader provides direction for the organization and lead followers towards achieving desired goals. In similar vein, employees with high job satisfaction are likely to exert more efforts in their assigned tasks and pursue it to their interests.

In most organizations, subordinates attributed the lack of job satisfaction, poor career prospects and low level of performance to static leadership style (Silvia 2008). The intent of this study is the Federal College of Horticultural Technology in North-East Nigeria.

Several studies have examined the relationship between leadership and performance of the organization. Leadership is widely recognized as a critical factor in the success or failure of Federal College of Horticultural Technology, in Gombe Nigeria Hasbullah,(2008).Leadership enable an organization to translate its potential for good performance into productivity (Samuel, 2005). Head of College, can no longer rely on their hierarchical positions to attain organizational goals. In order to get best result from subordinates, "the head need to encourage high moral, a spirit of involvement and cooperation and a willingness to work by adopting desirable leadership behavior (Asuguo, 2007).

The choice of leader behavior influences the internal environment. Leader need to involve employees in the defining and developing vision statements (liu, 2006). He further argues that failure of involvement lead to employee being dissatisfied and unwilling to summon the effort needed to provide a higher standard of service." It is against this background that study intends to examine the impact of leadership style for organizational performance, using Federal Collage of Horticultural Technology, Dadin Kowa, Gombe State as the study focus. Based on the aforementioned, what could be the best leadership style to be adopted to achieve optimal performance in the study area?

### RESEARCH OBJECTIVE

The objectives of this study include:

- i. To determine the extent to which leadership influences organizational performance in the College.
- ii. To investigate the challenges facing leadership style in the organizational performance in the College,

- iii. To examine the leadership style that can influence the organizational performance in the College,
- iv. To examine the leadership style that can be adopted enhance employees' performance in the College.

### RESEARCH QUESTION

The research intend to answer the following questions:

- I. To what extent to which leadership influence organizational performance in the in Federal College of Horticultural Technology, Gombe?
- II. Inadequate facilities and communication gap hinder employees performance in the college in Federal College of Horticultural Technology, Gombe?
- III. Does your leader give you freedom to exercise your initiatives in carrying out most of the duties assigned to you?
- IV. What leadership style could be adopted to improve employees' performance in the College?

### Significance of the Study

This research could give a better picture of the impact of leadership in federal college of Horticultural Technology.

- i. Study on leadership such as this, is of tremendous importance to all categories of leaders specifically those who are running the affairs of tertiary institutions.
- ii. This research work will also be of significance to all types of organization in their search for leadership style that will enhance organizational performance.
- iii. The study will also serve as a basis for further research on the topic thereby allowing for the increase in the body of knowledge.

### Scope of the Study

The study is set out to access the impact of leadership styles on organizational performance in Federal College of Horticultural Technology North-East.

The study is therefore restricted only to the Federal College of Horticultural Technology Dadin-kowa, Gombe.

### Population of the Study

For this research, the target population are the staff of Federal College of Horticultural Technology, Gombe with a total number of two thousand six hundred and two (2602).

### Sample and Sampling Techniques

A sample is a part of the population deliberately taken to represent the population of study. The essence of sampling is to obtain external validity such that the characteristics obtained from a population can hold valid and reflective of the population is general. Therefore, the selection of staff would be random sampling technique with a sample size of 100 to facilitate the study.



### Instrument for Data Collection

The questionnaire comprises of three parts, part A is the personal information about the staff, part B is questions to the Top Management and part C is questions to the employees.

### Method of Data Collection

Taking into cognizance the nature and objective of the study, the researcher used secondary sources of data collection. The primary sources of data questionnaire were used.

The questionnaires were structured in order to be objective and allow the respondents to provide information that are not covered.

The study also used secondary sources of data such as documents from the human resource department of the banks, empirical studies, textbooks, internet article, and journals to establish the framework and arguments that are related to leadership.

### Data Analysis Techniques

The purpose of data presentation is to analyze the data collected which will facilitate comprehension and further explanation of the research findings. A total of hundred (100) questionnaire were administrated out of which eighty (80) were duly completed and returned. For the purpose of the research work and objectivity, the completed questionnaire would be analyzed and presented in table as percentages representing hundred percent (100%).

## LITERATURE REVIEW

### Conceptual of Leadership

Drucker (2004) posits that several literatures had been reviewed on leadership and there are different perspective of viewing leadership and the interpretations attached to its' meaning. Leadership could be perceived in a simple term such as "getting other to follow" or "getting people to do things willingly" it could be interpreted as "the use of authority in decision making" attributed to the position one is occupying in an organization because of one's personal knowledge or wisdom.

Banki (2004) regarded leadership as a "complex quality and system of interpersonal relationship which consist of all the theories, methods, act and processes of planning, guiding, motivating and controlling the attitudes, behaviour patterns and activities of group towards the attainment of some particular interest, goals and objectives by any available means". The leadership relationship is not limited to leader's behaviour only but also resulting to subordinate, it is a dynamic process that leader-follower relationship is reciprocal and effective leadership is a two-way process which influences both individual and organizational performance.

According to Lucey (1995), leadership is the ability to influence the behaviour of others. The definition can be expanded when considering leadership in organizations to include the fact that the leader executes influence with a working group in order that the group may achieve group tasks or objective. However, leadership can also be defined as the ability to convince people to

follow a path they have never taken to a place they have never been.

Batty (1979) fundamentally define "the terms leadership as "the ability to inspire and trust so that there is voluntary participation of subordinate in an effort to reach organizational objectives".

Akanni (1987) defined leadership as "a process of directing and controlling others to achieve their goals". Leadership is also seen as a process mobilize in which "persons with certain motives and purposes mobilize in competition or conflict with others, institutional, political, psychological and other resources so as to arouse, engage and satisfy the motives of followers in order to realize goals mutually held both by leaders and followers.

Robbins (2005), explain that; leadership also involves helping a group or an organization to achieve its goals. In this cases, a manager should look for strategies that will enable an organization to accomplish his aim/objectives or otherwise to reach a target goal.

Specifically, this explains leadership as the exercise of influence by one member of a group or organization over other members to help the group or organization achieve its goals.

Jago (2002) "leadership is both a process and property. The process of leadership is the use of none conceive influence to direct and coordinate the activities of the members of an organized group towards the accomplishment of group or organizational objectives. As a property, leadership is the set of qualities or characteristics attributed to those who are perceived to successfully employ such influence. McFarland (2003) states that "leadership is the ability of an individual to influence others work to go beyond ordinary level to achieve goals".

The same of this influence may be formed, such as that provided by the possession of a managerial rank in an organization. Since managerial positions come with some degree of formally designated authority, an individual may assume a leadership role as a result of the position he/she holds in the organization. It could also be informal arising from authority outside the formal structure of the organization.

The essence of leadership is fellowship. It is therefore the willingness of people to follow that makes one a leader. People tend to follow those whom they perceive as providing a means of achieving their own desired, needs and wants. To lead it to guide, conduct, direct and proceed, leaders act to help a group achieve objectives with the maximum application of its capabilities. They (leaders) therefore place themselves before the group they are leading, as they facilitate progress and inspire the group to accomplish organizational goals (performance).

### Characteristics of Leadership

Edwin (2000) observed that for a leader to be termed efficient, he must have the following features;

- i. Mental ability: for a leader to be effective, one of its qualities is that he/she must have a soundmind. He must be mentally coordinated to perform its functions and roles



- ii. Broad interest and abilities: He is not a narrow specialist. He possesses a wide general understanding and has many and varied abilities. He is sensitive to and broadly interested in the work with which he is most directly connected, plus many other important activities and aspects of his environment. Source: Lewis (2004)
- iii. Communication Skills: A communication skill is a power that every effective leader should have.
- iv. Maturity: A successful leader is free from left over childishness; his attitude and behaviour patterns are those of a responsible, mature adult.
- v. Motivational strength: Drive, energy, initiative, courage and consistency have long been recognized as clear marks of a strong leader. The successful leaders like the work of planning, organizing and directing the efforts of others.
- vi. Social skills: Leadership fundamentally means accomplishing through others, which makes it entirely obvious that the successful leaders must rely heavily on social skills. He must be sensitive to human feelings and attitudes and he must be empathetic in order to be effective in influencing others.
- vii. Administrative ability: Envisioning, originating, planning, organizing, directing, completing, evaluating people etc. are skills on which a leader particularly relies on.  
Source: Lewis (2004)

### Effective Leadership

Leadership effectiveness involves a group process with the leader as the main directive element. As Bernard (2006) put it several decades' age, effectiveness is the "the accomplishment of the recognized objectives of cooperative action". It depends initially on influence, but beyond that, there are questions of value, such as how things are done to achieve what ends. Effective leadership means a productive use of human and material resources and/or a process of creating a vision, developing a strategy, enlisting cooperation and motivating action that result in the most desirable outcome.

There are in recent times or years a number of different theories of leadership that have developed, some to complement, whereas others are contradictory. Fleishman Harris and Burt (1955) at the Ohio State University, developed leadership questionnaires and then factor analysis resulted in the major categories such that;

- i. Initiating structure that is the degree of structure the superior initiated in performing his leadership role and.
- ii. Inter-personal effectiveness using grievances rate as a criterion for measuring the supervisor's inter-persona consideration they found that increasing consideration was highly correlated with a lower grievance rate.

Likewise, the higher the initiating structure, the higher the grievance rate. The researchers draw the conclusion that, leadership style is important in organizations but that the

difference may not be so much in terms of what the leaders does but may be in terms of how it is interpreted by its members.

These studies and others formed the basis for a contingency theory of leadership. Hershey and Blanchard (2002) suggest that effective leadership is the function of emphasis given to task and relationship behaviour as this relates to different types of situations. Task behaviour is defined as essentially the extent to which a leader engages in one-way communication by explaining what each subordinate is to do as well as when, where, and how task to be accomplished.

Relationship behaviour is defined as the extent to which a leader engages in two- way communication by providing social support, psychological stroke and facilitating behaviors.

For them, four basis styles were defined:

- i. Telling a high task, low relationship emphasis
- ii. Telling a high task, high relationship emphasis
- iii. Participating, a high relationship low task emphasis
- iv. Delegation on a low task relationship emphasis

Hershey and Blanchard (2002) discovered that managerial effectiveness is determined not by adoption of any one style but by the ability to use all four styles and further to "fit" the appropriate style to diagnose a situation.

### An Effective Leader

An effective leader according to Zhivago (2010) has the following characteristics.

1. Manages the Human and Material resources of an organization in the best way for profitability and accountability.
2. Creates a vision of the future that takes into account the legitimate long term interests of the parties involved.
3. Develops a rational strategy for moving towards that vision.
4. Enlists the support of the key power centers whose cooperation, compliance, or team work is necessary to produce that movement; and
5. Highly motivates that core groups of people whose actions are central to implementing the strategy.

According to Cole(1992) complex biological, social and psychological processes are a combination that determines the leadership potential in an individual. This potential must be practiced successfully to be effective. The leaders should strive to create an atmosphere of free thinking, healthy exchange of ideas, criticism, and mutual advice so that the followers fell very comfortable in discussing matters of interest to the organization.

An effective leader is neither tyrannical nor uncoordinated. This type of participative leadership is optional. It fosters unity among the members and enhances the quality of their performance.

### Leadership Styles

The style of leadership that could be identified with an organization and its leaders vary widely from one organization to another. Much depends on the philosophy, personality, experiences and values of the individual manager, more so, the



organizational climate and character. Thus leadership style defined according to Fielder (2003) as “the underlying needs structure of the individual who motivates his behaviour in various leadership situations”.

According to Maslow (2002), the most effective management style in any organizational is that which takes account of tasks requirement, the use of internal capabilities (human resources) of the working group and the need to total environment quality of management decision leading to improved productivity.

Considerable, research has been done in relation to the impact of leadership styles and their effect on employee’s performance in achieving goals and objectives. Leadership style is a relatively enduring set of behaviour which is a characteristic of individual regardless of the situation. The quality of leadership is more than any other single factor because it determines the success or failure of an organization. It is on this crux that the three types of leadership styles commonly compared are those expanded by Lewin, White and Lippert (1974).

- i. Autocratic leadership style
- ii. Democratic leadership style
- iii. Laissez faire leadership style

### Autocratic Leadership Style

According to Edwin (2000), Autocratic leadership style is often identified with dictatorial method in industrial settings. This style of leadership is consistent with production oriented supervision, and autocratic leaders keep the decision making authority and control within their hands and assume full responsibility for all actions. They structure the entire work situation in their own way and expect the workers to follow their orders.

Such leader is often guilty of nastiness and personal nepotism. Under this condition, the leader’s effective technique and maintenance of leadership position is by withholding knowledge of goals, not sharing information required for the task and not providing feedback to members on their progress.

However, the autocratic leadership styles both have positive and negative impact on productivity.

The Positive Impact of the Autocratic leadership Style to Jago (2002) were:

- i. Ignoring the authority of a new leadership. In a situation whereby a person emerges as a new organizational leader, such a leader may face the problem of recognition and respect, in such case, the leader has to device an autocratic means to gain recognition and ensure that his decisions are implemented.
- ii. It aids in increasing efficiency when appropriate and get quicker results specifically in a crisis or emergency situation when the decisions must be taken immediately. There is the need to curtail individuals (workers right in order to restore peace in institution that is regarded as abrupt).
- iii. Widespread of indiscipline in an organization, whereby indiscipline had been the order of the day, such organization has no little act of discipline, this act might

have developed in which they were formally ruled, the leaders have to device an autocratic means to enhance productivity (performance) and strictly enforcing discipline through punishment.

- iv. It is useful when the chain of command and the division of work are clear and understood by all, in other words, where there is a rapid change in the organization, an autocratic leader would be able to direct the employees to adjust to such change and this will ensure compliance of the works (staff) towards the change.
- v. Autocratic leadership style is also useful on the part of the subordinate who are new on the job and have had no experience either managerial decision making process or performing without active supervision.

### The Negative Impact of the Autocratic Style

Fredler (2007) gave the following as the negative impact:

- i. The non involvement of workers in decision making with regard to this, an autocratic leader does not welcome the employee opinion on decision making of the organization. This tends to demoralize their employee’s initiative and thus result in chaos to the administration of such organization.
- ii. One-way communication without feedback lead to misunderstanding and communication breakdown, since it provides workers resentment and creates problems in their morals resulting into poor productivity in the long run.
- iii. Autocratic leader is prone to be aggressive and lacks human relations; he directs his subordinate (follower) to obey even when it is contrary to their view. It is a leadership style that is really unsuitable most especially when the work force is knowledgeable about their job i.e. where it calls for team work or corporate spirit.
- iv. An autocratic leader hardly motivates subordinate and does not believe in the motivational theory rather he believes in command and order expects loyalty to such orders.

### Democratic Leadership Style

A democratic leader according to McGregor (1978) is the one who decentralize decision making. He gives orders only after consultation with the group. He sees to it that polices are worked out during group decisions with the acceptance of the group.

In sharp contrast to the autocratic leader is the democratic leader who shares his influence with the group and it is often referred to as participative or people oriented style. It calls for the subordinate into the decision making process. The group members are encouraged to demonstrate initiative, creativity and taking intelligent interest in setting plans and policies in the achievement or organizational goals.

The Positive Impact of Democratic leadership Style

- I. According to Donnel (2009), the following are the positive impact of democratic leadership style Democratic leaders share power, this implies that decisions is not just centered on a leader, rather members



of the groups in the organization has to be consulted as regarding their opinion before decision is reached, therefore involvement of employees in decision making results in higher employee moral and job satisfaction.

- II. Motivation of followers by treating them with dignity and kindness, recognizing their needs. This enable the employee's (workers) develop a great sense of self-esteem and thus render their best to the organization.
- III. The democratic style of leadership enables employees to adapt to changes since they are all involved in decision making. workers will therefore be committed on changes that may bring about policy changes and enhance productivity.

However, despite the advantages the democratic style of leadership has its own short comings.

#### The Negative Impact of Democratic leadership Style

Jago (2002) gave the following:

- i. This style of leadership is time consuming and too many view points and ideas may make the solid decision more difficult and may be source of frustration to impatient management.
- ii. It is not useful during emergency due to bottle neck in decision making and consultation, it tend to create chaos during emergency unlike the autocratic style where decision can be taken in an emergency.
- iii. Save managers may be uncomfortable with this approach because they may fear an erosion of their power base and their control over employees, such leadership style cannot work where there is no total trust on the management and the employees.

#### Laissez Faire Leadership Style

To Penny (2009), The Laissez faire leader is just a figure head, he uses his power very little if at all and giving subordinates high degree independence in their operations such leader depends largely on subordinate to set their own goals and the means of achieving them.

He acts principally as a liaison officer by furnishing them with information and acting primarily as a contact with the group external environment. The impact of this style on workers' productivity is only achieved in a civilized and modernized environment with people of matured minds, in situation whereby the workers of the organization are not mature, the reverse is the case.

#### The Positive Impact of the Laissez Faire Style

- i. The laissez faire style of leadership creates an environments of freedom individual as well as team spirit.
- ii. It is highly creative with a free and informal work environment. This approach is very useful where people are highly motivated and achievement oriented.
- iii. There if flow of information and communication between the superior and the subordinate and they delegate most of their task to subordinate which enable them to perform efficiently and effectively.

#### The Negative Impact of Laissez Faire Style

Likert (2001) gave the following:

- i. The laissez faire style of leadership is not free from disadvantages, in that team spirit usually suffers due to possible presence of some uncooperative members and such member may put their own interest above the organization or team spirit.
- ii. Over defendant on subordinate for any reasonable decision, this make performance to be low because there is no one that would direct and supervise the task carried out by the subordinate.
- iii. Mutual cover up prevails, the leader tends to cover up whereby the organization is collapsing, he hides under the umbrella of the subordinate and this does not help performance in a positive way.

#### Organizational Leadership and Performance

Penny. (2009), Leadership and performance became a central focal point of scientific interest during the era of Taylorism. The concern was based on standard for performance that is efficient Elton Mayo and his group found out that the scientific manager as approach to work was geared toward mechanistic efficiency.

They view the workers not simply as a company on the mechanistic hands of task masters rather the moral of both individual and group in an organization could yield positive results on their performance. They advised that leadership device more people oriented approach to leading their subordinate for effective results. This behavior approach to leadership/subordinate relationship has simple become a focal area for performance in an organization of any form.

Examining the leadership effects on the performance of the subordinate, Pelz (1952) from the large electric utility company research stated that subordinate were more supervisors who are influential with their superior helping them achieve their goals. No wonder Nahabetin (1969) found that an influential leader facilitates group's tasks while those without influence hinder task accomplishment. One can deduce from these two scholars that once leadership behavior exhibits motivational tendencies, subordinates develop a sense of performance and high degree of productivity result more over subordinates that have high degree of regards for leaders who are task oriented and well versed in their various field and skills

Several studies have been undertaken to examine the performance of followers with participative leaders. Wickert (1951) and Ross Vs Zander (1957) stated that people who had little influence on decision making has a higher probability of resigning from the organization than those whom had greater influences. Furthermore, Morse and Rainer (1956) assert that where people had influence in decision making, they have favorable work attitude compared with those with increased hierarchical control. But for Porgy and Maloney (1955) they observed that keeping employee informed, policies did not result in favorable attitudes toward the organization. Though the pursuit of participative patterns may make possible the Nigerian



situation, this may not hold any meaningful effect in that involvement and non-involvement of an employee in decision making may have little or no effect on his attitude toward his work. This is because the higher economic depression and the high explosive rate of unemployment are unbearably completing that no employee would like to resign his appointment based on such an intern able reason of non-involvement in as much as his asking is regular.

However, Elton and his Hawthorne experiment shows that there was positive effect of participation and recognition of the employees on their productivity and performance.

Other studies tried to evaluate how subordinate fall and reform under varying styles of their leaders. Fleishman et al (1955) found that there was a negative relationship between leadership behavior and absenteeism, which Fleishman and Harris (1962) stated that where leaders exercise high control, the number of grievances equally high and the higher the control the higher turnover and absenteeism. We would discover here that democratic pattern of leadership brought friendliness that is more cooperative, suggestions more materially accepted exchange of objectives criticism and higher productivity of higher quality.

The study observed that when leaders take cognizance of employee's performance for job and show accommodation behavior through democratic pattern of leadership that would bring more cooperative and friendly behavior.

The inability of leadership to deliver to the subordinate the necessary goals to poor performance and low productivity. Therefore, leadership resides in the subordinates. In addition, we see that the qualities of a manager possess or lacks are not nearly so important of his understanding his operational environment, the demand of his position and what kind of behavior and characteristics are like to attract the work group to help him develop method to combat the changing situation.

In the light of the above-cited studies on leadership and performance we cannot but say in conclusion that in all forms organizations power resides with leaders who can employ authoritarian leadership styles while power and responsibilities are shares with the work group in some way or where a leader employs democratic leadership style. That is to say, a leader is most effective when the relationship between him and his subordinates are excellent, where tasks he aims at accomplishing well are defined.

### Review of Studies

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### Summary of Literature Review

Leadership effectiveness involves a group process with the leader as the main directive element. As Bernard (2006) put it several decades' age, effectiveness is the "the accomplishment of the recognized objectives of cooperative action". It depends initially on influence, but beyond that, there are questions of value, such as how things are done to achieve what ends. Effective leadership means a productive use of human and material resources and/or a process of creating a vision, developing a strategy, enlisting cooperation and motivating action that result in the most desirable outcome.

Hershey and Blanchard (2002) suggest that effective leadership is the function of emphasis given to task and relationship behaviour as this relates to different types of situations. Task behaviour is defined as essentially the extent to which a leader engages in one-way communication by explaining what each subordinate is to do as well as when, where, and how task to be accomplished.

### DATA PRESENTATION AND ANALYSIS

The objective of this chapter is to present and analyze the data collected in this study. It takes critical look on the effect of leadership on organizational performance in Federal College of Horticultural Technology, Gombe.





**Personal Data**

**Table 1.1 Distribution of respondents based on sex**

Sex	No. of respondent	Percentage %
Male	195	79.5%
Female	65	26.22%
Total	260	100%

**Source: Questionnaire 2022**

Table 1.1 shows that 195 respondents are male representing 73.78% while 65 are female which represents 26.22%. This depicts that, there are more male than female staff in the college.

**Table 1.2 To What extent to which leadership influence Organizational performance in the federal Collage of Horticultural Technology?**

Responses	No. of Respondents	Percentages %
Bonus	25	14.99%
Leave grant	66	25.07%
Promotion	132	44.95%
Commendation	37	14.99%
Total	260	100%

**Source: Questionnaire 2022**

Table 1.2 indicates that 14.99% (25) of the employees performance would be influence through bonus,25.07% (66) of the employees leave grant,156 respondents representing 44.95% are influence through study fellowship and 14.99% (37) of the respondents are influence commendation.

This implies that seminar and study fellowship are the major tools used in influence the organization performance in the Federal college of Horticultural Technology.

**Table 1.3 Inadequate facilities and communication gap hinder employees performance in the college ?**

Responses	No. of Respondents	Percentages %
Agreed	228	85.02%
Disagreed	20	10.09%
Indifference	12	4.89%
Total	260	100%

**Sources: Questionnaire 2022**

This indicate from the table 1.3 above that 85.02% of the respondent opined that inadequate facilities and communication gap would hinder employee’s performance,44.96% also agreed,

10.09% of the respondents disagreed and 4.89% are indifference to such statement.

This indicates that the availability of facilities and channel of communication would enhance performance.

**Table 1.4 Does your leader give you freedom to exercise your initiatives in carrying out most of the duties assigned to you?**

Responses	No. of Respondents	Percentages %
Yes	209	70.03%
No	51	29.97%
Total	260	100%

**Source: Questionnaire 2019**

In table 1.4, High response of 70.03% from the respondents indicate that leadership of the college gives the employee freedom to exercise their initiatives in carrying out most of their duties while 29.97% are not in agreement to that effect.

This could be generalized that when employees exercise their initiatives, there would be room for improvements.



**Table 1.5 What leadership style could be adopted to improve employees performance in the College ?**

Responses	No. of Respondents	Percentages %
Autocratic	32	14.99%
Democratic	164	55.04%
Laissez – faire	32	14.99%
None of the above	32	14.99%
Total	260	100%

**Source: Questionnaire 2022**

Table 1.5 shows that,14.99% of the respondents agree that Authoritarian leadership style will be appropriate in improving employee’s performance, 55.04% are of the opinion that it’s Democratic leadership style, 14.99% suggest it’s laissez-faire leadership style while 14.99% have no opinion on what leadership style would be appropriate.

This depicts that democratic leadership style would be appropriate in improving employee’s performance in Federal College of Horticultural Technology, Gombe. This would give employee freedom to express their view(s).

**SUMMARY OF FINDINGS**

The following are the research findings:

- i. The study found that employees’ performance are encouraged through seminar and study fellowship which induces effective and efficient performance.
- ii. The study established that there are certain qualities a leader must possess in any productive organization such as intelligence, perseverance, persuasive, pragmatic, versatility and dynamic e.t.c., these qualities tend to encourage employee towards improving their performance.
- iii. The study revealed that, the leadership style adopted has a significant effect on employee’s performance. It is believed that democratic style (participative) of leadership is suitable on the organization to improve performance. This is true because for any organization to improve, employee should be given a role to play when it comes to decision making or matters affecting them.
- iv. The study found out that poor communication gap and inadequate facilities are some of the impediments discouraging employees’ improvement on performance. Finally, it was ascertained that for any organization, institution or public sector to encourage performance, it must thrive on taking measures to improving on the employee’s performance.

**CONCLUSION**

The effect of leadership on organizational performance cannot be over emphasized, because leadership plays an important role in enhancing the performance of an organization. It is noted that a good leader should be less autocratic although not always, especially when the situation at hand demands for an autocratic style of leadership. Leaders whether in small group or as an organization should exhibit those qualities of leadership and

it can be deduced that a participative form of leadership is more appropriate for employees performance.

An average employee desires to be encouraged by any means therefore it is imperative that subordinate adopt measures to motivate their performance.

Conclusively, an effective leader in any organization is the one who leads by example; he finds solution to problems and takes decision collectively. Above all, an effective leader possesses all leadership behaviour and adopts the appropriate leadership style to solve the situation at hand.

**RECOMMENDATIONS**

As a result of the theoretical reviews and the practical analysis carried out in the preceding chapters, it was discovered that there exist a cordial relationship among the top management and employees; this has enabled the smooth running of the institution and good team work.

However, to further improve the above mentioned, the following recommendation should be implemented to enhance leadership and employee’s performance in Federal College of Education and possibly for other purpose.

1. Since the study revealed that most staff of the college are highly qualified, experienced and satisfied with their work. Management by Objectives (MBO) should be incorporated so as to ease the task of leaders towards achieving organizational performance.
2. Since the study found that employees’ performance is encouraged through leave grant and promotion which induces effective and efficient performance. Adequate facilities and conducive working environment be provided as it helps to boost employees’ morale which will result to higher performance.
3. Provision should be made for the identification and recommendation of staff with exceptional performance and a reward system should be designed so as to build confidence in the subordinates, recognizing their efforts and appreciating them.
4. Employees should be given freedom in making decisions relating to their work and subordinate be involved in the analysis and changes of work environment.
5. Adequate wages, prompt payment of salaries, bonuses, fringe benefits should be taken into full cognizance so as to commensurate with the job well done by the employees. The college management should encourage employees by means of better job design through job enrichment and



promotion should be based on recommendation from the office of the Heads/Deans or superior officer etc.

For the best outcome in any organization, the relationship between the subordinates and employee is important. This will go a long way in improving its overall performances and efficiency, it should be noted that the performance is as good as achievements.

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# IMPACT OF RUSSIAN-UKRAINIAN WAR ON INDIAN ECONOMY

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## ABSTRACT

*The main reason to taking this very topic is to understand the nuances of this entire war and also to connect it with Indian economy. Russia launched an all-out attack on Ukraine through land, air and sea. The attacks by Russia are considered as the biggest attack by one state against another in Europe since the Second World War. The prime objective is to study the adversities faced by India on account of this war. To identify the primary areas where the war has had an impact on India so that the government can be aware of them and develop new policies to deal with these issues. Also, knowing where it has a specific impact can help the government focus on those areas. Understanding the implications and aftereffects of conflict will be useful in allocating finances at the proper time and area, otherwise it may have a greater impact on the economy. The prime objective is to study the adversities faced by India on account of this war. To identify the primary areas where the war has had an impact on India so that the government can be aware of them and develop new policies to deal with these issues. Also, knowing where it has a specific impact can help the government focus on those areas. Understanding the implications and aftereffects of conflict will be useful in allocating finances at the proper time and area, otherwise it may have a greater impact on the economy.*

**KEYWORDS:** *Economy, National Development, War*

## INTRODUCTION

War, the greatest disaster, hinders national development and even grassroots social bond. The scale of these wars is so devastating that it tends to be global, i.e., its impact covers the entire world. No country is left untouched by the ravages of war and must face its consequences. The war of Russia on the Ukraine on 24th February 2022 in the wake of its invasion is the recent example of the same.

The breakdown of the situation between Ukraine and Russia has highlighted the world, as the country has had broader security and financial dispersion for a considerable time, including India, with development taking place after Covid. Its spill over effect is seen over the entire world. The economies of Ukraine and Russia are small compared to the global economy as a whole. However, they are of great importance and influence in several key areas, especially food and energy. The rise in commodity prices due to conflict, which affected the household spending, is more likely to be spread through trade links with other countries.

Russia is the major global exporter of agricultural products like wheat, corn, coarse grains, sunflower oil and other grains, that will add inflationary pressures in the global economy. It could have an adverse implication on those emerging nations that rely on imported grain and where food is a high share of household spending. The economic sanctions on Russia with respect to trade make situation more badly.

## STATEMENT OF THE PROBLEM

The main reason to taking this very topic is to understand the nuances of this entire war and also to connect it with Indian economy!

- Russia launched an all-out attack on Ukraine through land, air and sea.
- The attacks by Russia are considered as the biggest attack by one state against another in Europe since the Second World War.



### Russia's Reason for the Invasion

- Russia's President Mr. Putin declared that he has ordered "a special military operation" to protect people, including Russian citizens who had been subjected to "genocide" in Ukraine, "for this we will strive for the demilitarisation and denazification of Ukraine".

### Violations of International Laws by Russia

- **The UN Charter**
  - It demands the states to avoid using force or threat of using force against the territorial integrity or political independence of any state.
- **The UN General Assembly Resolution 3314 (1974)**
  - The resolution defines aggression as the use of armed force by a state against the sovereignty, territorial integrity or political independence of another state.
  - Also, allowing one's territory to be used by another state for aggression against a third state, would qualify as an act of aggression.
  - Hence, Belarus can also be held responsible for aggression as it has allowed its territory to be used by Russia for attacking Ukraine.

### SIGNIFICANCE OF THE STUDY

Russia invaded Ukraine on 24 February 2022, escalating the Russo-Ukrainian war started in 2014. Russia periodically invaded Ukraine following the start of the war in 2014, but the recent attack is the largest conventional military attack in Europe since World War II. Ukraine expressed its wish to join NATO before the recent invasion, triggering Russia's response.

Putin stated the invasion was necessary to protect Russia, as well as demilitarize and de-Nazi Ukraine. (Ukraine is a democracy led by a Jewish president.) This invasion had endangered many innocent civilians and the Ukrainian government, but its effects will be felt far beyond just Ukraine.

A shift in world powers occurred with the invasion of Ukraine, the most significant one since the 9/11 terrorist attacks. The USSR, a predecessor to Russia, was the main concern for the US following WWII in the Cold War. However, 9/11 shifted US focus to Al-Qaeda and ISIS: Russia did not pose the same threat it once did. Putin made contradictory moves during the 2000s and 2010s. He made multiple attempts to prevent former Soviet bloc countries from becoming closer to Western Europe-- notably Georgia in 2008-- and supported Syrian dictator President Bashar al-Assad; but also helped fight ISIS, was Europe's main energy supplier, and helped negotiate pacts, such as the nuclear deal with Iran in 2015. Putin's attack on Ukraine has made Russia the most prominent threat to the Western world once again.

The EU, historically divided over the extent of power Brussels should have in foreign policy, has become united as a result of the Ukrainian invasion. The EU is one of the main global economic powers, and remained mostly removed from geopolitics before. However, the recent offensive has raised fears of another European war, prompting the EU to finance Ukraine to buy weapons.

Most prominently, many people have been displaced and forced to flee because of Russia's attack. This migration is one of the fastest and largest migrations in recent history, with one million people leaving their homes in the first seven days after the attack. This raises concerns over a refugee crisis in Europe, and whether refugees can return to their homes, if their homes still exist.



Implications for the average person outside of Ukraine result from the crisis as well. The US made sanctions on two Russian banks and five oligarchs and their families, and prohibited the purchase of Russian sovereign debt. This restricts major Russian banks, affecting Russian international trade. This will raise prices, depreciate currency, and cause market crashes in Russia. The loss of Russian exports, which include fossil fuels and other commodities, impacts mainly Europe, but other countries as well. Energy prices will rise because Russia is a major exporter of natural gas and petroleum. Russia can limit or cut off energy to Europe, and multiple pipelines run through the unstable region of Ukraine to Europe. Industries will also take a hit, raising prices of consumer goods, as Russia is a main exporter of minerals and

heavy metals, such as palladium used in catalytic converters in cars and semiconductor chips used in various technologies. In addition, food prices will spike because fertilizer and wheat are main exports in Russia and Ukraine. The stock market has already started to suffer because of the potential war in Europe, and will likely not recover anytime soon.

Indian people are living in almost every country of the world. We play a huge role in world development and the global economy.

According to foreign ministry of India there are more than 20000 Indians living in Ukraine. The Indian government already issued an advisory on the 15th Feb for evacuating Indians from the Ukraine. But none of them booked for return to India.



A full arrangement was arranged by the government with more than 4 daily flights. The war began on 23rd of February and the airfield of the Ukraine is blocked now by the Russian army.

Government issued a second advisory to evacuate Indians from the neighbouring countries. All the Indians have been advised to reach out to the land borders of Poland and Romania. Indian air force and Air India will launch an airlift operation to bring back all the Indians to the country.

People now living in the basements and subway are advised to be there for 6 days and the Indian air force will launch an operation to bring them with full safety.

## OBJECTIVE OF THE STUDY

The prime objective is to study the adversities faced by India on account of this war. To identify the primary areas where the war has had an impact on India so that the government can be aware of them and develop new policies to deal with these issues. Also, knowing where it has a specific impact can help the government focus on those areas. Understanding the implications and aftereffects of conflict will

be useful in allocating finances at the proper time and area, otherwise it may have a greater impact on the economy.

## RESEARCH METHODOLOGY

### Consequence of the war ahead

Large-scale property and human life loss is a result of the conflict between Russia and Ukraine. It leaves behind death, illness, malnutrition, poverty, and devastation. It has caused turbulence in the financial markets and raised uncertainty across the board, and it will take time to recover from its effects. Russia is among the top 5 producers of steel, nickel, and aluminium and is third in the world for oil output. It is also second in natural gas production. Additionally, it exports the most wheat globally.

On the other side, Ukraine ranks sixth in the world for corn production, seventh for wheat, first for sunflowers, and tenth for sugar beet, barley, and thirteen other crops. On the day of the invasion, there was a dramatic decline in global financial markets and a rise in the prices of metals, food commodities, natural gas, and oil. For the first time since 2014, the price of a barrel of Brent oil surpassed \$100 USD.



A sudden surge in commodity prices heightens the risk of persistently high inflation, which might lead to stagflation and social instability in both developed and developing countries. The automobile industry was also affected by the increase in the cost of raw materials and commodities such as metals, semi-conductors, lithium, and magnesium. Even some of the key suppliers of Western European automakers, Ukrainian auto plants, have stopped operating in Europe.

Aircraft companies are also at great risk as a result of the restrictions the US and Canada have placed on the accessibility of Russian airlines. In retaliation, Russia also forbade European and Canadian aircraft from flying in Russian airspace. Airlines must now travel large distances to get to their destinations, which will cause fuel prices to increase. Even European businesses are prohibited from conducting business with Russian Railways, which will hamper freight operations as well. According to a Coface research, the Russian economy would experience a severe recession in 2022, with an estimated GDP of -7.5%. As a result, the risk rating for the nation will drop from B (very high) to D (very high). Even the Russian Central Bank and banks are not allowed to utilise the SWIFT payment system since it could cause the "Ruble" to fall in value. Although Russia has excellent financial standing—low public debt, a surplus on its current account, and significant foreign reserves estimated at 640 billion US dollars—these factors alone would only go so far in preventing the Ruble from depreciating. Being the largest exporter of energy, even Russia might profit from the rising prices of commodities.

Russian mining and industrial operations would be hampered by more limitations on their access to Western semiconductors, computers, telephones, and information security systems.

The European economy is reliant on Russian oil and natural gas, making it unable to protect itself against its effects. It would significantly affect inflation in addition to being quite different to replace the entire supply in such a short- to medium-term time frame. According to Coface's predictions, an increase in inflation of at least 1.5% would reduce consumer consumption along with exports and company investment.

The GDP growth rate would be further reduced by 1% as a result. Fully reliant on Russian natural gas are Germany, Italy, and a few other Central and Eastern European nations. The value of the Euro will also decrease due to their trade relations. The annual growth rate of Europe will be close to zero, and probably even negative, if the flow of natural gas from Russia is totally stopped.

Other nations throughout the world are also not exempt from its economic repercussions as a result of the rise in commodity prices, which will exacerbate inflationary pressures. Supply interruptions have occurred for all nations that are net importers of energy and food items, including China, Japan, India, Korea, Taiwan, and Thailand.

### The war's effects on India's economy

India, a developing country, does not trade much with Russia in terms of goods, but it still stands to suffer financially as a result of the sanctions imposed by the West, which will disrupt supply chains and trigger shocks to global terms of trade. This will result in a spike in the cost of energy, food, and metals, which raises inflation in the economy. This battle exposes the Indian economy to certain dangers while also giving it some possibilities to overcome challenges. India now faces the following challenges:



The price of crude oil has increased to \$100 a barrel as of May 5, 2022, which is the highest level in 14 years. This could result in high inflation and slow growth in India. Since Russia accounts for just 1% of India's oil imports, the rest of it comes from the Middle East since logistics and shipping are more affordable there. As a result, the impact's size is not very bad. Due to the global macro instability, this puts the nation at danger. Global economy circumstances would deteriorate as a result of ongoing geopolitical tensions, further impeding India's export and investment. The nation's biggest source of worry is this.

Due to the continuous fighting, gas and fuel prices have also increased, which raises the expenses of logistics and transportation and ultimately drives up local and global pricing. A peak has also been reached in oil prices. India imports from Russia \$205 billion worth of minerals, \$832 billion worth of precious metals, and \$609 billion worth of fertilisers, which might cause a significant amount of inflation in the Indian economy. An interruption in Russia's supply chain would have a negative effect on the Indian economy because India also buys 84% of its sunflower oil from that country.



Another immediate hardship was evident as soon as the conflict started in the global financial markets. Due to investor panic selling, the Sensex fell by 2700 points, wiping out Rs. 7.5 lakh crores from the stock market. The financial markets become volatile when there is uncertainty. The 2022 S&P BSE Sensitive Index (BSE Sensex), which had reached a 52-week high of 53,035 on March 7th, had fallen further 5700 points in the subsequent wave of depreciation. Investors begin to switch their investments from stocks to gold-related assets as a result of their fear and lack of confidence caused by the equity market's misery, which drives gold prices to \$2000 per ounce.

Being the third-largest gold supplier, Russia can simply increase its gold supply, aiding in the recovery of the "Ruble's" lost value. Because of this, Russia chose to link the Russian Ruble to gold on March 5, 2022, meaning that one gramme of gold would be worth 5000 roubles until June 30, 2022.

Pharma industry losses to the Indian economy are a result of rising active pharmaceutical ingredient (API) price volatility. 90% of the API required by the sector is imported, and the Ukraine conflict is going to make conditions worse. Because of this unpredictability, company profitability and





financial sheets are already under pressure. The financial environment for the sector can deteriorate.



Additionally, the US sanctions against the usage of the SWIFT payment system have worried the Indian pharmaceutical business. This is because companies are concerned about getting paid because, according to a report from the Pharmaceuticals Export Promotion Council (Pharmexcil) for 2020–21, pharmaceutical exports to Russia and Ukraine totalled \$591 million and \$181 million, respectively, or less than 3% of total pharmaceutical exports. Now, getting paid for goods to Russia will be a major issue. The Federation of Indian Export Organizations (FIEO) estimates that unrealized receipts for goods that have already been dispatched total roughly \$400 million.

That is primarily from Russia. The financial repercussions would now be severe for Indian exporters. As the "Ruble," a volatile currency, has also plummeted to some extent, banks have taken strict precautions to settle payment mechanisms.

In its union budget for 2022–2023, India committed \$70.2 billion for military spending, based on a significant defence agreement that was struck in October 2018 and calls for the delivery of the \$5 billion S-400 air missile system produced in Russia. Furthermore, despite the US's threat of sanctions over the S-400 purchase hanging over India, the Indian military depends on Russian weapons systems and cannot function effectively without them in the medium term.

Along with these difficulties, the Indian economy will face the following chances in the future:

Three metals—steel, aluminium, and nickel—have seen increases in price as a result of this dispute. The increase in steel prices gives Indian exporters a chance to access Southeast Asia's export market. The largest and most economical producer of aluminium in the world, Russia, is unable to satisfy the demand on a worldwide scale. Sanctions also make it harder to find aluminium, which is already in limited supply. In such situation, Indian firms like Hindalco, Vedanta, and Nalco can enter the market and meet their needs. In addition, because metal prices are decided globally and have a bearing on geopolitics, they will continue to be high. India may potentially

close the deficit by expanding wheat exports, since Russia and the Ukraine have both disrupted the world's wheat supply. The two are the two biggest exporters of wheat worldwide. In such a case, it may be possible to investigate the export market and make mustard oil from Rajasthan and Uttar Pradesh available. The absence of the SWIFT system has left a void in the market. The UPI system in India can fill this in (Unified Payments Interface). Without internet access, UPI allows for digital payments. In the last few years, India has experienced significant growth in this industry. In terms of transactions, UPI surpassed \$1 trillion in the fiscal year 2021–2022. If UPI can fill this need, it will significantly boost the Indian economy's banking sector and take SWIFT's position in the Russian market. The major effects of the war between Russia and Ukraine on the global economy are rising energy costs and less trust in the financial markets, which are supported by severe international sanctions against Russia.

## CONCLUSION

All of humanity and human civilisation are at war with each other.

Nothing constructive can be made of it. It undermines social cohesion as well as the nation's ability to grow. It slows down the rate of human progress. The same dynamic may be seen in the most recent confrontation between Russia and Ukraine. It has caused financial instability and raised doubts about the global economy's ability to recover. The commodities and energy markets risk greater pressure as a result. Disruptions are caused all around the world by it. The US's numerous trade sanctions on Russia worsen the issue. This essay investigates the effects of the war on the Indian economy.

Also mentioned are potential chances for the Indian economy. Increased global competition is India's main challenge. Due to an increase in the cost of crude oil, diesel, and gasoline. This could lead to a rise in the current account deficit and subsequently sluggish economic development. Apart from that, Indians have a wide range of opportunities in front of them. The time is ripe to enter the export market in order to fill a void



in the global market by ensuring their presence in a variety of sectors.

In order to lessen the impact of inflation, the Indian Government now needs to take specific actions when establishing the monetary policy.

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## INSURANCE: AN UNDERLYING SECTOR

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### ABSTRACT

*By this study we are trying to address how the insurance sector can help boost India's economy by 2-fold. From a 2.7 trillion dollars to a 5 trillion-dollar economy in a few years, with the support of the government, private and public organizations and companies This sector is often overlooked when the topic of contribution to GDP is brought up. Through this paper we want to inform and spread out about the significance of insurance in developing various aspects of the country which can help flourish the GDP and the economy as a whole. To analyses the insurance growth trend and potential growth. To inform about the multiplier effect of the insurance sector on India's GDP. Primary data has been collected by conducting surveys, interviewing people relevant to the insurance sector. Data has been collected from journals, articles, newsletter of Insurance Institute of India, etc. The study period is 2022. From the above analysis we can observe that trend percentages are increasing, so we can conclude it is improving year to year and but still India has less density percentage in the world wide. There is need to penetrate into rural areas in a big way since huge market potential lies in rural India*

**KEYWORDS:** GDP, Insurance, India's economy,

### INTRODUCTION

Insurance is a way to manage your risk. When you purchase insurance, you purchase protection or compensation against unexpected losses mostly financial. The payment for the loss is paid by the person or the company from whom you purchase the insurance. The purchase of insurance is called an insurance policy. An insurance policy is a written contract between the policyholder (the person or company that gets the policy) and the insurer (the insurance company). The insurer agrees to compensate the insured in the event of a covered loss in an exchange for a periodical payment of a sum of money called premium. Some common types of insurance are health, disability, auto, life, etc. The insurer agrees to compensate the insured in the event of a covered loss in an exchange for a periodical payment of a sum of money called premium.

Insurance affects the economic development of a country positively. As an economy develops over the years, the insurance business starts making inroads into the various sectors of economic activity in the country. Insurance contributes about 4.2% in India's GDP and has shown a great trend and potential of growth which can multiply. Thus, we can establish a proper increase in GDP of India with the support and by supporting the insurance sector.

### STATEMENT OF THE PROBLEM

By this study we are trying to address how the insurance sector can help boost India's economy by 2-fold. From a 2.7 trillion dollar to a 5 trillion-dollar economy in a few years, with

the support of the government, private and public organisations and companies This sector is often overlooked when the topic of contribution to GDP is brought up.

### SIGNIFICANCE OF THE STUDY

Through this paper we want to inform and spread out about the significance of insurance in developing various aspects of the country which can help flourish the GDP and the economy as a whole.

### OBJECTIVES OF THE STUDY

- To analyse the insurance growth trend and potential growth
- To inform about the multiplier effect of the insurance sector on India's GDP.

### RESEARCH METHODOLOGY

The present study is based on both primary and secondary data.

Primary data has been collected by conducting surveys, interviewing people relevant to the insurance sector. Data has been collected from journals, articles, newsletter of Insurance Institute of India, etc. The study period is 2022.

Simple statistical and arithmetical tools like Mean, Median, Standard Deviation, Variance and ANOVA have been used in data analysis. The potential and performance of the insurance sector is assessed in metrics like insurance penetration, insurance density and its growth rate, etc.

Insurance penetration indicates the level of the insurance



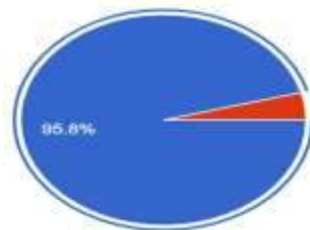
sector in the country. It is the ratio of premium underwritten in a given year to the Gross Domestic Product (GDP).

Insurance Density is the ratio of premium underwritten in a given year to the total population.

### SURVEY RESULTS

Do you have insurance policy?

95 responses

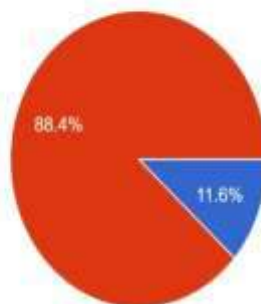


- YES
- NO

The answer by majority of the respondents was they don't have an insurance policy of anykind.

Do you have any information about insurance?

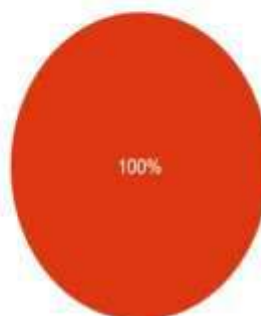
95 responses



- Yes
- No

Are you planning on cancelling any existing life insurance?

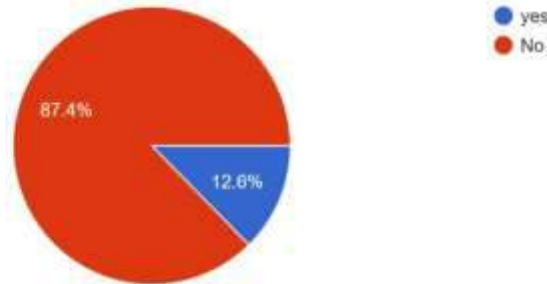
95 responses



- yes
- no

Do you have existing life insurance?

95 responses



## DATA ANALYSIS & INTERPRETATION

### Evolution and growth of Insurance sector

The Indian insurance sector is dominated by the public sector insurers, even though this sector has been opened up to private and foreign players and the private sector insurers are gradually increasing their presence. From being an exclusive state monopoly and restricted market to a competitive and open one, the insurance sector in India has experienced a paradigm shift in the last couple of years. The insurance sector in India has been marked by remarkable growth. The total insurance premiums in India during 2017 increased at a rapid rate of 10.1 per cent as compared to a rate of increase of 1.5 percent of their global counterparts (IRDAI, 2018). Life insurance continues to dominate with its enormous market share. The product mix of the sector has changed due to the unveiling of innovative products like unit-linked insurance plans in the life insurance sector and new distribution channels such as bancassurance. Online distribution and NBFCs are broadening the reach of the sector (IBEF, 2019). Among the 24 life insurers currently operating in the Indian market, the Life Insurance Corporation (LIC) is the sole public sector company. Motor, health, and crop insurance segments are driving growth in the non-life insurance segment. Among the 35 non-life insurers, there are six public sector insurers. In addition to these, there is the sole national re-insurer, General Insurance Corporation of India (GIC Re). Other stakeholders in the Indian insurance market include individual and corporate agents, brokers, surveyors, and third-party administrators servicing health insurance claims.

### Composition of insurance Sector

The life insurance industry is expected to increase at a CAGR of 5.3% between 2019 and 2023. India's insurance penetration was pegged at 4.2% in FY21, with life insurance penetration at 3.2% and non-life insurance penetration at 1%. In terms of insurance density, India's overall density stood at US\$ 78 in FY21. Premiums from India's life insurance industry are expected to reach Rs. 24 lakh crore (US\$ 317.98 billion) by FY31.

There are 24 life insurance and 34 non-life insurance companies in the Indian market who compete on price and

services to attract customers, whereas there are two reinsurance companies. The industry has been spurred by product innovation and vibrant distribution channels, coupled with targeted publicity and promotional campaigns by insurers.

The market share of private sector companies in the general and health insurance market increased from 48.03% in FY20 to 49.31% in FY21. The gross first-year premium of life insurers increased by 12.93% in 2021-22 to Rs. 314,262.42 crore (US\$ 40.06 billion). In

FY22, premiums from new businesses of life insurance companies in India stood at US\$ 40.06 billion. The sum insured for the life insurance industry grew at 16.81% in 2021-22. In May 2022, life insurers' new business premium grew by 88.64% to Rs. 24,480.36 (US\$ 3.12 billion) as per Life Insurance Council data.

### Reinsurance sector of India

Following the nationalisation of the non-life market by the Indian government in 1972, GIC was set up, tasked to supervise and control property and casualty insurance, which at the time was wrapped around four major national insurance entities: New India, Oriental, National and United. GIC was then operating in the market as a reinsurer and shareholder of the four direct non-life companies.

With the establishment of the regulatory authority IRDAI, GIC Re underwent a major reorganisation in December 2000. The company withdrew from its four subsidiaries and became a national reinsurer under the name of GIC Re.

Since 2014, GIC Re has benefited from a legal cession of 5% on each and every policy written on the domestic market, excluding premiums transferred to the insurance pools for terrorism and nuclear risks.

During the 2018/2019 year, GIC Re controlled 81% of turnover of the *Indian reinsurance market*, that is 6.357 billion USD.

During the same year, GIC Re's portfolio included 70% in Indian business and 30% in international business.

Mainly active in Asia, the Middle East and Africa, GIC Re has several subsidiaries established in the United Kingdom, Russia, United Arab Emirates, Malaysia, South Africa and



Brazil.

In 2019, GIC Re is ranked 12<sup>th</sup> worldwide in reinsurance and 3<sup>rd</sup> in Asia.

A second local reinsurance company, ITI Re, received the green light from the authorities in December 2016. This first private reinsurer had its licence withdrawn three years later, in May 2019, for (inability) failing to start its activities within the deadlines set by the regulator.

#### **Cross Border Reinsurers (CBR)**

So-called cross-border stakeholders were authorised to operate through their headquarters, regional or liaison offices without any physical presence in the Indian Territory. This is how Scor has been present in the country for nearly 50 years through its Singapore base.

Swiss Re, on its part, has been collaborating with Indian insurers for almost a century while Munich Re has been present on the non-life and life reinsurance market since 1951 and 1957, respectively.

These entities underwrote life and non-life risks in India in accordance with the regulations while being subject to the right of first refusal granted to GIC Re.

IRDAI has recently allowed foreign insurers and reinsurers to open offices at the International Financial Services Centre in Mumbai (Bombay), to carry out reinsurance operations.

#### **Foreign Reinsurer Branches (FRB)**

With the opening of the market to competition, several foreign players were authorised to setup branches there.

It is to ensure a better presence on this high-potential market that the historical stakeholders have set up complete

reinsurance teams there, standing as solution providers, mainly for high-tech, specialty and natural disasters risks.

By 31 March 2019, the market had 10 foreign reinsurance subsidiaries, namely Scor, Munich Re, Swiss Re, Hannover Re, Axa Vie, XL Cat, Gen Re, RGA, Allianz Global and Lloyd's, the latter having two syndicates: Amlin and Market Services India Private.

All foreign reinsurers underwrite 1.497 billion USD of local premiums, that is a market share of 19%. Axa France Vie, Munich Re and Swiss Re alone generate 1.009 billion USD in premiums, i.e., 67% of the foreign reinsurers' premium income.

#### **Potential Growth of insurance in India**

Premiums from India's life insurance industry are expected to reach Rs. 24 lakh crore (US\$

317.98 billion) by FY31. In the first half of FY22, the life insurance industry recorded a growth rate of 5.8% compared with 0.8% in the same period last year. The gross first-year premium of life insurers increased by 12.93% in 2021-22 to Rs. 314,262.42 crore (US\$ 40.06 billion).

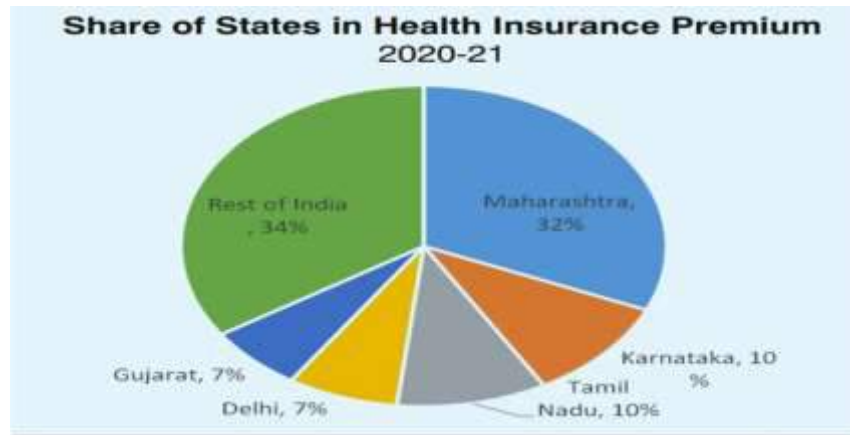
Between April 2021-March 2022, gross premiums written off by non-life insurers reached Rs. 220,772.07 crore (US\$ 28.14 billion), an increase of 11.1% over the same period in FY21. In May 2022, the total premium earned by the non-life insurance segment stood at Rs. 36,680.73 crore (US\$ 4.61 billion), a 24.15% increase as compared to the same period in the previous year. The market share of private sector companies in the general and health insurance market increased from 48.03% in FY20 to 49.31% in FY21. Six standalone private sector health insurance companies registered a jump of 66.6% in their gross premium at Rs 1,406.64 crore (US\$ 191.84 million) in May 2021, as against Rs. 844.13 crore (US\$ 115.12 million) earlier.



BIRD'S EYE VIEW OF INSURANCE SECTOR (As at March 31)									
Particular	2018-19			2019-20			2020-21		
	Life	Non-Life	Total	Life	Non-Life	Total	Life	Non-Life	Total
1 Number of insurance companies	24	35	59	24	33	57	24	32	56
2 Number of offices	11,279	11,578	22,857	11,310	11,394	22,704	11,060	11,248	22,308
3 Insurance penetration (%)	2.69	0.90	3.59	2.82	0.94	3.76	3.20	1.00	4.20
4 Insurance density (\$)	55.00	19.00	74.00	58.00	19.00	78.00*	59.00	19.00	78.00
5 Number of new policies issued (lakh)	286.48	1911.78	2,198.26	288.47	2415.09	2,703.56	281.27	2,467.33	2,748.60
6 Total Premium	5,08,132.03	1,72,482.77	6,80,614.80	5,72,910.19	1,92,192.59	7,65,102.78	6,28,731.04	2,02,082.30	8,30,813.34
I. Within India (₹crore)	5,07,761.76	1,69,448.46	6,77,210.22	5,72,531.93	1,88,916.62	7,61,448.55	6,28,330.70	1,98,714.72	8,27,045.42
ii. Outside India (₹crore)	370.27	3,034.30	3,404.57	378.26	3,275.97	3,654.23	400.34	3,367.58	3,767.92
7 Growth in Premium (%)	10.75	12.41	11.18	12.75	11.43	12.41	9.74	5.15	8.59
8. Premium of PSUs (₹crore)	3,37,505.07	71,693.15	4,09,198.22	3,79,389.60	76,539.05	4,55,928.65	4,03,286.55	75,211.29	4,78,497.84
9 Market share of PSUs (%)	66.42	41.57	60.12	66.22	39.82	59.59	64.14	37.22	57.59
10 Assets Under Management (₹crore)	35,33,142.84	3,14,331.33	38,47,474.17	38,90,274.09	3,62,655.67	42,52,929.76	44,79,973.46	4,33,301.36	49,13,274.82
11 Paid-up Capital (₹crore)	27,615.94	16,517.86	44,133.80	28,087.96	21,360.73	49,448.69	28,346.37	32,842.24	61,188.61
12 Other Forms of Capital (₹crore)	230.00	4,656.00	4,886.00	230.00	4,875.00	5,105.00	2,210	4,875.00	7,085.00
13 Commission expenses (₹crore)	27,774.54	12,277.42	40,051.96	31,192.52	13,893.13	45,085.65	32,994.08	15,409.50	48,403.58
14 Operating expenses (₹crore)	51,130.26	28,624.10	79,754.36	60,121.00	35,844.93	95,965.93	61,422.29	38,281.44	99,703.73
15 Claims (₹crore)	3,29,578.28	1,01,051.01	4,30,729.29	3,51,466.70	1,08,390.26	4,59,856.49	3,98,772.47	1,11,549.83	5,10,322.30
16 Income from investments (₹crore)	2,84,800.37	26,288.51	3,11,088.88	2,33,743.74	28,605.52	2,62,349.26	4,66,030.35	29,743.55	4,95,773.90
17 Profit after tax (₹crore)	8,435.81	683.21	9,119.02	7,728.30	-1,494.38	6,233.92	8,660.63	3,852.53	12,513.16
18 Dividend paid (₹crore)	4,441.86	647.92	5,089.78	3,890.03	1,306.21	4,949.04	615.35	1,001.06	1,616.41

The Motor business continued to be the largest general insurance segment with a share of 34.12 per cent (36.50 per cent in 2019-20). It reported de-growth of 1.68 per cent (6.86 per cent growth in 2019-20). The premium collection in the Health segment continued to surge ahead at ₹63,753 crore in 2020-21 from ₹56,865 crore of 2019-20,

registering growth of 12.11 per cent. The market share of the health segment has increased to 32.08 per cent from 30.10 percent of previous year. The premium collection in fire segment increased by 27.87 per cent and in Marine segments decreased by 1.25 per cent in 2020-21.



While five states namely Maharashtra, Karnataka, Tamil Nadu, Delhi UT and Gujarat contributed 66 per cent of total health insurance (excluding PA and Travel), the rest of the States/UTs

have contributed 34 per cent of the total Health insurance premium. The state of Maharashtra alone contributed ₹18,354 crore (32 per cent) of total health insurance premium.

**Table 1: Insurance Penetration and Density in India**

Year	Life		Non-life		Industry	
	Density (USD)	Penetration (%)	Density (USD)	Penetration (%)	Density (USD)	Penetration (%)
2001	9.1	2.15	2.4	0.56	11.5	2.71
2002	11.7	2.59	3.0	0.67	14.7	3.26
2003	12.9	2.26	3.3	0.62	16.4	2.88
2004	15.7	2.53	4.0	0.64	19.7	3.17
2005	18.3	2.53	4.4	0.61	22.7	3.14
2006	33.2	4.10	5.2	0.60	38.4	4.80
2007	40.4	4.00	6.2	0.60	46.6	4.7
2008	41.2	4.00	6.2	0.60	47.4	4.60
2009	47.7	4.60	6.7	0.60	54.3	5.20
2010	55.7	4.40	8.7	0.71	64.4	5.10
2011	49.0	3.40	10.0	0.70	59.0	4.10
2012	42.7	3.17	10.5	0.78	53.2	3.96
2013	41.0	3.10	11.0	0.80	52.0	3.90
2014	44.0	2.60	11.0	0.70	55.0	3.30
2015	43.2	2.72	11.5	0.72	54.7	3.44
2016	46.5	2.72	13.2	0.77	59.7	3.49
2017	55.0	2.76	18.0	0.93	73.0	3.69

In the past 17 years, the insurance sector of India has risen at a compounded annual growthrate (CAGR) of 16.5 per cent. The penetration and density of the Indian insurance sector is still quite low. The measure of insurance penetration and density reflects the level of development of the insurance sector in a country. While insurance penetration is measured as the percentage of insurance premiums to GDP, insurance density is calculated as the ratio of premiums to population (per capita

premium) (IRDAI, 2018). In the past 16 years, insurance penetration in India rose by a mere 1 percentage point from 2.7 per cent in 2001 to 3.7 per cent in 2017, according to IRDAI data. However, insurance density rose by double digits (CAGR of 12.2 per cent) during the same period. The following table (Table 1) documents the insurance penetration and density in India from 2001 to 2017



Figure 5: India life insurance density: Comparison with advanced countries (in US \$)

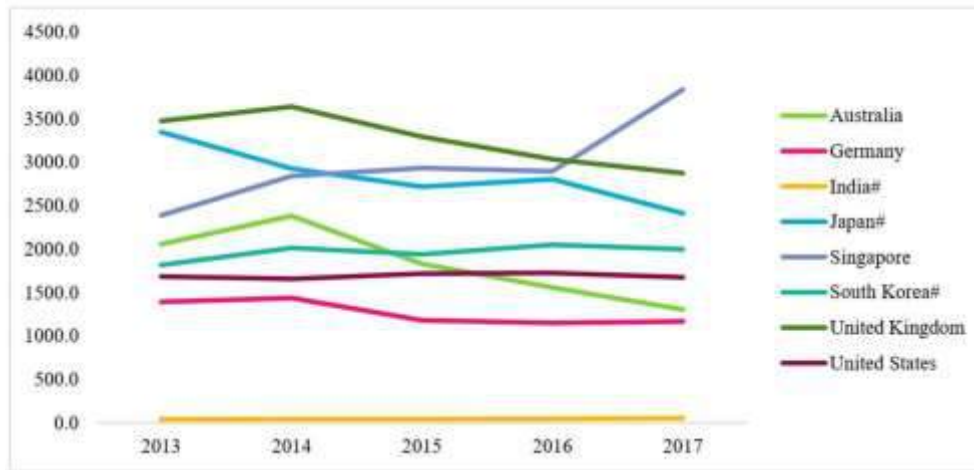
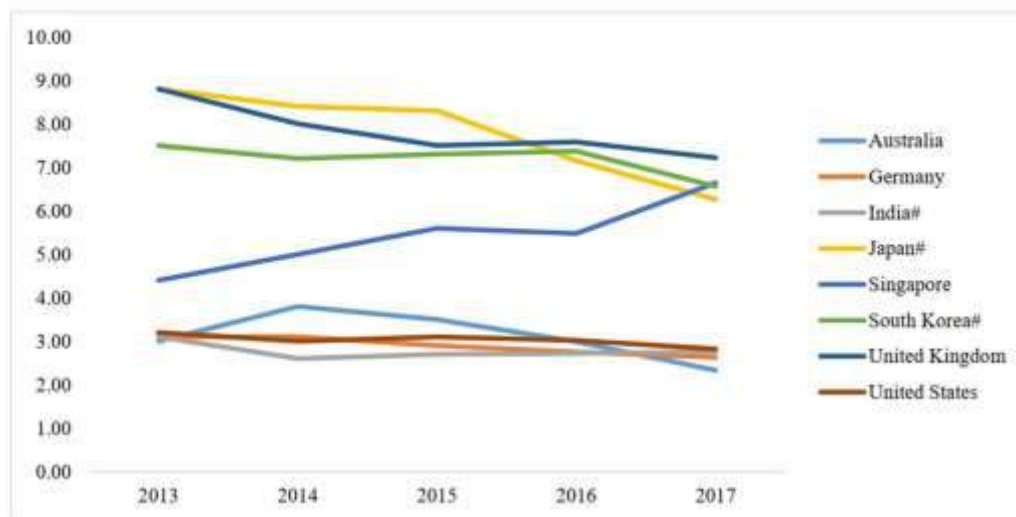


Figure 4: India Life insurance penetration: Comparison with advanced countries (in %)



India's insurance penetration is lower in both life and non-life insurance sectors compared to advanced countries. In 2017, insurance penetration was 11.6 per cent in South Korea, 9.6 per cent in the United States, 8.2 per cent in Singapore, 7.1 per cent in the UK, and only 3.7 per cent in India. India's insurance density is very low compared to the advanced economies even after the reforms. India's insurance density in 2017 is USD 73, whereas Singapore's density is USD 4749, and United States' insurance density is USD 4216. A similar situation prevails in the case of life and non-life insurance penetration and density. Life insurance dominates the sector with a huge share of 74.7 per cent, with non-life insurance accounting for 25.3 per cent market share (IRDAI, 2018). According to data published by Swiss Re, India's share in the global life insurance market was 2.7 per cent during 2017. However, during 2017, the life insurance premium in India increased by 8.0 per cent (inflation

adjusted) when global life insurance premiums increased by 0.5 per cent. However, a comparison with advanced countries (shown in Figures 4 and 5) reveals that India's insurance penetration and density is lower in life insurance sectors. India's life insurance penetration is 2.8 per cent in 2017, while for countries like the UK it is as high as 7.2 per cent and for Singapore and South Korea it is 6.6 per cent respectively.

### SUGGESTIONS

- The Government of India has made several efforts to support the insurance sector like increasing the FDI limit, aiming to dilute 7% stake of LIC and many others. These efforts should be consistently made every year so that the insurance sector boosts and has a multiplying effect on the GDP



- Awareness should be spread about different types of insurance and their availability through various ads, promotion campaigns etc
- In general, the public has relatively limited access to insurance. In order to deliver their insurance and reach the rural populace, it is advised that privatelife insurers form joint ventures
- Certain insurance policies should be given at low premium so that even the poor can access it thus spreading its reach
- Insurance is just seen as a savings scheme rather than a protection scheme. This perception should change so that the policy users and awareness is among everyone.
- Apart from life insurance there is also a huge scope for other insurance policies to grow as they are equally important. Therefore, equal focus should be put on all types of policies.

## CONCLUSION

We can infer from this study that good performance of insurance companies in India will result in the growth of the insurance market in India as well as contribute to GDP. There is also need to penetrate into rural areas in a big way since huge market potential lies in rural India. In addition to that growth rate of the Indian insurance industry is rising.

From the above analysis we can observe that trend percentages are increasing, so we can conclude it is improving year to year and but still India has less density percentage in the world wide. There is need to penetrate into rural areas in a big way since huge market potential lies in rural India.

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# CHARACTERISTICS OF THE NEW TYPE OF ADDITIVE FOR DIESEL FUEL

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## ABSTRACT

In this article, the properties of copolymers obtained on the basis of phenols and vinylacetylene are studied. The improvement of their properties by adding additives to diesel fuels has been studied. A number of research methods have been used in implementing these practices. Cloud point, filtration temperature and solidification temperature are examples of this.

**KEYWORDS:** vinylacetylene, phenol, o-m-p-cresol, KOH/DMSO/CsF, methyl methacrylate, cloud point, filtration point, solidification point.

## INTRODUCTION

In the world today, products of organic synthesis, especially unsaturated vinyl derivatives of compounds with different functional groups, are widely used in various sectors of the economy, including agriculture, pharmaceuticals, chemical industry, textiles, paint and oil and gas chemistry[1-4].

Therefore, for the rapid development of the chemical, oil and gas industries, it is important to improve the properties of fuels by using the vinyl ethers of compounds containing various functional groups as additives[5-8].

The synthesized substances were used as additives to improve the low-temperature properties of diesel fuel[9-11].

## MATERIAL AND METHOD

Another feature of diesel fuels is that a number of studies are being conducted to obtain additives that improve the cloud point. Currently, additives based on bi-polymers improve the clouding temperature of winter type diesel fuels by 3-5 °C.

There are three ways to evaluate the effect of diesel fuel depressants: 1) determination of the freezing or crystal formation temperature; 2) determining the blurring temperature; 3) determining the lower limit of filtration (crystals are trapped in the filter) temperature.

The properties of diesel fuel at lower temperatures after adding additives were determined (table-1).

Table-1.

Effects of synthesized  $\beta$ -phenoxybutadiene-1,3 and methyl methacrylate depressants on diesel fuel properties

№	The name of the sample	The amount of additives, %	Clouding temperature, °C	Solidification temperature, °C	Filtration (cold)
1	Diesel fuel	-	-5	-9	-6
2	Diesel fuel + NSH1 additive	0.1	-5	-25,8	-17
		0.5	-6	-26	-18,1
		1	-7	-31,6	-20,4
3	Diesel fuel + NSH2 additive	0.1	-5	-26.5	-18
		0.5	-6	-26.8	-19
		1	-7	-31	-20,5
4	Diesel fuel + NSH3 additive	0.1	-5	-28.5	-19
		0.5	-6	-35.6	-22
		1	-7	-37	-23,5



The results of the above-mentioned tests show that when adding depressor additives to diesel fuel in the amount of 0.1%, positive results were achieved in terms of fuel solidification and cold filtration indicators.

As can be seen from the table, the solidification temperature of the sample diesel fuel had a positive effect on the cold filtration performance when added in different amounts.

## RESULT

According to the standard, no more than 0.1% of additives are added to diesel fuel. That is why the results were obtained with the addition of 0.1%. When a high amount of additives (0.5% by mass) was added to the fuel, the lubricity became worse. This is explained by the formation of corrosion-mechanical damage as a result of

the breakdown of calcium stearate contained in the additive.

The chemical activity of the functional groups in the composition of the compound as a factor determining the properties of the particles. The properties of the synthesized resins were compared with the properties of foreign additives (table-2).

If you pay attention to the table, you can find anti-aging products from BASF (Kerokorr LA 95, LA 96, LA 99 additives), “Clariant” (Dodilube V 4716, V 4377, V 4940 additives), “Lubrizol” (ADX 4104 B), compared with Inlineum (Paradyne 639 and 655) and Ciba (Irgalbe F 10) additives, it can be seen that each company uses chemical reagents with different chemical structures as anti-fouling additives.

**Table-2.**  
**Comparison of local and Foreign Additives**

Additives		Kerokorr LA 95	Kerokorr LA 96	Kerokorr LA 99	Copolymer of phenoxybutadiene -1,3 with MMA
Chemical composition	Active ingredient	A mixture of nitrogenized condensation products with dispersants, antioxidants and metal deactivators	A mixture of complex esters of higher carboxylic acids and amides of carboxylic acids	Higher carboxylic acids and their derivatives	Copolymer of phenoxybutadiene-1,3 with methyl methacrylate
	Эритувчи	Aliphatic and aromatic hydrocarbons	Aliphatic and aromatic hydrocarbons	Aromatic hydrocarbons	Aromatic hydrocarbons
Concentration, % mass		0,005-0,03	0,005-0,03	0,02-0,04	0,001-0,01 %

## CONCLUSION

In the obtained results, it can be seen that the properties of diesel fuel taken as a sample (solidification temperature, cold filtration indicators) are improved when different amounts are added. According to the results of research conducted in the central laboratory of the Bukhara Oil Refinery, adding methyl methacrylate and phenoxybutadiene-1.3-based additives to diesel fuel reduced the maximum solidification temperature and the lower limit of filtration temperature to the required level.

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# INCREASING PROFICIENCY ON PRINCIPLES OF MARKETING THROUGH PROJECT TEACH (TIKTOK AS EDUCATIONAL AND COMPREHENSIVE HUB)

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## ABSTRACT

The study aimed to determine the effectiveness of the adoption of Project TEACH (TikTok as Educational and Comprehensive Hub) on increasing proficiency of Grade 11 Nela Yu Ferrer students in Principles of Marketing at Lumban Senior High School, Lumban, Laguna. The respondents were composed of 12 students of Grade 11 Nela Yu Ferrer under ABM strand. This research used descriptive-comparative method and utilized self-structured pre-test and post test to determine the effectiveness of the adoption of Project TEACH. Mean scores for pretest and post test were determined and t-test was used to analyze the significant difference between the pre-test and post-test. The t-value obtained was -12.52 and the critical value obtained was 2. 20 at 0.05 level of significance which indicate an increase in the proficiency of learners on Principles of Marketing through Project TEACH. The findings of this study indicated a significant difference between the result of the pre-test and post-test. Thus, the null hypothesis was rejected. The study had certain limitations as it was conducted during the Covid-19 pandemic. Based on the results presented on this study, the adoption of Project TEACH (TikTok as Educational and Comprehensive Hub) as contextualized and localized learning material on Principles of Marketing for selected Grade 11 Nela Yu Ferrer students increased the learners' proficiency.

**KEYWORDS:** Project TEACH, increasing proficiency, TikTok

## CONTEXT AND RATIONALE

Covid-19 pandemic brought drastic changes in the different aspects of people's lives. Many people were prohibited to go outside and do the normal routines that made their entire life. Face-to-face classes, outdoor games, exercises, mall shopping, cinema hopping, bar happenings and many more were restricted for more than a year. This situation had a great impact on the social lives of everybody. In just a split of a second, most of the people were mandated to stay at home to break the chain and flatten the curve. People felt deprived on the life that everybody were used to. And sudden changes in a person's routine had greater impact on one's mental health.

Mental health had been an issue and was given a great emphasis during the heightened spread of Covid-19 virus. Awareness on mental health were pushed as same as physical health. People had learned to be physically and virtually in touch to their loved ones especially when families were obliged to stay home. Those that need to go on duty for work still manage to keep in touch even they are not physically present. And social media took a big part of the connections between families that were apart. Various sort of social media platforms were explored to spend the 24/7 home duty during the quarantine periods. One of the most popular entertaining social media platform is Tiktok.

Tiktok was a popular social media application that had been widely used all over the world. It had enabled users to create, watch and share videos ranging from 15-seconds up to three minute shot using a smart phone. With its customized video set music and sound effects, the app had been popular for its addictive engagement with the users and viewers. Video filters, background music and stickers were incorporated in the

video and users from different parts of the planet collaborate using the duet feature of the app. Tiktok users used this platform to share their talents such as dancing, singing, acting, cooking, vlogging and many more. This also became a venue for education and learning on various aspects. And the Department of Education (DepEd) was one of the institutions that recognized the use of TikTok as educational platform.

Pursuant to DepEd OUA Memo-00-1121-0174 dated November 17, 2021, a webinar with the theme "Tiktok for Education: The Educator's Content Creation for Inter-Changing Instruction" had been conducted. The said webinar helped teachers to be equipped with the necessary skills to create engaging and useful content. The Department of Education saw the potential of reaching students even in the pandemic thru this very popular app known as Tiktok. Tiktok was popularized among the youth and showed potential to be a great platform for a teaching-learning process during the modular distance learning.

Modular Distance Learning (MDL) was used as learning modality in Lumban Senior High School were this research was conducted,. Many learners experienced problems in answering tasks on their own without a teacher beside them to serve as their guide. Some learners used YouTube, google apps and social media platforms to guide them in their studies. And since the senior high school students were considered as young adults, most of them have access to social media platforms like Facebook, Twitter, Instagram and Tiktok. These platforms took a big part in the biggest educational transition in the history which is from face-to-face classes to distance learning.



Transition from a modular distance learning junior high school experience to a modular distance learning senior high school environment was never easy. New set of subjects were introduced depending on the chosen track and strand. From the result of the diagnostic test on Principles of Marketing administered during the beginning of the second semester, the MPS revealed a limited subject background on the part of Grade 11 Nela Yu Ferrer enrolled under ABM strand. Given this alarming scenario, the researcher decided to develop a strategy which intends to provide contextualized and localized video material on Principles of Marketing for selected Grade 11 – Nela Yu Ferrer students thru utilization of one popular social media app, TikTok. And this led to the idea of launching Project TEACH (TikTok as Educational And Comprehensive Hub) to help Grade 11 learners cope up with the content of Principles of Marketing subject. The researcher prepared TikTok contextualized and localized video material on Principles of Marketing focusing on MELCS for quarter three particularly for weeks three to six and provided the link to students through their group chat and Weekly Home Learning Plan (WHLP).

Since this issue was very relevant and timely, the researcher opted to conduct an action research to evaluate if the adoption of Project TEACH (TikTok as Educational And Comprehensive Hub) as contextualized and localized material on Principles of Marketing for selected Grade 11 – Nela Yu Ferrer students during the modular distance learning in light to the Covid-19 pandemic will increase learner's proficiency.

### **ACTION RESEARCH QUESTIONS**

This research was conducted to evaluate if the adoption of Project TEACH (TikTok as Educational And Comprehensive Hub) as contextualized and localized material on Principles of Marketing for selected Grade 11 – Nela Yu Ferrer students during the modular distance learning in light to the Covid-19 pandemic will increase learner's proficiency.

Specifically, it sought to answer the following questions:

1. What is the mean score of learners before and after the adoption of Project TEACH (TikTok as Educational And Comprehensive Hub) as contextualized and localized learning material on Principles of Marketing of selected Grade 11 – Nela Yu Ferrer students?
2. Is there a significant difference in the mean scores of Grade 11 – Nela Yu Ferrer students before and after the adoption of Project TEACH (TikTok as Educational And Comprehensive Hub) as contextualized and localized learning material on Principles of Marketing?
3. What recommendations can be formulated from the result of this action research for the enhancement of Project TEACH (TikTok as Educational And Comprehensive Hub) as contextualized and localized learning material to increase students' proficiency?

### **HYPOTHESIS**

There is no significant difference in the mean scores of the selected Grade 11 Nela Yu Ferrer students before and after the adoption of Project TEACH (TikTok as Educational And Comprehensive Hub) as contextualized and localized learning material on Principles of Marketing.

### **PROPOSED INNOVATION, INTERVENTION AND STRATEGY**

The researcher adopted Project TEACH (TikTok as Educational And Comprehensive Hub) as contextualized and localized learning material on Principles of Marketing for selected Grade 11 – Nela Yu Ferrer students during their modular distance learning in light of the Covid-19 pandemic. This served as a supplementary video material that helped students understand their lessons despite the absence of face-to-face interaction with the teacher. The effectiveness of this project had been determined using pre-test and post-test.

### **ACTION RESEARCH METHODS**

This section dealt with the methods and procedures used in this research study. It consisted of the participants or sources of data information, data gathering methods, and plan for data analysis that would evaluate **effectiveness of the adoption of Project TEACH (TikTok as Educational And Comprehensive Hub) as contextualized and localized material on Principles of Marketing for selected Grade 11 – Nela Yu Ferrer students during the modular distance learning in light to the Covid-19 pandemic.**

#### **A. Participants and/or other Sources of Data Information**

Descriptive-comparative method is intended to figure out the basic answer towards causality aspect by analyzing the factors that causes certain phenomenon (Meyer, 2011). A comparative method is the fastest way to get at the essence of one thing is to compare it with something else that is similar. This method had been made possible with the use of the pre-test and post test that served as the tool in gathering the data. It showed something about their condition and does not aim to find out the answer to the effect of one variable to another. In this study, the focus of the investigation is to evaluate Project TEACH (TikTok as Education And Comprehension Hub) as contextualized and localized learning material on Principles of Marketing for selected Grade 11 – Nela Yu Ferrer students before and after the intervention project.

The population of the respondents was composed of twelve (12) students in which 6 are male and 6 are female both from Grade 11 – Nela Yu Ferrer. Quota sampling was used in the selection of the subjects of the study. Quota sampling is a strategy used when the researcher would like to limit the respondents based on certain characteristics. Some types of research design necessitate researchers taking a decision about the individual participants who would be most likely to contribute appropriate data, both in terms of relevance and depth.

#### **B. Data Gathering Methods**

The researcher utilized a ten (10) item self-structured pre-test and post test focusing on the MELCs for Quarter 3 for Weeks 3 to 6 of Principles of Marketing which was personally prepared by the researcher. It was used to determine the increase in proficiency on Principles of Marketing through Project TEACH (TikTok as Educational And Comprehensive Hub) as contextualized and localized learning material for selected Grade 11 – Nela Yu Ferrer students.

The research proposal was recommended by the school principal and approved in the district level for the conduct the



study. Upon the approval of the research proposal, the researcher had proceed on the conduct of the study. Enough copies of both self-structured pre-test and post test were given to students through their parent or guardian during the schedule of retrieval and distribution of modules.

C. Data Analysis Plan

The data collected in this study was subjected to appropriate statistical treatment. The data was coded, tallied and tabulated for better presentation and interpretation of the results. The statistical tools used were the following:

For problem number 1, mean score of learners before and after the adoption of Project TEACH (Tiktok as Educational And Comprehensive Hub) as contextualized and localized learning material on Principles of Marketing of selected Grade 11 – Nela Yu Ferrer students was obtained.

It was computed using the formula,

$$M = \frac{\sum M}{N}$$

Where:

- M = mean of the students' score
- $\sum M$  = sum of students' score
- N = total number of students

For problem number 2, t-Test was used to analyze the significant difference in the mean scores of Grade 11 – Nela Yu Ferrer students before and after the adoption of Project TEACH (Tiktok as Educational And Comprehensive Hub) as contextualized and localized learning material on Principles of Marketing.

It was computed using the formula,

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

Where,

- $\bar{x}_1$  = Mean of first set of values
- $\bar{x}_2$  = Mean of second set of values
- $S_1$  = Standard deviation of first set of values
- $S_2$  = Standard deviation of second set of values
- $n_1$  = Total number of values in first set
- $n_2$  = Total number of values in second set.

**ACTION RESEARCH WORK PLAN AND TIMELINES**

During the conduct of this action research, the following action plan was proposed.

ACTIVITIES	January 2022	February 2022	March 2022	April 2022	May 2022	June 2022
1. Identified the area for research						
2. Reviewed related literature and studies						
3. Formulated action research title and proposal						
1. Sought permission from the school head						
2. Reviewed of action research proposal						
3. Revision of the proposal						
4. Assessment of the proposal in the school level						
5. Evaluation of the assessed proposal under the district level						
6. Implementation of the action research - Launched Project TEACH - Administered Pre-test - Adopted Project TEACH - Administered Post Test - Collected data - Analyzed and interpreted the data collected						
7. Prepared the terminal report of the approved proposal						
8. Submitted the result of the action plan						





## DISCUSSION OF RESULT AND RECOMMENDATION

### A. FINDINGS

This section presents the findings of the study. It also

includes the discussion and analysis of the data as well as the interpretation of the results. The presentation of data in tabular form are based on the order of statement of the problem.

**Table 1. Mean Score of Pre-test and Post-test using Project TEACH (Tiktok as Educational And Comprehensive Hub) as contextualized and localized learning material on Principles of Marketing for selected Grade 11 – Nela Yu Ferrer students**

Grade Level	No. of Test Items	No. of Respondents	Pre-Test Mean	Post-Test Mean	Difference
11	10	12	5.25	7.67	1.42

Table 1 shows the result of pre-test and post-test of the 12 respondents in the ten-item self-structured test conducted by the researcher before and after the adoption of Project TEACH. It revealed that the pre-test acquired a mean of 5.25 and a mean of 7.67 for the post-test result.

Table 1 clearly reflects that there was a remarkable increase in the mean of pre-test and post test after the adoption

of Project TEACH (Tiktok as Educational And Comprehensive Hub) as contextualized and localized learning material on Principles of Marketing for selected Grade 11 – Nela Yu Ferrer students. This is an evident indication that the adoption of Project TEACH for localized and contextualized learning video is an effective material in increasing students proficiency on the content of Principles of Marketing.

**Table 2. T-test Result on Analyzing the Signifant Difference in Mean Scores of Pre-test and Post-test before and after the adoption of “Project TEACH (Tiktok as Educational And Comprehensive Hub) as contextualized and localized learning material on Principles of Marketing for selected Grade 11 – Nela Yu Ferrer students”**

Compared Variables	Df	Mean	Computed t-value	Critical t-value	Decision	Impression @ 0.05 Level
Pre-test ( $X_1$ ) and Post-Test ( $X_2$ )	14	$X_1 = 5.25$ $X_2 = 7.67$	-12.52	2.20	Reject $H_0$	Significant

Table 2 shows the result of the t-test on finding the significant difference between the pre-test and post-test. It can be garnered from the t-value of -12.52 and the critical value of 2.20. The researcher rejected the null hypothesis which is significant at 0.05 level. This shows that there was a substantial increase in proficiency of selected Grade 11 – Nela Yu Ferrer on Principles of Marketing because of the significant increase in the mean during the post-test.

### RECOMMENDATIONS

Based on the findings of this research, the researcher hereby recommended the following:

1. Adoption of Project TEACH (Tiktok as Educational And Comprehensive Hub) as contextualized and localized learning material in other learning areas specifically for specialized subjects.
2. The school head may organize a LAC session for instructional video making to improve the quality of teacher-made video materials and make it visually appealing to target learners.
3. The ICT teacher-coordinator may facilitate a LAC session about the adoption of Tiktok for Education as introduced in DepEd OUA Memo-00-1121-0174 dated November 17, 2021.
4. The researcher may propose the adoption of Project TEACH to Lumban District.

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# SENIOR HIGH SCHOOL STUDENTS' COMMON ERRORS IN PRACTICAL RESEARCH 1 IN THE SCHOOLS DIVISION OF LAGUNA

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## ABSTRACT

Senior high school students are expected to conduct a research study aligned with the track and strand they are pursuing. This is required under the Department of Education Senior High School curriculum and is a prerequisite to graduation. In this study, common errors in Practical Research 1 manuscripts in terms of content, organization, formality, objectivity, language used, vocabulary, and referencing were identified. The sources of these errors were also determined based on the teachers' and students' perspectives. This study was carried out to determine if there is a significant relationship between the common errors and the sources.

A mixed-method research design, particularly explanatory research, was employed in this study. Quantitative data was obtained to determine the common errors where the learners' manuscripts were evaluated using a rubric and a researcher-made checklist. Similarly, survey questionnaires were distributed to the teachers and students to determine the sources of errors.

A total of 44 schools from the Schools Division of Laguna participated in the study, and purposive sampling was done to identify the respondents. The results of the study revealed that the common errors of the students in their PR 1 manuscripts are: lack of comprehensive information on the problem due to an insufficient number of sources; the texts generally lack transitional devices and logical sequencing; repetitive, misspelled, ambiguous, informal, subjective words and phrases; poor grammar and sentence structure; contracted words and utilization of the third-person point of view; and missing citations in references or bibliography, non-paraphrased citations, or inappropriate citations.

While for the sources of these errors, the absence of a research manual, students' attitude towards writing research, and their exposure to qualitative studies were causes for carelessness. Lack of exposure to a second language was found to contribute to the first language interference in manuscript writing, and errors in translation were due to the easy access of students to translation tools available on the internet. However, the sources of errors were found to have no significant relationship with most of the common errors in manuscript writing. Nevertheless, based on the thematic analysis, qualitative findings support the quantitative data regarding the common errors and their sources.

**KEYWORDS:** Practical Research 1, Common Errors, Sources of Errors, Explanatory Research

## INTRODUCTION

*"The use of thesis-writing is to train the mind, or to prove that the mind has been trained; the former purpose is, I trust, promoted, the evidence of the latter is scanty and occasional."*

Clifford Allbutt

Academic excellence can be achieved if one has good English language competence. Effective writing skills that are grounded in a cognitive domain have to be developed among the students per se. Of the four areas of communication, writing is one of the indispensable skills that reflect an individual's proficiency with language, idea formation, and abstraction. It fosters one's ability to explain and refine ideas conveyed to others for vivid and understandable communication. However, because English is not the learners' first language, errors may arise in their writing, as stipulated in the study of Maspuhah, 2019. [1]

Apparently, in the academic arena, high school students, in particular, have to undergo practical research writing that aims to develop their critical thinking and problem-solving skills. Students' viewpoints of writing may be difficult and even feared as they seek to put ideas on paper while mastering writing norms

such as spelling, citation style, and grammar. Over the years, it has been clear that students lack the abilities required to be good communicators, especially in writing. For many, it is seen as a difficult skill to acquire in English because it is a complex process of producing, organizing, and refining thoughts on a piece of paper.

On the other hand, writing a thesis or research study is a critical component of any higher education program. Before pursuing any degree at a university, students must get a passing grade in a thesis writing course. A thesis is a final output that students must produce after the completion of multiple main courses and English classes (Malimas and Samson, 2017). [2]

Pursuant to Republic Act (RA) 10533, also known as the Enhanced Basic Education Act of 2013, the Department of Education declared the implementation of the Senior High School (SHS) program for the School Year 2016-2017. Research is one of the learning areas included in the new curriculum where Grade 11 and 12 learners are expected to conduct and write research studies aligned with their chosen track and strand. However, as



mentioned earlier, most of the students lack writing skills that are congruent with the findings from the different studies conducted.

Furthermore, the students' lack of knowledge of formal research writing slows down the whole process. Crafting and developing strategies, activities, and learning environments is beneficial for students' research writing engagement. Therefore, the utilization of effective writing strategies through program and research writing processes may improve students' research interests and be beneficial to all parties involved in the research writing process (Rodriguez, 2017). [3]

In light of this, the researcher aimed to identify the common errors of the senior high school students in Practical Research 1 and the sources of those errors based on the students' and teachers' perspectives.

Thesis writing is a critical component of the higher education program, similarly, it is also a part of the Department of Education Senior High School curriculum and a requirement for graduation. Senior high school students are expected to come up with research studies aligned with the track and strand they are enrolled in. Despite student's background knowledge about their topics, errors were still observed. In this study, common errors in Practical Research 1 manuscript in terms of contents, organization, formality and objectivity, language used, vocabulary and referencing were identified.

Researchers claimed that errors in content were due to absence of verified sources and guide while doing their write ups. Both studies of Roxas (2020) [4] and Pablo and Lasaten (2018) [5] focused on the writing difficulties of Senior high school students on writing academic essays. Their study participants were similar with that of the researcher but of different analyzed written output, the researcher focused specifically on the common errors in Practical Research 1 of Senior High School students in the Schools Division of Laguna.

Mallia (2017) [6], Siddiqui (2020) [7], Ahmed (2019) [8] and Roxas (2020) [4] confirmed that the organization of ideas was one of the challenging areas or writing. Students were weak at constructing introductory paragraphs, writing chronologically (Asfah, 2019) [9] and the ideas presented were difficult to follow and lacks connectives as revealed by the findings of Pablo and Lasaten (2018). Likewise, in this study, students were found to lack logical sequence of ideas in their PR 1 manuscripts. Common challenges faced by students were associated to wrong choice of words (Divsar, 2017; Tarigan 2019) [10] [11], sentence structure, spelling (Nair and Hui 2018) [12], word class (Nanning et.al, 2020) [13] and redundancy (Jali, 2021) [14]. Due to limited background on academic jargons, senior high school students had difficulty in expressing their ideas (Roxas, 2020) [4]. These findings contrasted with the claims of Pablo and Lasaten (2018) [5] were students writing quality in terms of vocabulary was good to average despite problems of some in appropriate use of words. Low language proficiency may affect the quality of the paper, specifically in terms of sentence structure and grammar (Pablo and Lasaten, 2018; Amiri and Puteh 2017) [5] [15]. These findings were consistent with the findings of this research where

it was found out that students had frequent grammatical errors and poor sentence structure.

Common errors in terms of referencing were insufficient details, inconsistent referencing style, incomplete bibliography, not using citations (Rivkin, 2020; Amiri and Puteh, 2017; Pablo and Lasaten, 2018) [16] [15] [5] and students tend to just copy and paste other's work (Muzata and Banja, 2019) [18]. This was similar to the findings of this study, students lacked citation and bibliography in most of the chapters of their PR 1 manuscript.

Several factors influence students' writing difficulties, and these factors could be the sources of common errors in their written outputs. The identified factors influencing students' writing difficulties from the previously cited studies, specifically in the study of Tarigan et. al (2019) [19], mainly revolved in the aspects of carelessness, first language interference, and translation. This led the researcher to identify and evaluate the sources of the common errors of senior high school students in writing their Practical Research 1 manuscript based on the teachers' and students' perspectives.

Due to lack of basic knowledge, they write their essays immediately without organizing their ideas. In the study of Almatarneh et.al (2018) [20], the avoidance strategy practiced by students led to more difficulties they encounter when writing. According to Gagalang (2020) [21] failure to acknowledge the significance of pre and post writing stages of writing contributes to students' writing deficiencies. Carelessness was one of the sources of students' error in writing that should be given attention. Some students were not concerned about the quality of their works due to lack of motivation in writing. In this study, it was found out that carelessness significantly affects students' output in terms of language and organization.

First language interference is inevitable, and these findings recommends that students should be exposed to a variety of writing strategies and guidelines to enhance their writing skills (Abdullah et.al, 2019) [22]. Langga and Alico (2020) [23] and Saleth et.al (2021) [24] claimed that lack of familiarity and mastery of English language led students to commit errors in language translation. Errors in translation led to inconsistencies in the meaning of texts (Napu and Hasan, 2019) [25]. Correspondingly, based on the results of this study, students relied on using Google translate that led to poor translation of text.

## METHODOLOGY

The mixed-method research design particularly the explanatory research was employed in this study. Explanatory research is an approach that investigates why something happens from insufficient data. It may help get a deeper grasp of a subject, determine how or why a certain phenomenon is happening, and anticipate potential events (George and Merkus, 2022) [26].

The quantitative data were obtained to determine the common errors of the Senior High School in Practical Research 1 where the learners' manuscripts were evaluated using a rubric and a researcher-made checklist. Likewise, survey questionnaires were distributed to the teachers and students to determine the



sources of errors. Furthermore, it was followed by the gathering of the qualitative data through interviews to determine the teachers' and students' views regarding the common errors found from the PR1 manuscripts and their sources as perceived by the participants.

There was a total of 44 Senior High Schools in the Division of Laguna that took part in this research. A purposive sampling technique was employed to know the respondents. Purposive Sampling is a non-scientific sampling design that is based on selecting individuals as samples according to the purposes of the researcher as his controls (Calmorin, 2010) as cited by (Cahyati, 2019). [27]

Quantitatively, the data gathered were statistically treated through weighted mean and standard deviation, and Pearson product-moment correlation.

Weighted mean and standard deviation were used to compute for the common errors of the students in Practical Research 1 and the sources for errors from the students and teachers' perspectives. Sakkir, et al. (2020) [28] in their study used mean and standard deviation measure the effectiveness of English "Shock Day" approach to the university students.

Pearson product-moment correlation was used to statistically determine if there is a relationship between the students' common errors in PR1 and the sources of errors from the students and teachers' perspectives. Asyura (2020) [29] used Pearson product-moment correlation to present the relationship between self-confidence and students' speaking performance, whether there is correlation between students' self-confidence and their speaking performance or not.

While in the qualitative phase, based on the transcribed interviews, the researcher deduced noteworthy remarks from the responses of the participants. The researcher interpreted the gathered responses to answer the study's central question. In all, more than two hundred (200) sentences were extrapolated from the original transcriptions. The researcher scraped and deleted certain repetitive concepts or comments expressed by the same individual to reduce the quantity. Following the reduction procedure, the interview transcriptions yielded one hundred twenty-six (126) relevant statements. These remarks were categorized based on their idea similarity. The researcher identified twelve (12) emerging core themes from this group. These topics were organized chronologically as they came from the researcher's assessment.

To explain the horizontalization component of the data analysis, the researcher provided relevant statements from the participants' responses to the planned in-depth interviews. In order to make the findings credible, phrases and direct quotations from the participants' answers were included into the presentation. The researcher made meaning of the participants' replies to address the central questions of the study.

The themes were produced using Braun & Clarke's thematic analysis (2017). The participants' important statements were categorized according to their significance. Each statement's original concept was combined to become the core theme.

## RESULTS AND DISCUSSION

### Quantitative

#### 1. *What are the common errors of the Senior High School Students in Practical Research 1?*

Common errors of the Senior High School Students in Practical Research 1

**Table 1.** Common errors of the Senior High School Students in Practical Research 1 in terms of content

Statements	W M	SD	Remarks
<i>Lack of detailed information regarding the problem</i>	3.48	1.281	Often
<i>Inadequate coverage of the problem or a topic that is too broad</i>	3.52	1.263	Often
<i>Irrelevant content</i>	2.85	1.352	Sometimes
<i>Insufficient number of sources</i>	3.90	1.179	Often
<i>Instances of plagiarism and copy and paste</i>	2.86	1.307	Sometimes

**Overall Mean = 3.32    Standard Deviation = 1.339**

**Verbal Interpretation = Sometimes Evident**

Legend

Scale	Range	Remarks	Verbal Interpretation
5	4.21-5.00	Always	Very Evident
4	3.41-4.20	Often	Evident
3	2.61-3.40	Sometimes	Sometimes Evident
2	1.81- 2.60	Rarely	Rarely Evident
1	1.00-1.80	Never	Not Evident

The data revealed that the students' common errors in terms of content, which are often seen among the forty-four evaluated PR1 manuscripts are, an insufficient number of sources, which was prevalent in Chapters 1,2,3, and 4, inadequate coverage of the problem or topic that is too broad, which was frequently observed in Chapters 1, 2, and 4, and a lack of detailed information regarding the problem, that is common in Chapters 1, 2, and 4. These errors include lack of research regarding the topic due to the limited resources or access to information on the internet and school libraries because of the pandemic. As a result, the manuscripts lack relevant, up-to-date information, and the explanations for the problem are brief. For instance, there were missing sub-contents in Chapter 1 like Significance of the Problem and Definition of Terms, and the Introduction was composed of a single paragraph only, in-text citations were also not observed. Moreover, Chapter 2 often contained 2 to 4 related literatures or studies only and the students did not synthesize them. While in-text citations were not seen on Chapters 3 for the cited texts and in Chapter 2 as support to the results of the study.



Meanwhile, since chapter 2 involves the review of related literature and studies, instances of plagiarism and copy-paste were often noticed. The manuscripts contained in-text citations, but the statements were copied verbatim from the sources.

Moreover, irrelevant content is the error sometimes seen in the students' manuscripts. Research Paradigm in the form of Input, Process, Output (IPO), and Hypothesis that is meant to be tested were included in Chapter 1. While numerical data were seen on Chapter 4.

Generally, the common errors of the senior high school students in Practical Research 1 in terms of content, with an overall mean of 3.32 and a standard deviation of 1.339, were verbally interpreted as sometimes evident among the evaluated manuscripts.

The findings of this study were parallel to the findings of Roxas (2020) [4], which revealed that errors in the content of SHS students' output were due to the limited amount of reliable and verified resources. Similarly, in the study of Irwandi (2019) [30], one of the external factors affecting research writing was the insufficient collection of resources available for the students in the library.

**Table 2.** Common errors of the Senior High School Students in Practical Research 1 in terms of organization

Statements	WM	SD	Remarks
Transition devices were not used or completely absent. (cohesion)	4.17	0.883	Often
No logical sequence (coherence)	3.62	0.943	Often
Ineffective introduction, inadequate support, and unsatisfactory conclusion	3.31	1.111	Sometimes
Difficulty to divide further concepts into distinct paragraphs	3.24	1.162	Sometimes
Ideas are difficult to understand	2.98	1.245	Sometimes

**Overall Mean = 3.47      Standard Deviation = 1.150**  
**Verbal Interpretation = Evident**

Transition devices were not used or completely absent, and no logical sequence were the common errors often found in the students' manuscripts. The errors in cohesion were frequently observed in all the chapters of the manuscripts. Hence, the link between the sentences was not clearly conveyed due to the absence of the transitional devices. Whereas the errors in the logical sequence were repeatedly evaluated in Chapters 1, 2, 4, and 5, while sometimes in Chapter 3. Therefore, the paragraphs did not flow smoothly from one to another, which caused ambiguity in the connections among the concepts presented.

Moreover, difficulty to divide further concepts into distinct paragraphs was the error often seen in Chapter 2, while ineffective introduction, inadequate support, and unsatisfactory conclusion were prevalent in Chapters 1 and 2.

Furthermore, ideas are difficult to understand was the error that was sometimes observed in the students' PR1 manuscripts.

To sum up, the common errors of the senior high school students in Practical Research 1 in terms of organization attained an overall mean score of 3.47 and a standard deviation of 1.150, which was verbally interpreted as evident among the evaluated manuscripts.

The findings of this study revealed that the absence of transition devices, logical sequence, and ideas were evident. This is comparable to the study of Mallia (2017) [6], where students find difficulties in organization and presentation of ideas. Correspondingly, students were weak at writing chronologically (Asfah, 2019) [9], and they tended to insert irrelevant ideas (Amiri and Puteh, 2017) [15].

**Table 3.** Common errors of the Senior High School Students in Practical Research 1 in terms of vocabulary or word choice

Statements	WM	SD	Remarks
Redundancy	3.07	0.917	Sometimes
Words are vague, too informal, and subjective	2.71	1.147	Sometimes
Misspelled words	2.47	0.917	Sometimes
Use of jargons, clichés, idioms, and slangs	1.79	1.029	Never
Literally translated words from Filipino to English	1.81	1.027	Rarely

**Overall Mean = 2.37      Standard Deviation = 1.128**  
**Verbal Interpretation = Rarely Evident**

The data showed that redundancy, words being vague, too informal, and subjective, and misspelled words are the common errors that were sometimes seen in the students' manuscripts all throughout the chapters. The manuscripts occasionally contained words and ideas that were repeatedly mentioned within the sub-contents of each chapter. Moreover, contracted words such as "haven't", "it's", "there's", and informal phrases like "kind of", "of course", the use of 2nd person personal pronouns "you", "your", and informal transitional words such as "so", "besides" were sometimes observed in the manuscripts. Sometimes the sentences are difficult to understand because the words are vague and misspelled.

On the other hand, literally translated words from Filipino to English were rarely evaluated, while the use of jargon, clichés, idioms, and slang was never seen among the forty-four manuscripts.

Overall, the common errors of the senior high school students in Practical Research 1 in terms of vocabulary or word choice attained a total mean score of 2.37 and a standard deviation



of 1.128, which was verbally interpreted as rarely evident in the students' manuscript.

Results of the study by Amiri and Puteh (2017) [15] and Jali (2021) [14] claimed that one of the common errors committed by students was the practice of redundancy in writing, which is similar to the findings of this study. On the other hand, the findings of Pablo and Lasaten (2018) [5] revealed that incorrect usage of words is the predominant problem of senior high school students in writing, which contrasts with the findings of this study where redundancy was the most common error of students in writing in terms of vocabulary.

**Table 4.** Common errors of the Senior High School Students in Practical Research 1 in terms of language used

Statements	WM	SD	Remarks
Poor sentences constructions	3.59	1.047	Often
Frequent errors on grammar	3.67	0.983	Often
Unclear meaning of statements.	2.91	1.167	Sometimes
Complicated statements	2.95	1.178	Sometimes
Major errors even in the simple structures	2.85	1.305	Sometimes

**Overall Mean = 3.19      Standard Deviation = 1.195**  
**Verbal Interpretation = Sometimes Evident**

Among the forty-four evaluated students' PR1 manuscripts, poor sentence construction and frequent errors in grammar were the common errors that were often noted in terms of language used. Both errors were dominant in Chapters 1 to 5. These are errors in subject verb-agreement, run-on sentences, and inconsistency in verb tenses.

Additionally, complicated statements, unclear meaning of statements, and major errors, even in simple structures, were the errors sometimes seen in the students' manuscripts.

In general, the common errors of the senior high school students in Practical Research 1 in terms of language used were sometimes evident among the evaluated students' PR1 manuscripts, which attained a mean score of 3.19 and a standard deviation of 1.195.

One of the most difficult aspects of writing is the expression of precise ideas and selecting the appropriate language to use (Ratnawati et al. 2018) [31]. Difficulty in grammar and poor sentence structure are two of the problems affecting the students' writing ability (Noraviana, 2018) [32]. This claim supplements the finding of this study where SHS students commit frequent errors in grammar and poor sentence construction. Likewise, in the study of Pablo and Lasaten (2018), it was revealed that most of the students have poor sentence construction ability.

**Table 5.** Common errors of the Senior High School Students in Practical Research 1 in terms of formality and objectivity

Statements	WM	SD	Remarks
Use of third-person pronouns	3.78	1.632	Often
Words are contracted	2.41	1.299	Sometimes
Use of Colloquial words, jargons, slangs	1.84	1.185	Rarely
Often use of rhetorical questions and emotive language.	1.50	1.012	Never
Opinionated/ subjective presentation of concepts.	1.74	1.111	Never

**Overall Mean = 2.25      Standard Deviation = 1.359**  
**Verbal Interpretation = Rarely Evident**

The data revealed that the evaluated students' PR 1 manuscripts often used the third-person point of view all throughout the chapters. This may be inferred that the third person point of view was the one prescribed to be used rather than the first-person, which can be used in qualitative research to reflect the intent of the researcher to give voice to the opinions of the participants (Given, 2022). The reason for this was explained in the qualitative results of this study.

Moreover, words are contracted, such as "aren't", "can't," "haven't," "it's", and "there's," which are the errors sometimes noticed all throughout the chapters. On the other hand, the use of colloquial words, jargon, and slang was rarely evaluated, and the use of rhetorical questions, emotive language, and opinionated/subjective presentation of concepts was never observed in the students' manuscripts.

Overall, the common errors of the senior high school students in Practical Research 1 in terms of formality and objectivity attained a mean score of 2.25 and a standard deviation of 1.359, which was verbally interpreted as rarely evident among the evaluated students' manuscripts.

Formality is achieved through a combination of features and favors terminologies most respected in different fields (Liardet et.al 2019) [33], while to achieve objectivity, all information that is not evidence-based should be excluded (Mallia, 2017) [6]. In qualitative research reports, researchers favor first-person style to give voice to participants' opinions (Given, 2022).



**Table 6.** Common errors of the Senior High School Students in Practical Research 1 in terms of referencing

Statements	WM	SD	Remarks
No citations	3.71	1.198	Often
Improper way of citation	3.60	1.249	Often
Unnecessary citations	3.31	1.426	Sometimes
Citations are not paraphrased	3.84	1.102	Often
Missing citations in references/bibliography	4.08	1.122	Often

**Overall Mean = 3.71    Standard Deviation = 1.249**  
**Verbal Interpretation = Evident**

The data revealed that the common errors in terms of referencing, which were often seen in the students' manuscripts, were missing citations in references/bibliography and citations were not paraphrased, which were prevalent in Chapters 1-4. The students' manuscripts contained cited statements relevant to their studies, but they were not reworded and were not seen in the references page. Others had no bibliography at all. No citations were found, and improper citation methods were also frequently evaluated in Chapters 1, 3, and 4. The errors consist of the inclusions of cited texts that were not referenced while the other referenced texts were cited incorrectly, like "According to (Celeste, 2010)", "(hafeez 2014, Indiana: and Achievement 2014)", "Oye et. al. (2012)", and a link like [https://scholar.google.com/scholar?hl=en&as\\_sdt=0%2C5&q=advantages+of+buying+online+thesis&oq=advan#d=gs\\_qabs&t=1652148883053&u=%23p%3DN9SJX5TRXMJ](https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=advantages+of+buying+online+thesis&oq=advan#d=gs_qabs&t=1652148883053&u=%23p%3DN9SJX5TRXMJ).

Moreover, unnecessary citations were often noticed in Chapters 3 and 4. This error is made up of cited statements that have nothing to do with the study and citations that are too old.

Generally, the common errors of the senior high school students in Practical Research 1 in terms of referencing were evident among the evaluated manuscripts, with a total mean score of 3.71 and a standard deviation of 1.249.

Absence of citation was one of the most common errors found in the outputs evaluated in this study. This is parallel to the findings of Pablo and Lasaten (2018) [5] where most of the senior high school students' outputs use no citation. Moreover, in the evaluated papers in the study of Amiri and Puteh (2017) [15], the identified errors in the bibliography lists were insufficient details, format not followed, inconsistent referencing style, punctuation errors, and incorrect and incomplete recording of bibliographic entries. Despite being exposed to a variety of referencing styles, students still struggle with proper citation and referencing (Muzata and Banja, 2019) [18].

**2. What are the sources of these writing errors from the teachers' and students' perspectives?**

Sources of writing errors from the teachers' and students' perspectives

**Table 7.** Sources of writing errors from the teachers' and students' perspectives in terms of carelessness

Statements	Teachers' Perspective		Students' Perspective	
	M	Remarks	M	Remarks
Not interested in research writing.	4.05	Often	2.39	Rarely
Do not have enough confidence to write research.	4.09	Often	3.00	Sometimes
Not motivated to compose thesis manuscript.	4.07	Often	2.70	Sometimes
Do not have materials that guide us in writing research.	4.25	Always	2.73	Sometimes
Not exposed to sample qualitative research.	3.57	Often	2.70	Sometimes

**Overall Mean = 3.35    Standard Deviation = 1.223**  
**Verbal Interpretation = Sometimes Evident**

Table 7 illustrates the sources of writing errors from the teachers' and students' perspectives in terms of carelessness.

Based on the teachers' perspectives, the students always have no materials that guide them in writing research. And oftentimes, the students do not have enough confidence to write research, are not motivated to compose thesis manuscripts, are not interested in research writing, and are not exposed to sample qualitative research.

From the students' perspectives, sometimes they do not have enough confidence to write research, do not have materials that guide in writing research, are not motivated to compose thesis manuscripts, and are not exposed to sample qualitative research.



On the other hand, they are rarely not interested in research writing.

Overall, the sources of writing errors from the teachers' and students' perspectives in terms of carelessness attained a total mean score of 3.35 and a standard deviation of 1.223, which was verbally interpreted as sometimes evident among the respondents.

According to Sermsook et al. (2017) [34], carelessness is one of the sources of writing errors among students. This is parallel to the findings of this study. Their study suggests that for students to be competent in writing, these factors should be given attention. The findings of Hidayati (2017) [35] complement the findings of this research; they suggest that students' low motivation and interest in writing affect the quality of their output. Similarly, the study by Pohan (2018) [36] suggests that most of the time, carelessness is related to a lack of motivation. On the other hand, lack of guidance in referencing caused the students to encounter difficulty in citing sources (Muzata and Banja, 2019) [18].

Moreover, table 8 shows the Sources of writing errors from the teachers' and students' perspectives in terms of first language interference

From the teachers' perspectives, it is always that the students usually converse with other people in the Filipino language and struggle to put into words the ideas in the second language. While students frequently lack confidence in expressing themselves in English, they also struggle to write in English, and students are not exposed to the second language at home or even in school.

Moreover, from students' perspectives, they sometimes struggle to put into words the ideas in the second language, find it difficult to write in English, are not confident in expressing themselves using the English language, and they are not exposed to the second language at home or even in school.

Therefore, the data revealed that the sources of writing errors from the teachers' and students' perspectives in terms of first language interference, with a mean score of 3.49 and a standard deviation of 1.177, were verbally interpreted as evident among the respondents.

**Table 8.** Sources of writing errors from the teachers' and students' perspectives in terms of first language interference

Statements	Teachers' Perspective		Students' Perspective	
	M	Remarks	M	Remarks
<i>Conversed with other people in Filipino language.</i>	4.23	Always	3.18	Sometimes
<i>Finds it difficult to write in English.</i>	4.09	Often	2.91	Sometimes

<i>Struggles to put into words the ideas in the second language.</i>	4.23	Always	3.07	Sometimes
<i>Not confident to express using English Language.</i>	4.16	Often	2.70	Sometimes
<i>Not exposed to the second language at home or even in school.</i>	3.68	Often	2.61	Sometimes

**Overall Mean = 3.49    Standard Deviation = 1.177**  
**Verbal Interpretation = Evident**

The findings of Kharisma et al. (2021) [37] are similar to the findings of this study; Chinese senior high school students encounter syntactic interference or word arrangement problems since they usually converse and write in their native language. It could be assumed that a student's first language makes it hard for them to write well in English (Singh and Maniam, 2020) [38].

Furthermore, Table 9 illustrates the sources of writing errors from the teachers' and students' perspectives in terms of translations.

**Table 9.** Sources of writing errors from the teachers' and students' perspectives in terms of translations

Statements	Teachers' Perspective		Students' Perspective	
	M	Remarks	M	Remarks
<i>Usually started writing the parts of my manuscript in Filipino.</i>	4.02	Often	3.05	Sometimes
<i>Tend to translate the words from Filipino to English literally.</i>	3.98	Often	2.93	Sometimes
<i>Translated the sentences from Filipino to English</i>	3.93	Often	2.98	Sometimes





word for word, neglecting proper sentence constructions.	3.98	Often	2.86	Sometimes
Just simply translate Filipino words or sentences to English without realizing whether the meaning has been changed or not.	4.14	Often	3.18	Sometimes
Uses Google translate or other translation applications.				

**Overall Mean = 3.50 Standard Deviation = 1.105**

**Verbal Interpretation = Evident**

From the teachers' points of view, the data showed that students often use Google Translate or other translation apps, start writing parts of the manuscript in Filipino, translate Filipino words or sentences to English without realizing whether the meaning has changed or not, tend to translate words literally, and often translate sentences from Filipino to English word for word.

From the students' perspectives, all the indicative statements discussed above with the computed mean and standard deviation presented in Table 9 were all remarked as "sometimes." "I used Google Translate or other translation apps" yielded the highest mean score." This is followed by "I usually start writing the parts of my manuscript in Filipino." On the other hand, the statement "I just simply translate Filipino words or sentences to English without realizing whether the meaning has been changed or not" received the lowest mean score.

Overall, the sources of writing errors from the teachers' and students' perspectives in terms of translations attained a mean score of 3.50 and a standard deviation of 1.105, which was verbally interpreted as evident among the respondents.

Positive transfer of first to second language contributes to the ease of the learning process, while negative transfer leads to errors that need to be corrected to fully understand the context (Valcea, 2020) [39]. Due to a lack of familiarity and mastery in both the first and second language, Filipino senior high school students have a low level of proficiency in language translation (Langga and Alico, 2020) [23]. According to Suhono et al. (2018), the use of Google Translate among students is ineffective and low quality, while the findings of Chandra and Yuyun (2018)

[40] revealed that students consult Google Translate to understand unknown vocabulary. Moreover, when students use their first language in writing initially, they come up with more ideas and are able to maximize their first language cohesive markers compared to writing in the second language (as disclosed in the study of Saleh et al., 2021). These supplements the findings of this research.

**3. Is there a significant relationship between the common errors and the sources from the teachers' and students' perspective?**

**Table 10.** Significant relationship between the common errors and the sources from the teachers' and students' perspective

Common Errors	Sources	r	Degree of Correlation	p-value	Interpretation
Content		-0.15	Low	0.3192	Not Significant
	Carelessness	0.37	Moderate	0.0425	Significant
Organization		-0.307	Low	0.1646	Not Significant
		0.326	Moderate	0.0307	Significant
Formality and objectivity		-0.0564	Low	0.7159	Not Significant
		0.1076	Low	0.4869	Not Significant
Content		-0.1711	Low	0.2667	Not Significant
	First language interference	0.1823	Low	0.2362	Not Significant
Vocabulary or word choice		-0.1994	Low	0.1942	Not Significant
		0.1728	Low	0.2619	Not Significant



Formality and objectivity	-	Low	0.14	Not Significant
	0.22		62	
	27			
Referencing	-	Low	0.46	Not Significant
	0.11		10	
	4			
Content	-	Low	0.30	Not Significant
	0.15		99	
	66			
Organization	-	Low	0.36	Not Significant
	0.13		84	
	89			
Vocabulary or word choice	-	Low	0.15	Not Significant
	0.21		76	
	68			
Language use	-	Low	0.17	Not Significant
	0.20		88	
	64			
Formality and objectivity	-	Low	0.14	Not Significant
	0.22		20	
	50			
Referencing	-	Low	0.80	Not Significant
	0.03		67	
	79			

Degree of Correlation:

± 1	<b>Perfect</b>
± 0.50 to ± 1	<b>High degree</b>
± 0.30 to ± 0.49	<b>Moderate degree</b>
below + .29	<b>Low degree</b>
0	<b>No correlation</b>

Table 10 presents the significant relationship between the common errors and the sources from the teachers' and students' perspective.

A Pearson's product-moment correlation was used to assess the relationship between common errors and sources of error from the students and teachers' perspective. Preliminary analyses showed the relationship to be linear with both variables normally distributed, as assessed by Shapiro-Wilk's test ( $p > .05$ ), and there were no significant outliers among the variables.

There was a moderate negative correlation among the two common errors such as organization and language use which is correlated,  $r = -0.3$ ,  $p < 0.05$ , with carelessness as one of the sources of error. There was a statistically significant relationship between organization and carelessness, similar with language use and carelessness. Thus, the null hypothesis can be rejected.

Students tend to lack logical sequence and little sense of organization in writing (Pablo and Lasaten, 2018) [5]. Correspondingly, students find it difficult to arrange words properly in a sentence as well as making use of appropriate

grammar (Noraviana, 2018). These could be attributed to the carelessness of students, they were not concerned about the quality of their write ups, and this significantly impacts their writing output (Hidayati, 2017) [35].

The remaining common errors were not observed to have any significant relationship with the sources from the teachers' and students' perspective and with a low degree of correlation. From the findings above, we can infer that at 0.05 level of significance, the null hypothesis "There is no significant relationship between the common errors and the sources from the teachers' and students' perspectives" is accepted. Thus, the alternative should be rejected which incites that there is a significant relationship.

This implies that the sources of errors have no significant relationship with most of the common errors in manuscript writing. The underlying reason behind this was the lack of a standard guide in thesis writing being utilized and followed in the different schools in the Division of Laguna. Additionally, most of the evaluated manuscripts were already checked and corrected prior to evaluation. In the absence of a standard guide, there were different perception of what is proper and acceptable in thesis writing, in this regard, the common errors vary as well as the sources depending on the students' and teachers' perspective. Hence, there is need to devise one learning material to serve as a standard guide. In the study of Irwandi (2019) [30], one of the cited external factors affecting student writing difficulty was school-related factor, the lack of materials the student can consult during the writing process.

#### Qualitative Findings

The qualitative findings were derived from the interviews conducted with the select Practical Research 1 teachers and students among the participants of this study. Manual coding was conducted by the researcher to form the themes of the data. The main objective of the qualitative part is to seek the views of the select participants concerning the common errors found in the PR1 manuscripts, and the teachers' and students' perspectives on sources of errors.

#### 4. How did the participants view the errors and their sources?

The teachers viewed that common errors in content were due to students' poor and inadequate paraphrasing skills and knowledge. Unfamiliarity with the various transitional devices and their appropriate application leads to errors in sentence and paragraph organization. In terms of vocabulary or word choice, the errors were due to the students' poor vocabulary due to a lack of L2 exposure. While lack of mastery of the basic grammar lessons due to limited writing engagements was perceived as the reason for the errors in the language used, the lack of a standard writing guide affects the formality and objectivity of the manuscript. Also, the teachers claimed that referencing errors were due to an unorganized list of used references and an unfamiliarity with proper referencing practice.

On the other hand, the students perceived that the errors in content were because of a lack of awareness and knowledge of



possible resources. In terms of organization, poor background and foundation of knowledge on the use of transitional devices causes the errors. When it comes to vocabulary, the students claimed that the errors were due to their limited knowledge and unfamiliarity with different ways of enhancing vocabulary. Additionally, poor recall and mastery of basic grammar lessons produced errors in the manuscripts. While compliance with the instructions relevant to academic writing and unfamiliarity with proper referencing and lack of time are the causes of errors in terms of formality and objectivity, and referencing, respectively.

To continue, with regards to the teachers' and students' views on the sources of errors; from the teachers' perspectives, carelessness causes inefficient research writing due to lack of reference guide, first language interference was due to poor second language familiarity, and translations resulted in incomprehensible writing due to use of Google translate and verbatim translation.

Furthermore, the students viewed that carelessness happened to subject misconceptions and a lack of experience in writing research, first language interference includes being accustomed to first language use and poor second language mastery; and internet accessibility and poor writing skills are the reasons for translations as one of the sources of errors.

## CONCLUSIONS AND RECOMMENDATIONS

The common errors of the students in their PR 1 manuscripts are: lack of comprehensive information on the problem due to an insufficient number of sources; the texts generally lack transitional devices and logical sequencing; repetitive, misspelled, ambiguous, informal, subjective words and phrases; poor grammar and sentence structure; contracted words and utilization of the third-person point of view; and missing citations in references or bibliography, non-paraphrased citations, or inappropriate citations.

The sources of errors are carelessness, first-language interference, and translations.

Carelessness includes the absence of a research manual, students' attitude towards writing research, and their exposure to qualitative studies. On the other hand, first language interference involves the learners' exposure and utilization of their first language that causes writing difficulties using the second language. While translations can lead to errors, this only happens when words are translated word-for-word from Filipino to English or when translation tools due to internet access.

The remaining common errors in the content, vocabulary or word choice, formality and objectivity, and referencing, were not observed to have any significant relationship with the sources of errors from the teachers' and students' perspective, such as first language interference and translations and with a low degree of correlation. This implies that the sources of errors have no significant relationship with most of the common errors in manuscript writing. The underlying reason behind this was the lack of a standard guide in thesis writing being utilized and followed in the different schools in the Division of Laguna.

Additionally, most of the evaluated manuscripts were already checked and corrected prior to evaluation.

The qualitative findings support the quantitative data regarding the common errors. The reasons for the identified errors that were enumerated earlier were determined through the core themes that were developed from the conducted interviews. In addition, the qualitative data expound the sources of errors.

Practical Research 1 teachers are encouraged to consider the identified common errors in this study and incorporate appropriate lessons into their PR 1 discussions, which may help the students understand and avoid the common errors in writing the manuscripts.

Students will be exposed to the English language through classes that use English as the medium of instruction and encourage students to participate in class by speaking English. Hence, discouraging them from the frequent use of translation tools in their writing activities like in PR 1 is recommended.

Future researchers may consider collecting the manuscript's raw file or unchecked copy for another evaluation of the common errors. A closed group sample may be considered since they have common backgrounds in research writing to get a more comparable result.

Future researchers may do the identification of common errors per school, per district, or per cluster.

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# IMPACT OF FAMILY CLIMATE ON THE MENTAL HEALTH OF B.Ed. TEACHER-TRAINEES IN RELATION TO THEIR ACADEMIC STREAM

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## ABSTRACT

*The purpose of this study is to find out the effect of family climate on mental health of B.Ed. teacher-trainees in relation to their academic stream. Descriptive survey method was used for this study. Sample consisting 160 B.Ed. teacher-trainees was selected by using random sampling technique from four B.Ed. colleges of Bareilly district. Family Climate Scale developed by Harpreet Bhatia & N.K. Chadha (2019) and Mental Health Inventory developed by C.D. Aagshe and R.D. Helode (2008) used for data collection. Data was analyzed using Mean, S.D. and ANOVA (F-test). Finding reveals that there was significant main effect of two dimensions of family climate i.e. expressiveness and organisation and significant interaction effect was found on expressiveness, conflict and organisation dimensions of family climate.*

**KEYWORDS:** Family Climate, Mental Health, academic stream, B.Ed. teacher-trainees.

## INTRODUCTION

Mental health is the ability to balance one's ambitions and objectives, to handle life's stressors, and to make psychosocial adjustments. A person who has a healthy mental state is motivated to lead a more fulfilling life. Mentally healthy person has a vibrant, purposeful attitude toward both himself and other people. It is a known truth that individuals with healthy mental states have positive attitudes toward their jobs and professions. Individuals with poor mental health, on the other hand, frequently struggle to feel comfortable performing the tasks related to their jobs or professions. This made it abundantly evident that a person's mental health was determined by their capacity to view themselves favourably, perceive reality, integrate their personalities, and have attitudes that are conducive to the welfare of their social groups.

A person who is mentally healthy may interact with their surroundings, family, and contribute to the development and enhancement of society (Lewkan, 1993). Humans must adjust to the world and to one another in order to be as successful and happy as possible. This is what is meant by mental health. It is the capacity to uphold civil behaviour, a cheerful attitude, composure under pressure, and perceptiveness (Meninger, 2004).

Family is the first social climate where individual fulfils his/her physical, mental and cultural needs. Family interaction plays an important role in the development of an individual. The healthy functioning of these interaction patterns enhances mental health. Thus we can say that family climate moulds the behaviour, personality, attitude, aptitude, self-esteem and mental health of an individual (Kaur *et al*, 2015). Webster dictionary (2004) defines 'family' as a group of persons,

consisting of parents and their children. It also defines 'climate or environment' as the aggregate of all external and internal conditions affecting the existence, growth and welfare of organisms.

Education streams as a branch or sub branch of a field of study. The broad four streams are after class x for students to select-Science, Commerce, Humanities/Arts and Vocational. Science stream is related to Medical studies and Engineering with subjects like Physics, Chemistry, Biology and Mathematics. Commerce stream is related to trade, commerce, business and financial marketing. Humanities/Arts are the widest of all, and are related to education in subjects like History, Geography, Political Science, Psychology, Sociology, Languages and Anthropology etc. Vocational stream is related to professional courses such as Fashion Designing, Photography and Nursing etc.

Family climate plays an important role in every field of student's life. In this specific context the present research will undertaken to specifically provide empirical answers of these questions like what is role of family climate on mental health of science, commerce and humanities/arts stream of B.Ed. teacher-trainees. A study was conducted on mental health of secondary school students in relation to family climate by Sing and Devi (2018). Findings of this study revealed that there found a significant positive relationship of mental health with family climate. Similarly, Shivanae (2011) reported significant difference of family climate and mental health of tribal and urban secondary school students. But it was found that no study has been conducted effect of family climate on mental health of B.Ed. teacher trainees in relation to education stream. Hence the researcher has decided to undertake, the study of effect of



family climate on mental health of science, commerce and humanities/arts stream B.Ed. teacher trainees.

**OBJECTIVES OF THE STUDY**

1. To explore the effect of different dimension of family climate on mental health of science, commerce and humanities/arts stream B.Ed. teacher-trainees.
2. To detect the interaction effect of different dimensions of family climate and education stream on mental health of B.Ed. teacher-trainees.

**HYPOTHESIS OF THE STUDY**

1. There is no significant effect of different dimensions of family climate on mental health of science, commerce and humanities/arts B.Ed. teacher-trainees.
2. There is no interaction effect of different dimensions of family climate and education stream on mental health of B.Ed. teacher-trainees.

**RESEARCH DESIGN & METHODOLOGY**

The researcher used descriptive survey method. Population of the present study consists of all the teacher-trainees of B.Ed. colleges affiliated to M.J.P. Rohilkhand University, Bareilly. Sample of 160 teacher-trainees of 4 B.Ed. colleges of Bareilly district selected with the help of simple random sampling techniques. **Family Climate Scale (FCS)** developed by Harpreet Bhatia & N.K.Chadha(2019) and **Mental Health Inventory (MHI)** developed by C.D. Aagshe and R.D. Helode (2008) were used for the study. Data were analysed using Mean, S.D., and F-test (ANOVA).

**DATA ANALYSIS AND INTERPRETATION**

**Hypothesis 1:** There is no significant effect of different dimension of family climate on mental health of arts, commerce and science stream B.Ed. teacher-trainees.

**Table 1.1: Descriptive statistics of mental health of arts, commerce and science stream B.Ed. teacher-trainees.**

Dimensions of Family Climate	Family climate Group	Stream	N	Mean	S.D.
1.COHESION	High FC	A	8	23.38	4.241
		C	2	24.50	9.192
		S	10	22.10	3.957
	Average FC	A	40	22.28	3.508
		C	10	23.30	2.908
		S	61	22.13	3.918
	Low FC	A	15	20.00	2.726
		C	1	24.00	0
		S	13	19.69	4.191
2.EXPRESSIVENESS	High FC	A	21	21.33	2.763
		C	0	0	0
		S	20	22.25	3.492
	Average FC	A	39	21.92	3.841
		C	11	23.91	3.910
		S	61	21.61	4.248
	Low FC	A	3	25.00	4.359
		C	2	21.50	0.707
		S	3	21.33	2.887
3.CONFLICT	High FC	A	2	27.50	0.707
		C	2	24.50	9.192
		S	5	24.20	4.550
	Average FC	A	43	21.84	3.477
		C	7	23.00	2.828
		S	66	22.00	4.061
	Low FC	A	18	21.33	3.515
		C	4	24.00	2.944
		S	13	19.54	2.665
4. Acceptance and Caring	High FC	A	5	23.80	4.868
		C	0	0	0
		S	3	24.00	6.928
	Average FC	A	39	21.56	3.567
		C	9	23.78	4.410
		S	64	22.05	3.802



5.Independence	Low FC	A	19	22.00	3.215	
		C	4	23.00	1.414	
		S	17	20.24	4.116	
	High FC	High FC	A	2	27.50	0.707
			C	2	20.50	3.536
			S	3	25.33	2.517
		Average FC	A	21	22.62	4.031
			C	6	24.83	3.869
			S	40	22.30	4.268
Low FC	A	40	21.20	3.073		
	C	5	23.20	3.421		
	S	41	20.95	3.667		
6.Active-Recreational Orientation	High FC	A	10	25.60	3.340	
		C	3	21.33	3.055	
		S	22	23.73	3.494	
	Average FC	A	37	21.22	3.400	
		C	8	24.38	3.462	
		S	47	21.11	4.082	
	Low FC	A	16	21.06	2.645	
		C	2	23.50	6.364	
		S	15	20.87	3.758	
7 .organization	High FC	A	28	21.89	4.193	
		C	4	23.00	5.598	
		S	27	21.78	3.896	
	Average FC	A	17	22.35	2.644	
		C	4	25.75	2.630	
		S	33	22.64	3.782	
	Low FC	A	18	21.39	3.363	
		C	5	22.20	2.168	
		S	24	20.50	4.283	
8. control	High FC	A	7	23.86	5.367	
		C	4	21.25	2.500	
		S	11	24.09	2.914	
	Average FC	A	32	21.47	3.016	
		C	7	25.14	4.059	
		S	42	22.24	4.310	
	Low FC	A	24	21.83	3.608	
		C	2	22.50	2.121	
		S	31	20.26	3.425	

Two Way ANOVA has been performed for testing the hypothesis-1. The result of ANOVA for mental health have been shown in table-1.2

**Table 1.2 summary of ANOVA (Effect of different dimensions family climate on mental-health of arts, commerce, science stream B.Ed. teacher-trainees.**

Dimension	Source	Sum of squares	df	Mean squares	F-Ratio	Result
Cohesion	Stream	36.574	2	18.287	1.288	N.S.
Expressiveness	Stream	11.982	2	5.991	3.407	Significant
Conflict	Stream	43.453	2	21.726	1.550	N.S.
Acceptance and caring	Stream	38.977	2	19.488	1.344	N.S.
Independence	Stream	9.027	2	4.513	0.326	N.S.
Active recreational orientation	Stream	21.257	2	10.629	0.808	N.S.
Organization	Stream	45.068	2	22.534	4.556	Significant
Control	Stream	5.290	2	2.645	0.193	N.S.





The above table 1.2 shows that f value for main effect on two dimensions i.e. expressiveness and organisation is 3.407 and 4.556 respectively which was significant and for other dimensions like cohesion, conflict, acceptance & caring, independence, active recreational orientation and control main effect was found to be non-significant. So the null hypothesis is rejected on the basis of expressiveness and organisation dimension of family climate and accepted on cohesion, conflict, acceptance & caring, independence, active recreational orientation and control dimensions of family climate with respect to education stream of B.Ed. teacher trainees. It can be concluded that mental health of B.Ed. teacher-trainees

influence on expressiveness and organisation dimensions of family climate with respect to education stream.

**Hypothesis2:** There is no significant interaction effect of different dimensions of family climate and education stream on mental health of B.Ed. teacher-trainees.

Two way ANOVA has been performed for testing the hypothesis-2. The result of ANOVA for mental health have been shown in table-2.1

**Table 2.1 summary of ANOVA ( Interaction effect of different dimensions of family climate and subject stream on mental-health B.Ed. teacher-trainees.)**

Dimensions	Source	Sum of Squares	df	Mean of squares	F-Ratio	Result
1.	Cohesion*stream	13.353	4	3.338	0.235	N.S.
2.	Expressiveness *stream	49.932	3	16.644	3.132	Significant
3.	Conflict*stream	57.586	4	14.397	4.027	Significant
4.	Acceptance and Caring*stream	33.272	3	11.091	0.765	N.S.
5.	Independence *stream	84.308	4	21.077	1.524	N.S.
6.	Active-Recreational Orientation *stream	96.610	4	24.152	1.837	N.S.
7.	Organization *stream	17.173	4	4.293	4.296	Significant
8.	Control*stream	121.428	4	30.357	2.209	N.S.

The above table 2.1 reveals that f value interaction effect was found significant for dimensions expressiveness, conflict and organisation which is 3.132, 4.027 and 4.296 respectively and for other dimensions like cohesion, conflict, acceptance & caring, independence, active recreational orientation and control, interaction effect was found to be non-significant. So the null hypothesis is rejected on the basis of expressiveness and organisation dimension of family climate and accepted on cohesion, conflict, acceptance & caring, independence, active recreational orientation and control dimensions of family climate with respect to education stream of B.Ed. teacher trainees. It can be concluded that mental health of B.Ed. teacher-trainees influence on expressiveness and organisation dimensions of family climate with respect to education stream.

## CONCLUSION

From above study it can be concluded that on expressiveness and organisation dimension family climate can affect mental health of B.Ed. teacher trainees. The mean score of Science stream trainees was found higher as compared to other streams. Science Students tends to be more logical and organised as compared to Arts and Commerce stream. So they enjoy better mental health as compare to their counterparts..

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## IMPACT OF GDP ON INDIAN ECONOMY

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### ABSTRACT

*One of the most often used measures of economic performance is the gross domestic product (GDP). The gross domestic product (GDP) is a measure of a country's total output over a specific time period and is seasonally adjusted to remove quarterly changes due to weather or vacations. Inflation is also taken into account when calculating the most popular GDP metric in order to track output changes as opposed to changes in the cost of goods and services. To understand the GDP's impact on Indian economy. The impact of GDP on the Indian economy has varied over time, depending on the level of GDP. The GDP number is the building block of the overall economy. This is so because modern macroeconomics is more or less connected with government policies aimed at improving the efficiency of the economy. Finally, the refocused role of government demands both professional skills and personal integrity among all leading participants. Tomorrow's problems cannot be solved with yesterday's strategies, and cannot even be understood with day before yesterday's knowledge effect on GDP growth rate for period 1970-2011 i.e. 1% point increase in it increased GDP growth rate on an average only by 0.0059858. The determination of GDP growth rate by several economic and non-economic factors varied in terms of the extent of their impact on GDP growth rate.*

**KEYWORDS:** *Gross domestic product, Indian Economy, Role of government*

### INTRODUCTION

One of the most often used measures of economic performance is the gross domestic product (GDP). The gross domestic product (GDP) is a measure of a country's total output over a specific time period and is seasonally adjusted to remove quarterly changes due to weather or vacations. Inflation is also taken into account when calculating the most popular GDP metric in order to track output changes as opposed to changes in the cost of goods and services.

To compare the sizes of different countries' economies, annual GDP totals are widely utilised. The variations in the GDP over time, which are presented as an annualised rate of growth or contraction, are of greater importance to policymakers, participants in the financial markets, and company executives. This makes comparing annual and quarterly prices simpler.

### SIGNIFICANCE OF STUDYING THE IMPACT OF GDP ON INDIAN ECONOMY

Gross domestic product tracks the health of a country's economy. It represents the value of all goods and services produced over a specific time period within a country's borders. Economists can use GDP to determine whether an economy is growing or experiencing a recession. It is important because it gives information about the size of the economy and how an economy is performing. The growth rate of real GDP is often used as an indicator of the general health of the economy. In broad terms, an increase in real GDP is interpreted as a sign that the economy is doing well. It is a good measure for an economy and with improvement in research and quality of data, statisticians and governments are trying to find out measures to strengthen GDP and make it a comprehensive indicator of national income. GDP enables policymakers and central banks

to judge whether the economy is contracting or expanding and promptly take necessary action. It also allows policymakers, economists, and businesses to analyze the impact of variables such as monetary and fiscal policy, economic shocks, and tax and spending plans. Economic growth generates job opportunities and hence stronger demand for labour, the main and often the sole asset of the poor. In turn, increasing employment has been crucial in delivering higher growth.

### PROBLEM STATEMENT

One of the most often used measures of economic performance is the gross domestic product (GDP). The gross domestic product (GDP) is a measure of a country's total output over a specific time period and is seasonally adjusted to remove quarterly changes due to weather or vacations. Inflation is also taken into account when calculating the most popular GDP metric in order to track output changes as opposed to changes in the cost of goods and services.

To compare the sizes of different countries' economies, annual GDP totals are widely utilised. The variations in the GDP over time, which are presented as an annualised rate of growth or contraction, are of greater importance to policymakers, participants in the financial markets, and company executives. This makes comparing annual and quarterly prices simpler.

The gross domestic product (GDP) of a nation is a monetary indicator of the goods and services generated there in a specific time frame, typically a quarter or a year. The best indicator of an economy's health is changes in output over time as measured by GDP.

Because it tracks changes in the size of the overall economy, GDP is a crucial metric for economists and investors. In addition to providing a thorough assessment of the state of



the economy, GDP reports shed light on the variables promoting or impeding economic growth.

Prices of financial assets are heavily influenced by changes in economic health as indicated by changes in the GDP. Stronger economic growth is positively connected with share prices because it frequently results in better business profitability and investor risk appetite. Stronger GDP growth, on the other hand, might harm fixed-income investments like bonds by depressing their relative return appeal.

### OBJECTIVE OF THE STUDY

To understand the GDP's impact on Indian economy. The impact of GDP on the Indian economy has varied over time, depending on the level of GDP. The GDP number is the building block of the overall economy. This is so because

modern macroeconomics is more or less connected with government policies aimed at improving the efficiency of the economy. We know that the government relies heavily on GDP figures when making policy decisions, so this number is an important part of our understanding of government actions. The GDP is an important measure of the overall health of the economy. It can help us identify problems and make decisions about how to improve the economy. It is also possible to correct your mistakes by using a correction tool. Any government policy's objective is to have a positive impact on the country's GDP. The model helps policymakers, economists, and businesses understand the effects of different variables on the economy. Investors can use GDP to help make investment decisions—a bad economy often means lower earnings and stock prices.

### GDP Interpretation on Indian economy for the years: -1951-1980

**Table 2.1**  
**Average Annual Growth Rates of GDP and Major Sectors**

	1900/01- 1929/30	1930/31 - 1946/47	1951/52 - 1966/67	1967/68 - 1980/81	1981/82 - 1990/91	1991/92 - 2000/01
	(1)	(2)	(3)	(4)	(5)	(6)
Agriculture and Allied	0.5	0.2	1.8	3.3	3.5	2.7
Industry	0.9	1.2	6.3	4.1	7.1	5.7
Services	1.6	1.7	4.8	4.3	6.8	7.6
GDP	0.8	0.8	3.4	3.8	5.6	5.6
Per Capita GDP	0.4	-0.5	1.4	1.5	3.4	3.5

Source: Central Statistical Organisation (2001) and Sivasubramonian (2000)

Note : The growth rates in Columns (1) and (2) actually refer to Primary, Secondary and Tertiary sectors, which are close approximations to Agriculture, Industry and Services, respectively.

### Findings 1950-1980

Since 1950–1951, the trend growth rate of India's GDP has been consistent at around 3.5% per year and exhibits no discernible change. Over the entire time from 1950–1951, the GDP growth rate has been trending upward. In 1950–1951, the primary sector—agriculture and related activities—contributed more than half of the GDP. In the. Both the organized and unorganized sectors contributed roughly equal amounts to the GDP in 1950–1951, at 4.5 percent each. After independence, there was a noticeable increase in the rate of saving (as proportion of GDP). It increased from a typical rate of roughly 11.9% in the first fifty years.

India's economic growth rate ranged from about 3.5 percent annually in the early 1960s to about 7.5 percent in the late 1970s. According to World Bank data, between 1961 and 1980, India's real gross domestic product (GDP) growth rate in rupee terms averaged 3.5 percent. The growth rate throughout the 1980s hovered around 5.5 percent on average.

Prior to independence, the real GDP growth rate climbed from 0.9 percent to almost 4.0 percent annually. The rate of expansion markedly quickened throughout the 1980s. With the

exception of four years plagued by crises, there were fewer volatility and stable GDP growth across the years compared to the pre-Independence period. In actuality, the 1980s saw annual growth in per capita GDP of over 3.5 percent. Despite population growth, food availability increased from 395 grammes per day in 1951 to 510 grammes per day in 1991. More than 2.5 percent stronger growth was seen in agriculture. On average, the industry expanded at a rate of more than 5.5 percent annually. Sectoral breakdown of GDP has evolved over time. Agriculture, which accounted for more than half of GDP during the first three Five-Year Plans, fell to around one-third by the end of the 1980s. In terms of inflation, the rate of increase was low throughout the first decade after independence, at 1.2 percent. During the 1960s, this increased to 6.3 percent, then to 9.0 percent in the 1970s. It was roughly 8.0 percent during the 1980s.

Between 1980–1981 and 1987–1988, GDP and its key sectors grew more quickly than they had during the previous three decades. One of the key concerns that Indian politicians and the government had to deal with following independence was the state of the country's economy. They created the Five-Year Plan structure as a result. Over the course of the following



four decades, they gradually altered trade, manufacturing, and agriculture. The industrial sector's share of GDP grew through time, rising from 11.8 percent in 1950–51 to 24.6 percent in

1980–81. A crucial indicator of development is the rise in the industry's percentage of GDP. It is impressive that the industrial sector has grown at an average yearly rate of 6% over this time.

**1981-2010**

Year	Avg GDP	Avg Growth
1980-1990	268.51	6.245
1990-2000	368.221	5.599
2000-2010	949.887	6.749

**Findings**

**1980-1990**

The GDP rate during the decade of 1980s increased (2.9% in 1970s to 5.6% in 1980s). Due to the following reasons-  
 1) Liberalisation of industry and trade reforms  
 2) rising govt expenditure and borrowings from abroad  
 Growing external borrowings helped improve the rate of overall GDP growth by helping to close the significant imbalance between exports and imports. Foreign borrowings thereby contributed to growth in a good way while simultaneously causing an increase in foreign debt accumulation, which went from USD 20.6 billion in 1980 to USD 64.4 billion in 1989–1990.

**1990s-2000s**

The low oil prices (it was the lowest after World War 2), which in turn decreased the cost of transportation and production, may have been the main factor in the economic boom.

After the reform in July 1991, growth showed more consistency, with an average annual increase in the growth rate of 0.5 percent during the 1990s.

The reasons behind introducing economic reforms in india are as follows-

- 1) Poor performance by the public sector
- 2) Imports exceeded the exports
- 3) Foreign exchange reserves started falling
- 4) The govt debts started increasing
- 5) Inflationary pressure
- 6) Terms and conditions levied by the world bank and IMF

**2000s-2010s**

According to reports, the economy grew more quickly in the years 2003–2004 in the areas of agricultural, mining, and construction than in the manufacturing, power, gas, and water supply sectors.

India saw five years of remarkable growth, from 2003–2004 to 2007–2008, averaging about 9% each year. Export growth played a significant role in its occurrence. The ratio increased from 14% in 2003 to 25% in 2009, primarily due to the manufacturing and capital-intensive information technology industries.

Even if the speedier economic recovery in 2009–2010 was indicated by the greater GDP growth, The slowdown following the global financial crisis also has a negative statistical impact by creating a high base effect, which lowers the projected growth for the current fiscal year (2010–11) to the lower end of the 8.5%–9% range.

**2011**

The government, announced a downward revision in GDP (gross domestic product) growth to 6.2 per cent for fiscal year 2011-12 from the earlier provisional estimate of 6.5 per cent.

the GDP in 2011-12 at current prices is estimated at Rs.83.53 lakh crore as against Rs.72.67 lakh crore in 2010-11, marking an increase of 15 per cent as against an increase of 19 per cent in the previous fiscal year.

**Standard of living**

As a measure to assess the standard of living, the per capita income on a monthly basis works out to Rs.5,130 during the fiscal as compared to Rs.4,513 in 2010-11.

**Deceleration**

The deceleration in GDS growth in 2011-12, the statement said, was mainly owing to declines in household financial savings from 10.4 per cent to 8 per cent, in private corporate sector savings from 7.9 per cent to 7.2 per cent and in public sector savings from 2.6 per cent to 1.3 per cent as compared to a year ago. Among other major indicators, the gross national income at constant (2004-05) prices and at factor cost in 2011-12 is estimated at Rs.51.97 lakh crore

**Household Sector**

Household sector savings in absolute terms, the data showed, increased from Rs.18.33 lakh crore in 2010-11 to Rs.20.04 lakh crore in 2011-12 to pose an increase of 9.3 per cent while private corporate sector savings rose by 4.1 per cent from Rs.6.19 lakh crore in 2010-11 to Rs.6.44 lakh crore in 2011-12.

**2012**

India's economic growth rate hit a new decade's low of 4.5% in the fiscal year 2012-13.

The rate of gross capital formation, including valuables, representing the investment rate at current prices, declined to 34.8% in 2012-13 from 35.5% in 2011-12.

The decrease in the rate of GDS in the current year compared to the previous year has mainly been due to the decrease in the rates of savings of household sector in physical assets from 15.8% to 14.8% and private corporate sector from 7.3% to 7.1%.

The economy expanded at an average pace of 4.6% in the first half (April-September) of the current fiscal year ending 31 March and most private economists project economic growth to further fall to below 5% in the full year



India's real GDP grew at a slower pace than anticipated in 2012-13, its nominal GDP grew faster at 12.2% against 11.7% estimated earlier. This may help the government to show a lower fiscal deficit of 5.15% of GDP in 2012-13 against 5.2% of GDP projected in the budget documents

### 2013

The economic growth rate was today revised upwards to 6.9 per cent for 2013-14, as against 4.7 per cent estimated earlier, after the government updated the base year for measuring national accounts.

The higher growth rate, however, may not provide any cushion on the fiscal deficit front as the size of economy has marginally declined to Rs 113.45 lakh crore in 2013-14 under the new series from Rs 113.55 lakh crore (under the old series).

The government targets fiscal deficit as a proportion of the GDP at current market prices

Although the Centre by the end of December has overshot the fiscal deficit target for the current financial year, the Coal India disinvestment, fetching the exchequer Rs 22,577 crore, will provide some comfort to government which is racing against time to keep the deficit in check.

### 2014

The expected growth of less than 5% for the current fiscal year ending in March was replaced by an actual growth of up to 5.6 percent in India in 2014-15.

Compared to the anticipated 1.6 percent expansion in 2013-14, industry growth increased to 3.8 percent in the fiscal year that began on April 1, 2014. The recession in the economy as a whole has not spared the services sector.

The predicted increase in demand for IT services in the West, however, may make services exports an exception. The services industry is anticipated to grow by 5.6% in 2014-15.

Due to the secondary sector's muted performance, which includes manufacturing, power, gas, water supply & other utility services, and construction, the GVA for 2014-15 has been revised downward.

### 2015

The Indian economy expanded more quickly in 2015-16 than was initially anticipated, helped by greater investment and growth in durable goods. The gross domestic product (GDP) growth for 2015-16 was revised upward from the initial estimate of 7.6% to 7.9%, according to the data.

Gross fixed capital formation (GFCF), a proxy for assessing investment activity, is estimated to have increased to 6.1% in 2015-16 from an earlier estimate of 5.3%.

The growth of the primary (agriculture, forestry, fishing, mining, and quarrying), secondary (manufacturing, electricity, gas, water supply, and other utility services), and tertiary (services) sectors has been estimated to be 2.6%, 7.8%, and 9.8%, respectively, in 2015-16 at constant prices, as opposed to growth of 1.8%, 6.1%, and 9.5%, respectively.

### 2016

India's 2016-17 GDP growth rate stayed same at 7.1%.

During the 2016-17 year, nominal GVA at base prices increased by 10.1%. Manufacturing (7.9%), Construction (1.3%), Transport, Storage, Communication & Services Related to Broadcasting (4.3%), Trade, Repair, Hotels and Restaurants (8.9%), Financial Services (1.3%), and Real Estate, Ownership of Dwelling & Professional Services (8.0%) all experienced slower growth in 2016-17 than they did in 2015-16.

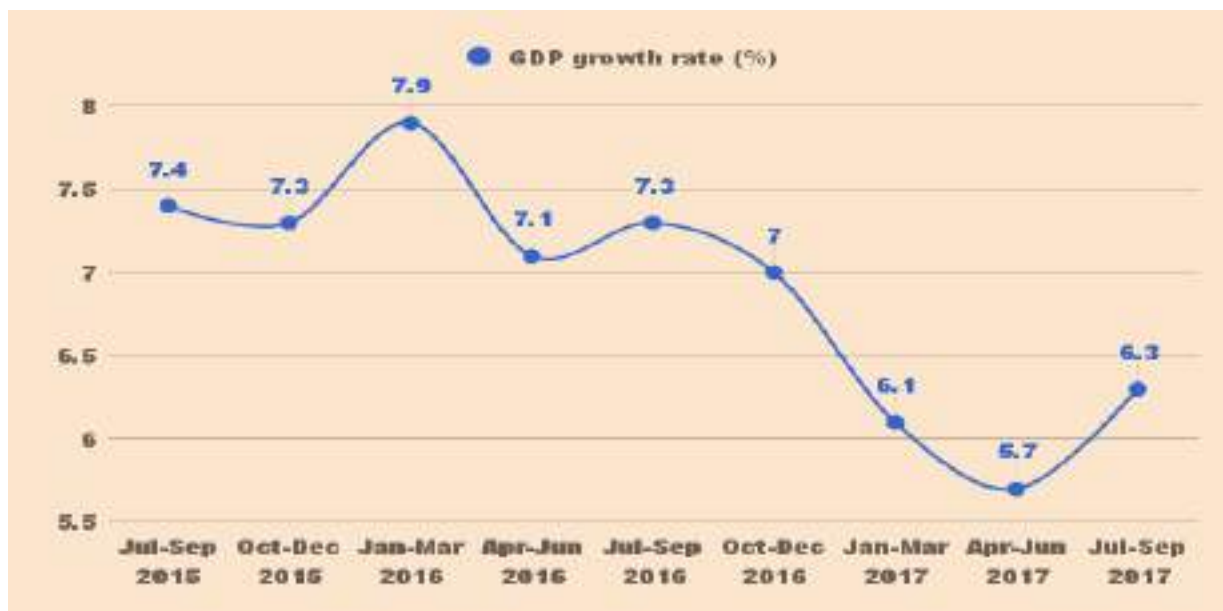
On the other hand, the agriculture sector which has been witnessing low growth over the past few years, is estimated to grow at 4.1% in 2016-17. Growth in the manufacturing sector is estimated at 7.4%, and in the services sector, at 8.8%

### 2017

The data disclosed that sectors like 'public administration, defence and other services', 'Trade, hotels, transport, communication and services related to broadcasting', 'electricity, gas, water supply and other utility services' and 'financial, real estate and professional services' registered a growth rate of over 7 per cent.

On the other hand, growth in the 'agriculture, forestry and fishing', 'mining and quarrying', 'manufacturing' and 'construction' sectors "is estimated to be 2.1 per cent (from 4.9 per cent), 2.9 per cent (from 1.8 per cent), 4.6 per cent (from 7.9 per cent) and 3.6 per cent (from 1.7 per cent)", respectively.

The GDP growth estimate for the fiscal year 2017-18 is at a four-year low of 6.5% in the current fiscal, the lowest under the Modi-led government, mainly due to the poor performance of agriculture and manufacturing sector, as against 7.1% in the last fiscal. In the second quarter (July-September), India made a comeback at 6.3% from a three-year low 5.7% in the previous quarter. However, massive rationalisation on as many as 178 products in November led to the fall in government's revenue, which seems to be picking up in later months.



The story of India's GDP growth rate in the Economic Survey 2017-18 (Image: FE)

The fiscal deficit at the end of November breached the target and touched 112% of the budget estimate for 2017-18 mainly due to lower GST collections and higher expenditure.

### 2018

One of the most often used measures of economic performance is the gross domestic product (GDP). The gross domestic product (GDP) is a measure of a country's total output over a specific time period and is seasonally adjusted to remove quarterly changes due to weather or vacations. Inflation is also taken into account when calculating the most popular GDP metric in order to track output changes as opposed to changes in the cost of goods and services.

To compare the sizes of different countries' economies, annual GDP totals are widely utilised. The variations in the GDP over time, which are presented as an annualised rate of growth or contraction, are of greater importance to policymakers, participants in the financial markets, and company executives. This makes comparing annual and quarterly prices simpler.

### 2019

**Gross Domestic Product (GDP):** The GDP growth rate is estimated to be 5% in 2019-20 as compared to 6.8% in 2018-19. The GDP growth decelerated for the sixth consecutive quarter.

In the first half of 2019-20 (April-September), GDP is estimated to grow at 4.8% as compared to the 2<sup>nd</sup> half of 2018-19 (October-March) at 6.2%. The survey observed that

sluggish growth of consumption and consequent decline in fixed investment led to the decline in GDP growth during this period.

During 2019-20, the growth rates of the primary sector (comprising agriculture, forestry, fishing and mining & quarrying), secondary sector (comprising manufacturing, electricity, gas, water supply & other utility services, and construction) and tertiary sector (services) have been estimated as 3.3%, (-1.1%) and 7.2% as against a growth of 2.2%, 5.8% and 7.2%, respectively, in the previous year.

### 2020

According to government projections made public on Monday, India's GDP will decline 7.3% between 2020 and 21. While the epidemic has slowed growth in several nations throughout the world, a number of factors over the past ten years indicate that the Indian economy was already deteriorating prior to COVID-19.

The Indian government issued its most recent forecasts for economic growth on Monday for the most recent fiscal year, which concluded in March 2021. In 2020-21, India's Gross Domestic Product (GDP) shrank by 7.3%. To put this decline into perspective, keep in mind that India saw average annual growth of roughly 7% from the early 1990s until the epidemic struck the nation.

The GDP growth fell to 23.9% following the national shutdown in March 2020. In 2020 and 2021, the global GDP Contribution to GDP: Sector-wise

At present, the following situation is there in the sector's contribution. View the table below:

Sector	Contribution
Agriculture	20.19%
Service	53.89%
Industry	25.92%



India's GDP is the measure of its economic state. Various sectors have their contribution in it. Take a look below at such contributions and the difference these sectors make due to it in the economy.

The service sector is the biggest sector of India with the Gross Value Added at current prices as 96.54 lakh crore in 2020-21. Today the service sector accounts for almost 54% of Indian GVA of 179.15 lakh crores. The Industry sector lags behind it with 25.92% contribution and the Agriculture sector is at the third place with 20.19% contribution.

## CONCLUSION

The inferences from the above analysis of past performance and current status in the global context are mainly five-fold. First, performance since our plan-era has been mixed in terms of our needs and capacities, reasonable on a global-scale, and is getting progressively better especially in the recent years.

We have lagged behind in the social dimension of growth. The current mood of confidence needs to be tempered with realisation of actions overdue in these areas, to sustain the momentum in the medium term.

Second, the immediate prospects for growth with stability are good and are mainly a result of removing the structural bottlenecks to growth especially in terms of deregulation and liberalisation. Obviously, that is not enough to continue with high growth in the medium term.

For the medium term, immediate attention to institutional and infrastructural issues appear to be urgent, and the tasks are complex. Third, the long term prospects are even more contingent on immediate actions in the areas covered by social indicators. In the context of growing awareness of people and inevitable global competition, mere meeting of minimum health needs and imparting literacy would certainly be inadequate. Healthy population with potential for rapid skill-upgradation is absolutely essential for us to survive as a nation with dignity and respect.

Fourth, both the term challenge, relating to institutions and infrastructure as well as the longer term one relating to social development, demand a more focused government and a government that efficiently delivers the essential services that it is supposed to deliver, as an overarching priority. What we need is not less government and not even more market, but better government and genuine market. I humbly submit that it is on this basis that the debate on State versus market or government versus market should now be resolved in our country. So far, perhaps the reality in our country was often State and market versus poor people but effort should now be to aim for State and market for the people, or better government and genuine market for the people.

Finally, the refocused role of government demands both professional skills and personal integrity among all leading participants. Tomorrow's problems cannot be solved with yesterday's strategies, and cannot even be understood with day before yesterday's knowledge effect on GDP growth rate for period 1970-2011 i.e. 1% point increase in it increased GDP growth rate on an average only by 0.0059858. The determination of GDP growth rate by several economic and

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# IMPACT OF SPIRITUALITY ON ACADEMIC PERFORMANCE OF STUDENTS

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## ABSTRACT

*Ideally, a good education system should be able to develop the potential of students in a holistic and integrated manner. In many academic literature, there are several evidences proving that the elements of spirituality are fundamental to students' personal development that could produce well-balanced students. Earlier researches have shown that those who are more religious or spiritual, and use their spirituality to cope with life, experience many benefits to their health and well-being. Interestingly, spirituality has been found to have a positive effect on academic performance of students because highly spiritual students are associated with high learning motivation. To see these reviews in action, this research was a case study designed to examine the impact of students' spirituality in the academic performance among Grade 11 students in Lumban Senior High School. Students enrolled in Humanities and Social Sciences strand (HUMSS) were selected using purposive sampling technique to sample 50 students out of 157 as respondents of this action research. The views were sampled through a questionnaire. The questionnaire largely comprised of Likert-Type questions. The study revealed that spirituality served as a source of inspiration to focus on studies and hard work. The study also showed that, students viewed spirituality in religious terms and tightly knitted spirituality to religion. Recommendations made from the study was that, students who had spiritual inclinations should not see their spirituality as a sure way to success. Students could also learn the virtue of focus and hard work in spirituality and apply it to their advantage in academics.*

**KEYWORDS:** *spirituality, academic performance, spiritual practices*

## INTRODUCTION

Talking about Spirituality, people have different perceptions and views relative to this matter. Spirituality is known as an important dimension of human well-being and is a unique power that creates a harmony between physical, psychological and social dimensions. It is a basic motivation and feeling to look for a long life in order to find a goal and meaning in life. It is as something that concerns with the intellect or what is often thought of as the better or higher part of mind or it is the moral aspect of life. It may also even mean a state of being incorporeal. Whatever way one may define, it may be termed as an ideal that reckons all reality in essence as spiritual. Or simply stated spirituality is one's character or quality that makes one transcend the barriers of worldliness, caste, creed and sensuality; and realize one's connection with the Truth. Since spirituality has different levels, people normally included themselves according to the view they considered. Its effect in an individual depends on how one has grown up, how he is being raised by his parents at home, what kind of environment that individual is exposed to, what is the individual's religious background, and of course, how an individual develops his/her own character with the Creator. In addition, an individual may achieve spiritual maturity if he wills to follow God's guidance without any mental reservation.

According to Fukofuka (2007), many studies suggested that in the academic performance of the students, spirituality has a positive effect on it. In other words, he simply says that spirituality plays an important role on the academic performance of the students. In his study on the impact of spirituality on academic performance, the results show that students who do well credit their spirituality as the major cause,

and students who do poorly blame their lack of spirituality as being a major cause for their poor academic performance.

One of the prime goals of students is to be successful in their examinations and be able to graduate. The hope for a better future inspires students into seeking for academic success with as much strength and ability that lie in their power. From the basic level to the tertiary level of education, there have been statistics which suggest that poor academic performance has led to the eventual discontinuation of students' education. Students tend to find the best means for success in academics. Some seek this success through some of the following ways: drug use, examination malpractices, hard work, bribery, spiritual means and other means. There have been varied views about the role that spirituality plays in academic success. Some people either agree or disagree out right on the matter. Others are also of the view that the role that spirituality plays in academics is dependent on the level of the student's involvement.

In Lumban Senior High School, students' academic performances vary. There are students who perform better and there are also few who do not perform as the majority do. On the other hand, students are asked to attend and participate in any religious meetings regularly. The school has conducted programs that would enhance the students' holistic well-being to be able to achieve high spirituality level. In spite of the effort of the school to boost the interest of the students to perform well and be active in religious participation, there are still those who do not give much attention to it.

## OBJECTIVE

This paper will give a clearer view to determine the perception of HUMSS students on spirituality; identify the



ways in which spirituality supports HUMSS students in their academic pursuits; and identify the ways in which spirituality hampers the academic success of HUMSS students.

## REVIEW OF LITERATURE

### *The View on Spirituality*

The meaning of Spirituality is different matter to different human being. The meaning attributed to spirituality is not only copious, but somewhat varied (Mattis, 2000, Bryant, 2007). Most researchers have only advanced operational definitions based on the focus of their studies, hence a non-unified definition. Like in the study of Cox (2011), he considered spirituality as an individual's personal relationship with God. This means that spirituality is viewed as a personal, rather than a collective connection with God; implying that a student's spirituality is strictly about how he or she knows, understands and communicates with God. In line with Cox's perception, spirituality is viewed as believing and worshipping a supernatural being (God), who possesses a supernatural power and authority over every facet of one's life, including one's beliefs and practices (Jagers & Mock, 1993; Chiorazzi, 2015).

Academically speaking, the Sacred theory as advanced by Pargament (2013) which corroborates Durkheim, (1912) cited in Omonijo & Anyaegbunam, (2020) states that spirituality is basically a searching sacredness which is defined by three processes namely: discovery, conservation and transformation. According to Pargament, there is an existing and an ongoing search in man to find the sacred. When this is found, there is the tendency to preserve or conserve that which was found till it ultimately leads to transformation of the individual. The student at the higher level of education is at that period of emerging into adulthood where in lifestyle choices (including spiritual) are at its peak (Arnett, 2000).

On the contrary, Redon (2005) considers spirituality as placed in cultural meaning and values, rather than being strictly about a belief in the supernatural. To her, spirituality in the setting of teaching and learning in higher education is expressed if it "honors our human nature, instills a sense of sanctity and holiness and humility in our college classrooms, respects and embraces alternate cultural realities and connects faculty and students in meaningful ways" (cited in Wood & Hilton, 2014:31). In other words, magnifying the theistical setting of spirituality is not the issue but how it translates to the nature of humans; and it is conveyed on the stage of culture and the value placed on relationships with others.

To explore more in defining spirituality, words like religion, religiosity and religious practices, are terms that are basically used in past studies to imply spirituality in one sense or another and are therefore sometimes used interchangeably (Astin & Astin, 2004; Mooney, 2010, Cox, 2011; Hosseini, 2015, Olowookere, Oguntuashe & Adekeye, 2016). Some researchers however argue that they are not one and the same (Wood & Hilton, 2012; Van der Merwe & Habron, 2015). They noted that while religion is a "shared belief system typified by principles, customs, practices, and rites in adherence to God or multiple deities. In contrast, religiosity is the presentation of these principles, customs and rites" (Mattis & Jagers, 2001 cited in Wood & Hilton, 2012:31).

The languages of spirituality; such as give to dedicate time to read scriptures, pray, fast, serve in a small group, and so on, demonstrate a student's voluntary and personal drive towards his/her spiritual beliefs. In other words, anybody can have a religion and be called religious person; it takes great dedication to be spiritual.

To stand and maintain such measure of dedication, a student needs to take out time to pursue the supernatural, which has the capacity to take his or her time that could otherwise pass for reading time. The question then is, does this extra time of reading scriptures, attending an hour of prayer, fasting, praying, take a negative toll on students' academic performance (which is their primary purpose as students)? Do students who demonstrate a high level of spirituality also show a high level of academic performance?

### *Spirituality and Academic Performance*

The research of Hodge (2012) answered to whether or not the time students take out to receive spiritual instructions, impacts their academics negatively or not, he examined the students' English proficiency and their release time for spiritual instructions. His findings show that students who are released for spiritual instructions "score at least as well as their peers..." (p.1) on the same tests. This implies that being spiritual and expressing it through spiritual activities as a student, does not necessarily hamper academic success.

On the other hand, Holland (2014), studied the relationship between academic engagement, religiosity and spirituality among African American urban youth; and his findings implied that African American university students, attested to the fact that their religious and spiritual beliefs and practices provided a positive support to their academic endeavors. He therefore suggested that it is important for school personnel to know other forms of support that students have for their academic excellence, beyond their families and schools, so as to advise and support them accordingly.

Kazanjian (2005), in his article on Religion, Spirituality, and Intellectual Development, argued that religion and spirituality assist to equip students with right skills necessary to be good citizens of their nations. If this is so, he believes that religious identity should not only be stressed by religious institutions but also by educators, because by reason of the outcomes, it is an "educational obligation". After over a decade of research on issues bothering around religion and spirituality, Kazanjian and his team, developed five goals that should drive educators towards enhancing the religious and spiritual life of their students. These goals include, amongst others: 1. To respond to students' learning needs; 2. To equip students with the skills necessary to be citizens of the nation and the world; and 3. To provide an environment in which our students can grow as whole persons.

## SCIENTIFIC BASIS/Framework

The suggested Spiritual Needs/Motivation/Volition Framework by Maslow's Hierarchy of Needs (Maslow 1968), as well as the operational definitions that will be offered for spirituality and religion, are informed and his writings regarding religion and self-efficacy (Maslow 1964).

The gratification of the social need includes "the need to feel loved by others and be accepted" (Gobin, et al. 2012,



205). Since the view of Maslow is holistic, it can be assumed that every element and aspect of human life works together to satisfy needs, caring people transfer from one degree to the next in the hierarchy. Therefore, religion and spirituality are interwoven throughout the various needs, not just that of social need. As learners work their way up the pyramid, toward self-actualization, they must possess their need for religious and spiritual community and practice satisfied at their individual level of need (Kroth 2007).

According to Maslow, since everyone is working towards self-actualization, something must motivate students to push from one need to the next. To understand the importance that religion and spirituality play in motivating students, Educators and administration should strive to work on as these elements could very well be the driving force behind the fulfillment of individual needs. When social needs are not met, and this is where religion and spirituality fit most comfortably, it can be devastating to students (Sherwin and Stevenson 2010). To be empathetic to the needs of students is a way that educators can assist in this fulfillment, understanding that every student will have varying needs and will progress at different rates (Sherwin and Stevenson 2010). Therefore, it is necessary to respect and provide space and time for students to practice their religious beliefs (Sherwin and Stevenson 2010).

In order to be successful, students must feel “safe, secure, and comfortable”, thus a nurturing environment is necessary and important for self-actualization to be achieved (O’Connor 2008, 16). While public school practitioners have gradually moved from a concept of true holistic education that sought to educate students’ minds, bodies, and spirits toward a reticence to even mention spirituality (Sink, Cleveland, and Stern 2007), educators should be aware that students are spiritual beings and retain their religious freedom even on public school campuses. Therefore, students should not be judged based upon their religious or spiritual preferences or practices. Educators can be pivotal in the process of nurturing spiritual development, as they are the ones that set the tone for the classroom and ensure that an efficient and effective learning environment is provided. Allowing students to participate in and practice their religious beliefs, as well as understanding and incorporating activities and lessons that allow for students to share and demonstrate their beliefs, creates an environment where students are able to work towards individual fulfillment of social needs.

Maslow (1964) has referenced the importance of religious gratification and incorporation of spiritual concerns into daily life in his book, *Religions, Values, & Peak-Experiences*. In this text, Maslow (1964) states that religious and spiritual fulfillment “are the general responsibility of all mankind. . . [therefore,] we shall have to reevaluate the possible place of spiritual and moral values in education”. Because of the importance and responsibility that this places upon the incorporation of religion and on the acceptance and tolerance of religion by educators, it is necessary to have “a renewed openness to matters of beliefs and values in college classrooms” (St. John and Parrish 2012, 131). However, in recent years, the incorporation of spirituality and religion has been almost nonexistent (Milacci 2006). While there is a slow movement

towards the incorporation of these elements, there is still much ground to cover.

## MATERIALS AND METHODS

This part deals with the methods and procedures, which were used in the entire study. It consists of research design, respondents of the study, sampling, data collection, data analysis, ethical issues, plan for data analysis, and timetable/Gantt chart.

### A. Research Design

The research design employed was the case study design. Baxter & Jack as cited in Cox define the case study as “a research methodology based on an in-depth investigation of a single individual, group, or event.

### B. Population and Sampling

The purposive sampling technique was used to select the members of the sample. This technique was used because of the relative advantage of ease, time and cost it presents. The study covered students in Lumban Senior High School. Its investigations were limited to Grade 11 students numbering to 50 who belong to Humanities and Social Sciences (HUMSS) strand. Respondents were identified the various Christian religious denomination such as, Roman Catholic 21, Born Again 16, Mormons 3, and Iglesia Ni Cristo 10.

### C. Data Collection

The primary data was obtained through the questionnaire administered to the respondents. The questionnaire was mainly close ended Likert scale. The validity of this instrument was grounded in its precise measurement of what it was purposed to gauge. Frequency tables were developed, and the results were summarized in tables.

### D. Ethical Issue

In light with the matter of religiosity and spirituality in the Philippines, strong tight in one’s beliefs is one of the biggest considerations among Filipinos when dealing denominational beliefs. Talking about whose doctrine is true or who are standing in false beliefs, many expressed their ideas and strongly argued and debated with what they believe about God.

Because of this matter, the researcher was sensitive enough to the openness of each respondent to answer the questionnaire to the best respect it needed. In spite of barriers in religious beliefs, the execution of the sensitivity of the matter was highly considered. It was also understood that voluntary approach in the selection of respondents was evident in respect to their own spiritual beliefs.

### E. Plan for Data Analysis

In the beginning of the study, respondents were first identified of their religious sect group to initially recognize their religious affiliation. After which, a questionnaire was distributed to respondents to answer in order to identify their perception on spirituality, followed by the responses of respondents on how spirituality supports academic performance, and the responses of respondents on how spirituality hampers academic performance. The questionnaire was used as data collection tool. Collected data was presented



in tables, which may make the data analysis more comprehensive to its readers.

**F. Timetable/Gantt Chart**

ACTIVITIES	JUNE				JULY				AUGUST			
	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4
Identifying the research area												
Reviewing the literature												
Generating the question/hypothesis												
Selecting the methodology												
Planning the research												
Collecting the data												
Analyzing the information												
Presenting the finding												

**OUTPUT**

This study was conducted to see the impact of being spiritual to the academic performance of the respondents. The output was presented based on the result of the survey given to respondents. It was noted that high percentage of spirituality can affect the view of the respondents towards academic success. Therefore, the on-going Campus Ministry being implemented by the researcher at school since 2017 shall continue so that reinforcement to practice their beliefs may

**A.1 Religious Denomination of Respondents**

**Table 1. Specific Religious Denomination of Students**

Specific religious denomination	Frequency (f)	Percent (%)
Roman Catholic	21	42
Borna Again	16	32
Mormons	3	6
Iglesia Ni Cristo	10	20
<b>Sample Size (n)</b>	<b>50</b>	<b>100</b>

In Table 1, the religious denominations which the respondents belong to are shown with their corresponding frequencies and percentages. It can be seen that majority of the respondents were Roman Catholic denomination, while Mormons were 6% which is the least number among the respondents.

**A.2 Students' Perception of Spirituality**

The data presented in Table 2 are discussed below. The study revealed that a great majority of the respondents (100%) are in agreement with the fact that the spirituality of any person cannot be explained devoid of the concept of God or Allah. This data is supported by the researches done by Dollard and Larson et al.. Their definition of spirituality necessitated the recognition of a being beyond human power. This also confirms the view of Page as cited in Wood and Hilton who examined spirituality among black (African American) males. He "found their conceptions of spirituality related to having faith in, practicing, and theological adherence to a religious belief system." It suggests therefore that the setting of the research done by Page has some similarity with the setting of this research. Hence the definition of spirituality, at least, in the

intensify. The existence of the Campus Ministry at Lumban Senior High School has now a valid proof to continue its goal for the students truly because of this research.

**RESULTS AND DISCUSSION**

**A. Findings**

The results of this study are presented in the following sections according to the research questions:

context of Lumban SHS should feature the recognition of God or Allah as a being or power beyond human capacity.

Quite a sizeable portion of the respondents in this study (52%) also carried the idea that, the reading of the Holy Scriptures of their religion makes a person spiritual. This revelation suggests that spirituality may be necessarily tied to a religion or church doctrine since those scriptures are deemed sacred by believers in those religions. This therefore debunks the report by Jagers and Mockers that although spirituality is often expressed in God concepts it is not necessarily tied to formal church doctrine or participation.

The idea drawn from the data found with regard to this statement is quite similar to that of the statement discussed in the previous paragraph. Since majority of the respondents (82%) see prayer to be a part of spirituality, it suggests that they see spirituality to be knotted to a religion or church doctrine. On the basis of this data the view of Jagers and Mockers that although spirituality is often expressed in God concepts it is not necessarily tied to formal church doctrine or participation cannot be upheld.

The study depicts that a greater number of the respondents (82%) did not consent that accepting other people



just as they are has something to do with the spirituality of an individual. This may oppose the view of HERI that having a feeling of connectedness to all of humanity an indicator of spirituality. It may also suggest that having an ecumenical world view makes a person less spiritual. The implication of this finding is that individuals may be quite glued to their religious denomination and less tolerant of others who are unlike them (either in religion, character, culture, race etc.) in their attempt to be spiritual. It may also suggest, in the view of respondents, that an individual's level of tolerance or view on ecumenism has nothing to do with spirituality.

The data also depicts that majority (82%) of the respondents disagreed on the assertion that acts of goodness towards other people make a person spiritual. It is directly in opposition to the HERI view that charitable involvement is an indicator for spirituality. According to HERI, charitable involvement assesses the behaviors of subjects. These behaviors could be participation in community service, giving of alms, counselling, and lending helping hands to friends who had to grapple with personal problems. The view of respondents in this research in comparison with assertion by HERI thus indicates that, acts of goodwill and kindness may not necessarily be indicators of a person's spirituality.

**Table 2. Students' perception of spirituality**

Statements	Strongly disagree	Disagree	Uncertain	Agree	Strongly Agree
Spirituality cannot be explained without the belief in God	0 (0%)	0 (0%)	0 (0%)	15 (30%)	35 (70%)
Reading the Bible makes a person Spiritual	20 (40%)	2 (4%)	2 (4%)	3 (6%)	23 (46%)
Prayer makes a person spiritual	8 (16%)	1 (2%)	0 (0%)	7 (14%)	34 (68%)
Accepting other people as they are make a person spiritual	34 (68%)	7 (14%)	0 (0%)	1 (2%)	8 (16%)
Being good to people makes a person spiritual	35(70%)	6 (12%)	0 (0%)	1 (2%)	8 (16%)

**A.3 How Spirituality Supports Academics**

The data presented in Table 3 indicates the responses of respondents on how spirituality supports academic performance. The data is discussed below.

It was revealed that quite a number of the respondents (94%) believed that high spirituality leads to academic success. This finding substantiates some of the five (5) ways in which Wood and Hilton claimed that spirituality helped in academic performance. Wood and Hilton noted that, spirituality served as an inspiration for excellence. They also noted that spirituality provided ability to overcome barriers.

The outcome of the study revealed that a great majority (100%) of the respondents consented that spirituality makes students to focus on their studies. This affirms the assertion by Wood and Hilton that spirituality provided life purpose, thereby reassuring students of their academic plans. This revelation thus suggests that the hope of having a desired academic performance as a result of one's spirituality keeps one focused.

Quite a sizeable portion of the respondents (96%) in this study were of the view that spirituality makes students work extra hard in their studies, this affirms Max Weber's theory of

the Protestant ethic as mentioned in Cox. Weber's theory postulates that there is an inherent nature of discipline in Protestantism which makes adherents the faith tend to have a stronger principle of hard work.

The data depicts that majority (96%) of the respondents believed in academic miracles and that they had experienced some before. The concepts of miracles may be outside the scope of science but can be considered to be very significant in this study. If through spirituality, mystical events occur to help students excel in academics, then spirituality is very necessary in academia.

The study revealed that great majority (86%) of the respondents carry the view that their spirituality helps them to balance both academic activity and other commitments. This research is indirectly in agreement with the HERI assertion that spirituality is "a dynamic construct that involves the internal process of seeking personal authenticity, genuineness and wholeness, of being open to exploring a connection to a higher power, of transcending one's locus of centrality while developing a greater sense of connectedness to self and others through relationship and community, and of defining one's role and place in the world and the universe."

**Table 3. How spirituality supports academic**

Statements	Strongly disagree	Disagree	Uncertain	Agree	Strongly Agree
High spirituality leads to academic success	0 (0%)	3 (6%)	0 (0%)	14 (28%)	33 (66%)
My spirituality makes me focus on my academics	0 (0%)	0 (0%)	0 (0%)	20 (40%)	30 (60%)
My spirituality makes me to work extra hard in my studies	1 (2%)	1 (2%)	0 (0%)	19 (38%)	29 (58%)



Because of my spirituality, miracles happen, and I get better results	0 (0%)	2 (4%)	0 (0%)	15 (30%)	33 (66%)
Because of my spirituality, I can balance academics with other commitments	3 (6%)	4 (8%)	0 (0%)	13 (26%)	30 (60%)

#### A.4 How Spirituality Hampers Academics Success

The data presented in Table 4 indicates the responses of respondents on how spirituality hampers academic performance. The data is discussed below.

The results presented by the study reveals that an overwhelming majority (94%) of respondents disagreed with the fact that a high level of spirituality leads to poor academic performance. This data further confirms the findings in 4.2.1 which show that high spirituality leads to good academic performance. Thus, this finding also substantiates the view of Wood and Hilton that spirituality helped in academic performance. This finding also suggests that spirituality cannot be detrimental to academic performance.

The understanding that can be drawn from the study is that majority (100%) of the respondents did not agree with the idea that because of their spirituality, they did not find it necessary to study much. This suggests that spirituality does not lead a person into shirking responsibility. This may suggest that spirituality rather compels students to study.

Considering the outcome of the research, it is marked that most (92%) of the respondents were not in agreement of the statement that their spirituality did not support them to get

time to study. It thus seems to affirm the fact that, spirituality rather clears all distraction that will prevent academic success. Wood and Hilton provided this as the fifth way in which academics was supported by spirituality. Students were of the view that spirituality minimizes distractions. As a result of this, these students were of the view that they were well able to pay adequate attention to their studies because relational distractions with other people were either lessened or not there at all.

The outcome of the study shows that many (100%) of the respondents did not agree that their spirituality prevented them from studying with people of other religions or consult them for academic help. This shows that respondents differentiate between academic work and spirituality. They therefore may interact with people of other faiths for the purpose of academics and allow their spirituality prevent them from benefiting from the good in other people. This affirms the view of HERI that spirituality is indicated by Ecumenical Worldview. This does not mean the respondents participate in those religious traditions but that he or she seeks to understand other traditions and cultures.

**Table 4. How spirituality hampers academic success**

Statements	Strongly disagree	Disagree	Uncertain	Agree	Strongly Agree
High spirituality leads to poor academics	32 (64%)	15 (30%)	0 (0%)	3 (6%)	0 (0%)
Because of my spirituality, I don't see it necessary to study much	41 (82%)	9 (18%)	0 (0%)	0 (0%)	0 (0%)
Because of my spirituality, I don't have time to study	34 (68%)	12 (24%)	0 (0%)	4 (8%)	0 (0%)
Because of my spirituality, I don't like to study with people of other religions/ spiritualities or consult them for academic help	42 (84%)	8 (16%)	0 (0%)	0 (0%)	0 (0%)

#### SUMMARY AND CONCLUSION

The summary of this study can be an admonishing to students that spirituality being a part of one's life should not negatively affect a person's academic performance. But rather, the impact of spirituality equips and keeps students focused and disciplined in their commitments.

#### RECOMMENDATIONS

Based on the above findings in the research, the researcher would like to offer the following recommendations.

1. Students who tend to be very spiritual and religious on campus should not bank on their spirituality as a sure way of obtaining academic excellence. Personal commitment and determination can make them merit good performance in academics.

2. Due to the advantage of focus and determination inherent in spirituality, students can use spirituality as a source of motivation to be focused and hardworking. Though this cannot independently lead to academic success, it can be an indirect precursor to it.
3. Future researchers may also study the correlation of religion and spirituality towards career success of a senior high school student.

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# UNCOVERING THE DEVELOPMENT OF ENGLISH DRAMA DURING ELIZABETHAN AGE

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## ABSTRACT

*It is accepted among the historians that the Elizabethan age (1558-1603) is considered as the golden age of literature. In that drama as a literary form saw a rise in popularity due to the dramatists like the university wits (a group of dramatists), Shakespeare and many more. Due to its depiction through theatre performance drama began to have its preference over prose. Its share for its popularity can be divided among the writers for their amazing works and the queen for her patronage to them.*

**KEYWORDS** – Elizabethan age, Shakespeare, University Wits, Development

## INTRODUCTION

Drama began as a religious ritual. Early plays were performed in church by clergymen during Easter. Drama started evolving from church to noblemen's houses to public places. There was the revival of Corpus Christi festival (1311)- public holiday dedicated to drama.

- **Miracle Plays** – Miracle play also known as Saint's Play, one of three principal forms of vernacular drama of the medieval age in Europe (along with the Mystery play and Morality play) presents a real or fictional account of the life or martyrdom of a saint.

Dates back to 12<sup>th</sup> century. Example - Harrowing of Hell; St. Nicholas; Raising of Lazarus.

- **Mystery Plays** or the Corpus Christi cycle –

From the late 14<sup>th</sup> century Mystery and Morality plays were in vogue. These were long cyclical dramas. Mystery plays included themes like creation, fall, redemption and other parts of the Bible. They included Old Testament but the main focus was on Christ. York, Chester, Wakefield, E. Anglia (Coventry) are the main cycles.

- **Morality Plays** –

Morality Plays were Allegorical. One can see the progress of a single universal character from the cradle to the grave and sometimes beyond. Personification of the virtues and vices, good and evil was seen.

Examples - Wisdom, Mankind, Everyman etc.

- **Interludes** – Morality plays transformed into Interludes. It had the patronage of Henry VIII. They were short allegorical, farcical pieces filling intervals. Interludes sometimes considered to be a transition between morality plays and Tudor dramas.

Examples – The four Ps (by John Heywood): Palmer, Pedlar, Pardoner, 'Pothecary.

Renaissance started in Italy. In Italy; people started to take interest in the Greek plays again and that is when theatre emerged and when theatre emerged in Italy there were writers like Moliere who wrote theatrical plays in order to poke fun at people; this same set of ideas spread across Europe and gradually it came down to England. In England many new theatres emerged which were indoor theatres with elaborative set design having curtains which were put between two scenes. And we saw great theatrical artists like Christopher Marlowe and William Shakespeare. And this is how England saw the re-emergence of theatre. Drama grew a lot during the reign of Queen Elizabeth I. (1533-1603). Historical plays seem to thrive during this period as the English defeated Spanish Armada and England became intensely patriotic. Playwrights were of practical nature who wanted to make a living of their work. Plays were meant to be acted and not read. If the playwright sold his manuscript, he had no right to it. Elizabethan Theatre used to have, round wooden and roofless building. Three galleries of seats. Main stage was 40 feet wide. Pit (no seats) and 27 feet



projection into the pit. Also had a music room. Plays like Problem Plays or Dark Comedies Included happy endings, had a sombre and tragic tone, cynical and disillusioned attitude to life, Fondness for objectionable characters and incidents, It exposed falsity of romance and had sordid reality e.g. All's well that ends well, Measure for Measure, Troilus and Cressida. There was seen some form of antisemitism though the plays like The Jew of Malta by Christopher Marlow and The Merchant of Venice by William Shakespeare. The use of blank verse, the use of soliloquy was seen a lot during this age.

William Shakespeare (-1616) and his style – The Objectives of the Shakespearean plays was to give pleasure. They were fanciful and imaginative plays. Plays used by audience as a form of escape from everyday life.

Works of Shakespeare –

Comedies – The comedy of errors, Love Labour's Lost, The two gentlemen of Verona, As you like it etc.

Tragedies by Shakespeare – Othello, Hamlet, King Lear, Macbeth etc.

Tragicomedy by Shakespeare – The Merchant of Venice, The winter's Tale and The Tempest.

UNIVERSITY WITS – Prominent in the 1580s; University Wits is a term used to describe a group of late 16<sup>th</sup> century English playwrights and pamphleteers who had that education under either Oxford or Cambridge. The university wits transformed the didactic interludes and shapeless chronicle histories into real plays.

The Oxford School – John Lyly, George Peele, Thomas Lodge, Thomas Middleton

The Cambridge School – Robert Greene, Thomas Nashe, Christopher Marlowe

No University Wit-

Thomas Kyd

## WORKS OF THE UNIVERSITY WITS

1. Robert Green (1558-1592) – *Alphonsus King of Aragon, Friar Bacon and Friar Bungay, Orlando Furioso, A looking glass for London and England etc.*
2. Thomas Kyd (1558-1594) – *Soliman and Perseda, King Leir, Ur-Hamlet, Fair Em etc.*
3. John Lyly (1554-1606) – *Endymion, Campaspe, Sapho and Phao, Midas, Gallathea, Mother Bombie etc.*
4. George Peele (1556-1594) – *The Arrangement of Parsis, The Old Wives's Tale, The battle of Alcazar, King Edward the first aka Edward I etc.*
5. Thomas Lodge (1558-1592) – *The wounds of civil war and A Looking glass for London.*
6. Thomas Nashe (1567-1601) – *Summer's Last Will and Testament, The Isle of Dogs, Dido Queen of Carthage.*
7. Christopher Marlowe (1564-1593) – *Tamburlaine the Great, The Jew of Malta, Edward II, Doctor Faustus, The Tragedy of Dido (with Nash), The Massacre of Paris etc.*
8. Thomas Middleton (1580-1627) – *The Changeling, Women beware Women, The Roaring Girl, A chaste maid in Cheapside, The Revenger's Tragedy etc.*

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# MANAGEMENT COMPETENCIES OF LIBRARIANS: BASIS FOR A PROPOSED INTERVENTION PROGRAM

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## ABSTRACT

*Management competencies are essential components that librarians should possess. These are necessary tools in achieving the strategic goals of the library. The main gist of this study is to determine the level of management competencies of librarians as basis for a proposed intervention program. Through quantitative non-experimental descriptive-inferential research design, the data were collected from 118 librarians and were analyzed by the use of mean, Anova and t-Test. The data revealed that librarians have high level of management competencies. Correspondingly, there is no significant difference based on age and sex, but educational background and length of service differ significantly on the management competencies of librarians. A proposed intervention program for enhancing the management competencies of librarians was designed on the basis of the findings.*

**KEYWORDS:** library and information science, management competencies, intervention program, descriptive-inferential, Philippines

## INTRODUCTION

Libraries nowadays are facing similar challenges throughout the rapid changes and issues across the world and librarians must be efficient communicators, good in strategic planning, idealistic, and able to adopt the new ways of working or trends in the library [1].

Consequently, a study conducted by Fernandez and Buenrostro [2] on management competencies of professional librarians found out that, a typical professional librarian only possesses a minimum educational qualification that is no longer relevant and appropriate in the electronic age. Thus, librarians must re-assess their roles/responsibilities to realign their competencies. Unfortunately, the old LIS curriculum does not adequately prepare graduate students for the level of management responsibility assumed in many entry-level positions. The infusion of leadership and management competencies are needed to diminish the challenges that the profession is facing in meeting the needs of service evolution, leadership drain, the ageing workforce, and the lessened degree in which new professionals are entering the field [3].

Management competencies are knowledge and skills that are needed by a librarian to perform managerial tasks effectively with readiness and capability for all professions. Librarians should strengthen managerial competencies to be more efficient in their duties and maximize working competitiveness [4]. These competencies are needed by professional librarians to enable them to execute respectfully in

their respective institutions and as required by the labor market [5].

Hence, management competencies accompanied by transformational leadership were needed by librarians in today's context in dealing with rapid changes and progressive development caused by advancement of technology, ever-changing demands of users and budget cuts [6]. Managerial competencies are essential tools and viewed as crucial sources in dealing with these changes and in achieving strategic organization goals [7].

## OBJECTIVES

This study was intended to assess the level of management competencies of librarians, which will be the basis for an intervention program. Additionally, it also aims to identify the significant difference in the level of management competencies of the respondents when group by age, sex, educational background, and length of services.

## METHODOLOGY, SAMPLING, STATISTICAL DESIGN

This study employed the quantitative non-experimental descriptive-inferential method of research and applying the mean, anova and t-test analysis a statistical tools. Additionally, 118 librarians from Davao City were selected as respondents using the universal technique sampling.



**Table 1. Descriptive Statistics on the Level of Management Competencies of Librarians**

Variable	N	SD	Mean	Descriptive Level
<b>Management Competencies</b>	<b>118</b>	<b>0.51</b>	<b>4.13</b>	<b>High</b>
Leadership Skills		0.52	4.36	Very High
Professional Development Practices		0.63	4.30	Very High
Program Monitoring and Reporting		0.58	4.25	Very High
Human Resource Management		0.74	4.23	Very High
Instructional Leadership		0.66	4.15	High
Resource Management and Allocation		0.73	3.89	High
Community Collaboration		0.89	3.71	High

**Table 2. Significant Difference in the Level of Management Competencies of Librarians when analyzed by age**

Age	Management Competencies	
	Mean	SD
18-25	4.07	0.53
26-35	4.12	0.55
36-45	4.11	0.42
46-55	4.36	0.31
56-65	4.47	0.51
<b>Total</b>	<b>4.13</b>	<b>0.51</b>
	f-value .953	
	p-value .436	

**Table 3. Significant Difference in the Level of Management Competencies of Librarians when analyzed by sex**

Sex	Management Competencies	
	Mean	SD
Male	4.06	0.50
Female	4.15	0.52
<b>Total</b>	<b>4.13</b>	<b>0.51</b>
	f-value .671	
	p-value .414	

**Table 4. Significant Difference in the Level of Management Competencies of Librarians when analyzed by Educational Background**

Age	Management Competencies	
	Mean	SD
Bachelors	4.09	0.52
Masters	4.12	0.44
Doctorate	4.57	0.40
<b>Total</b>	<b>4.13</b>	<b>0.51</b>
	f-value 3.374	
	p-value .038	

**Table 5. Significant Difference in the Level of Management Competencies of Librarians when analyzed by Length of Service.**

Sex	Management Competencies	
	Mean	SD
0-5 years	4.04	0.55
6-10 years	4.22	0.45
11-15 years	3.99	0.36
16-20 years	4.59	0.36
21 years above	4.42	0.36
<b>Total</b>	<b>4.13</b>	<b>0.51</b>
	f-value 2.889	
	p-value .025	



## RESULTS AND DISCUSSION

Presented in Table 1 are responses of the librarians on management competencies that revealed an overall mean score of (4.13; SD = 0.51) described as high-level result. This implies the steady response from the respondents taking into account that it is below 1.0 in all indicators. The respondents showed consistency of responses as indicated by their standard deviation below 1.0. Thus, mean ratings are sorted out from highest to lowest as follows: leadership skills (M=4.36; SD=0.52); professional development practices (M=4.30; SD =0.63); program monitoring and reporting (M=4.25; SD=0.58); human resource management (M=4.23; SD=0.74); instructional leadership (M=4.15; SD=0.66); resource management and allocation (M=3.89; SD=0.73); and community collaboration (M=3.71; SD=0.89). Relatively, the high-level result of management competencies of librarians implies that the librarians have the ability to collaborate with faculty that helped improve students' learning, clear understanding on allocation of finances in spending resources and lastly, actively participate on the community outreach programs.

The result is congruent to the views of [8]; [9]; [10]; [11] that a competent librarian carries out tasks like financial management, community outreach, serves as educator and a leader. These are important tools to successfully accomplish organization's objectives. These competencies enable librarians to perform their responsibilities competently in delivering services to the users. A skilled librarian provides expertise not only in the library but also in the community outreach program through developmental activities that will improve the quality of life of a specific community [12].

**Table 2** shown the significant difference in the level of management competencies of librarians when analyzed by age. As described in the table, it presented an overall mean of 4.13 with f-value of .953 and probability value of .436, which is not significant at the 0.05 alpha levels. This suggests that the null hypothesis is accepted and there is no significant difference. This infers librarians having the same level of management competencies regardless of age. The findings are congruent in a study conducted in Valencian community when they try to assess manager's competency. Surprisingly, the result shows that age is just a number and does not significantly predict competency needs of managers [13]. However, in an investigation on manager's competencies of Lebanese employee resulted differences. It means that the older the manager, the higher they perceived competencies. While the younger managers, require improvements in competencies to be competitive in their positions [14].

**Table 3** illustrated the test of significant difference on the level of management competencies of librarians when analyzed by sex. The results generated an over-all mean score of 4.13 with t-value of .671 and probability value of .414 which is not significant at the 0.05 alpha levels. Thus, accepts the null hypothesis of the study. The data implies that regardless of sex, librarians have equal level of management competencies.

Sex does not necessarily affect the competency needed in managing the organization successfully [15]. Thus, in other

studies sex has a significant effect in determining managerial competency of employees. Moreover, male managers do not show more competency needs compared to female managers [16].

**Table 4** depicted the significant difference on the level of management competencies of librarians when analyzed by educational background. The result weighted an over-all mean of 4.14 with f-value of 3.374 and probability value of 0.038, which is less than the alpha level of 0.05 that leads in rejecting the null hypothesis. It means that there is a significant difference. The results reveal that the librarians do not have the same level of management competencies.

It means that librarians who achieved higher educational attainment have more management competencies in their job. Manager who holds graduate degrees are perceived to have more competencies than those who are with undergraduate level who only gained practical and basic knowledge. While managers who are in the graduate level, have more advanced competencies that cannot be found with those who have undergraduate degree [15].

**Table 5** presented test of significant difference on the librarian's management competencies that gained an over-all mean score of 4.13, with t-value of 2.889 and probability value of .025, which is lower than alpha level of .05 indicating that there is a significant difference in the management competencies of librarians when analyzed according to length of service. Therefore, the null hypothesis is rejected.

It implies that length of service has strong and positive influence in developing management competency through work experience and the same time acquiring knowledge that can foster new learning. In this study, it articulates that competencies can be developed and learned through experiences, which are results of repeatedly applying knowledge or ability [17]. Employees who have a longer length of service and work experience contain excellent competency and performance in their job [18].

## SUGGESTIONS/RECOMMENDATIONS

Based on the forgoing findings, the following recommendations are suggested. Particularly, the lower mean score on instructional leadership, resource management and allocation and community collaboration that is suggestive to have an intervention program for the improvement of their management competencies in these three indicators and, for their continuous professional growth. This will be beneficial for the librarians in enhancing their management capacity in managing the daily operations of the library and in achieving their missions and goals. The creation of intervention programs can be used also as the basis for determining and enhancing their existing competencies and learning new knowledge for them to be updated and remain current to the new trends of librarianship professions.

The findings of this study are suggestive for the need of the school administration to be provided by the result of the study to provide feedback on the level and extent of management competencies of their librarians. This may be



useful also in the decision making to address or to broaden the competencies of the librarians specifically in instructional leadership, resource management and allocation and community collaboration in improving the service they offer to their users. The proposed intervention program may be adapted to further improvement and enhancement of the librarian's management competencies. Moreover, the same study may be conducted in other places to explore other variables that may affect the management competencies.

## CONCLUSION

With considerations on the findings of the study, a conclusion is drawn in this section. The level of management competencies of librarians was high; while the indicators were rated as high for instructional leadership, resource management and allocation and community collaboration including very high on leadership skills, human resource management, program monitoring and reporting and professional development practices. The result of the study highlighted that a person who has higher level of managerial competencies is comprised of personal-oriented and task-oriented skills that resulted to more effective and efficient management leadership a key component in providing service quality and an indicator of an organization's readiness [19].

Correspondingly, the study also found out that there is no significant difference on the level of management competencies when analyzed by age and sex. Thus, age does not significantly affect the managerial competency of a certain manager [13]. It is the same as the result conducted in some managers in Thailand that sex does not necessarily influence the competency needed in managing the organization successfully [15].

However, there is a significant difference found on the level of management competencies of librarians when analyzed according to educational background and length of service. Employees who have a longer length of service and work experience containing excellent competency and performance in their job [18]. While the result of educational background is in line with the idea that, managers who hold graduate degrees are perceived to have more than those who are with undergraduate level only gaining practical and basic knowledge.

Thus, in the light of the findings of the study, an intervention program was formulated for the enhancement of the management competencies of librarians where the mean score below 4.15 as the baseline for the creation of an intervention program.

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## I. PROPOSED INTERVENTION PROGRAM TITLE

Management Competencies Intervention Program on IRMACC “Instructional leadership, Resource Management and Allocation, and Community Collaboration”.

## II. RATIONALE

The output of this study is the basis for a proposed intervention program. This intervention program is essential to increase the librarian's competency, productivity, reduce supervision and improve their performance. It helps libraries to function effectively and viewed that library services cannot be developed without appropriately trained library personnel [20]. In Pakistan, librarians developed their management competencies through engaging in the different intervention program like in-house training, online tutorials, and training

offered by skilled professionals. The said intervention programs have high significance in acquiring competencies of professional librarians [21].

Likewise, an intervention program improves workers' competencies. It eliminates or reduces the mismatch between the levels of acquired and required skills of academic librarians in managing library operations [22]. Intervention program should be toughened, as this would provide the librarian and library assistant with the necessary skills and understanding from each unit and department to carry the most credible information and services needed by library patrons [23].

Similarly, it enhance and activate information professional knowledge in fulfilling user's needs. Intervention programs enhance the librarian's management competencies needed in performing library tasks [24]. It also strengthens the knowledge of their responsibilities and operational capability among librarians and develops their capacity to carry out the library operation efficiently. It is essential on the part of librarians to get training to survive in the profession. These will enhance the librarian's confidence in managing the library and enables them to handle library services in a better way [25];[26].

The result of the study on management competencies of librarians is high in instructional leadership, resource management, and allocation and community collaboration. The researcher realized that there is a need to improve and enhance the three indicators into very high level. Thus, the researcher prompted to develop an intervention program that can be used as point of reference by school administration and librarian's local associations, which are accredited CPD provider such as e.g. PLAII regional and DACUN in providing training, workshops and seminars that will strengthen the management competencies of librarians.

## III. INTERVENTION DESCRIPTION

The intervention was designed to improve and enhance the management competencies of librarians. The program contains areas of concern, strategies, beneficiaries, and success indicators for the realization of the implementation of the study.

## IV. OBJECTIVES

The intervention program has the following objectives:

1. To provide and support librarians with an intervention program that will augment their management competencies in supervising the daily operations of the library in an effective and efficient way.
2. To design an intervention program that will fortify the high components identified in the study and that can be improved to very high level.
3. To provide a monitoring and evaluation instrument as a tool for data benchmarking in the implementation of the intervention program.
4. To guide the management in planning an effective intervention program designed to develop and enhance the management competencies and professional advancement of the librarians.

## V. TARGET BENEFICIARIES

Librarians and Administrators



## **VI. IMPLEMENTATION**

Implementation guidelines of the intervention program shall be presented to the school administrators for the approval of its utilization as well as the further comments and additional information. Its pilot testing will be within the calendar year 2019-2020. Full implementation will be toward the succeeding years with continuous refinement and improvement once adapted.

## **VII. MONITORING AND EVALUATION**

Evaluation and monitoring will be conducted after conducting/ implementing the strategies developed in this program. The implementing academic unit shall spearhead the monitoring. It should be done to ensure its effectiveness. The monitoring and evaluation result should be adequately documented and disseminated to make necessary improvement or enhancement of the intervention program.





**Proposed Management Competencies Intervention Program on IRMACC “Instructional leadership, Resource Management and Allocation, and Community Collaboration”.**

Key Result Areas	Specific Objectives	Strategies	Person/s Involved	Timeframe	Means of Verification (MOV)	Expected Output
Instructional Leadership	To enhance librarians’ competencies in collaborating with instructors by providing information needs in their individual basis and establish structures that let instructors to work together to develop teaching and learning	Attend Curriculum Review	Librarians Instructors	2019-2020	Attendance Certificate of Participation	-Increase librarians’ competencies on building collection that are suited to the references needs by the instructors in their subjects and strengthen their collaboration in meeting the learner’s information needs.  -Increases library resources utilization due to the balance of collections that are highly demanded by the users
Resource Management and Allocation	To acquire competencies in budgeting and allocation of funds especially on the operating expenses and capital expenses of the library.	Conduct training on Financial Management	Librarians Lecturer	2019-2020	Approved training proposal and Certificate of Participation	-Improved librarians skills on wise handling of library finances and in annual budgeting covering the needs and priorities of the library in accordance with the existing policies of the institution.
Community Collaboration	To enhance librarians’ competencies in establishing community engagement and public relations through library outreach program, showcasing of resources to the communities and partnerships with other organizations	Conduct workshops in developing informational outreach activities/program and coordinating with other organizations.  Create policies for clear communication to community, stakeholders and to funding agencies or organization	Librarians Lecturer	2019-2020	Approved training proposal and Certificate of Participation  Library goals and objectives for community collaboration	-Improved librarian’s skills on community cooperation and develop a well- informed and literate community.  -Increase the numbers of linkages and partnered institutions.



## BIBLIONYMS EXPRESSED WITH PROPER NOUNS

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The meaning of the word is realized in speech in specific variants [1]. The lexical meaning of a word consists of a reflection of the general characteristics of the objects and events indicated by this word [2]. In this respect, the semantic properties of proper nouns are based on a certain sign and feature of the object at the initial nominative stage.

As a group of Uzbek onomologists noted: "... the innumerable nouns that exist in the history of the Uzbek language and are preserved in the language of many historical written monuments and historical works, their emergence, creation and formation, their meaning and functional characteristics, other linguistic and historical-cultural, educational aspects remain dark for science" [3]. This idea is also relevant for biblionyms of the Uzbek language. Biblionyms are one of the onomastic units that have been forming since the earliest development of our language. Linguistic aspects of each biblionym are revealed based on the research of semantic features of biblionyms of ancient and modern works of art.

Linguist A.G. Volkov says that "meaning is a non-linguistic category that is not directly related to the fact that language is a system of symbols. Therefore, the linguistic sign does not cover the meaning and it is a phenomenon related to consciousness (psyche)" [4]. The issue of voluntary or motivated choice of linguistic sign, which is an integral part of speech activity, is one of the most serious issues of theoretical linguistics [5]. As much as the semantic research of biblionyms according to the content of the expression is necessary, it is also important to determine the words that form them as an expression, that is, in the matter of referring to the content and sign in it. As biblionyms are names given to works of art, they naturally have different semantic forms. In this article, we

analyzed biblionyms formed on the basis of anthroponyms, toponyms, hydronyms and zoonyms.

Biblionyms based on anthroponyms. It is known that anthroponyms, i.e. names of people, form the largest range of proper nouns. Anthroponyms are onomastic units that show the ethnolinguistic and sociolinguistic features of the people. It is necessary to research the main function of anthroponyms as a language tool and other communicative and methodological functions [6]. Biblionyms formed on the basis of anthroponyms are mainly named after the hero of the work. In this case, the creator gives a name, pseudonym, or nickname to the main character (characters) that matches the general content, motive, and aesthetic imagination of the work. Later, this anthroponym was transferred to a biblionym:

*"Abulfayzxon", "Arslon" (Fitrat); "Kleopatra" (CHulpon) "Jamila", "Temur Malik", (Mirmuhsin); "Yodgor" (G.Gulom), "Bola Alisher" (Oybek), "Matluba", "Muqaddas" (O.Yoqubov); "Umar Xayyom" (N.Jaloliddin), "Amir Temur" (B.Ahmedov), "Jaloliddin Manguberdi" (E.Samandar), "Alisher Navoiy va rassom Abulxayr" (O.Mukhtor), "Ahmad Yassaviy" (S.Siyoev), "Fotima va Zuhra" (U.Umarbekov), "Otash", "Sabo va Samandar" (U.Hamdani). Among these names, the biblionyms "Arslon" and "Otash" need further analysis, so we will clarify them briefly.*

In the biblionym of Fitrat's drama "Arslon", the transfer of a proper noun to another proper noun, that is, a transposition phenomenon, is observed. Zoonym was the motive for choosing the anthroponym *Arslon*, the main character of this work. However, we cannot say that the biblionym "Arslon" is expressed on the basis of a zoonym. Because this biblionym was created on the basis of the motif transferred to the anthroponym *Arslon*.



At first glance, the biblionym of U. Hamdam's story "Odash" does not mean the biblionym represented by the anthroponym. This biblionym was named after the shortened form of the main character of the story, Otabek. The author mentions Otabek as Odash. However, other characters call him as Otabek: "Don't be too happy that Otabek is walking, explain slowly to his relatives, he won't go far..." The name chosen for the hero of the work and the name represented by the biblionym are very compatible with each other. The fire also represents the fire that roars and burns in the heart of the hero.

The properties of a biblionym as a text name are especially evident in biblionyms formed on the basis of anthroponyms, which appear completely neutral in appearance. At the same time, the statement about the limited semantic role of the anthroponymic biblionym, even when we encounter it in myths and legends, is not quite correct. The name of the hero reflected in the biblionym created on the basis of anthroponyms fulfills its nominal function most clearly. The selection of a biblionym based on the name of a person embodied as the main leading character in a work of art exists in all eras, and such biblionyms are found in the works of almost all writers.

### Biblionyms based on toponyms

Toponyms are a particularly rich part of the vocabulary of the language. Because they arise with the needs of a certain stage of society. As noted by Z. Dosimov, geographical names provide important and valuable information about the history, life, and language of the people living in that place [7]. Determining the semantics of biblionyms expressed on the basis of toponyms is somewhat easier. Because toponyms in speech serve not to highlight the features of an object different from others, but to distinguish a concrete object from others. The toponym expresses a clear, unique, new concept, and this concept is preserved even when it is used as a biblionym. The toponyms that served for the formation of biblionyms "Andijonim", "Samarqand", "Buxoro" (M.Yusuf); "Samarqand" (E.Vohidov), "Bizda - Xorazmda" (S.Avaz), "Niqobsiz Amerika va boshqa manzilgohlar" (D.Nuriy), "Men kashf etgan Hindiston" (N.Rahmat) were not created by accident. Since they are language units that have been absorbed into the people's thinking, it is not too difficult for the reader

to understand the meaning of such biblionyms. In the biblionyms represented by toponyms, the ideas of patriotism, love for the country, and grief for the country are leading. A specific geographic object, place name, region is mentioned and praised by the writer. For this reason, such biblionyms are the focus of many people's attention.

### Biblionyms based on hydronyms

The Republic of Uzbekistan occupies a large area in the central part of Central Asia, mainly between Amudarya and Syrdarya. The foothills and mountainous areas of the republic are divided by many streams and small river beds [8]. Since the people's lifestyle is directly related to water and water structures, artists created artistic works on this topic and chose a biblionym for their works after the name of water objects. Biblionyms in A. Mukhtar's novel "Amu", B. Rozimhammad's poem "Sirdarya", B. Otaeva's poem "Amudarya", Botu's poems "Black Sea", "Caspian Sea"; J. Ergasheva's short story "Ajdarkol", B. Boyqabilov's poem "Jamna", M. Abdulhakim's poem "Daryo" are biblionyms based on hydronyms. Hydronyms are related to the history of the people, and are a linguistic layer and a treasure of the national language that express the unique aspects of the people's social life, culture and spirituality [9]. Artists created priceless examples of national values by naming works of art based on hydronyms. In addition, such biblionyms provide the reader with artistic, scientific, and aesthetic pleasure.

### Biblionyms based on zoonyms

Zoonyms, which are the names of the animal world, form one of the oldest semantic groups in the lexicon of many languages [10].

Just as everything in the world is created in relation to each other, humanity also lives closely with nature. Calling or simulating a person's behavior, character and appearance with the names of animals is a clear proof of this. For example, the biblionym of the short story "Sinchalak" (Titmouse) by A. Qahhor is attributed to Saida Alimova, the protagonist of the work.

Zoonyms are often used to describe characters in fiction. In particular, when describing the attractiveness of the eyes and body movements, a zoonym "gazelle" is used. A. Orazboev's biblionym "Ohu", which means



gazelle in the Uzbek language was created based on this zoonym.

Writing about animals, bringing their image into literature is the main part of Normurod Norqabilov's work. The writer himself mentions this in his book "Pakhmaq": "...animals surround and fill existence as a living community. Everyone has their own work and worries. The indestructible laws of nature are viable only because of the existence and movement of animals. I have yet to tell anyone about my own observations. But I will put it on paper, only in an artistic form" [11]. The biblionyms of works by this writer such as "Ena bo'ri" (*Mother Wolf*), "Oqbo'yin" (*Proper noun, which is mostly used for naming a dog or a wolf*), "Qashqa" (*Proper noun, which is mostly used for naming a dog or a wolf*), "Do'ngkalla" (*Proper noun, which is mostly used for naming a dog or a wolf*), "Kapalak" (*Butterfly*) are among the names represented by zoonyms.

The Uzbek people have been creating symbols related to the names of animals and birds since ancient times. They believe in the events related to mythological and real animals. When writing most of their works, writers refer to the animal world and choose biblionyms represented by zoonyms, so it can be felt that the aim is to convey the main meaning to the reader in the form of animals. Biblionyms, such as O.Yoqubov's "Oqqushlar, oppoq qushlar" (*White Swans, Snow-White Swans*), T.Malik's "Tilla kalamush" (*Golden Rat*), "Oltin baliq" (*Gold Fish*); U.Umarbekov's "Oq qaldirg'och" (*Hungry Swallow*), U.Hoshimov's "Qizil qarg'a" (*Red Crow*), M.Yusuf's "Oq tulpor" (*White Horse*), M.Abdulhakim's "Qaldirg'och" (*Swallow*) are motivated by symbolic themes such as peace, goodness, and abundance based on zoonyms

Observing people's lives, It is obvious that the most loyal and closest animal to them is a dog. In fiction, the dog is embodied as a fearless, faithful, close friend. Naming dogs is also different from other animals. Biblionyms were created based on the names given to dogs by writers. In the biblionyms S.Ahmad's "Qoplon", H.Ismat's "To'rtko'z", N.Norqabilov's "Oqbo'yin", U.Umarbekov's "Bo'ribosar", which are based on proper nouns, which is mostly used for naming a dog, it is felt that there is a hint to the positive characteristics, appearance, and behavior of dogs.

Among the biblionyms, there are names of works expressed by zoonyms, in which a deep meaning is hidden. The contents of the biblionym of the novel "Dinosaur" by Sh. Kholmiraev involuntarily arouses interest in the reader. Since the dinosaur is considered an extinct reptile, today it is surprising to call the work with such a biblionym, and it is very interesting for the reader. A writer compares a person who is stuck in the vortex of old times and old views, who does not receive news, to a dinosaur. Describing the dinosaur as a physically strong but weak-willed animal, the author says: "The theory that the strong will win and the weak will be defeated is wrong! If the strong had the ability to conquer, the dinosaur would have conquered first. No, They died. The reason? It's already formed." No matter how controversial this view is, it is noticeable that the author took a unique way of reflecting the tragedy and suffering of the intellectuals in accepting today's new era.

In general, proper nouns, common nouns, words denoting actions, lexemes related to auxiliary and intermediate groups occupy the main place in the formation of biblionyms. Researching biblionyms by dividing them into such types allows to determine the scope of their main subject. Biblionyms are the onomastic unit with the largest number of meaningful groups compared to other nouns.

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## REIMAGINATION OF OTHELLO AS OMKARA

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### ABSTRACT

*Othello is one of the most celebrated tragedies by William Shakespeare set around the Ottoman Venetian War. Omkara (2006) is the transposition of "Othello" adheres to the landscape and culture of eastern Uttar Pradesh (UP). Critically acclaimed and nominated for eighteen Filmfare awards and won half of them.*

**KEYWORDS** — *Othello, Omkara, Bollywood, Adaptation*

Omkara set in eastern Uttar Pradesh is a second Shakespearean adaptation by Vishal Bhardwaj after his first critically acclaimed *Maqbool* (2003) which is based on *Macbeth*. He was Born in Bijnor, and was schooled and raised in Meerut. Early growing years spent in the unruly wastelands of eastern.U.P. were sure to leave their own indelible mark on his psyche. The use khariboli dialect which is heavily used in eastern province of U.P., the language oozes richness of texture and tonality that somehow remains incomparable in Hindi cinema even today.

Although the film differs a little from the subject of race that is generally brought out in *Othello* (the blackness of moors) but it substitutes that concept what the maker saw in his everyday life which was caste. Most of the characters in the film identify as Brahmins having the surnames Mishra, Tyagi, Shukla, Tiwari.

### A short overview of Othello

*Othello* starts with a conversation happening between Roderigo and Iago. Each of them have their personal motives for enmity with *Othello* and therefore they determine to take revenge in opposition to him.as the plot moves forward we come to know that *Othello* and *Desdemona* who is the daughter of the Senator, got married in secret. Rodrigo, who was the early suitor of *Desdemona* plots to get her through a evil plan. he's followed by means of Iago who's indignant with *Othello* due to the fact he has promoted Cassio above him.near the end of the third act of the play, the doubt is seen to be sown in his mind because *Desdemona* loses her handkerchief (a gift given by *Othello*) which was later in the play found by *Emilia* who is Iago's wife.

Iago asks his wife to give him the handkerchief to fulfil his plans. He places the handkerchief with Cassio and tells *Othello* that *Desdemona* and Cassio are having affair.

To make him accept as true with he asks *Othello* to notice Cassio's reactions whilst his affair is noted. *Othello* then decides to kill his spouse.

Frustrated by *Desdemona's* love ; *Othello* kills *Desdemona* on the mattress wherein they as soon as made

love. *Emilia* later tells *Othello* about the innocence of *Desdemona*. After knowing the real truth, *Othello* regrets about his decision. Because of the overpowering guilt, he instantly commits suicide.

In the film it is shown early that *Omkara's* Brahmin father beget him on a low caste woman making an excuse for his enemies calling him "half bramhan"(adha-baaman). The casting choice of Ajay Devgn who has a little dark complexion makes a contrast with *Kareena Kapoor* who is his beloved and has Caucasian like fairness which is said to be a good marker of a pure blood and feminine beauty. *Bhardwaj* just simply transform the Moor of Venice into a half-Brahmin of Eastern Uttar Pradesh. His peculiar choice of character names and plot details are as fascinating as they are rich with commentary on the brand-new world they live in. A disposable handkerchief gets transformed into a jewellery i.e. a cummerbund that is passed down through the generations and is now regarded as a symbol of purity in relationship, making its bastard owner even more attached. And one that later, as *Langda Tyagi* wraps it around his head in the midst of frenzied lovemaking, becomes the visual representation of his ardent desire for *Omkara's* demise. The plot is a lot similar to that of "*Othello*." As the film begins, *Langda Tyagi* informs *Rajju* that his bride to be, *Dolly*, is being kidnapped by the powerful but socially corrupt *Omkara*, and urges him to complain to *Dolly's* father. *Dolly* confesses her love for *Omkara* and that she and *Omkara* had colluded in overthrowing her father's plan of an arranged marriage. Because of *Bhaisahab* there are no violent clashes but a warning from the lawyer to *Omkara* about *Dolly* being unfaithful to him in future. Creating a doubt in *Omkara's* mind which we see used by *Langda Tyagi* in the future The implicit theme of patriarchy that the male need to control the female sexuality becomes explicit in *Omkara*. Iago from *Othello* is considered as one of the most complex villain and interesting character. *Ishwar/Langda Tyagi* who is played by *Saif Ali Khan*, gives us a really worthy Iago, an ambitious man hampered by a physical disability. *Langda* translates to "lame, crippled," and he walks with a noticeable limp. He is



plotting his own rise to the rank of mahabali ("general") in Bhaishahab's vast army. His resentment towards Omkara is cleared early when he alludes to omakara being a half-bramhan. His resentment grows as Omkara appoints Kesu as his second in command overlooking Tyagi due to Kesu's influence among the student cadre's in Bhaishahab's political empire. From this point onward we see Langada tyagi plotting Omkara's demise through systematically plotting Rajju, Kesu and Omkara.

This transfer of cummerbund which is equivalent of Shakespeare's embroidered handkerchief does its intended job, helped along (in a suitably updated move) by a misleading mobile phone conversation between Kesu and Langda that Omkara is made to overhear. The rest is, more or less, theatrical history, though the manner in which Othello's sad fate plays out, on his and Dolly's wedding night, and with a surprise twist in the fate of secondary characters that further compounds the carnage and the film successfully depicts the tragic story in the setting of Eastern Uttar Pradesh.

Actor	Character in the movie	Character in the play
Ajay Devgn	Omkara 'Omi' Shukla	Othello
Kareena Kapoor	Dolly Mishra	Desdemona
Saif Ali Khan	Ishwar 'Langda' Tyagi	Iago
Konkona Sen Sharma	Indu	Emilia
Vivek Oberoi	Kesu	Cassio

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## OPERATION RESEARCH IN AGRICULTURE

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### ABSTRACT

*This paper is the analysis of 25 research papers combined on the topic of Agriculture. The paper aims to showcase how Operations research in agriculture and various other factors play a key role in the development of the Agricultural Industry*

**KEYWORDS:** Agriculture, artificial intelligence, electric tractor, forestry, multi-robot, operational costs, ploughing, agricultural exports, agricultural vehicle, automation, autonomous vehicles, business survey, China, covid 19, decision tree classifications, GSNN data, international trade, machine learning, mixed reality, Mr, pandemic, situational awareness, tractors, vehicle operation mode, wearable headset, agricultural robot, machine vision, smart agriculture, vision navigation.

### REVIEW METHODOLOGY

The literature selected in this work was from Jstor, Science Direct, and Research Gate databases. The keywords used to find the particular papers mainly include the terms “operational research in agriculture”, “operation research”, artificial intelligence”. These terms were used in the same ways in the said databases to obtain the research papers. The publishing time of the selected literature in this work is from 1958, 1965, 1977, 1980, 1982, 1992, 2012, 2013, 2014, 2019, 2020, 2021, and 2022. Finally, we have chosen 25 research papers from various publications and provided insights based on the bibliometric analysis in the coming part of the paper.

### LITERATURE REVIEW

The literature review comprises the summaries of the chosen 25 research papers based on agriculture.

All the chosen papers revolve around the use of agriculture in the modern world in various ways and how agriculture is a whole all around the world.

All the papers taken oversee how agriculture is helping various categories and what all technological changes happened over the past years

The various key points are:

- Studies were done on the Growth Rates of peas and the study was done for all the months during the season and different kinds of varieties
- Methods of research have been both analytical and synthetic, Different agricultural methods may be compared by operating them side-by-side on different small- holdings on the experimental farms.
- The Growth Rates of peas and the study was done for all the months during the season and different kinds of varieties. After the study was done on planting

program was devised to analyse and read the maturity of peas in succession at a daily rate (Within the capacity of the harvesting and processing departments). So that the crop could be harvested in prime condition.

- Specialties of operation research, which include sequencing, scheduling, and queuing, could become important in large-scale agriculture. Potential applications of operations research in farm management are probably far greater than we realize.
- Operational research in the agricultural industry and introduces a selected bibliography. One of the opportunities is INVENTORY CONTROL, REPLACEMENT MODELS, RESOURCE ALLOCATION, SEQUENTIAL DECISIONS, UNCERTAIN EXPECTATIONS, And MODEL BUILDING.
- The role in encouraging change by making greater contact with agriculture specialists, university departments, and colleges to encourage them in agriculture.
- Aspect is related to quality standardization, in which some degree of successful activities is being observed at the moment. . The promotion of trustful relationships with local partners is crucial to minimizing environmental risks and providing substantial feedback to newly introduced business models.
- Agricultural market analysis will remain a vibrant research field. Demands for stronger vertical coordination in the food system as a means of satisfying increasingly diverse consumer preferences are changing the landscape facing food supply chain



participants, Advances in econometric methodologies and computing power give contemporary researchers great advantages over their predecessors, but these tools must be used wisely

- Good prospects for OR in the agricultural sector because of increasing competition for natural resources, the importance of sustainability and viable ecosystem services, and producer and industrial integration. New opportunities for OR may involve: better predictive modelling of the natural resources system's bio-economic behaviour; better predictive modelling of the decision-making behaviour of actors in the natural resources system; multiple stakeholder decision analysis, optimization in a more complex business environment with more opportunities as well as legal constraints; and the conversion of increasingly abundant data into real-time, robust and relevant managerial information.
- AR system is to be used in an agricultural multi-robot system of two robots to improve the situational awareness of a human supervisor, The implementation required the real-time communication system from both robots to the AR system and in addition, an external camera system was required to measure the orientation of the headset in the tractor frame.
- Agricultural cooperatives have played an important role in the process of agricultural modernization development characteristics of national agricultural cooperatives from the perspective of supply chain integration, focused on summarizing the operation mode and development experience of these national agricultural cooperatives in the agricultural product supply chain and innovated production and operation methods for agricultural cooperatives in the supply chain environment
- The impact of COVID-19 pandemic on agricultural exports, over exports during the pandemic, grain and oil exports still held strong and even increased, implying the essential Demand for staple food the agricultural industry faces various challenges such as lack of effective irrigation systems, weeds, and issues with plant monitoring due to crop height and extreme weather conditions. But the performance can be increased with the aid of technology and thus these problems can be solved. It can be improved with different AI-driven techniques like remote
- Development and application of algorithms for automatically detecting the operation mode of agricultural vehicles (e.g., for the automatic adjustment of tire inflation during transport on the road or operational field work) based on GNSS data collected with two different GNSS receivers that differ concerning model and correct data sources (EGNOS and RTK).
- When evaluating the analysed papers, the main conclusion is that current research does not solve the challenges of multi-robots in agriculture swarm

configuration. Instead, it presents obstacles that must be overcome to fulfil the multi-mission defined by agricultural mechanization operations. In this way, these challenges are suggested as objects for future research focused on implementing swarm robots in agricultural fields aiming at mechanized operations. Therefore, this initiative can constitute a roadmap for inter-institutional and trans-disciplinary research bringing together the scientific community dedicated to robotics. It will be able to implement innovative and essential research so that this proposal goes off the record and becomes one carried out in the agricultural world.

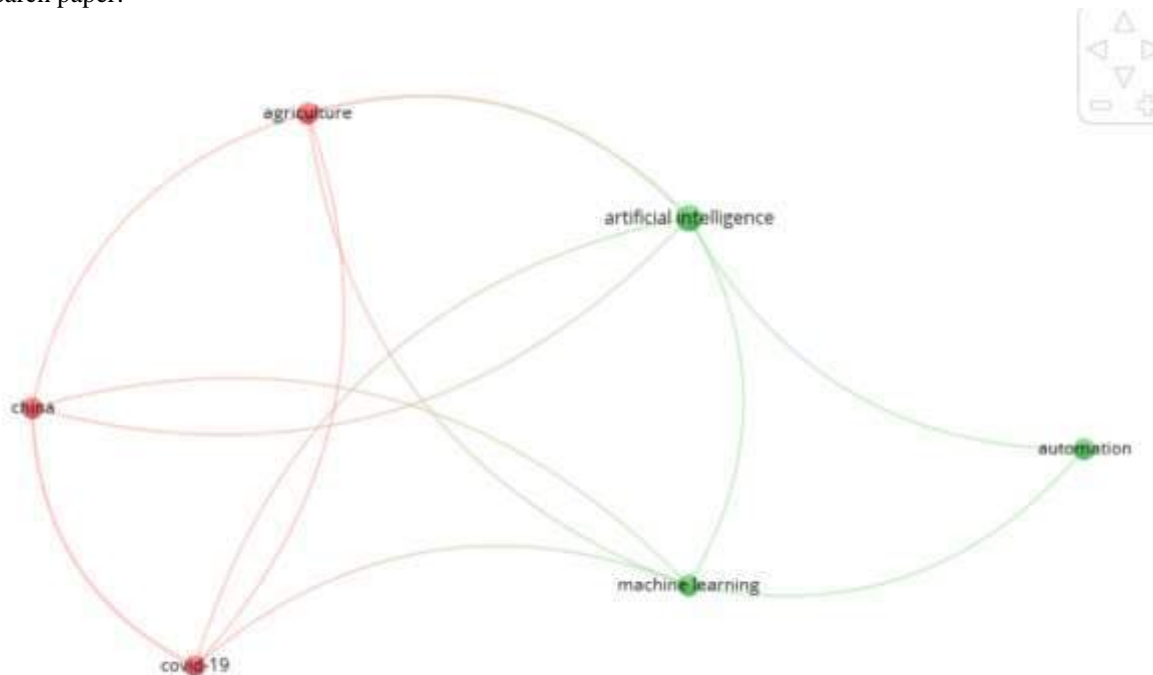
- The study found that the monocular camera has the most applications in agricultural robot navigation, However,
- When faced with complex environments, such as curved paths and uneven terrain, a lot of studies choose depth sensors since depth information can help robots accurately perceive complex environments. Among depth sensors, the structured light camera is the most widely used. Because it is complicated for the stereo camera to obtain depth information, and the tof camera has strict distance and sunlight limitations. At present, some tof cameras are equipped with strong infrared light sources have appeared, which may make more researchers choose the tof camera.
- There is rising academic interest in AI usage in sustainable agriculture, drastically improving from 2019 to 2020. China, the USA, and Australia are leaders in producing top works of literature and authors in the domain. By analysing the results, it can be determined that there is huge potential for the application of AI to attain sustainability, especially in predicting the yield, crop protection, climate control, crop genetic control, and produce supply-chain, wherein the prominent researchers and institutions need to collaborate further and form more networks to bring radical progress in the field.
- Agricultural Routing Planning (ARP) is the process of determining the best route for agricultural machinery in the field. The objective function and limitations were shown in a variety of ways. Among the objectives include minimization of each machine's total finish time, optimization of each vehicle's input cost, task time, and capacity utilization, and minimization of each machine's non-working distance to cover a field. ARP's overall goal is to reduce the cost of machines used to perform agricultural tasks in the field. The common method used to solve the ARP is Clarke-Wright, Genetic Algorithm, and Tabu Search. A hybrid algorithm is also a promising approach to solving ARP. ARP has recently been used in a variety of applications, including orchard fields, vineyard areas, biomass areas, and sugarcane farms.



**TECHNIQUES OF OPERATION RESEARCH USED**

Operation techniques used	Titles of the research paper	Author	Year
LINEAR PROGRAMMING PROBLEMS	Artificial intelligence solutions enabling sustainable agriculture: A bibliometric analysis	Bhagat; Naz ; Magda	2022
TRANSPORTATION	Operations Research for Agricultural Pest Management And other 24 papers as well	Feldman; Curry	1982
RESOURCE ALLOCATION	Application of Operations Research in Farm Operations and Agricultural Marketing And other 24 papers as well.	Snyder; Snodgrass, French;	1958

**BIBLIOGRAPHIC ANALYSIS :** The following figure represents the connection of the main keywords from all the collected research paper.



**Figure 1: Interlinking of all the research papers collected.**

In Figure 1, agriculture is interlinked between AI, China, machine learning, covid 19 which shows that over the years agriculture is closely being related to all particular areas.

Automation is available only in machine learning and AI. There is a low dependency on automation in agriculture as a lot of manual work goes into this.

China being one of the largest countries in the world, here represents how agriculture, AI, and machine learning have helped their growth in agriculture but similarly also shows that it has been impacted by COVID-19.

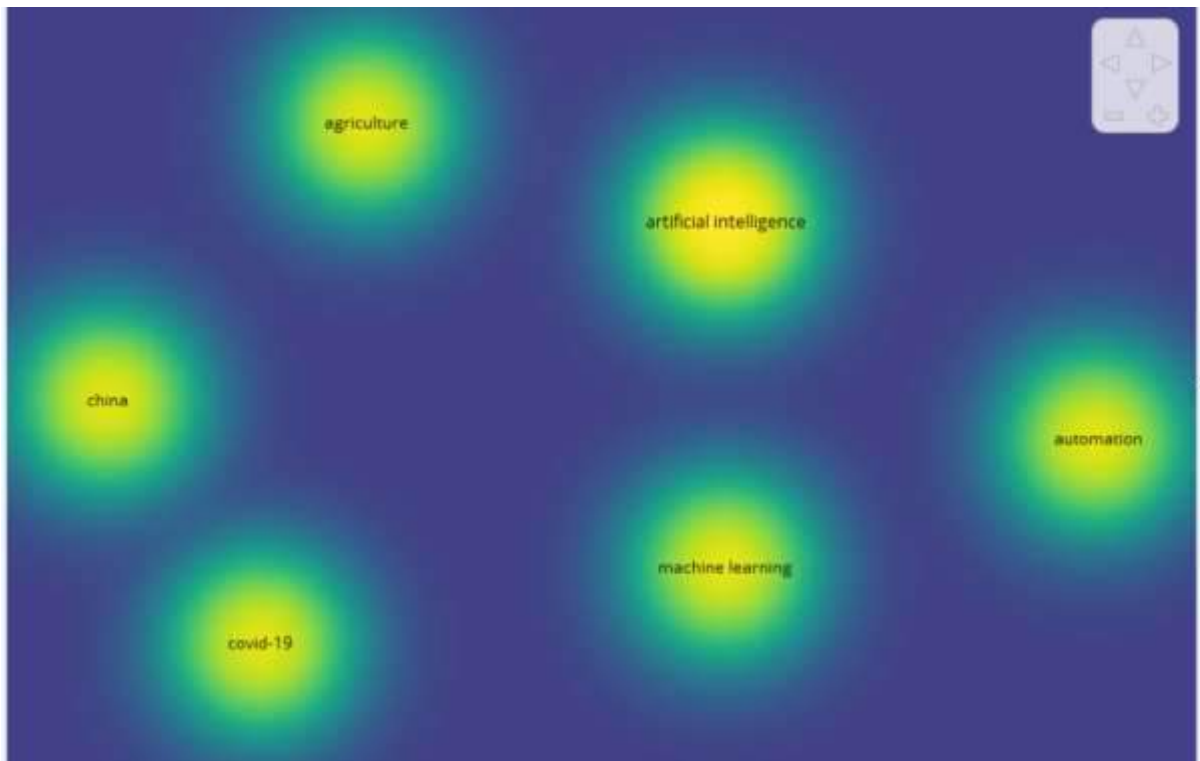


Figure 2: Weightage of the chosen research papers.

Figure 2 explains the weightage of the papers in the particular paper, there is a high density of Artificial Intelligence when compared to all the other categories which indicates that there

has been the use of AI in modern-day agriculture and the other categories as well.

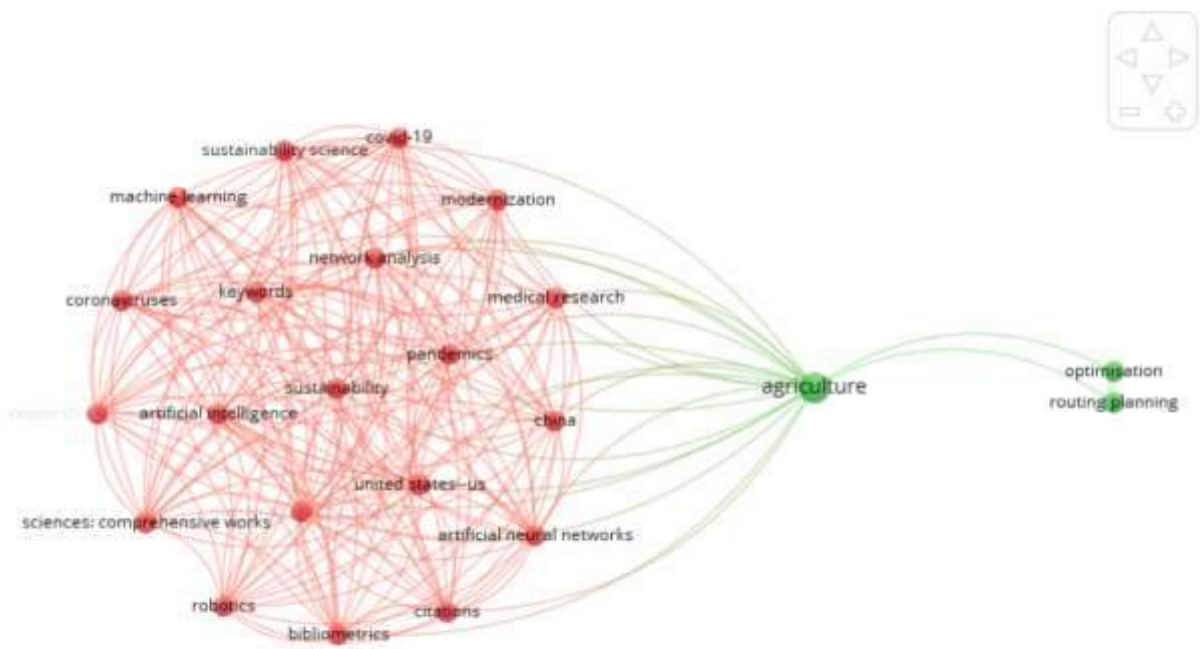
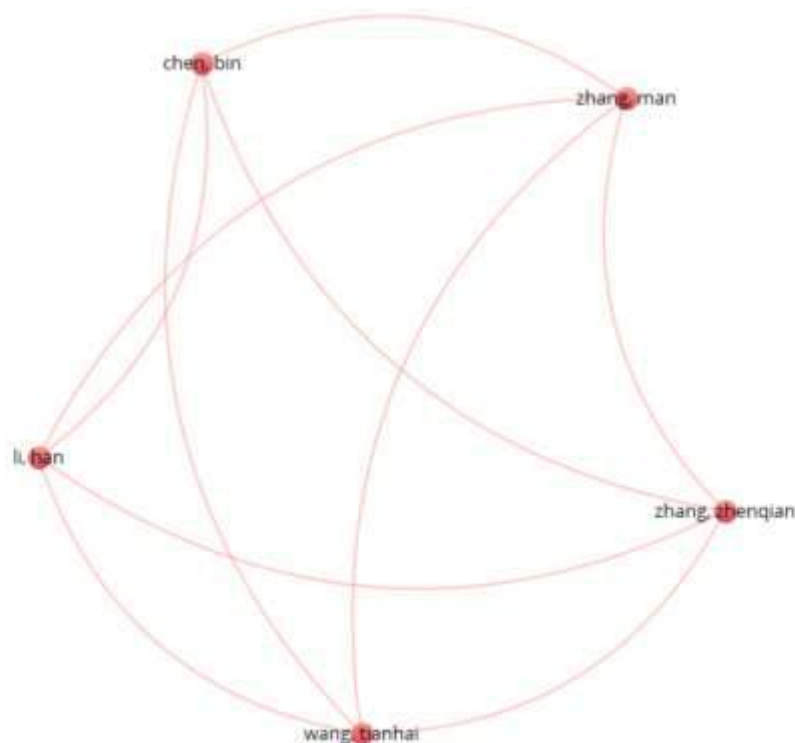


Figure 3: Interlinking of all the keywords.

These are the connections between 7 papers chosen at random to give an idea of how well connected they are.

Figure 3 represents how agriculture is interlinked with every aspect of the keywords. Including optimization and routing planning



**Figure 4: interconnection of the papers between authors.**

Figure 4 represents the authors that are connected in the flow, and these are the main authors who contributed to the study of Operation Research in Agriculture.

## CONCLUSION

Through this research paper, we analysed how agriculture is interconnected with every aspect taken into consideration. Through this research paper and with the help of some graphs related to operation research (OR), we can say that agriculture plays an important role in every phase of modern life. During COVID-19, agricultural research helped the country/farmers to know how much should be saved and produced during the crisis to feed the entire country.

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# AUTOMATED BIRD SPECIES IDENTIFICATION USING DEEP LEARNING WITH IMAGE AND AUDIO

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## ABSTRACT

Although watching birds is a popular hobby, identifying their species requires the use of bird books. There are more than 9000 species of birds in the world. Some bird species are rarely discovered, and when they are, prediction is quite challenging.

Additionally, visual recognition of birds by humans is more comprehensible than audible recognition of birds. In order to give birdwatchers a useful tool to appreciate the beauty of birds, we have utilized Convolutional Neural Networks (CNN) to classify bird species as CNNs are a powerful collection of machine learning techniques that have shown to be effective in image processing and sound processing.

This system uses the Caltech-UCSD Birds 200 [CUB-200-2011] and Kaggle dataset for training and evaluating a CNN system for classifying bird species based on image recognition, and several different sound sources for training the sound recognition model.

**INDEX TERMS**—birds, deep learning, image identification, sound identification

## I. INTRODUCTION

The behaviour and population trends of birds have recently become a serious problem. However, compiling and acquiring information about bird species is a labor-intensive and expensive process that demands a lot of human effort. In such a situation, a strong framework that will enable the massive preparation of bird data and serve as a significant tool for scientists, legislative agencies, etc. is needed. In this sense, the ability to identify between different bird species assumes a crucial role in determining which categories a particular bird image belongs to.

Images, audio, and videos can all be used to identify different bird species. It is possible to identify birds by listening for their distinctive sounds thanks to an audio processing technique. However, handling of such data becomes increasingly complicated because of the mixed sounds in the condition, such as creepy crawlies, real-world items, and so forth. Images typically aid in information discovery more so than sounds or recordings. Therefore, utilizing an image rather than voice or video to categorize birds is preferred.

## II. LITERATURE SURVEY

Nadimpalli et al. [1] compare several image processing techniques for the identification of two bird species. Local thresholding was applied to the HSV, GRAY, and RGB color spaces. Next, template matching using normal correlation and artificial neural networks (ANN) were developed in addition to image morphology. Experimental results on a dataset of about 1,000 images, shows accuracies between 50% and 100% in bird species recognition, depending on the complexity of the images.

Yao et al. [2] proposed a random forest with discriminative decision trees approach in order to identify

image patches and pairs of patches that are highly discriminative for both subordinate categorization and activity detection. Image response features are generated for classification, and template-based methods are employed to align local regions properly. A robust learning strategy with very high accuracy is produced by a recent method that introduces a set of highly discriminative, part-based, and one-vs-one features (POOF). These approaches are where our method comes from, and it takes into account the necessity for both theoretical plausibility and practical performance. Recent techniques include including humans into the process and customising their cognitive functions to the classification scheme. The crowd provides cues that show how people distinguish between bird species that look similar. Some component detectors are created to locate specific areas of a bird chosen by specialists, which is somewhat similar to hand annotation.

Simna Rassak et al. [3] (2016) investigated the existing models used for bird species classification using sound. From their study, it is evident that feature which are extensively used is syllables and the method used for extracting the features are MFCC. MFCC is one of the most common feature extraction method in speech detection process. It was also seen that DTW, HMM and SVM are the most popularly used classifiers. These classifiers show a better performance compared to the other classification algorithms

Marcelo T. Lopes, Lucas L. Gioppo et al [4] (2011) focused on the automatic identification of bird species from their audio recorded song. Here the authors dealt with the bird species identification problem using signal processing and machine learning techniques with the MARSYAS feature set. Presented a series of experiments conducted in



A database composed of bird songs from 75 species out of which problem obtained in performance with 12 species.

Peter Jancovic and Munevver Kokuer et al [5] (2012) investigated acoustic modelling for recognition of bird species from audio field recordings. Developed a hybrid deep neural network hidden Markov model (DNN-HMM). The developed models were employed for bird species identification, detection of specific species and recognition of multiple bird species vocalizing in a given recording. In this paper, the authors achieved an identification accuracy of 98.7% and recognition accuracy of 97.3%.

### III.METHODOLOGY

To achieve the objective stated earlier, an advanced machine learning model called as CNN will be used to identify and categorize both bird images and bird sounds. While the individual steps used in each existing paper differ from system to system, the following are the important processes which are to be done in order to achieve the proper functioning of the machine learning model.

#### 1. Preprocessing

- a. Preprocessing is the removal of systematic noise from data and is usually necessary prior to image classification and analysis. The goal of preprocessing is to attempt to decrease undesirable variety in image due to lighting, scale, deformation

etc.

- b. Some of the common preprocessing techniques are:

- i. Image acquisition
- ii. Image enhancement
- iii. Image restoration
- iv. Segmentation
- v. Morphological processing
- vi. Sound noise removal

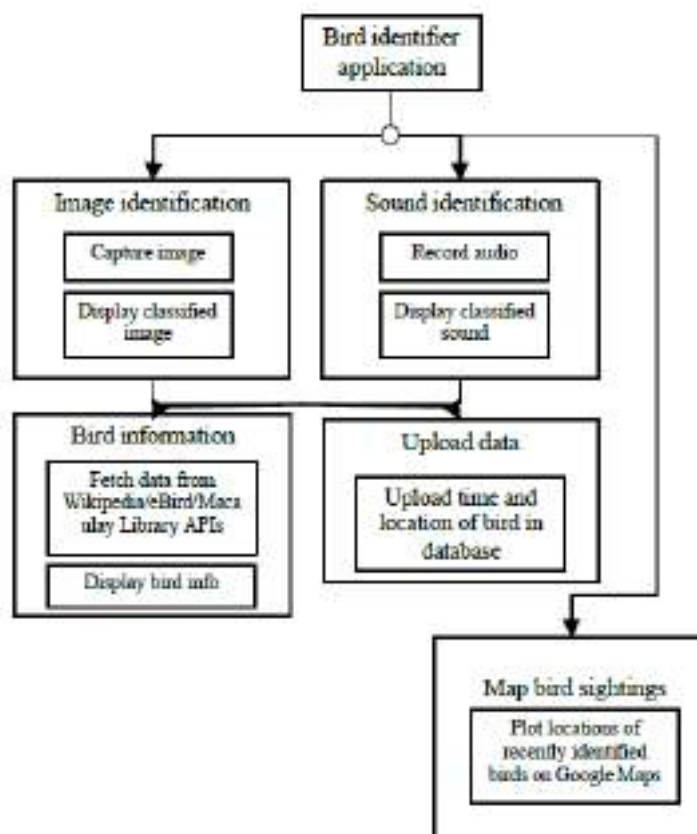
#### 2. Feature extraction

- a. The technique by which specific elements of interest within an image are found and represented for subsequent processing is known as feature extraction. Extraction of features reveals the key shape characteristics present in a pattern, making it easy to identify the pattern using a formal approach.
- b. For image, colour, shape, size, silhouette of the bird are important features.
- c. For sound, frequency, amplitude, loudness, etc, of the bird are important features.

#### 3. Input data to machine learning model

- a. CNN machine learning algorithm is used in both instances (image and sound) to train and test the model
- b. The reason why CNN are best suited for image and audio recognition tasks is its built-in convolutional layer reduces the high dimensionality of images without losing its information.

### IV.PROPOSED DESIGN





## V. CONCLUSION

The main objective of the identification app is to raise public awareness of bird-watching, identification, and birds. It also satisfies the need to simplify bird observation by streamlining the identification process. In the experimental setting, convolutional neural networks are the technology used (CNN). The process of feature extraction is utilized for voice and picture recognition. It is feasible to extract features from sound and image using the same technique that was used to select images as the primary content for future study.

We picked CNN because it provides excellent numerical precision accuracy and is appropriate for creating complex algorithms. Additionally, it is unbiased and scientific.

## VI. ACKNOWLEDGEMENT

Ideas, they say often remain ideas. Very few of them, if found the right support are turned into actual working models. No project is ever complete without the guidance of those experts who have already traded this before. Thus, we would like to take this opportunity to thank all those individuals who have helped us in visualizing this project. We express our deep gratitude to our project guide Prof. Satish Kuchiwale, for providing timely assistance to our queries and for sharing his pearls of wisdom with us during the course of this project. He has indeed been a lighthouse for us in this journey. We would also like to thank our project coordinator, Prof. Deepti Chandran for her guidance in selecting this project owing to her vast experience in this field for the past many years. We are also immensely grateful to our Principal, Dr. Sunil Chavan, our Head of Department, Dr. K.T. Patil, and all the faculty members of the Computer department for their constant support and encouragement.

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# A STUDY ON THE BACKGROUND AND THE DIRECTION OF THE KAIZEN APPROACH IN LEAN MANUFACTURING

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## ABSTRACT

*Today's world is not the same as our ancestors. Technology in today's environment allows for instantaneous communication amongst individuals from all over the globe. The globe has never been more open to business than it is right now, thanks to our efforts. These days, competition is fierce for every business. Since there is now greater competition in the market, businesses will seek low-cost methods to increase productivity. There is a greater need than ever to set yourself apart from the competition by providing superior products at reasonable costs. The constant pursuit of quality management and waste reduction is a must for all businesses. Most companies now operate using the Lean methodology. Lean relies heavily on a concept called "Kaizen." Many companies' survival and expansion depend on the development of novel, adaptive technology and processes. Studying the Kaizen theory is crucial since it is predicated on the idea of always seeking ways to enhance the underlying foundation. To that end, this study aims to shed light on the company's continuous process of improvement via the use of the Kaizen tool in an effort to boost productivity. This article provides an introduction to kaizen, including its fundamentals as well as its practical applications.*

**KEYWORDS:** Kaizen; Lean Manufacturing; MUDA; Kaizen Application

## INTRODUCTION

Kaizen was explained in different ways, which changed the meaning of the word a little bit but kept the main idea. Kaizen means improving processes, products, offices, and people's jobs. Steps to improve quality management usually involve Kaizen, which is based on common sense, self-discipline, order, and efficiency. The Kaizen method is an important part of a lean production paradigm for manufacturing processes. It comes from the words for KAI-change and ZEN-good [1]. The way people think is changing for the better because of Kaizen, a method for getting the most out of the power of all workers. This method encourages the method to move forward in a logical way, which leads to organizations that are always changing and adapting in order to develop the best standards. This is what is meant by the word "change." This is about both the way applications are made and how hard people work. Kaizen is a set of practices that improve all company operations and procedures and involve everyone on the production line. The Japanese word kaizen is used to describe how they do things every day when they want to develop an industry or a market [2].

## LEAN MANUFACTURING

Lean Manufacturing is a philosophy that is based on how people work. How the output method is improved and optimized to find and get rid of all types of waste, such as the ones described here or activities that use more resources than

strictly necessary. It figures out the different types of outputs that lead to waste, such as overproduction, extra processing time, inventory, motion and defects, waiting, and transportation. Look at what we don't do. If it doesn't help the customer and doesn't bring any benefit, it's best to get rid of it. It uses a structured and standard application of a wide range of methods to reach its goals in almost all areas of manufacturing operations, including workplace organization, quality control, external manufacturing movement, servicing, and supply chain management. Its end goal is to make an organization that is based on communication and teamwork more modern, which is why the system needs to be changed. The Lean theory is simple and always looks for ways to do things that are more scalable, flexible, and easy to use. Lean Output is neither a fixed term that can be described as a direct one nor a theory of everything that is known as a progressive split [3].

A practical understanding of Lean Manufacturing shows us that it is organized and improved by modern ideas, methods, and techniques that can be applied to specific problems to keep activities stable and lower costs. This is done by periodically updating traditional operating practices for development. The biggest goal of any initiative in this industry has a pretty good effect when this method is used. In the last ten years, companies in the dairy, medicine, and machinery industries have successfully used the same model. Experiences show that the demand for Lean Production has grown over the past few years in all types of businesses,



including the services market, even though there is still a lot to learn, especially among small and medium-sized businesses. Administrators in some organizations can't get long-term benefits from putting lean into place. But there are still a lot of active Lean applications that show really good results [4]. The lack of confidence has to do with the people in charge of putting the plan into action. In these kinds of situations, opposition from employees and the human factor play a big role. Implementation and maintenance are important key factors; senior management and its operations, inspiration, and cooperation at all levels are needed for a business to work. One important fact is that there are many businesses. Lean

methods are being used without knowing everything about them. Lean application benefits include saving time, making the best use of plant space, and making changes to how things work. The problem is that these programs aren't part of a policy. Instead, they stand alone, and all of the company's administrators implement them to keep them growing [5].

### TOOLS OF LEAN

Quality Control instruments such as Pareto charts, histograms, Scatter diagrams, and control charts are used to improve quality. General Lean tools are given in Fig.1.



Fig.1

A 5S methodology is a systematic approach for effective practices that can help to bring about healthier work culture. It would be difficult to find a Japanese executive disgruntled. Japanese people never insult their organization. Yes, Kaizen plays a key role in service quality and customer satisfaction via small continuous changes and eliminating waste. Organized workplaces result in better productivity and yield better results. All of this could lead to strong loyalty to the company [6].

### KAIZEN AND LEAN MANUFACTURING

Contributions to quality and statistical process management laid the groundwork for new methods emphasizing problem-solving and accountable ownership, which impacted the value of employee participation in groups or teams. Through these measures, Kaizen has been seen as a doorway to the development and profitability of businesses. Step-by-step development of modest innovations and tweaks by all workers, including supervisors, contributes to quality assurance, cost savings, and the timely delivery of the proper product to the customer [7]. The continuous improvement approach is advocated for enhancing the effectiveness of the procedure; nevertheless, Kaizen thinking may have downsides and obstacles; in most cases, the change in attitude of management and the majority of employees is at stake. It is important to remember that nothing is more difficult to

construct, more dangerous to manage, or less likely to succeed than developing a new way of doing things, because among those who profit from the status quo, only the timely assistance of those who benefit from the new implementations will be sufficient [8].

It is also acceptable to suppose that continuous improvement is a prerequisite for high performance, and that time is a critical factor in ensuring that the benefits of using any Lean Production methods are long-lasting. The production technique must take priority over Kaizen management activities, since it is the ultimate performance that determines the achievement of results. This is due to the fact that defective methods cannot contribute to the objective. The comparable objective of Kaizen is to become an integral part of the industry through strengthening corporate practices as opposed to selling products [9]. An important objective of Kaizen is to improve the quality of work inside an organization by using TQC (total quality control). Kaizen serves as a foundation for various techniques for maximizing efficiency, such as proposal processes, workflow, SMEs, Kanban systems, just-in-time systems, zero mistakes, complete, efficient maintenance, exhaustive quality checks, etc.[10].

Kaizen is a lean manufacturing platform for boosting workplace productivity, competitiveness, safety, and community. Kaizen focuses on adopting tiny day-to-day



adjustments, which may eventually lead to considerable gains. The firm was founded in an effort to rebuild Japan after World War II [11]. During this time, business professionals from the United States collaborated to boost the efficiency of Japanese companies. Cooperation led to the development of several contemporary management techniques, including Kaizen. Kaizen refers to techniques that continually improve all functions and include everyone. The strength of Kaizen is that all employees participate and give suggestions for corporate growth. The purpose of Kaizen extends beyond only increasing efficiency and performance; it also minimizes unnecessary difficulties and teaches individuals how to detect and eliminate waste in businesses. Kaizen strives to increase productivity, minimize waste, and eliminate unnecessary effort [12]. The three waste types effectively identified by Kaizen are Muda, Mura, and Muri. The philosophy of Kaizen enables us to take responsibility for and improve their operations. Staff at all levels of the organization regularly monitor and identify Kaizen improvement opportunities. Kaizen is not merely a one-time event. Moreover, it is a common occurrence [13].

Currently, the majority of organizations actively pursue waste prevention and efficiency improvements. The benefit of the Kaizen method is that it increases productivity. Correct use of the Kaizen approach will provide significant effects at all stages in many ways. The benefits of the lean strategy for industries include reduced processing costs and extra overheads [14]. The danger of delivery delays and high quality is increased by waste management and productivity growth from the existing level. Lean development is a complex strategy for tackling issues in the workplace. Its primary objective is the elimination or partial reduction of the eight largest waste resources. In manufacturing and neighboring areas, there is still room for expansion. At competitive rates, consumers want superior service. The lean principle must be recognized by upper management, who must also provide enough support for its implementation. There is evidence that tracking assistance has a crucial role in encouraging lean growth. It is vital to interact with managers and employees in order to achieve the goals and objectives of lean output [15].

Lean as a system affords its business the potential to cut its pricing by eliminating waste, which leads to an increase in quality and customer happiness. By eliminating waste from the process, the Lean ideas in a manufacturing organization may minimize the functional cost of development, resulting in increased implementation productivity. Lean must be implemented in an orderly and deliberate manner, which may be based on the following ideas. The elimination of waste is a notion of one of the most essential parts of the lean manufacturing approach (referred to as MUDA in the Toyota Manufacturing System). Various forms of waste are loads of Motion and then Inventory, the creation of faults, the waiting time, waste transportation, and processing [16]. The manufacturer's mission is to create as many units as possible at the lowest cost and with the least amount of packing. Companies create inventories in order to produce continuous distributions and prevent difficulties such as requiring anomalies, unreliable deliveries from suppliers, and a break in the production process. However, inventories must be

maintained to a minimum since extra inventory would need more space at the storage facility and result in higher expenses. Moreover, they pose a significant risk of things becoming obsolete, which may damage human health [17]. This has shown to be a very successful stock acquisition approach, enabling managers to obtain control of undesirable shares. The consumer decides what to buy, at what price, when to make the purchase, and where to receive the item. Despite the cheap value of a product, customers demand a solid connection; thus, it is essential to understand how to get along with them. Establishing a strong connection with customers will enable a business to understand and meet their wants and anticipate their future requirements, since it is essential to gather the optimal match between market demands and production flows. In Lean manufacturing, like in all other management systems, the human element is not only significant but also essential. [18].

### THE ORIGIN OF KAIZEN

Kaizen aims to develop goods by leveraging current resources (your people) in order to achieve progressive and continual change. Instead of focusing on major changes or costly equipment construction, Kaizen is focused on making minor adjustments. The secret to Kaizen approach is to provide well-oriented jobs, to reduce needless movement or activities and to provide all staff with adequate preparation. Kaizen is about building a collaboration and improvement climate through which innovative concepts are welcomed. Group participants are required to really go through the procedures and create changes. Kaizen often profits from a healthy working climate. Security enhancements are made as innovative strategies are created and introduced to clean up and organize the workplace [19].

### APPLICATION OF KAIZEN

In Lean production, Kaizen actively improves incremental measures toward a healthy, sustainable and effective workplace. This basic Lean production approach endlessly strengthens the business atmosphere, ensuring that administrators, team leaders and staff continually look for means of enhancing processes and tightening performance. Kaizen reviews and testing show potential hires how to implement the concepts of Kaizen in their jobs, ensuring Kaizen is viable in future years [20]. In addition to the apparent gain of optimizing systems, Kaizen creates collaboration and ownership. Teams share accountability for their jobs and may improve their own work experience. Most employees want to be good and take pride in their job, and Kaizen makes the company do this. Kaizen aim is to continually change constantly. Kaizen is often incremental and can be continuous in establishing a way of continuous change within an organization. The first move is to prepare your workers [21]. Offer the teams the correct preparation, equipment, and framework for Kaizen in order to thrive. Encourage and foster issues between the staff and explore opportunities to change regularly. The team members would assume mental accountability for their internal procedures by training and completing initial process assessments or Kaizen events. With this transition of control, the staff tends to focus



on their responsibilities for future changes [22].

Everybody in the improvement work includes Kaizen. It does not focus on large expenditures in resources or aim to make big moves at a time. Kaizen's origins are to develop minimal, immediate, and progressive procedures and standards. There are opportunities to change every day. These small steps can, in due course, lead to great quality, protection, performance, productivity and positive consequences [23]. The theory of Kaizen suggests that our lives, be it work, social life or home life, must be changed continuously. Instead of dramatic, rigorous adjustments, Kaizen is looking for enhancements. While modest and gradual changes under Kaizen, the method has yielded drastic effects over time. Kaizen is also a low-risk and low-cost solution. Method changes are important and do not entail a significant expenditure of resources. Kaizen thus allows staff to innovate and experiment with different concepts. If an innovation does not work, it is still feasible to undo the improvements without a high expense [24].

Kaizen primarily involves continual development, which seeks to anchor the industry for long-term and efficient activity in terms of human capital and procedures. Kaizen achieved beneficial results for companies like Toyota, becoming a common development theory worldwide. The first thing most people remember is as they think of how to deploy Kaizen [25]. It is a targeted short-term operation directed at individual procedures or divisions. The foundation of Kaizen is not based on a specific occurrence though every day and event-centred activities are included. Kaizen is a growing yet slowly moving theory of progress in an ideal state. Kaizen is working every day for opportunities to change [26].

## CONCLUSION

Kaizen philosophy is well known in industries, but more research is still needed. Studies have shown that it can be used in many different fields, so there is a lot of research available. However, more research is needed to strengthen the responsiveness aspects, as these are very important to the effectiveness of Kaizen philosophy in many processing industries around the world. The main goal of production today is to increase productivity by making the process easier to understand and use new methods like Kaizen, operational potential, and growing changes. Many companies that make things now have to change to meet the changing needs, wants, and tastes of customers. To be competitive in business and stay in the market, it has been important to develop the production system processes. Competition and rising levels of customer loyalty have shown that organizations are always trying to improve their efficiency. Kaizen is about improving efficiency, cost, and quality in a steady way. Kaizen is meant to motivate employees, make them happier, give them a sense of accomplishment, and build a sense of satisfaction at work. This means that it often gets rid of waste, which adds value. Kaizen is already a widely used theory of development in a number of fields around the world.

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# DATA ANALYTICS: NEW ERA FOR COMMERCE STUDENTS

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## ABSTRACT

*This study considers and studies the rise and increasing demand of the 'Data Analytics' field. This study is based on how and why commerce students have a future in this field and how they can really enter this field. This study also consists of some statistics that helps one to understand the scope, average salaries per role and so on.*

**KEY WORDS-** Data Analytics, Data storytelling, Data modelling.

## INTRODUCTION

Data has now become an important aspect of human life. From ancient times data has always helped human beings. There were many instances in past where data has helped humans.

Here are some examples: Today as the competition in the business world is increasing by leaps and bounds the companies are in need to improve their performance to cop up with the competition. Here comes the data into the picture. Data helps companies to find out :

1. Where are they lacking?
2. What are their weaknesses?
3. Data also helps in making important decisions and so on....

Data Analytics is nothing but analyzing the raw data and providing impactful insights to business. Today as huge data is being generated it has become important to analyze the data available. According to 'Economic times' 96% of companies are planning to add new staff for data analytics roles. The salary of an analyst in India ranges between 1.9 lakh Rs. to 11.4 lakh Rs. with an average salary of 4.3 lakh Rs. (1). This sector is expected to rise rapidly in coming years. The analysts are becoming more popular and are in heavy demand.

This sector when initialized only used to belong to I.T. students. But, after the introduction to 'E-Commerce', the commerce students have also found a way in it. Commerce students are taught more about How to market the goods, How to run the business, Investment, Identifying the trends and so on. Therefore, with all due respect to I.T. students, commerce students need to run this field instead of I.T. students.

## OBJECTIVES

The main objectives of this study are:

1. To Understand what Data Analytics is.
2. To study the scope and the job opportunities for Data Analytics in India.
3. To study how to enter into this field and To study why analysts are demanded heavily.

## DATA ANALYTICS

In today's rapidly growing world companies are generating vast volumes of data daily, in the form of files, transactional data along with various customer-related data. In addition to this, social media websites also generate enormous amounts of data. This data is further needed to be analyzed for deriving important business decisions. This data helps businesses in many ways. Businesses need this data to enhance their performance and to overcome the cut-throat competition around them.

Data analytics is an I.T. related field. Data analysis is a sub-part of 'Data Science', where analysis is made with the help of various tools such as Microsoft Excel, Tableau, SQL and so on along with some programming languages such as 'Python' and 'R'. Often 'Data- Analytics' and 'Data Science' are mixed and hence it is assumed that both are same. But, both fields are different from each other.

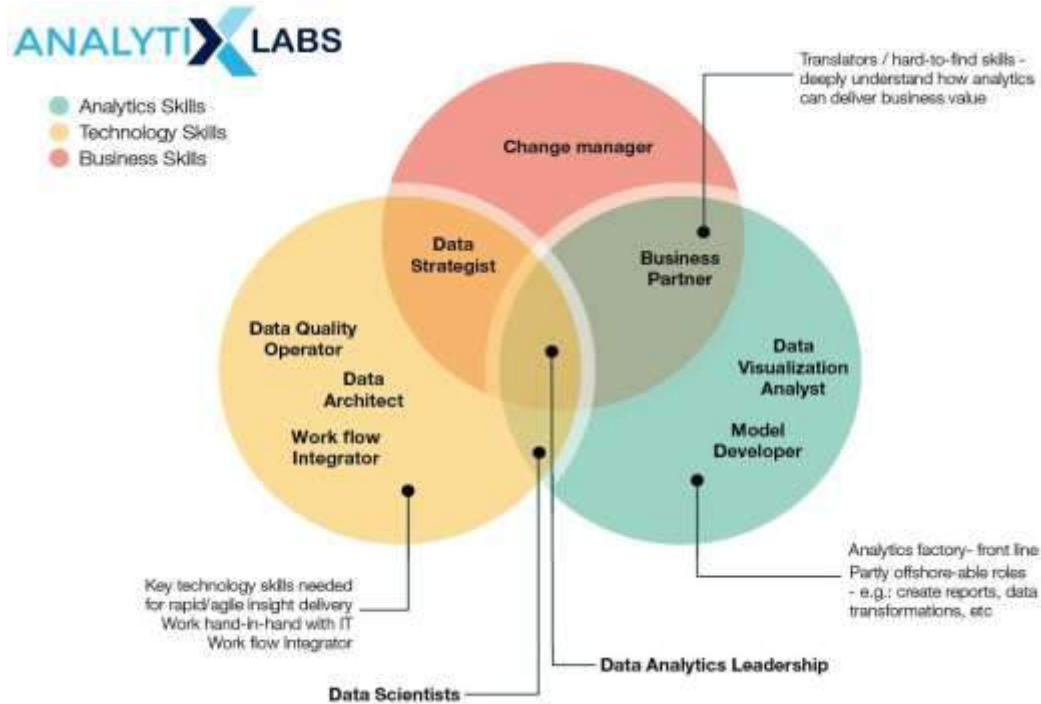
Data analytics deals with analyzing the available data, finding useful insights etc. whereas Data Science deals with creating prediction models, Machine learning etc. This field



looks for skills and patience in one. It means Data analytics field doesn't require a degree in 'Computer Science' field. One can

enter into this field by doing an online/offline course in 'data analytics', related tools along with sufficient projects.

Following are the job profiles in Data Analytics field



The pie chart shows different job profiles in Data Analytics field that it has been based on the Analytics skills, Technology skills and Business skills. There are numerous job profile which can be emerged from Data Analytics field like Data scientist, Data strategist, Business partner etc. every job profile in this field are also overlapped with each other with adjoining filed of as Data Analytics Leadership.

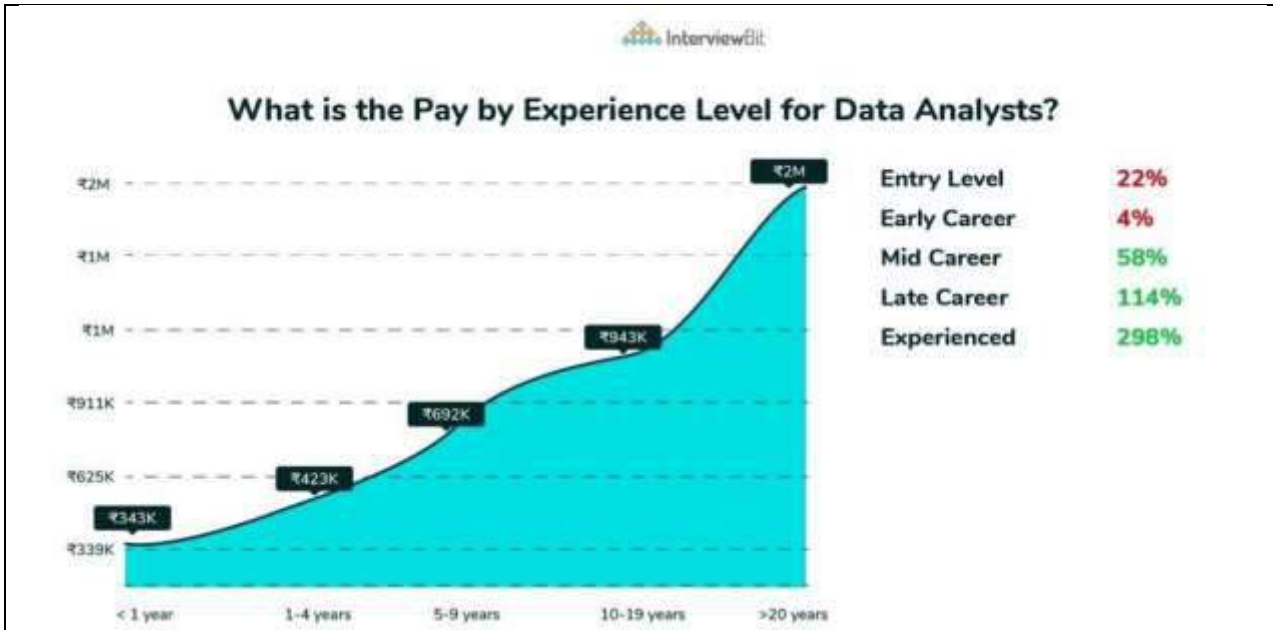
#### The scope of Data Analytics for Commerce students:

- As per the above information it only indicates that this field is related to I.T sector i.e. 'Engineering'.
- But in reality, to pursue a career in Data Analytics you don't always need to have a degree in 'Computer Science'. There are numerous examples where people from different sector have made their career in this field.

- One of the reasons why it suits commerce students more is, the data companies have is related to sales, consumer, purchase and related stuff.
- As we all are aware of the fact that in commerce, students are taught about how to run the business. Commerce students have thought about business from the very beginning. They have in-depth knowledge of business and they are the ones who understand it better than anyone else.
- That's why commerce students, if they learn the tools required, can analyze, find patterns and provide insights better than anyone else.
- The fact that I.T. students are more into technology and not into business related stuff, creating a big loophole as they might not be able to provide as impactful insights as that of commerce students. Following charts will explain the scope in more exact manner:

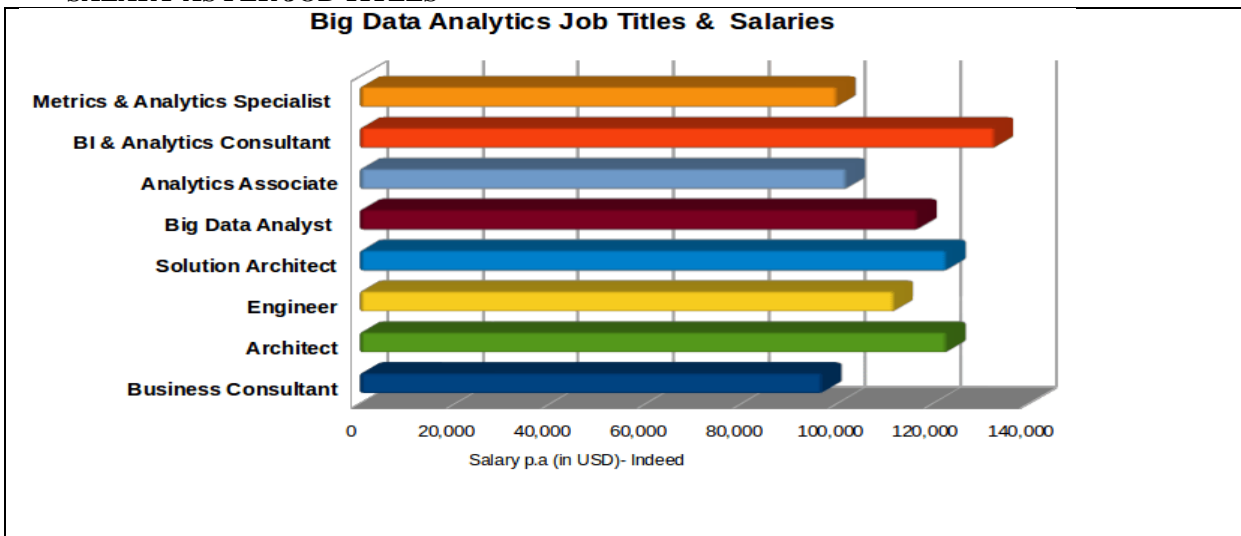


• SALARY OF ANALYSTS AS PER EXPERIENCE



The above chart illustrates Level of salary for Data Analysts as per changing in experiences in this field. Entry level Data Analysts gets salary approximately Rs.3 lakh to Rs. 5 lakh yearly. After receiving some experience in this field at mid-career stage, one can receive 58 % increases in their salary having Rs. 6 lakh to 10 lakh on annual basis. Later, in Late career stage your salary jumped from 58 % to 114% adjoining with growth in experience. And then, most experienced data analysts enjoy higher emoluments and packages from this field. Salary of Experienced Data analyst after 20 years could be doubled that is 298% upsurge in annual salary.

• SALARY AS PER JOB TITLES



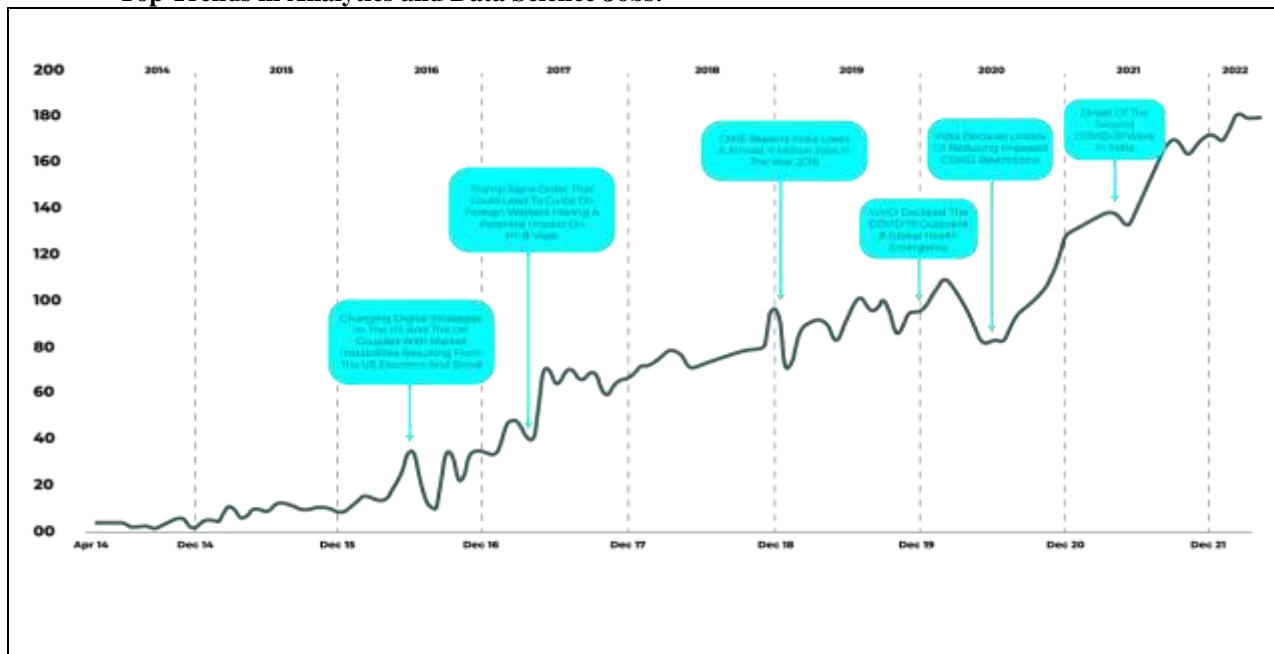
Above Bar diagram illustrates information regarding Salary as per Job Titles in Data analytics field. Salary of Data Analyst varies from 20000 USD to 140000 USD p.a. as per Indeed source. BI and Analytics Consultant topped in this list for bagging larger amount of salary. Business consultant achieved lowest position in receiving



salary amongst different job profiles. The level of salary is also changing according to changes in various indirect and direct factors of Data Analytics. Some countries are also offering great amount of packages and other facilities for genuine person. If person interested to pursue extra knowledge and add on experience in this filed then he/she requires to acquire quantitative skills for presenting and demonstrating their skills. Some middle east countries like UAE, Oman, Saudi Arabia are also expanding their business analytics field as per changes in global competitive market.

After the year of 2000 new jobs in data analytics files is also emerged for fulfilling current market and business needs. The investment in this area from different sources such as FDI, FII, DII are also increases day by day. If business enterprises want to stand stable in global market they should focus on Data Mining field as well as Data discovery and Management filed. Corporate enterprises also generating large amount of Revenue through this sector because it totally depends upon multi dynamics structure and smooth functioning of business operations. Generally, in corporate sectors data played a big role carving out their strategic goals and utility for sustain in volatile market.

#### • Top Trends in Analytics and Data Science Jobs:







Period 2015 to 2016- From this period world economy was sharply destabilized due to economical changes was happening in the European continent resulting from Changing Digital Strategies in the USA and the UK couples with market instabilities Resulting from the US Elections and Brexit. This downfall events had largely affected on Data Science field and gave boost to emerge new era for searching out newer things in this sector.

Period 2016 to 2017- Trump Administration in this period has been ordered to curbs on foreign workers having a potential impact on H1-B visa. This decision had been leads to major loss in Labour economy. USA also affected through frequent conservative trumps policies. The demand for skilled and techno- savvy labour there were major gap in supply. That changes also leads to expansion of new area in Data Analytics and this gap was filed with insertion of Artificial Intelligence, Data Engineering, Consultancy etc. Corporate houses have also been changed their strategies according to changing demand in economy.

Period 2018 to 2021-In this phase CMIE reported that, India loses almost 11 million jobs in the year 2018 coupled with WHO Declares the COVID-19 outbreak a global health emergency simultaneously India imposed COVID restrictions. Every sector in India experienced major financial loss. Indian financial sectors, Banking Sectors, Insurance sector, Industrial sector, Engineering sector opened their operation for innovative steps. And this step would have been succeeding in Data Analytics field. New entrants interested to invest in Data field having increasing trend in FDI, FII, Promoters etc. onset of second COVID wave in India, major sectors in economy have slowly grasped their oxygen using data analytics.

## DATA SCIENCE JOB BY SECTORS

**1. Banking, finance and Insurance-** Data Analytics is used to monitor financial market activity. Get consumer insight, predict customer behaviour, claims management and more. If we consider financial years from 2019 to 2022 this sector was topped in generating larger employment opportunities to commerce students. 50% growth rate has been recorded from the 2021 to 2022 year. Nearly about 26.6% has been created by Data analytics field.

**2. E-commerce and Retail-** Data Analytics has enabled improved shopping experience, reduced frauds, timely analysis of inventory and more. This sector generated 18.8% overall jobs from 2021 to 2022 year. Approximately 100% growth rate has been seen from its previous financial years. Today E-commerce sector is ready to surpass to banking sector.

**3. Energy and Utility-** With smart meters and analytics adoption in energy sector, there are more insight now available into energy consumption. There has been better consumption of utilities, efficient use of energy and more. Its share of open data science jobs by sector nearly 15.2% adjoining with effective growth rate has been seen from 2021 to 2022 by 75% in this sector.

**4. Pharma and Health Care-** Analytics has been used for faster identification and efficient analysis of healthcare information,

keeping patient data, chemical and drugs content confidential, quality content parameter and more. Slower growth rate has been appeared since 2019 to 2022. This sector also performed decreasing growth rate from 2021 to 2022. This sector was not able to produce more jobs.

**5. Media and Entertainment-** Big Data and Analytics is being used for detailed sentiment analysis, track user interest, recommend shows based on one's interest etc. most popular sector for commerce student is entertainment. This section requires larger amount of skilled labour force carry out their innovative activities. Hence, larger amount of investment is also increasing day by day from domestic as well as international participants. From -50 to +50% growth rate has been achieved by this sector from previous one year from 2021 to 2022. Approximately 6.7% jobs have been generated by this field if we consider shares of open data science.

## LIMITATION AND SCOPE

The major limitations of this study are :

1. This study is based on secondary data.
2. This study focuses on the time period before a certain time period, so the data may vary.
3. This study mainly focuses on the data analytics field in the perspective of 'Commerce' students.



**HOW TO ENTER THIS FIELD**

<p>1. Excel Basic Intermediate –</p> <ul style="list-style-type: none"> <li>• Editing text and formulas</li> <li>• Excel function and lists</li> <li>• Worksheet and pivot table</li> <li>• Formatting data and data validation</li> <li>• Working with charts and Templates</li> </ul>	<p>6. Business Understanding-</p> <ul style="list-style-type: none"> <li>• Identifying the problem and target users</li> <li>• Understanding the domain expertise</li> <li>• Defining the expected outcomes</li> <li>• Defining success metrics</li> <li>• Identifying constraints, gaps and factors</li> </ul>
<p>2. Soft skills-</p> <ul style="list-style-type: none"> <li>• Adaptability</li> <li>• Communication</li> <li>• Critical thinking</li> <li>• Digital literacy</li> <li>• Time management</li> <li>• Take initiative</li> <li>• Team work</li> <li>• Life long learning</li> <li>• The art of negotiation</li> <li>• Self care</li> <li>• Emotional intelligence</li> <li>• Resilience</li> </ul>	<p>7. Data storytelling-</p> <p>It is about using human communication to help an audience develop a connection to that information.</p> <p>8. Python Programming-</p> <ul style="list-style-type: none"> <li>• Syntax and Basics</li> <li>• Data structures and Algorithms</li> <li>• Pandas</li> <li>• Numpy</li> <li>• SciPy</li> <li>• Matplotlib</li> </ul>
<p>3. Maths and statistics-</p> <ul style="list-style-type: none"> <li>• Statistics and Probability</li> <li>• Algebra and Linear Algebra</li> <li>• Calculus and Discrete Mathematics</li> </ul>	<p>9. Exploratory Analysis and Modelling-</p> <ul style="list-style-type: none"> <li>• Regressions</li> <li>• Classification</li> <li>• Clustering</li> </ul>
<p>4. Data Ethics and Privacy-</p> <ul style="list-style-type: none"> <li>• Learn about Data Privacy</li> <li>• Understanding GDPR and CCPA</li> <li>• Understanding Bias</li> <li>• Responsible machine learning</li> </ul>	<p>10. SQL and Database</p> <ul style="list-style-type: none"> <li>• DBMS, Normalisation and ERD</li> <li>• SQL Syntax, data types, variables</li> <li>• Views, Triggers, Function PL/SQL</li> <li>• Injection and hosting</li> </ul>
<p>5. Data Preparation and Validation-</p> <ul style="list-style-type: none"> <li>• Data collection</li> <li>• Data discovery and profiling</li> <li>• Data cleansing</li> <li>• Data transformation</li> <li>• Data validation and publishing</li> </ul>	<p>11. Power BI/ Tableau</p> <ul style="list-style-type: none"> <li>• Querying and Transforming Data</li> <li>• Data Modelling</li> <li>• Calculation and formula</li> <li>• Reports and visualization</li> <li>• Dashboards</li> </ul>

**Step Wise Guide on How to Become a Data Analyst with no Experience-**

- Step1- Do a Data Analytics Certification Course
- Step2- Build your Portfolio
- Step3- Polishing your Existing Skills
- Step4- Apply for an Internship or Entry Level Job.

**CONCLUSION**

The Data Analytics field is growing rapidly and thus has a bright future ahead. As a commerce student, ‘Data Analytics’ industry is a very fascinating industry. Data Analytics has a booming job market. Data Analytics is still under recognition and therefore there is a very good scope as well as there is less competition. As a student, you may not need to full-blown data scientist with a PhD and number of years experiences. You may



just need skill on data analytics and data engineering ability who can help to create better data system.

## **SOURCES**

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# SOME DEFINITE INTEGRAL INVOLVING COMPLETE ELLIPTIC INTEGRAL OF FIRST KIND IN THE FORM OF HYPERGEOMETRIC FUNCTION

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## ABSTRACT

*In this paper we have evaluated certain definite integral involving complete elliptic integral. The results are established in the form of Hypergeometric function.*

**KEY WORDS :** Complete Elliptic Integral, Hypergeometric Function.

**2020 MSC NO:** 33C10, 33C20, 33C45, 33C75

## 1. INTRODUCTION

The complete elliptic integral of the first kind  $K$  may thus be defined as

$$K(k) = \int_0^{\frac{\pi}{2}} \frac{d\theta}{\sqrt{1-k^2 \sin^2 \theta}} = \int_0^1 \frac{dt}{\sqrt{(1-t^2)(1-k^2 t^2)}}, \quad (1.1)$$

or more compactly in terms of the incomplete integral of the first kind as

$$K(k) = F\left(\frac{\pi}{2}, k\right) = F(1; k). \quad (1.2)$$

It can be expressed as a power series

$$K(k) = \frac{\pi}{2} \sum_{n=0}^{\infty} \left[ \frac{(2n)!}{2^{2n} (n!)^2} \right]^2 k^{2n} = \frac{\pi}{2} \sum_{n=0}^{\infty} [P_{2n}(0)]^2 k^{2n}, \quad (1.3)$$

where  $P_n$  is the Legendre polynomial, which is equivalent to

$$K(k) = \frac{\pi}{2} \left[ 1 + \left(\frac{1}{2}\right)^2 k^2 + \left(\frac{1.3}{2.4}\right)^2 k^4 + \dots + \left\{ \frac{(2n-1)!!}{(2n)!!} \right\}^2 k^{2n} + \dots \right], \quad (1.4)$$

where  $n!!$  denotes the double factorial. In terms of the Gauss hypergeometric function, the complete elliptic integral of the first kind can be expressed as

$$K(k) = \frac{\pi}{2} {}_2F_1\left(\frac{1}{2}, \frac{1}{2}; 1; k^2\right) \quad (1.5)$$

The complete elliptic integral of the first kind is sometimes called the quarter period. It can most efficiently be computed in terms of the arithmetic-geometric mean:

$$K(k) = \frac{\frac{\pi}{2}}{\text{agm}(1-k, 1+k)}. \quad (1.6)$$

A generalized hypergeometric function  ${}_pF_q(a_1, \dots, a_p; b_1, \dots, b_q; z)$  is a function which can be defined in the form of a hypergeometric series, i.e., a series for which the ratio of successive terms can be written



$$\frac{c_{k+1}}{c_k} = \frac{P(k)}{Q(k)} = \frac{(k+a_1)(k+a_2)\dots(k+a_p)}{(k+b_1)(k+b_2)\dots(k+b_q)(k+1)} z. (1.7)$$

Where  $k+1$  in the denominator is present for historical reasons of notation [Koepe p.12(2.9)], and the resulting generalized hypergeometric function is written

$${}_pF_q \left[ \begin{matrix} a_1, a_2, \dots, a_p & ; \\ b_1, b_2, \dots, b_q & ; \end{matrix} ; z \right] = \sum_{k=0}^{\infty} \frac{(a_1)_k (a_2)_k \dots (a_p)_k z^k}{(b_1)_k (b_2)_k \dots (b_q)_k k!} (1.8)$$

where the parameters  $b_1, b_2, \dots, b_q$  are positive integers.

The  ${}_pF_q$  series converges for all finite  $z$  if  $p \leq q$ , converges for  $|z| < 1$  if  $p = q+1$ , diverges for all  $z$ ,  $z \neq 0$  if  $p > q+1$  [Luke p.156(3)].

The function  ${}_2F_1(a, b; c; z)$  corresponding to  $p=2, q=1$ , is the first hypergeometric function to be studied (and, in general, arises the most frequently in physical problems), and so is frequently known as "the" hypergeometric equation or, more explicitly, Gauss's hypergeometric function [Gauss p.123-162]. To confuse matters even more, the term "hypergeometric function" is less commonly used to mean closed form, and "hypergeometric series" is sometimes used to mean hypergeometric function.

In mathematics, the falling factorial or Pochhammer symbol (sometimes called the descending factorial, falling sequential product, or lower factorial) is defined as the polynomial [Steffensen p.8]

$$(\zeta)_n = \zeta(\zeta-1)(\zeta-2)\dots(\zeta-n+1) = \prod_{k=1}^n (\zeta-k+1) = \prod_{k=0}^{n-1} (\zeta-k) (1.9)$$

The fundamental operations of Boolean algebra are as follows:

AND (conjunction), denoted  $\xi \wedge \omega$ , satisfies  $\xi \wedge \omega = 1$  if  $\xi = \omega = 1$ , and  $\xi \wedge \omega = 0$  otherwise.

OR (disjunction), denoted  $\xi \vee \omega$ , satisfies  $\xi \vee \omega = 0$  if  $\xi = \omega = 0$ , and  $\xi \vee \omega = 1$  otherwise.

NOT (negation), denoted  $\neg \xi$ , satisfies  $\neg \xi = 0$  if  $\xi = 1$  and  $\neg \xi = 1$  if  $\xi = 0$ .

## 2. MAIN FORMULAE OF THE INTEGRATION

$$\int_0^1 \frac{x}{\sqrt{1-x^2}} K(ax) dx = \frac{1}{32} \pi [16 {}_4F_3(\frac{1}{4}, \frac{1}{4}, \frac{3}{4}, \frac{3}{4}; \frac{1}{2}, \frac{1}{2}, \frac{3}{2}; a^2) + \pi a {}_4F_3(\frac{3}{4}, \frac{3}{4}, \frac{5}{4}, \frac{5}{4}; 1, \frac{3}{2}, 2; a^2)], \text{ for } Im(a) \neq 0 \vee Re(a) < 0. (2.1)$$

$$\int_0^1 \frac{x}{\sqrt{1-x^2}} K(\frac{x}{a}) dx = \frac{1}{32a} \pi [16a {}_4F_3(\frac{1}{4}, \frac{1}{4}, \frac{3}{4}, \frac{3}{4}; \frac{1}{2}, \frac{1}{2}, \frac{3}{2}; \frac{1}{a^2}) + \pi {}_4F_3(\frac{3}{4}, \frac{3}{4}, \frac{5}{4}, \frac{5}{4}; 1, \frac{3}{2}, 2; \frac{1}{a^2})], \text{ for } Im(a) \neq 0 \vee Re(a) < 0. (2.2)$$



$$\int_0^1 \frac{x^2}{\sqrt{1-x^4}} K(ax^2) dx = \frac{4}{225} \sqrt{2\pi} [25 \Gamma(\frac{7}{4})^2 {}_5F_4(\frac{1}{4}, \frac{1}{4}, \frac{3}{4}, \frac{3}{4}, \frac{3}{4}; \frac{1}{2}, \frac{1}{2}, 1, \frac{5}{4}; a^2) + 3a \Gamma(\frac{9}{4})^2 {}_5F_4(\frac{3}{4}, \frac{3}{4}, \frac{5}{4}, \frac{5}{4}, \frac{5}{4}; 1, \frac{3}{2}, \frac{3}{2}, \frac{7}{4}; a^2)], \text{ for } \text{Im}(a) \neq 0 \vee \text{Re}(a) < 0. (2.3)$$

$$\int_0^1 \frac{x^4}{\sqrt{1-x^4}} K(ax^4) dx = \frac{\pi^{\frac{3}{2}} \Gamma(\frac{5}{4}) {}_3F_2(\frac{1}{2}, \frac{1}{2}, \frac{5}{4}; 1, \frac{7}{4}; a)}{8 \Gamma(\frac{7}{4})}, \text{ for } \text{Im}(a) \neq 0 \vee \text{Re}(a) < 0. (2.4)$$

$$\int_0^1 \frac{x^5}{\sqrt{1-x^5}} K(ax^5) dx = \frac{\pi^{\frac{3}{2}} \Gamma(\frac{6}{5}) {}_3F_2(\frac{1}{2}, \frac{1}{2}, \frac{6}{5}; 1, \frac{17}{10}; a)}{10 \Gamma(\frac{17}{10})}, \text{ for } \text{Im}(a) \neq 0 \vee \text{Re}(a) < 0. (2.5)$$

$$\int_0^1 \frac{x^7}{\sqrt{1-x^7}} K(ax^7) dx = \frac{\pi^{\frac{3}{2}} \Gamma(\frac{8}{7}) {}_3F_2(\frac{1}{2}, \frac{1}{2}, \frac{8}{7}; 1, \frac{23}{14}; a)}{14 \Gamma(\frac{23}{14})}, \text{ for } \text{Im}(a) \neq 0 \vee \text{Re}(a) < 0. (2.6)$$

$$\int_0^1 \frac{x^9}{\sqrt{1-x^7}} K(ax^7) dx = \frac{\pi^{\frac{3}{2}} \Gamma(\frac{10}{7}) {}_3F_2(\frac{1}{2}, \frac{1}{2}, \frac{10}{7}; 1, \frac{27}{14}; a)}{14 \Gamma(\frac{27}{14})}, \text{ for } \text{Im}(a) \neq 0 \vee \text{Re}(a) < 0. (2.7)$$

$$\int_0^1 \frac{x^{11}}{\sqrt{1-x^7}} K(ax^7) dx = \frac{\pi^{\frac{3}{2}} \Gamma(\frac{12}{7}) {}_3F_2(\frac{1}{2}, \frac{1}{2}, \frac{12}{7}; 1, \frac{31}{14}; a)}{14 \Gamma(\frac{31}{14})}, \text{ for } \text{Im}(a) \neq 0 \vee \text{Re}(a) < 0. (2.8)$$

$$\int_0^1 \frac{x^{11}}{\sqrt{1-x^9}} K(ax^9) dx = \frac{\pi^{\frac{3}{2}} \Gamma(\frac{4}{3}) {}_3F_2(\frac{1}{2}, \frac{1}{2}, \frac{4}{3}; 1, \frac{11}{6}; a)}{18 \Gamma(\frac{11}{6})}, \text{ for } \text{Im}(a) \neq 0 \vee \text{Re}(a) < 0. (2.9)$$

$$\int_0^1 \frac{x^{11}}{\sqrt{1-x^{13}}} K(ax^{13}) dx = \frac{\pi^{\frac{3}{2}} \Gamma(\frac{12}{13}) {}_3F_2(\frac{1}{2}, \frac{1}{2}, \frac{12}{13}; 1, \frac{37}{26}; a)}{26 \Gamma(\frac{37}{26})}, \text{ for } \text{Im}(a) \neq 0 \vee \text{Re}(a) < 0. (2.10)$$



$$\int_0^1 \frac{x^{13}}{\sqrt{1-x^{13}}} K(ax^{13}) dx = \frac{\pi^{\frac{3}{2}} \Gamma(\frac{14}{13}) {}_3F_2(\frac{1}{2}, \frac{1}{2}, \frac{14}{13}; 1, \frac{41}{26}; a)}{26 \Gamma(\frac{41}{26})}, \text{ for } \text{Im}(a) \neq 0 \vee \text{Re}(a) < 0. (2.11)$$

$$\int_0^1 \frac{x^{15}}{\sqrt{1-x^{13}}} K(ax^{13}) dx = \frac{\pi^{\frac{3}{2}} \Gamma(\frac{16}{13}) {}_3F_2(\frac{1}{2}, \frac{1}{2}, \frac{16}{13}; 1, \frac{45}{26}; a)}{26 \Gamma(\frac{45}{26})}, \text{ for } \text{Im}(a) \neq 0 \vee \text{Re}(a) < 0. (2.12)$$

$$\int_0^1 \frac{x^{21}}{\sqrt{1-x^{13}}} K(ax^{13}) dx = \frac{\pi^{\frac{3}{2}} \Gamma(\frac{22}{13}) {}_3F_2(\frac{1}{2}, \frac{1}{2}, \frac{22}{13}; 1, \frac{57}{26}; a)}{26 \Gamma(\frac{57}{26})}, \text{ for } \text{Im}(a) \neq 0 \vee \text{Re}(a) < 0. (2.13)$$

$$\int_0^1 \frac{x^{22}}{\sqrt{1-x^{13}}} K(ax^{13}) dx = \frac{\pi^{\frac{3}{2}} \Gamma(\frac{23}{13}) {}_3F_2(\frac{1}{2}, \frac{1}{2}, \frac{23}{13}; 1, \frac{59}{26}; a)}{26 \Gamma(\frac{59}{26})}, \text{ for } \text{Im}(a) \neq 0 \vee \text{Re}(a) < 0. (2.14)$$

$$\int_0^1 \frac{x^{122}}{\sqrt{1-x^{17}}} K(ax^{17}) dx = \frac{\pi^{\frac{3}{2}} \Gamma(\frac{123}{17}) {}_3F_2(\frac{1}{2}, \frac{1}{2}, \frac{123}{17}; 1, \frac{263}{34}; a)}{34 \Gamma(\frac{263}{34})}, \text{ for } \text{Im}(a) \neq 0 \vee \text{Re}(a) < 0. (2.15)$$

$$\int_0^1 \frac{x^n}{\sqrt{1-x^{15}}} K(ax^{15}) dx = \frac{\pi^{\frac{3}{2}} \Gamma(\frac{n+1}{15}) {}_3F_2(\frac{1}{2}, \frac{1}{2}, \frac{n+1}{15}; 1, \frac{2n+17}{30}; a)}{30}, \text{ for } (\text{Re}(a) < 0 \vee a \notin \mathbb{R}) \wedge \text{Re}(n) > -1. (2.16)$$

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# THE MEDIATION OF ORGANIZATIONAL DIAGNOSIS ON MOTIVATION AND JOB SATISFACTION OF LIBRARIANS IN REGION XI

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## ABSTRACT

*This study aimed to determine the mediating effect of organizational diagnosis on the relationship between motivation and job satisfaction of librarians in Region XI. The descriptive correlation technique utilized a non-experimental quantitative research design employing the descriptive correlational method in this study. The research used adapted questionnaires modified to suit the study's objectives. A total of 132 librarians as respondents through stratified-random sampling surveyed. Mean, Pearson-r, and Path Analysis are statistical tools employed in analyzing and interpreting the data. The researcher personally supervised and administered the questionnaire to the respondents through google forms survey to ensure accuracy and prevent the occurrence of ambiguity. Results showed that librarians posted a very high level of motivation, also a very high level of job satisfaction, and a very high level of organizational diagnosis resulting from partial mediation. Findings also revealed a significant relationship between motivation and job satisfaction, motivation and organizational diagnosis, and organizational diagnosis and job satisfaction. This research observed a partial mediation of the effect of organizational diagnosis on the relationship between motivation and job satisfaction; thus, organizational diagnosis is one of the reasons why motivation can influence job satisfaction.*

**KEYWORDS:** library and information science, motivation, job satisfaction, organizational diagnosis, path analysis, mediation, Philippines

## I. INTRODUCTION

Job dissatisfaction is one of the biggest challenges in different sectors nowadays, and the librarians on this matter are not exempted. As Peng et al. (2022) suggested that librarians initially feel dissatisfied with their job because of their behavioral working environment, which includes their relationship with peers, colleagues, teams, workgroups, or departments. In addition, Peng et al. suggested that job dissatisfaction strongly correlates with the behavior with which integration of identity and characteristics. However, identity is compliance support of satisfaction. Moreover, job satisfaction among librarians is one of the predictors of their motivation to put their affective and cognitive capital into achieving their goals (Bright, 2020).

Workers in the librarianship field have highlighted the working environment's importance. Most of them find contentment and satisfaction in a welcoming and happy milieu which could result in them delivering their best service. More so, librarians who are most satisfied with their organization are found to be most devoted to working and are more likely to stay in the field regardless of the

possible occurrence of the worst-case scenario. Meanwhile, job satisfaction is an instrument that works well to determine an individual's motivation reaction to organizational diagnosis; however, due to the confusing structure of this indicator, a multi-dimensional approach to evaluating an employee's job satisfaction is required. Consequently, organizations worldwide are finding ways to evaluate such, and one of the most successful methods used by far is to solicit data from employees (Issa, 2021).

Employee retention is determined by job satisfaction; motivating employees for organizational diagnosis to stay with the firm for the long term is one of the most critical factors in assuring success. Additionally, employee satisfaction contributes to a healthy working environment in which employees are less likely to crib or complain and are more focused on their tasks. As Bethena (2018) suggested, employee satisfaction levels impact employees' happiness and identify elements that drive management and culture that can help them enjoy financial, cultural, and brand equity benefits.

Librarianship is considered a stable job, and because of its competent salary, many people are motivated to be in this kind of work field; however, various studies have justified



that librarians are not only working for monetary compensation (Indeed Editorial Team 2022). Nonetheless, regardless of several justifications provided by different studies, librarians, as professional as they are, also have other reasons as to why they choose to give their services in such an arena; this, if not satisfied, will lead to dissatisfaction.

Conversely, despite the number of studies that correlate motivation and job satisfaction of employees, the researcher has not come across a study that assesses the relationship in determining the mediation of organizational diagnosis on motivation and job satisfaction of librarians, specifically in Region XI. With that stated, the researcher finds it necessary to conduct research that focuses on the factors that can promote librarians' motivation and job satisfaction in their working environment. Thus, the present study shall contribute significantly to a better understanding of organizational diagnosis concerning librarians' motivation and job satisfaction.

## II. LITERATURE REVIEW

Provided in this section are the discussions of the variables and their indicators, namely; the motivation conceptualized by (Jahagirdar, 2015) that the indicators are basic needs; safety, social; esteem; and self-actualization. Job satisfaction (Boone County Government Employee Reviews, 2019) the indicators are work and workplace, supervisor and management; benefits and rewards; communication, and organizational diagnosis (Preziosi, 2010). Then, a discussion of the relationships between variables will also be present.

### Motivation

Maslow stated that an individual's psychological requirements must be met. This discussion focused on learning that helps people stay on track. The hierarchy of needs includes the necessities, security, social, identity, and personality criteria. As Cherry (2021) suggested, people must be able to satisfy their intrinsic demands to be self-actualized. Motivation is an internal process that satisfies the requirements for survival, well-being, and advantage (Souders, 2021). The hierarchy of needs, which Abraham Maslow devised, is one of the most lasting psychological concepts. Although Maslow did not create the frequently shown pyramid, it is the picture that comes to mind when addressing the concept. There have also been claims that Maslow's theory does not adequately acknowledge the Southern Albertan Blackfoot peoples for their fundamental contribution to the hierarchy (Bear et al., 2022).

Correspondingly, motivations are essential in every aspect of human life. The human primary motivating demand has three distinct categories that help understand the motivation. These are the following; the urge for power,

affiliation, and achievement (Murayama, 2018; Santan-Monogas & Nuñez, 2022; Sloom et al., 2022). Maslow's theory of human needs is a psychological, motivational framework that includes five aspects of human desires that will often show systematically. Before individuals attend to higher-level needs, the first hierarchy must be satisfied. Physiological, security, belonging and love, esteem, and personality are the needs that rise from the bottom of the hierarchy (McLeod, 2022). The basic human needs procedures might satisfy the fundamental human requirements of society's most disadvantaged and excluded groups. Concerning food, shelter, clothes, and public social services, including safe drinking water, health care, and education, this segment of society has experienced significant hardship (Shergill, 2021).

Determining what drives each employee while considering their unique variations is the most challenging job in employee motivation. Individual variations, in other words, have been recognized as the critical barrier to effective employee motivation management (Basnet et al., 2022; Kurniawan et al., 2022). Employees are motivated by a desire to reach their full potential; therefore, they will eagerly seek out additional duties and look for the significance and personal growth of their colleagues' work. Some people with high-quality work become self-actualized, while others may come up with innovative and valuable ideas. Managers can utilize various techniques to help their subordinates accomplish personal and organizational goals by knowing their levels of self-actualization and requirements.

On the other hand, the importance of motivation in successful management and leadership cannot be overstated. When employees are not inspired to achieve the company's goals, productivity suffers (Tanner, 2021). On the other hand, the significance of motivation in effective management and leadership cannot be emphasized. Productivity falls when workers are not motivated to meet the company's objectives (Zulxaydarova & Qosimova, 2021).

To understand employee motivation and satisfaction, Herzberg recommends taking a two-step strategy. The components of motivation are dependent on the necessities at work. Company policy, supervision, interpersonal interaction, working circumstances, and a sense of job security are all issues that affect an individual's motivation. When motivation factors are active, they are based on a person's development requirements. They are motivated to do tasks to achieve a particular objective (Dejen, 2022; Kuijk, 2018; Nickerson, 2021). Motivation is one of the most fundamental variables in human behavior and performance. When studying how individuals are motivated at work, the two-factor concept is comparable to Maslow's hierarchy of needs but contains several extra factors. Individuals' lower-level wants (extrinsic or hygienic traits)



would buffer them from discontent rather than inspire them to work hard. On the other hand, higher-level requirements (intrinsic or motivation components) must be addressed to drive employees (Steinhilber, 2017; Zheng et al., 2022).

The first indicator of motivation is *basic needs*; these necessities are significant since they encompass items necessary for human survival. Humans are driven to fulfill specific requirements, and some are prioritized above others. According to the study by Cherry (2021), the employee's basic needs are for physical survival, which are the fundamental motivators for their actions. The body will not function properly if the physiological prerequisites of human existence are not supplied. The primary drivers of the employee's behavior are their necessities for physical survival. The human body will not operate correctly if the physiological requirements for human existence are not met (Shade et al., 2021).

According to Maslow, physiological needs are the most important, and all other wants come second until these needs are addressed (McLeod, 2022). Furthermore, the most fundamental human requirements must be met to the bare minimum. The list includes fundamental essentials as well as access to the needs of individuals (Amofah et al., 2022; Kader, 2021; Shultz, 2022). The most straightforward necessities of human existence are to be provided. The list includes access to necessities and items that people require (Aiste, 2022).

The second indicator of motivation is *safety needs*, one of the essential basic and evolutionary needs to maintain or improve the condition. Meanwhile, these requirements include physical protection, job, resources, family morality, and health. All creatures need protection; they no longer seek refuge from hungry predators, unlike other animals and early man. However, safety remains a priority, and activities are designed to assure survival (Interaction Design Foundation, 2020; McLeod, 2022). Correspondingly, humans' innate propensity for security and safety intelligence is bypassed. Just a few of the life safety criteria include health care, suitable housing, and employment stability. Maslow's hierarchy of needs, before higher-order goals like love and self-actualization, are satisfied, lower-order desires like safety must be met (Smith & Sweet, 2021; Waltemire & Bush, 2020). The inclination for security and safety intelligence that individuals have disregarded. Health care, proper housing, and stable work are only a few of the life safety requirements. Preserving or enhancing the condition is one of the essential fundamental necessities and an evolutionary need (Hu et al., 2022).

Additionally, people strive to protect their safety when making life decisions. They buy insurance, such as health and auto, to protect themselves from unforeseen events. They do these things to boost their sense of safety

and security and make them feel more at ease in their daily lives (Majumar et al., 2021; Smartalk, 2018).

The third indicator of motivation is *esteem needs*. Self-esteem is a widely-studied psychological construct that has been linked to success or failure in a variety of areas. Its importance in education has been debated, but it has eluded clear explanations (Granjo et al., 2021; Habrat, 2018).

Moreover, self-esteem necessitates the desire to feel good about something. According to Maslow, there are two mechanisms of esteem needs: the first is feeling self-assured and good about oneself; the second is based on sensations valued by others, such as our accomplishments and contributions that others have acknowledged. People will feel confident and see their contributions and achievements if their esteem requirements are addressed. However, if their esteem needs are not addressed, they will lack confidence in their work, and no achievements or contributions will be made (Hopper, 2020; Interaction Design Foundation, 2020).

Additionally, People's self-esteem and desires must be assessed consistently and realistically. The esteem needs idea is a motivational board that consists of two different but linked components of strivings. Success, competence, and mastery are the initial components of people's esteem requirements. The second aspect of esteem needs is people's need for other people's admiration, importance, and respect (Di Domenico & Fournier, 2020; MasterClass Staff, 2021). One of the three motivators humans possessed was recognizing the need for accomplishments. A need for association and power were the other two motivators. The attention and credit obtained from others were the second forms of esteem requirement (Miller, 2020).

The fourth indicator of motivation is *love needs*; attractions, affection, intimacy, and dedication of an employee to their loved ones and workplace are all aspects of love requirements. Humans need love to be accepted by others and to have a sense of belongingness. The essential requirements for safety and bodily well-being were ranked first and second; not meeting these needs has been linked to psychopathology. Dissatisfaction will result if these demands are not met. If these needs are not addressed, they will lead to dissatisfaction. Love and belonging can be found in broad relationships, such as group membership, or more particular relationships, friendships, parent-child interactions, and romantic partnerships are examples of these types of relationships (Pinkus, 2020; Sianipar & Jusmaya, 2019). Everyone wants to experience love and desire. They desire a sense of significance within their families, social networks, and communities. According to this view, meeting one's needs for love and belonging is necessary to improve one's mental health and foster personal development. Here are some reasons why these requirements matter and examples of how to meet them (Thomas, 2022).



Similarly, because the development of interpersonal connections precedes and facilitates the establishment of society, love requirements are essential for fulfilling safety requirements. There are never more stories of lovers, parents, and friends laying down their lives to save the people they love. Besides, people are more eager to give their lives for their loved ones in the new period, when established power structures have crumbled and interpersonal interactions are the only thing that keeps them alive (Oved, 2020). These requirements, according to Maslow, are lower priority than physiological and security needs (Desmet, & Fokkinga, 2020; Sosteric & Rakvonic, 2020). Regardless of gender, everyone requires affection. Nevertheless, because men and women show love differently, it might sometimes seem to romantic partners that they are loved more than they are (Sinusoid, 2021).

The fifth indicator of motivation is *self-actualization needs*; people are said to realize their maximum potential in their adult years. Some adolescent-related research tends to concentrate on the circumstances that should be present for teenagers to be interested in self-actualization. Despite the increased focus on excellent adolescent development and thriving throughout adolescence, it involves both the process of a person attaining their self-defined maximum potential and the actual outcome or realization of that potential (Interaction Design Foundation, 2020; Levesque, 2018). It is believed that the best way to conceive self-actualization is as the sum of its elements rather than as individual attributes. One may not have fully acquired self-actualization, for instance, even if one exhibits a creative spirit, which is a sign of self-actualization (Davis, n.d.). A person achieving progress is said to be self-actualizing. In other words, they can accept strengths and flaws, be aware of their potential, be satisfied with what they have, seek personal improvement, want to fulfill their mission in life, and be appreciative of life itself (Lyons, 2021).

In addition, Curiosity, self-acceptance, meaningful connections, environmental mastery, personal growth, autonomy, and a feeling of purpose are crucial to consider when it comes to self-actualization. Maslow's study looks at the tension between defenses and growth drive, also the tension between self-actualization and self-transcendence. Maslow defines self-actualized people as those who have achieved their full potential and are driven by health, growth, completeness, integration, humanitarian obligation, and the "real challenges of life" rather than a rigid hierarchy of desires. In other words, growth, Curiosity, and love for humanity were far more motivating factors for higher self-actualization ratings than meeting basic requirements (Kaufman, 2018; Legg, 2020). Realizing one's full potential is known as self-actualization. Since most individuals are trying to satisfy more urgent wants, it sits at the top of Maslow's hierarchy of needs and is seen as the exception rather than the rule (Cherry, 2022).

### Job Satisfaction

The actual conditions in the workplace are usually considered to be the determinants of employee engagement. Job satisfaction in the workplace, supervisor, and management, benefits and rewards, and communication all play essential roles in an organization. In addition, the employee's various demographic features, such as gender, age, and employment level, have been connected to the concern, as mentioned earlier (Stater & Stater, 2018). This claim is supported by Bourne (2020), who suggested that employers should be willing and able to increase employee compensation, benefits, and incentives to increase workers' job satisfaction. According to Employee Management (n.d.), poor work performance should not be attributed to a lack of job happiness. Instead, the person should be viewed from the firm's perspective. Individual satisfaction is not always linked to production. It only leads to group unity and cohesion, not usually to organizational productivity.

In several studies, job satisfaction has been proven to significantly impact employee motivation, eventually impacting corporate performance and productivity. Ultimately, business performance. Unfortunately, neither academics nor managers of various commercial organizations have given job satisfaction the attention it deserves (Oyovwe-Tinuoye, 2021; Pancasila, et al., 2020). When employees perceive job stability, professional advancement, and a healthy work-life balance, they are satisfied with their job (MBA Skool Team, 2022; Gerard, 2019). Meanwhile, group organization affects morale and productivity. Morale and productivity can only be linked to job satisfaction when the same factors contributing to high morale and output reinforce worker exceptions. Satisfied employees are retained and act as brand ambassadors inside and outside the company (Bathena, 2018; Collins, 2020).

Job satisfaction refers to an employee's feelings about their work environment, as well as their willingness to perform at their best; even though no widely recognized definition of job satisfaction exists, it is vital to consider the job's nature and worth (Oyovwe-Tinuoye, 2021; Pancasila et al., 2020). BasuMallick (2020) also added that employees are satisfied with their jobs by their working environment. Furthermore, the positive output of job satisfaction is related to satisfaction with compensation and promotion opportunities, work, supervision, coworkers, and the working environment. Employees who like their occupations are more likely to be productive. Employee commitment lowers turnover and absenteeism, boosts work motivation, and improves customer satisfaction (Koo et al., 2019; Tatar, 2020).

The first indicator of job satisfaction is *work & workplace*. Employees' well-being and mental health are affected by their social environment, which can have positive and destructive concerns for their confidence and performance. The previous environment is divided into



physical, mental, and social. Infrastructure, ventilation, noise, temperature, conveniences, and the interior make up the physical environment. Employees' health may be compromised due to physical conditions. Employee job satisfaction can be enhanced by good working circumstances, workplace enjoyment, and facilities for refreshment, entertainment, health, and safety (BasuMallick, 2020; Ghosh, 2020). Employees may experience toxic conditions like exhaustion, workload, stress, boredom, and monotony linked to their mental environment. These elements can contribute to job dissatisfaction. To work well in an office, managers, and staff needs to have a good working relationship (Abun et al., 2018; Stansell, 2019). It is no secret that motivated personnel are critical to work success. Unmotivated employees with poor employee satisfaction will likely result in low production, low staff morale, and a high turnover rate (Kambouris, 2020).

Meanwhile, poor working circumstances prevent employees from demonstrating their strengths and reaching their full potential. It is vital for the business and its employees to create a pleasant, calm, and stress-free working environment since this influences job satisfaction. Employees report that a work environment that provides flexible working hours, supportive management, stresses teamwork, and has a lower workload results in a high degree of job satisfaction, with the working environment being critical in obtaining job satisfaction. They are getting increasingly concerned about their working conditions. To perform to their total capacity, different companies must ensure that their personnel works in a pleasant and accommodating environment (Bright, 2020). Workplace satisfaction was found to be linked to workload recovery. Perhaps a decent recuperation after a long day at work is reflected in one's satisfaction with one's workstation and usefulness. Acoustic enjoyment was also linked to good recovery (Lusa et al., 2019).

Moreover, instead of an interconnected set of operations that produced a comprehensive outcome or conclusion, a job became a jumble of responsibilities that were not always connected. Employers found that by separating point processes into repetitive jobs in which humans (and subsequently robots) could specialize, goods could be produced faster and more cheaply during the industrial revolution. Craftsmanship, the foundation of goods, and the delivery of complete solutions were all the same in the preindustrial era. A cobbler, for example, may assess the client's hand to make the last alterations to the completed footwear, but an artist is in charge of the entire process of giving the item or conclusion (Schwartz et al., 2019).

The second indicator of job satisfaction is *supervisor and management*; employee work satisfaction is influenced by transformative leadership. Employees who identify their

employers as such are more inclined to follow instructions. As a result, employees are happy when their leaders demonstrate specific characteristics. This leadership style highlights the organization's objective and principles, assists subordinates in developing new ideas and motivation in addressing challenges, has a clear vision, inspires his members by offering meaning and challenge to their work, and is innovative. Different leadership styles influence employee commitment; thus, management must pay attention to them (Qureshi & Hamid, 2017).

Additionally, the organization's success is determined by its personnel. These are two critical jobs in a company that guides the entire employee team in attaining the company's common goals. A supervisor is a person who leads the organization's first-line management and is responsible for the employee's work and performance. Managers oversee and administer the entire company (Nespoli, 2017; Surbhi, 2018).

Correspondingly, it stated that the best services could only be provided by happy personnel. Fairness is regarded as an essential factor in job satisfaction. Fairness of work, insurance policies and working hours are positively associated with job satisfaction in a specific sector. Fairness is demanded of managers of employees. Fairness should establish a favorable attitude that would drive employees to work hard (Vann, 2017).

The third indicator of job satisfaction is *benefits and rewards*; employee dissatisfaction is attributed to non-competitive and inadequate compensation, and according to the importance of determining the level of job satisfaction, the pay supplied by the business to the employees. A survey of academic workers at two South African institutions shows that workplace happiness is influenced by income. South African higher education institutions adopt remuneration strategies that meet employee expectations (Mabaso, 2018; Mabaso & Dlamini, 2017). Additionally, although salary and benefits play an essential part in job satisfaction, an appealing compensation plan should be devised to attract and retain personnel. Workers' growing needs to meet, and remuneration packages must be improved. Dissatisfaction will emerge if they believe they are not adequately compensated. This unhappiness will build up over time, eventually leading to staff turnover (Kiplangat, 2017; Simplilearn, 2020).

Moreover, improving employee recognition programs will not only encourage them; but will also increase their productivity. Employees think that recognition is a kind of appreciation, and they view the organization's acknowledgment of their efforts as a motivator to work well; as a result, employee morale is boosted as they are valued for their inputs and contributions (Jean et al., 2017; Jones, 2019; Martic, 2019).



The fourth indicator of Job satisfaction is *communication*. Examined how different generations of Indian managers felt about their jobs and how satisfied they were with organizational communication. Communication that takes place at work applies to employee-to-employee communication. There would be generational differences in attitudes about and expectations for corporate communication and if this would affect their work satisfaction (Desa et al., 2019; Mehra & Nickerson, 2019). Communication is essential for the success of any activity, whether it is dealing with coworkers or superiors regularly, reporting actions to supervisors, or simply expressing perspectives within teams (Kakkar et al., 2022). Teamwork can be stressful, and it frequently leads to arguments. This is because each employee has distinct aims, values, and approaches to dealing with their students. According to a survey, one source of happiness and job satisfaction for instructors is interacting with coworkers. Teachers demonstrated teamwork by assisting and learning from one another. Their disparate skill sets worked in their favor since they could learn from one another. Working in a group can be challenging (Harrison, 2020).

In like manner, managers should consider these aspects when enhancing employee work satisfaction. The employees of a Serbian company discovered that good relationships with coworkers, which create a comfortable working atmosphere, have a significant role in job satisfaction. It has also been discovered that the absence of conflict among employees, excellent communication, and task support from dependable and competent coworkers are all critical parts of job happiness (Milano, n.d.).

### Organizational Diagnosis

One of the most effective organizational development tactics is to utilize an organizational diagnostic model with seven elements: goal, infrastructure, incentives, connection, supportive procedures, and management to identify gaps between current and desired employee satisfaction (Rajak, 2020). Organizational diagnosis is performed to see if a structure has been well and, if so, whether change is needed. Organizational diagnosis employs behavioral science understanding and approaches to help businesses make adjustments that increase their efficiency. High performance and a decent standard of living at work must be achieved; businesses must improve how they interact with their external environments and function internally (Appelbaum, 2020; Reshan & Magroud, 2022).

The connection, leadership, purpose, and helpful mechanism domains are all robust and healthy in the company's operation. Task and structure are the following best domains after people. That organizational diagnosis is performed regularly for individual and group reflection to draw out the most valuable lessons from the past, effectively align with the present, and generate an anticipatory view of

the future (Pederi & Benitez, 2022). Organizational diagnosis necessitates using a framework to comprehend organizational issues, data gathering, analysis, and conclusion-making based on the goal of implementing essential alterations and modifications (Cecceto & Mello, 2021; Wang et al., 2017).

Motivation is essential in every organization; librarian needs job satisfaction for their satisfaction in a different working environment; the results of the organizational diagnosis helps to identify the security of the librarians.

### Correlations Between Measures

Employees' motivation and job satisfaction fluctuate. Managers and businesses utilize data to enhance employee well-being and job performance, better working relationships with coworkers, more productivity, and increased creativity (Rozman et al., 2017; Souders, 2021). Job satisfaction is a crucial aspect of an employee's desire to remain loyal to and employed by a company. Employee satisfaction is impacted both directly and indirectly by many H.R. operations and responsibilities. Thus, H.R. must remember that how a company runs, as represented in its regulations, senior management, and culture, affects employee satisfaction and may help the firm enjoy financial, cultural, and brand equity advantages (Bethena, 2018). Employee motivation influences organizational diagnosis, job satisfaction with the performance rating system, and turnover risk. The motivation that has been developed seems to impact organizational diagnosis and job satisfaction positively.

On the other hand, intrinsic motivation negatively influences the urge to quit, and employee job satisfaction affects the impact of intrinsic motivation. It is essentially empirical research and scale designed to assess the consequences of four fundamental needs: Job stability, achievement, job responsibility, and the work itself (intrinsic drive) are all essential factors to consider (Ali & Anwar, 2021; Steinhilber, 2017).

Organizational diagnosis is a creative process that involves getting to know a company on all levels. It is connected to employee motivation, which is influenced by biological, emotional, social, and cognitive variables. Conducting organizational diagnosis and analyzing job satisfaction, organizational commitment, and motivation is vital to employee satisfaction (Ahn & Kwon, 2018). Moreover, an organization's capacity to adapt to ever-changing difficulties, competition, and change is essential to its success and effectiveness. Organizations are evolving and improving, which necessitates a thorough understanding and diagnosis. So, where does diagnosis begin, and how can effectiveness be measured. To detect adequate gaps, diagnose important tasks, motivation, structure, people interactions, support, management leadership, attitude, and



job satisfaction concerning change and performance (Gozukar, et al., 2017).

Additionally, job satisfaction is a significant aspect of an organization's productivity; motivated individuals can analyze the organizational diagnostic in the workplace to help them succeed in their careers (BasuMallick, 2020; FutureLearn, 2022; Shaii et al., 2020). According to Mauro (2017), people spend most of their life at work, so it is vital to understand what makes them happy there. On the other side, factors impacting job satisfaction, and customer satisfaction has both positive and negative consequences, which impact corporate productivity.

Consequently, it is critical to understand what makes employees happy and what makes them act and behave in the workplace. Understanding how motivated people are at work is crucial for understanding job happiness. It might be argued that employee contentment and motivation are two critical components of a company's success. Many organizations have realized that dealing with organizational diagnostics motivates employees and makes them happy (Hidayah & Tobing, 2018).

On the other hand, productivity is the ability to attain the desired result with the least effort. With these problems, productivity, job satisfaction, and motivation become increasingly vital for healthcare administrators. Employee satisfaction and retention have always been a big concern for physicians, medical institutions, and companies. According to Maslow and Herzberg's concept, employees who like their work are more productive, innovative, and loyal to their employers, according to traditional human resource theories. Employees have a crucial role in productivity (Cherian et al., 2021; Shaii et al., 2020). According to another study, organizations are constantly faced with the necessity to transform to adapt to changing environments and maintain a competitive edge. When a company begins a change process, individual workers are impacted in one way or another. Employees might be content or unsatisfied in the workplace due to transformational change. During the organizational transition, however, a diagnostic model for evaluating work satisfaction was constructed. It is the fundamental and continuous change that occurs at all levels of an organization as a result of external circumstances that threaten its survival (Qureshi & Hamid, 2017).

Another study discovered a connection between motivation, satisfaction, and organizational diagnosis. A mixed methods approach was utilized to tailor the measures and provide empirical evidence for the hypothesized interrelationships. According to the data, each of the three factors positively relates to satisfaction with incentive travel (Ahn & Kwon, 2018). Travel for business networking and prestige benefits organizational diagnostics, whereas leisure travel has a negative impact. Through satisfaction, all three incentives are favorably associated with organizational

diagnosis (Harrison, 2020; Li et al., 2018). It is also supported by another study that Job satisfaction and motivation are intertwined, and businesses that want to succeed must recognize the importance of both in meeting the ambitions of their employees, which is the key to organizational diagnosis. Businesses must implement monitoring systems that examine the demands of employees at all levels. This can aid firms in remaining competitive in an era where it is assumed that pleased workers are more devoted to the organization's aims. Individual worker needs and ambitions must be incorporated into organizational goals, and no stone should be left unturned in creating a match between the two (Dartey-Baah, 2010; Tanner, 2021).

The variables mentioned earlier define workplace discontent. Company policy, supervision, interpersonal interaction, working circumstances, and a sense of job security are all issues concerning productivity. Because motivation elements are founded on an individual's aspirations for personal improvement, they promote job satisfaction when they are active. They are motivated to do things to meet a set of objectives. They recognize the aim's significance and seek methods to help it be realized (Kuijk, 2018; Nikerson, 2021).

The above readings gave significance to the present study. The literature presented is related to the independent variable of motivation. According to these studies, basic needs, safety, esteem, love, and self-actualization are all indications of motivation. These studies demonstrated the significance of these markers and how they can influence motivation. The dependent variable is job satisfaction, and research that supports it is provided. These focused on how work and the workplace, management and supervision, perks and rewards, and communication are connected; thus, the mediator of the present organizational diagnosis is the subject of the research. It also included discussions on research findings from similar studies that provided background and basis for the current investigation. Interactions of the current studies with hierarchical needs, relationships, and leadership are observed. However, none were related to motivation regarding how it is applied to job satisfaction, particularly in the librarians in Region XI.

### Theoretical Framework

This study is based on Maslow's 1943 theory of the hierarchy of needs, sometimes known as the hierarchy of needs model. This model demonstrates the motivational needs of a human being. A psychological theory called Maslow's hierarchy of needs explains human motivation by emphasizing the fulfillment of several levels of wants. The idea is that individuals are motivated to satisfy their needs in a specific sequence. The most fundamental demands come first, followed by the more sophisticated needs. The fifth



level of the hierarchy of self-actualization is the ultimate objective (CFI Team, 2022).

This study also supports the assumption that in the 1990s, Herzberg came up with one of the first theories linking job satisfaction. The motivation theory, The Two-Factor Model, as it is commonly called, asserts that there are properties of the workplace that encourage contentment (motivators) and those that contribute to discontent (hygienic practices factors), regardless of their presence or absence (Hackman & Oldham, 1976).

Anchored Alderfer (2011) proposed that organizational diagnosis for a new design combines organizational diagnosis and motivation methods to create a new model for intergroup interactions in organizations. The model's importance for job satisfaction demonstrates the importance of intergroup ties in formative organization research and evaluates existing organizational forms. Dartey-Baah's (2010) assumption is that job satisfaction, and motivation are critical in the profession. Organizational diagnosis has been proven to have a counterpart in the workplace, as workers have obtained a more excellent grasp of their rights in the workplace via education. This viewpoint is used due to many citations by other researchers and authors.

In addition, the preceding notion is supported by Cuarto (2014) as he used compensation and benefits, working conditions, interpersonal relationships, policies and supervision, achievement and recognition, work itself, and responsibility and progress job satisfaction measurements in his study. Additionally, increasing pay, improving working conditions, and revising policies were suggested to increase job satisfaction. Employees are expected to accomplish their jobs more productively if these tactics are implemented, and the organization will benefit as a result. This result is accurate to Mayo's (1949) study on motivation. Accordingly, employees may be more motivated if their social requirements are met at work rather than just their pay. Introduced the human relations school, which emphasized that employers are taking a greater interest in treating their employees as persons with valuable perspectives who like connecting. Maslow's idea was a motivational theory that established the foundation for job satisfaction. According to the theory, people aim to fulfill five distinct wants in life. More importantly, essential prerequisites must be met before progress can be made toward other objectives (Robbins & Coulter, 2007).

### Conceptual Framework

The conceptual structure of the study is displayed in Figure 1. as presented below. Motivation is measured in terms of the independent factors in this study: basic needs refer to psychological needs; safety refers to a shelter; esteem refers to desire; love refers to commitment; self-actualization refers to self-defined. According to this notion,

the lower wants must be addressed before the higher needs may be met (Robbins & Coulter, 2007).

The study's dependent variable, job satisfaction, is represented by indicators like work and workplace, which refers to technical amenities and a stress-free working environment; supervisor and management, which refers to having transparent, fair, and easy access policies, supervisory abilities, and a rapid and equitable method for evaluating individual performance; benefits and rewards, which refer to pay, rewards, bonuses, and incentive programs, retirement. Poor performance should not be attributed to a lack of job satisfaction. Instead, the person should be seen in the context of the entire company. Individual happiness is not necessarily proportional to productivity. It only leads to group unity and cohesion, not usually to organizational productivity. On the other side, group structure affects morale and production. Only when the factors contributing to solid morale and production simultaneously lead to reinforcement of worker exceptions can motivation and output be related to job satisfaction (Employee Management, n.d.).

Furthermore, organizational diagnosis is the mediating variable in this undertaking. The said variable is relevant to the relationship of organizational management among librarians in Region XI. More so, organizational diagnosis is essential in organizational change plans, for it helps choose relevant actions that will contribute to the organization's preparedness to face change. However, despite the findings from various experts, which suggest specific theories and models for diagnosis, the diagnostic process has received little attention (McFillen et al., 2012).

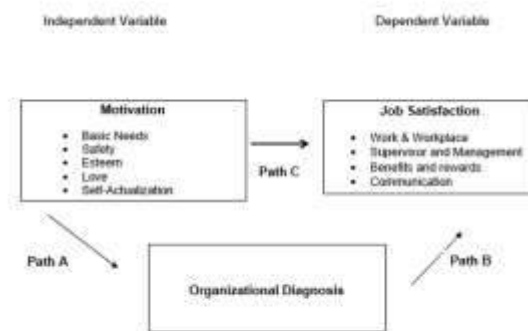


Fig 1. The Conceptual Framework of the Study

### Significance of the Study

Since there is a dearth of local studies on the subject, this research's findings are expected in library science literature in the Philippines. This study intends to contribute to this research by providing insight into current practices in academic libraries to enhance library services. Remarkably, the organizational diagnosis mediates the motivation and job satisfaction of the librarians is considered a significant worldwide issue that requires attention and exploration. Consequently, this study would help librarians around the





region become more aware of the existing factors on their job satisfaction in the workplace.

Additionally, this study would benefit the policymakers and leaders as this would assist in identifying the appropriate measures that could be taken to improve librarians' motivation and job satisfaction in the Davao Region. School heads and other stakeholders could also benefit from this study as it could be the basis for assessing what factors affect the motivation and job satisfaction of librarians and what interventions or remediation are needed to retain them in different institutions.

**Definition of Terms**

For clarity and to provide a better understanding of the study, the following terminology has been operationally and conceptually defined as follows:

**Job satisfaction.** This refers to the quality of work & workplace, supervisor and management, benefits and rewards, and communication among Librarians in the Davao Region.

**Motivation.** This refers to the value of basic needs, safety, esteem, love, and self-Actualization among Librarians in the Davao Region.

**Organizational Diagnosis.** This study refers to the organizational analysis of the librarians of the Davao Region.

**III. OBJECTIVES OF THE STUDY**

This study aimed to determine which domain of organizational diagnosis best influences librarians' motivation and job satisfaction in Region XI. Specifically, it sought answers to the following objectives:

1. describe the level of motivation of librarians in terms of:
  - 1.1 basic needs;
  - 1.2 safety;
  - 1.3 esteem;
  - 1.4 love; and
  - 1.5 self-actualization.
2. describe the level of job satisfaction of librarians in terms of:
  - 2.1 work & workplace;
  - 2.2 supervisor and management;
  - 2.3 benefits and rewards; and
  - 2.4 communication.
3. describe the level of organizational diagnosis of the librarians.
4. describe the significant correlation between the following:
  - 4.1 motivation and job satisfaction;

4.2 motivation and organizational diagnosis of the librarians; and

4.3 job satisfaction and organizational diagnosis of librarians; and

5. determine the mediation effect of organizational diagnosis on the relationship between motivation and job satisfaction.

**IV. METHODOLOGY**

This chapter discusses the research methodology, the locale of the study, the research instrument used, the data-gathering procedure, statistical methods, and ethical problems.

**Research Design**

The descriptive-correlation research technique was employed during this study to gather the information necessary to understand the topic. In research investigations, descriptive correlational design is employed to identify the link between various variables and produce static images of events (IvyPanda, 2022). his study also employed testing of mediation. More so, the association of three factors among librarians in Region XI was investigated to wit; organizational diagnosis this refers to (Boone Country Government Employees Reviews, 2019), motivation refers to (Jahagirdar, 2015) and job satisfaction this refers to (Preziosi, 2010).

A general mediation test was used to investigate the relationship between the predictor and the criteria variables, the relationship between the mediator and criteria variables, and the predictor and mediator components. The relationship between predictor and criteria variables should be decreased once the mediator and criteria variables have been handled (in the case of complete mediation, to zero), determining the variables in the mediator whether when an impact of relationship occurs (Baron & Kenny, 1986).

In keeping with the preceding notion, complete mediation is the connection between the dependent and independent variables when all mediator factors are fully engaged. As a result, starting variable does not influence the output variable. A partial mediation technique is also known as a partial intervention. The mediation model is used to study the mediator and independent factors in addition to the study's variables. As a result, the organizational diagnosis is the relationship between motivation and job satisfaction.

**Research Locale**

This research was carried out in Region XI or commonly known as the Davao Region, situated around the Davao Gulf in the southeast of the island of Mindanao, namely; Davao De Oro, Davao del Norte, Davao del Sur, Davao Occidental, and Davao Oriental (PhilAtlas, 2020).



The researcher chose this area to focus the study in because this region has various institutions with licensed librarians.

The degree of contentment employees experience with their jobs is known as job satisfaction. This extends beyond their regular responsibilities to encompass contentment with coworkers and management, satisfaction with organizational policies, and the effect of their work on their personal life.

However, no study was recorded or carried out that explored the same subject as the current undertaking. Figure 2 presents the Philippine map, the Davao Region, and the locale of the study.



Fig. 2 Map of the Philippines and Davao Region

### Population and Sample

The respondents of the study were licensed Librarians in Davao Region. Accordingly, there are more than 132 librarians in the Davao Region. The sample size of 132 was calculated and obtained using Slovin's formula to examine the volume of respondents in the study appropriately this study is supported by Sudhana et al. (2022).

Subsequently, the total respondent population was calculated using stratified random sampling, which divides a population into homogenous subpopulations according to specific features. One of the strata should be assigned to each research participant. In addition, the researcher used a different probability sampling strategy for each stratum to estimate the statistical metrics for each sub-population, such as cluster or simple random sampling (Thomas, 2020).

Inclusion criteria were also utilized in choosing the registered librarians in the Davao Region who would be part of the study; thus, librarians who are not in Davao Region are excluded, and Library In-Charge who are not licensed. On the other hand, the researcher assured that all data included in the study that may cause conflict or threaten their work would be treated with the utmost confidentiality.

### Research Instrument

This study used a standardized questionnaire modified to accomplish the research objectives. To ascertain the suitable variables and indicators to include in the study, the researcher studied some publications, dissertations, and scholarly articles, both printed and digital, connected to the investigation. The integrated questions on Motivation were derived from Jahagirdar (2015), Job Satisfaction from Boone County Government Employee Reviews (2019), and Organizational diagnosis from Preziosi (2010). They were modified based on the study's needed data. The questionnaire is divided into three sections: Motivation, job satisfaction, and organizational diagnosis.

**Motivation.** In this component, the researcher used a 20-item survey questionnaire developed by Jahagirdar (2015). The questionnaire was used to measure the level of Motivation of librarians. Motivation has five indicators: basic needs, safety, esteem, love, and self-actualization. A five-point Likert scale is used to determine the level of Motivation, as shown in the matrix below:

Range	Descriptive Equivalent	Interpretation
4.20 – 5.00	Very High	Measures of motivation among librarians are always manifested
3.40 – 4.19	High	Measures of motivation among librarians are often manifested
2.60 – 3.39	Moderate	Measures of motivation among librarians are sometimes manifested
1.80 – 2.59	Low	Measures of motivation among librarians are rarely manifested
1.00 – 1.79	Very Low	Measures of Motivation are never manifested

**Job Satisfaction.** This tool is a 46-item survey questionnaire developed by Boone County Government



Employee Reviews (2019) to measure the librarian's job satisfaction, as shown below:

Range	Descriptive Equivalent	Interpretation
4.20 – 5.00	Very High	Measures of job satisfaction among librarians are always manifested
3.40 – 4.19	High	Measures of job satisfaction among librarians are often manifested
2.60 – 3.39	Moderate	Measures of job satisfaction among librarians are sometimes manifested
1.80 – 2.59	Low	Measures of job satisfaction among librarians are rarely manifested
1.00 – 1.79	Very Low	Measures of job satisfaction among librarians are almost never manifested

Moreover, a 35-item survey questionnaire developed by Preziosi (2010) was adopted and modified to examine organizational diagnosis, which includes questions that would provide answers on the level of organizational diagnosis of librarians. A five-point Likert scale is used in this survey, as shown below:

Range	Descriptive Equivalent	Interpretation
4.20 – 5.00	Very High	Measures of organizational diagnosis among librarians are always manifested
3.40 – 4.19	High	Measures of organizational diagnosis among librarians are often manifested
2.60 – 3.39	Moderate	Measures of organizational diagnosis among librarians are sometimes manifested
1.80 – 2.59	Low	Measures of organizational diagnosis among librarians are rarely manifested
1.00 – 1.79	Very Low	Measures of organizational diagnosis among librarians are almost never manifested

The expert validated the questionnaires for construct validity and underwent reliability testing. The validations revealed an overall mean score of 4.50, which is very high. On the other hand, the pilot test was also conducted to identify the instrument's reliability. The Cronbach alpha for Organizational Diagnosis as determinants of research Motivation and Job Satisfaction resulted in .959, .956, and .952, respectively, interpreted as having very good internal consistency making the questionnaire intensely reliable.

### Data Collection

After validating the questionnaire through experts, pre-testing, and computation of Cronbach Alpha, the following were the data collection procedures: The researcher followed the methods mentioned in the forewent sections to collect data for the research. First, the adapted

and modified questionnaires have undergone all the necessary validation. Alterations and recommendations were made to the questionnaires to modified the questions based on the required data to be gathered. The researcher distributed all necessary communications to the University of Mindanao Graduate School's various authorities to inform them of the study's conduct. The researcher communicated with the various offices of the respondents who participated in the study about the distribution of survey questionnaires, which were carried out through google forms. The e-survey was already sent to the respondent between December 2021 and April 2022.

### Statistical Tools

Statistical Tools were used to treat survey findings in a comprehensive and scientifically valid manner. The following were the statistical tools that the researcher used in the study.

**Mean.** This was used to characterize the level of motivation, job satisfaction, and organizational diagnosis.

**Product-Moment Correlation (Pearson r).** This was used to determine the significance of the relationship between Motivation and Job Satisfaction, Motivation and Organizational Diagnosis, Job Satisfaction, and Organizational Diagnosis can be determined.

**Path Analysis.** This was used to determine the mediating effect of organizational diagnosis on the relationship between the motivation and job satisfaction of librarians.

## V. RESULTS AND DISCUSSION

This chapter provides insight into the study's data analysis, focusing on the mediating function of organizational diagnosis on librarians' motivation and job satisfaction in Region XI.

TABLE I LEVEL OF MOTIVATION

Indicator	SD	Mean	Descriptive Level
Basic needs	0.649	4.21	Very High
Safety	0.692	4.21	Very High
Esteem	0.602	4.31	Very High
Love	0.672	4.30	Very High
Self-actualization	0.570	4.39	Very High
<b>Overall</b>	<b>0.456</b>	<b>4.28</b>	<b>Very High</b>

Table 1 shows that the level of motivation among the librarians in Region XI is very high, with an average of



4.28. The indicator that garnered the highest mean score is self-actualization, with 4.39, which is described as very high in level. The second highest esteem has a mean score of 4.31, with a very high descriptive level. The indicator is love, which garnered an average of 4.30 and has a very high descriptive level. The next indicator, basic needs, and safety, obtained an average of 4.21. Moreover, the average standard deviation of all indicators is less than 1.00, indicating that the participant's responses to various indicators are consistent. Based on the abovementioned findings, all motivation indicators were very high, which implies that librarians' motivation is constantly observable.

The level of job satisfaction is presented in Table 2. Based on the table, the level of job satisfaction among librarians in Region XI is very high, with a mean score of 4.23. Specifically, communication is the highest indicator of job satisfaction, with an average of 4.31. Followed by benefits and rewards with an average of 4.30. Next, work and workplace with an average of 4.26 average rating, and supervisor and management with the lowest mean rating of 4.05, which have a very high and high descriptive level, respectively. Based on the results, all job satisfaction indicators are found to be very high. It indicates that the librarians' job satisfaction is observed.

TABLE II LEVEL OF JOB SATISFACTION

Indicator	SD	Mean	Descriptive Level
Work & Workplace	0.567	4.26	Very High
Supervisor and Management	0.671	4.05	High
Benefits and Rewards	0.608	4.30	Very High
Communication	0.596	4.31	Very High
<b>Overall</b>	<b>0.533</b>	<b>4.23</b>	<b>Very High</b>

Table 3 shows that the level of organizational diagnosis is very high, with an average rating of 4.32. The extremely high level of organizational diagnosis is due to the respondent's high scores in responses on the majority of the items. This suggests that most of the respondent's responses to the organizational diagnosis were realized.

Moreover, the referenced overall mean is derived from the calculated mean scores of all organizational diagnosis items. The responses of the participants are discussed based on their mean value, from highest to lowest: Leadership and Relationships scores with an average score of 4.36 or very high; Rewards got a total average of 4.35 or very high; Purpose garnered an average score of 4.34 or very High; and Attitudes toward Change got the lowest average of 4.19 but is still described as very high in level.

TABLE III LEVEL OF ORGANIZATIONAL DIAGNOSIS

Indicator	SD	Mean	Descriptive Level
Purpose	0.581	4.34	Very High
Leadership	0.604	4.36	Very High
Relationship	0.599	4.35	Very High
Rewards	0.598	4.36	Very High
Attitudes toward change	0.662	4.19	High
<b>Overall</b>	<b>0.528</b>	<b>4.32</b>	<b>Very High</b>

Table 4 was presented based on the overall level of Organizational Diagnosis among librarians in Region XI is very high, with a mean score of 4.32. The level of Motivation among librarians is very high, with a mean score of 4.28. The level of Job Satisfaction among librarians is very high, with a mean score of 4.23.

TABLE IV DESCRIPTIVE TABLES FOR EACH VARIABLE

Indicator	SD	Mean	Descriptive Level
Organizational Diagnosis	0.528	4.32	Very High
Motivation	0.456	4.28	Very High
Job Satisfaction	0.533	4.23	Very High

Table 5.1 shows that the indices of motivation and job satisfaction have a computed r-value of 0.842 and a probability value of 0.05, which implies that the more motivated an employee is, the more satisfied he or she will become with his or her career. As a result, the null hypothesis, which states that "there is no relationship between motivation and job satisfaction," has been proven wrong. Moreover, job and workplace are associated with basic needs, safety, esteem, love, and self-actualization at a 0.05 significance and an overall r-value of 0.802. The results imply that the forewent factors have a significant relationship, which, as a result, has rejected the study's null hypothesis, which states that "there is no significant relationship between librarian motivation and job satisfaction." Additionally, at a 0.05 significance level, the relationship between supervisor and management and basic needs, safety, esteem, love, and self-actualization had a total r-value of 0.770. The overall r-value for advantages and rewards related to recognition, basic needs, safety, esteem, love, and self-actualization is 0.659 at a 0.05 p-value. The preceding indices showed an overall r-value of 0.787 at a 0.05 p-value. On the other hand, communication revealed an overall r-value of 0.667 at a significance level of 0.05 when linked to basic needs, safety, esteem, love, and self-actualization.

Moreover, the results of the examined relationship between motivation and job satisfaction are discussed as



follows: The relationships of basic needs between work and workplace, supervisor and management, perks and incentives, recognition, and communication, are found to have an overall r-value of .705 at p 005. At p 0.05, the total r-value for safety related to work and workplace, supervisor and management, benefits and incentives, recognition, and communication is 0.689. In addition, the total r-value for future tasks related to work and workplace, supervisor and management, benefits and rewards, recognition, and communication has been 0.783, with a 0.05 p-value. At a 0.05 p-value, the overall r-value of love, linked to work and workplace, supervisor and management, benefits and rewards, recognition, and communication is 0.789. The total r-value for self-actualization about the work and workplace, supervisor and management, benefits and rewards, recognition, and communication is 0.739 with the p-value.

To summarize the results, motivation and job satisfaction are significantly correlated; thus, job satisfaction and motivation are also related. Consequently, if librarians' motivation improves, they will be more productive and satisfied in their job, and if otherwise, librarians are more likely to be dissatisfied with their job. Below is the tabular presentation of the preceding discussion above

**TABLE V.I CORRELATION BETWEEN MOTIVATION AND JOB SATISFACTION**

Job Satisfaction	Motivation					Overall Motivation
	Basic needs	Safety	Esteem	Love	Self-Actualization	
Work and workplace	.675** .000	.643** .000	.741** .000	.742** .000	.732** .000	.802** .000
Supervisor and Management	.635** .000	.610** .000	.739** .000	.725** .000	.682** .000	.770** .000
Benefits and rewards	.574** .000	.547** .000	.569** .000	.589** .000	.623** .000	.659** .000
Recognition	.636** .000	.696** .000	.753** .000	.740** .000	.626** .000	.787** .000
Communication	.653** .000	.606** .000	.732** .000	.760** .000	.667** .000	.667** .000
<b>Overall Job Satisfaction</b>	<b>.705** .000</b>	<b>.689** .000</b>	<b>.783** .000</b>	<b>.789** .000</b>	<b>.739** .000</b>	<b>.842** .000</b>

NOTE: \*\*Significant at 0.05 significance level.

The investigation findings on the relationship between librarian motivation and organizational diagnosis are shown in table 5.2. The study revealed that librarian motivation and organizational diagnosis indicators have a p-value of 0.05 and an overall r-value of 0.827. The results imply that the preceding factors have a significant relationship, which has rejected the study's null hypothesis, which states that "there is no significant relationship between librarian motivation and organizational diagnosis." The discussion is presented in the following table below.

Moreover, the motivational indicators such as basic needs, safety, esteem, love, and self-actualization, with mean scores of 0.720, 0.640, 0.790, 0.753, 0.744, and the overall

results of 0.827, respectively, have indicated a strong correlation toward organizational diagnosis. This suggests that librarians who are informed and well-communicated in their institution are more motivated than those who are not. This further implies that since motivation has a moderately positive association with organizational diagnosis, motivation is therefore considered to be affected by the organizational diagnosis.

**TABLE V.II CORRELATION BETWEEN MOTIVATION AND ORGANIZATIONAL DIAGNOSIS**

Motivation	Organizational Diagnosis
Basic needs	.720** .000
Safety	.640** .000
Esteem	.790** .000
Love	.753** .000
Self-Actualization	.744** .000
<b>Overall</b>	<b>.827** .000</b>

NOTE: \*\*Significant at 0.05 significance level.

Table 5.3 shows the relationship between job satisfaction and organizational diagnosis. As observed, job satisfaction and organizational diagnosis are significantly correlated with a p-value of 0.05 and an r-value of 0.822; thus, the study's null hypothesis states that "there is no relationship between librarian job satisfaction and organizational diagnosis" has been disproved. The preceding table shows the summarized presentation of the previous discussion.

Furthermore, the indicators of job satisfaction, such as work and workplace, supervisor and management, benefits and rewards, recognition, and communication, are all present. They are found to be substantially associated with organizational diagnosis, with a p 0.05 and r-value of 0.811, 0.774, 0.751, 0.720, and 0.648, respectively. This means that, in some ways, organizational diagnosis affects librarians' job satisfaction. On the other hand, work satisfaction is correlated to organizational diagnosis with a mean score of 0.822, which notes that organizational diagnosis motivates librarians to perform at their best and be more involved in their work. This further indicates that some job satisfaction factors contribute to improving librarians' organizational communication.

**TABLE V.III CORRELATION BETWEEN JOB SATISFACTION AND ORGANIZATIONAL DIAGNOSIS**

	Job Satisfaction					Overall
	Work and workplace	Supervisor and Management	Benefits and rewards	Recognition	Communication	
Organizational Diagnosis	.774** .000	.811** .000	.648** .000	.720** .000	.751** .000	.822** .000

NOTE: \*\*Significant at 0.05 significance level.



There are several schools of thought and debates circulating mediation. The mediator, organizational diagnosis, illustrates how or why the predictor, motivation, and the dependent variable—job satisfaction, are correlated in this study.

The first step assessed whether a mediating effect exists between or among the concerned variables. The analysis under the causal stages method comes to a halt if the impact is found to be not statistically significant. Complete mediation would be accomplished if the IV's influence on the DV becomes non-significant at the end of the study. It indicates that the mediating variable is in control of all effects. Moreover, only partial mediation is accomplished if the Path analysis is considerably lowered in the last stage but remains significant. This means that while the MV mediates a portion of the IV, the remainder is either direct or mediated by non-framework elements. The IV's effect on DV is significantly reduced after MV is reduced, and only partial mediation was used since the impact is still significant.

The mediation of organizational diagnosis, motivation, and job satisfaction is seen in Table 5. On the other hand, Figure 3 shows the impact size calculations in the mediation test among the three factors. As stated in the table, three stages were completed for the third variable (organizational diagnosis) to act as a mediator. Steps 1 through 4 are labeled in the table. Job satisfaction was demonstrated to predict the organizational diagnosis, the mediator, in step 1 at the 0.05 level of significance. Step 2's motivation predicts the relationship between job satisfaction and significance at 0.05. The organizational diagnosis was also shown to significantly affect motivation in step 3 at the 0.05 level of significance. More mediation analysis using path analysis is necessary due to the importance of the three steps (Paths A, B, and C). This indicates that the mediator intervenes in a portion of the independent variable (motivation) (organizational diagnosis). In addition, other aspects are mediated by factors that are not included in the model, either directly or indirectly. Also, partial mediation was achieved since the impact was substantial at 0.05.

Moreover, as noted in Figure 3, the Path Analysis results show that path job satisfaction to organizational diagnosis, organizational diagnosis to motivation, and motivation to job satisfaction are significant, with signs unchanged. This means that organizational diagnosis influences the association between motivation and job satisfaction. The previous results revealed a 0.78 rise in motivation for every unit increase in motivation. Also, every unit increase in motivation is accompanied by a 0.49 rise in job satisfaction. Additionally, for every unit increase in Organizational Diagnosis, there is a corresponding 0.40 increase in job satisfaction.

To summarize, because organizational diagnosis is just a partial mediator, it cannot be said that motivation influences job satisfaction only through organizational diagnosis; thus, it is just one of the many elements that affect job satisfaction. The figure shows the mediation analysis of the three variables of the study.

TABLE IV. MEDIATION ANALYSIS OF THE THREE VARIABLES

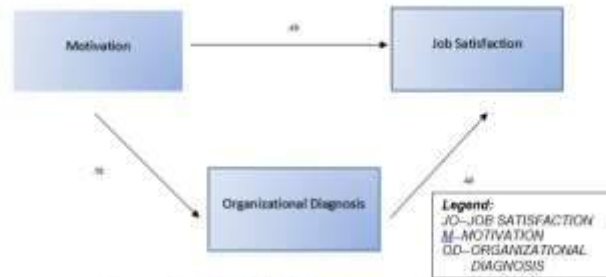


Figure 3. Results of the Mediation computation

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
OD	<---	M	.781	.038	20.755	***	
JS	<---	M	.489	.059	8.298	***	
JS	<---	OD	.400	.062	6.406	***	

Partial Mediation

## VI. FINDINGS AND CONCLUSION

### Motivation

The high scores obtained from the respondents' responses on the motivation measures explain the high motivation level among librarians. This claim conforms with the study of Bastida (2022); Kha et al. (2021); Orewa (2017); Yaya (2018) that motivation aids librarians to be as productive and enthusiastic as possible as well as helps them keep from aiming for excellence to strengthens organizational commitment and increase performance.

In addition, the administration must be accomplished or gain abilities to motivate librarians, which is critical for any library to achieve its objectives. Motivated librarians are more dedicated to their jobs and put in more effort, as Bastida (2022); Yolam (2020) recommended that librarians are sent to further professional development to prevent from work disengagement can cause less productivity at work.

### Job Satisfaction

Based on the data gathered and the analysis made, it was found that librarians are happy in their employment which implies that job satisfaction is highly observed among librarians in Region XI. The results resonate with the findings of several studies that workplace behavior and



productivity are heavily influenced by job satisfaction. Job satisfaction levels among librarians from various libraries and jobs, as well as the elements that affected their satisfaction. There are no variations between librarians and library workers regarding gender, ethnicity, library type, library position, or library job completion (Martin, 2020; Pandita, 2017).

On the other hand, indicators, supervisors, and management were found to have a high level of satisfaction among the concerned librarians in Region XI. This result is accurate to the studies of Nespoli (2017); Surbhi (2018), which suggest that managers oversee and administer the entire company. Given the high level of results for supervisor and management, it is suggested that the head focus on supervisory and management setup. Funge et al. (2017) claimed that supervisors and management, library managers' social identities, experiences supervising others, and peer support influence the job satisfaction of librarians.

### Organizational Diagnosis

The study's findings indicated that librarians in Region XI have a high organizational diagnosis. This means that job satisfaction is highly observed among the concerned respondents. This result is confirmed by the study conducted by Cha and Kim (2019) and Rajak (2020). Accordingly, organizational diagnosis is a unique technique to learn about a firm on all levels, from the most superficial to the most profound, buried characteristics not visible to the naked eye. This technique is compared to a Doctor's attempt to diagnose a patient, as some doctors focus on nutrition, food, and natural remedies.

In contrast, others rely on pharmaceutical prescriptions or merely try a therapy, see if it helps, and then go on to something new. More so, this is quite similar in the corporate world with companies. Multiple diagnostic models may be used in different settings depending on clients' choices, requirements, and goals.

Moreover, an indicator such as attitudes toward change; has a high level of satisfaction. This result confirms the findings of Rajak (2020), that claims, "the most successful organizational development tactics for determining gaps between current and planned employee performance are to apply the seven components of an organizational diagnosis model."

### Significance on the Relationship between Motivation, Job Satisfaction, and Organization Diagnosis

In this study, Pearson product-moment correlation was used to determine the relationship between the independent (motivation), dependent (job satisfaction), and mediator (organizational diagnosis) variables. Based on the results, motivation is positive and strongly associated with Job satisfaction. In this sense, the null hypothesis, which

states that "there is no significant relationship between the previous variables, was disproved." Nonetheless, the third set of variables, the mediator (organizational diagnosis) and dependent (job satisfaction) has also rejected the null hypothesis, which claims that there is no significant relationship between the two variables mentioned.

On the other note, the current study discovered that motivation and job satisfaction are not significantly different; a result shows that the more motivated the employee is, the more satisfied employees will become success with their career. The previous claims agreed with Eze & Okeke (2019) as they suggested that librarians were provided with office furniture and professional development opportunities, low salary, a lack of decent infrastructure and ICT facilities/functional internet, and a bad organizational culture/decision-making pattern in most libraries were all dissatisfied with their positions. Consequently, this implies that a more generalized approach, concentrating on the librarian's motivation and job satisfaction, can be currently considered and implemented in designing librarians' motivation and satisfaction, such as open promotions and the same approach. Additionally, the organization's success is defined based on its people capital; when workers are furious and unsatisfied, organizations may suffer from low productivity, high staff churn, and instability due to their bad performance (Idiegbeyan-Ose et al., 2019).

Furthermore, based on the study's results, motivation and organizational diagnosis are significantly correlated, which means that the librarians' organizational diagnosis will be higher if they are more motivated. This result agrees with Currie (2018), who suggests that motivation, involvement, and commitment are highly observed when the organizational diagnosis is high. This may include helpful information about an inner experience, which a manager might utilize to improve their performance.

In addition, Job Satisfaction and Organizational Diagnosis are found to be significantly correlated, which suggests that the respondents' organizational diagnosis is more significant when they are satisfied with their jobs. This result agrees with Shaii et al. (2020) suggested that job satisfaction is a significant aspect of an organization's productivity; motivated individuals can analyze the organizational diagnostic for analysis in the workplace and help them succeed in their careers.

### Mediating Effect of Organizational Diagnosis on the Relationship between Job Satisfaction and Motivation

After establishing the Crossman (2019) procedure, a Path analysis was used to assess the mediating effect utilizing the causal stage approach for further analysis. The first stage in the mediation guidelines method is establishing a correlation between the independent variable, motivation, and the dependent variable, job satisfaction. Furthermore,



the second step was developed in this study since the independent variable, motivation has a significant relationship with the mediating variable, organizational diagnosis. Finally, the importance of the mediating variable, organizational diagnosis, to the dependent variable, job satisfaction, was used to re-establish the hypothesis in this study. Due to the importance of all three processes, only partial mediation took place. However, this is a good outcome because the mediating variable still influences the relationship between the independent and dependent variables.

The relationship between motivation and job satisfaction has been studied in the past. However, the lack of enough research studying the relationship between these two factors where organizational diagnosis acts as a mediator was the reason for this research.

The study aimed to contribute to the literature regarding potential indirect, mediating variables for the relationship between motivation and job satisfaction. The organizational diagnosis was investigated as a potential mediating construct to explain how motivation affects job satisfaction, substantial and direct solid effects were identified, which are consistent with the work of White et al. (2021) that may be useful in improving existing studies on motivation and job satisfaction. Only partial mediation took occur due to the need for all three procedures. This is a favorable finding since the mediating variable influences the independent and dependent variables' relationship (Saragih et al., 2022). Moreover, the relationship between motivation and job satisfaction has been studied before. The lack of research on relationship between these two characteristics, in which organization diagnosis acts as a mediator, served as the driving force for this work.

On the other note, the focus of this research was to better comprehend the indirect approach, mediating factors in the motivation-job satisfaction correlation. The organizational diagnosis was examined as a possible mediating concept to explain how motivation influences work satisfaction. Even though this study did not find complete mediation, significant and direct solid impacts were observed, similar to Pang and Lu's (2018) findings. They might be valuable in supplementing previous research on job satisfaction and motivation.

In addition, another study discovered a relationship between motivation, satisfaction, and organizational diagnosis. A mixed methods technique was used to personalize the measurements and offer empirical support for the proposed interrelationships. The findings suggest that job satisfaction with incentive travel is favorably connected to the three reasons. Travel for business networking and prestige benefits organizational diagnostics, whereas leisure travel has a negative impact. Through job satisfaction, all three incentives are favorably associated with organizational diagnosis (Harrison, 2020; Li et al., 2018).

As a result, it agrees with Harrison (2020) that organizational diagnosis substantially influences motivation. Furthermore, as the studies show, organizational diagnosis may help increase job satisfaction, highlighted as a critical factor in obtaining exceptional results. Competence, in particular, is a positive and partial element in job satisfaction and motivation. It follows Baron and Kenny's (1986) mediation guidelines, which stipulate that it must fulfill the three phases of function as a mediator for the third variable. The organizational diagnosis was used to uncover the link between the independent variable, motivation, and the dependent variable, job satisfaction. Although; the first test is used to evaluate whether or not there is an influence to mediate, if the effect is not statistical significance during the first step, the direct stages method analysis brings to a conclusion. Furthermore, complete mediation has been accomplished if the IV's effect on the DV becomes non-significant after the research. As a result, only partial mediation was obtained. The path analysis was significantly reduced in the last phase and remained significant, with signals unchanged.

Other parts of the IV were either direct or mediated by materials not included in the model, whereas the MV mediates a portion of the IV. Because the impact is still strong in the last phase, only partial mediation was used in this situation. According to the data, motivation strongly predicts job satisfaction and organizational diagnosis. The motivational impact of an organization's diagnosis is significant. Finally, organizational diagnosis influences motivation and job satisfaction through a mediating impact. This implies that organizational diagnosis affects motivation and job satisfaction. Research shows a high level of job satisfaction and motivation for librarians (Mauro, 2017).

## CONCLUSION

The study's findings support that organizations must constantly be reformed to adapt to external changes and maintain a competitive advantage. When a company begins a transformation process, individual employees are impacted in one of two ways: favorably or adversely. Employees might be content or unsatisfied with the company due to transformation change; however, a diagnostic model for gauging job satisfaction is created during the organizational transition. It is the fundamental and continuous change that occurs at all levels of an organization as a result of external circumstances that threaten the organization's survival (Qureshi & Hamid, 2017). Furthermore, the study showed no significant difference in Motivation, job satisfaction, and organizational diagnosis as the findings concur and affirm several the study of Harrison (2020); Li et al. (2018), which claimed that Motivation, job satisfaction, and organizational diagnosis are connected.

Based on the previous results and findings of the study, the data showed that the variables under the study are





significantly correlated. The forewent discussed data support the notion that motivation and job satisfaction are connected. On the other hand, Motivation and organizational diagnosis are apparent correlated. The results confirmed and resonated with various studies (Bethena, 2018; Qureshi & Hamid, 2017; Rozman et al., 2017; Souders, 2021; Steinhilber, 2017), which indicated that the respondents' motivation and job satisfaction are both highly observed. Furthermore, the study's findings imply that organizational diagnosis strongly affects the correlation between librarian motivation and job satisfaction. Finally, the results are supported by the theory of Dartey-Baah (2010), from which the study is anchored.

Consequently, this suggests that it is essential to understand the impact of organizational diagnosis in affecting the motivation-job satisfaction correlation. Moreover, the above assertions describe the connections among the variables in the study. Since the current study is concerned with Motivation and job satisfaction as mediated by organizational diagnosis, these assumptions are similar.

## VII. RECOMMENDATIONS

In light of the conclusions mentioned earlier, the following suggestions are given. Since it has been demonstrated that librarians are highly motivated, it is proposed that librarians keep their abilities through processes that allow them to continually maintain high levels of motivation and proper organizational diagnosis for obtaining job satisfaction. Librarians should be more driven to learn satisfactorily, especially in this millennial era, to retain a high level of job satisfaction, such as through training and seminars, promotions, and professional growth. As a result, librarians may retain and increase their desired creativity by exposing themselves to additional motives to develop their aptitudes in self-actualization and reward. Furthermore, since basic needs and safety had the lowest scores among motivation indicators, this might need improvement to increase librarians' motivation to satisfy demand by fostering more enjoyable, exciting incentives, providing a sense of security, ask them what they want.

On the other hand, the high level of organizational diagnosis indicates that the utilization of purpose, leadership, benefits, rewards, and attitudes toward change are all critical. Furthermore, they may be carried out for the rest of the organization to obtain acceptable competency. More so, the mediating effect causal steps technique used in this study revealed a strong association between organizational diagnosis and motivation, showing that the variables had a partial mediating influence. The findings support Baron and Kenny's (1986) approach, which claims that a mediator affects the outcome rather than the other way around. It has been discovered that job satisfaction influences motivation via the organizational diagnosis quality, but this effect does not reverse the direction. As a

result, only partial mediation was obtained. The regression coefficient was significantly lowered in the last phase and remained significant, with the signs unchanged. While an MV mediates some of the IV, other parts were either direct or mediated by non-model components. Because the influence is still substantial at this stage, only limited mediation was utilized in this case. Future research should account for the IV and DV's flaws, and a gap should be filled with an intervention program. Finally, future studies should focus on other qualities not included in the analysis but might minimize the association between the variables.

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# AN AWARENESS ON SOCIAL JUSTICE ACQUIRED BY POLL MANAGEMENT AND ELECTIONEERING OF TELANGANA REGION

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## ABSTRACT

*Indian society is a pluralistic society with a complex social order characterized by a multitude of ethnic, linguistic, religious, and caste divisions. It comprises people living in rural, urban, tribal setting and all sections. Although the unity in diversity, Indian society is undergone some structural problems so that various sections of the society were in exclusion. Hence, social problems arising out from social structures. Various sections of society have been demanding social justice from many years. The basic aim of social justice is to remove the imbalances in the social, political and economic life of the people to create a just society. It means dispensing justice to those to whom it has been systematically denied in the past because of an established social structure. Social justice refers to a political and philosophical theory that focuses on the concept of fairness in relations between individuals in society and equal access to wealth, opportunities, and social privileges.*

*The study was guided by research question and hypothesis. The descriptive research design was adopted for the study. There is definite universe for the study of 385 voters and definite universe for the study of 200 political party local leaders. The simple random sampling technique and convenient sampling method sample were used for voters and political party leaders respectively. The interview schedule was used for data gathering and Chi Square ( $\chi^2$ ) statistics were used for data analysis. The findings showed that there was a significant relationship between voter's behavior, leaders' poll management on acquiring social justice*

**KEYWORDS:** Social justice, Poll Management, voter's behavior, electioneering.

## 1. INTRODUCTION

Indian society is a pluralistic society with a complex social order characterized by a multitude of ethnic, linguistic, religious, and caste divisions. It comprises people living in rural, urban, tribal setting and all sections. Although the unity in diversity, Indian society is undergone some structural problems so that various sections of the society were in exclusion. Hence, social problems arising out from social structures. Various sections of society have been demanding social justice from many years. The basic aim of social justice is to remove the imbalances in the social, political and economic life of the people to create a just society. It means dispensing justice to those to whom it has been systematically denied in the past because of an established social structure. Social justice refers to a political and philosophical theory that focuses on the concept of fairness in relations between individuals in society and equal access to wealth, opportunities, and social privileges.

Social justice is generally defined as the fair and equitable distribution of power, resources, and obligations in society to all people, regardless of race or ethnicity, age, gender, ability status, sexual orientation, and religious or spiritual background (Van den Bos 2003). Fundamental principles underlying this definition include values of inclusion, collaboration, cooperation, equal access, and equal opportunity. Such values are also the foundation of a democratic and egalitarian society (Sue 2001).

The concept of social justice first arose in the 19th century during the Industrial Revolution as attempts were made to promote more egalitarian societies and reduce the

exploitation of certain marginalized groups due to the vast disparity between the rich and poor at the time. Social justice initially focused on issues such as the distribution of capital, property, and wealth due to the extreme levels of inequality and economic distress prevalent at the time, resulting from the European social class structure.

Today, social justice has shifted towards a stronger emphasis on human rights and improving the lives of disadvantaged and marginalized groups that have historically faced discrimination in society. Many of these groups have been discriminated against on the basis of factors such as sex, age, wealth, ethnicity, heritage, social status, religion, and others. Social justice often leads to efforts to redistribute wealth to some of the underprivileged groups through providing income, jobs, and education support and opportunities.

Social justice initiatives can be pursued through many different types of government programs via wealth and income redistribution, government subsidies, protected legal status in employment, and even legalized discrimination against privileged groups through fines and taxes or even through purges historically. Social justice initiatives are commonly seen in socialist and communist countries, which integrates them into their economic policies, as well as in the platforms of left-leaning political parties within democracies. The main purpose of justice is to solve the problems of inequality in society.

The significance and importance of the concept of social justice today that social justice is not a blind concept. It seeks to do justice to all the citizen of the state. A democratic





system has to ensure that the social development is in tune with democratic values and norms reflecting equality of social status and opportunities for development, social security and social welfare. The caste system acts against the roots of democracy in India. The democratic facilities like fundamental rights relating to equality, freedom of speech, expression & association, participation in the electoral process, and legislative forums are misused for maintaining caste identity. It is true that India has been an unequal society from times immemorial. There are enormous inequalities in our society which are posing serious challenges to Indian democracy. Therefore, must not show excess of imposing unnecessary legislative regulations and prohibitions, in the same way as they must not show timidity in attacking the problem of inequality by refusing the past the necessary and reasonable regulatory measures at all. Constant endeavor has to be made to sustain individual freedom and liberty and subject them to reasonable regulation and control as to achieve socio-economic justice. Social justice must be achieved by adopting necessary and reasonable measures. That, shortly stated, is the concept of social justice and its implications.

Sociologists contend that excessive income inequality restricts social mobility and leads to social segmentation and eventually social breakdown, but other social scientists counter this argument with examples of economically successful authoritarian or elitist societies. Social justice is an agenda for various political parties and their leaders in their manifestos and policies in electoral politics. Promising social justice to people/voters by political parties is a major strategy to get votes from people to achieve their electoral target (Mishra, 2018). Parties and their leaders followed modern election management methods during the elections as part of poll management.

## 2. OBJECTIVES OF THE STUDY

- To understand the socio-economic and political background of the respondents.
- To highlight the factors responsible to drive the opinion makers and voters as well.
- To describe role of ideology, media and peer group on voting patterns and opinion making.
- To dwell deeper into the patterns and strategies of poll management designed by the leaders.

## 3. HYPOTHESIS

H<sub>1</sub>: There is no significant relation between social status and voters' opinion of political parties' social justice

H<sub>2</sub>: There is no significant relation between social status and voter understanding of political leaders' poll management on social justice

## 4. METHODOLOGY

The quantitative method was opted for in the study, guided by research questions and hypotheses. The descriptive

research design was used for the study. Political party leaders and voters. The simple random sampling technique and convenient sampling method sample voters and political party leaders respectively. The interview schedule was used for data gathering, and Chi Square ( $\chi^2$ ) statistics were used for data analysis.

## 5. SAMPLING DESIGN

Out of 13 assembly segments of selected erstwhile Karimnagar district in Telangana State, five (5) assembly constituencies namely Choppadandi, Husnabad, Jagtial, Peddapalli, and Sircilla were selected. Thus, the definite universe constitutes 10,10,697 voters and the sample size was 385 determined by following the method developed by Krejcie and Morgan (1970), and thereby, from each selected assembly constituency, 77 voters were also chosen as the sample respondents by following the simple random sampling method. Since there is no definite universe for the leaders who are affiliated with various political parties, the study followed a 'convenient sampling method' in selecting 200 political leaders from the selected five assembly segments, so that the study tried to reconcile the views, opinions, and strategies of poll management and electioneering in the study area.

## 6. STATISTICAL DESIGN

The current study was based on an interview schedule and a statistical tool known as SPSS latest edition simple frequency tables.

## 7. GEOGRAPHICAL AREA

Erstwhile Karimnagar district is the cradle of movements. Any election here is prestigious and important for all parties. There are instances in the past history where the voters here gave a unique verdict in every election and supported all the leaders.

The newly formed Telangana State consists of 119 assembly constituencies. Erstwhile Karimnagar district have 13 assembly constituencies. From that only five constituencies were selected for research. The criteria for selection of this erstwhile Karimnagar district are unique political history. Political leaders, intellectuals and people have awareness on social justice. In the erstwhile Karimnagar district had experience many social movements such as Farmer revolution, Subaltern movements, Naxalbari movement and Telangana statehood movement. In erstwhile Karimnagar district, caste plays a significant role in breaking the hegemonic politics by democratic electioneering. Therefore, this study provides an opportunity that the social justice awareness of leaders and voters. Researcher have studied about Poll management by leaders and Voting patterns of voters in this research. It is useful to assess the idea of social justice patterns and people aspiration.



## 8. RESULTS

**Table 1.1 Awareness on Idea of Social Justice**

S.No	Idea of social justice	Leader		Voter	
		Frequency	Percent	Frequency	Percent
1	Yes	197	98.5	385	100.0
2	No	3	1.5	-	-
	Total	200	100.0	385	100.0

The distribution of leader respondents by the idea of social justice is shown in the above table. According to the data, 197 (98.5%) of the respondents have idea on social justice, while 3

(1.5%) of the respondents have not idea. In terms of the voters, 385 (100%) of the respondents have idea on social justice.

**Table 1.2 Awareness on social justice through various associations**

S.No	Associations	Leader			Voter		
		Yes	No	Total	Yes	No	Total
		F%	F%	F%	F%	F%	F%
1	Political parties	181(90.5%)	19(9.5%)	200(100%)	129(33.5%)	256(66.5%)	385(100%)
2	Student associations	40(20%)	160(80%)	200(100%)	122(31.7%)	263(68.3%)	385(100%)
3	Caste associations	68(34%)	132(66%)	200(100%)	143(37.1%)	242(62.9%)	385(100%)
4	Women associations	13(6.5%)	187(93.5%)	200(100%)	22(5.7%)	363(94.3%)	385(100%)
5	Labour associations	5(2.5%)	195(97.5%)	200(100%)	14(3.6%)	371(96.4%)	385(100%)
6	Farmer associations	10(5%)	190(95%)	200(100%)	17(4.4%)	368(95.6%)	385(100%)
7	Trade unions	6(3%)	194(97%)	200(100%)	14(3.6%)	371(96.4%)	385(100%)
8	Others	16(8%)	184(92%)	200(100%)	147(38.2%)	238(61.8%)	385(100%)

The accompanying table depicts the distribution of leader respondents' awareness of social justice through various associations. According to the data, 181 (90.5%) of the leading responders acquired awareness of social justice through political parties. A sizable proportion of respondents 68 (34%) acquired awareness through caste associations. There were considerable size respondents 40(20%) acquired awareness through student associations of the total. Respondents 13 (6.5%) and 10 (5%) were from women associations and farmer associations respectively. Almost equal size respondents 6 (3%) and 5 (2.5%) were trade unions

and labour associations respectively. Only 16(8%) were other associations.

In terms of voter background, the majority of the responders 143(37.1%) acquired awareness of social justice through caste associations. Almost equal size respondents 129(33.5%) and 122(31.7%) acquired awareness through political parties and student associations respectively. There were considerable size respondents 22(5.7%) and 17(4.4%) acquired awareness through women associations and farmer associations respectively. At the end, equal size respondents 14(3.6%) and 14(3.6%) acquired awareness through trade unions and labour associations respectively.


**Table 1.3 Leaders' understanding on social justice**

S.No	Leaders' understanding on social justice	Yes		No		Total	
		Count	%	Count	%	Count	%
1	Equal Distribution	16	8.0	184	92.0	200	100
2	Equal opportunity	13	6.5	187	93.5	200	100
3	Equal justice to all castes	62	31.0	138	69.0	200	100
4	Economic empowerment	49	24.5	151	75.5	200	100
5	Proportional Representation	42	21.0	158	79.0	200	100
6	Caste Empowerment	11	5.5	189	94.5	200	100
7	Welfare	2	1.0	198	99.0	200	100
8	Equality	8	4.0	192	96.0	200	100
9	Adequate Representation	14	7.0	186	93.0	200	100

The accompanying table depicts the distribution of leader respondents according to the definition on social justice. According to the data, 62 (99%) of the leading respondents defined social justice as equal justice to all castes. Almost equal size respondents 49 (24.5%) and 42 (21%) defined social justice as economic empowerment and proportional representation respectively. As many as, respondents 16 (8%)

defined social justice as equal distribution. Almost equal size respondents 14 (7%), 13 (6.5%) and 11 (5.5%) defined social justice as adequate representation, equal opportunity and caste empowerment respectively. A considerable portion of respondents 8 (4%) defined social justice as equality. At the end, only two respondents (1%) defined social justice as welfare.

**Table 1.4 Voters' understanding on social justice**

S.No	Voters' understanding on social justice	Yes		No		Total	
		F	%	F	%	F	%
1	Equal Distribution	6	1.6%	379	98.4%	385	100%
2	Proper reservations	6	1.6%	379	98.4%	385	100%
3	Equal opportunities	87	22.6%	298	77.4%	385	100%
4	Justice to all castes	41	10.6%	344	89.4%	385	100%
5	Elimination of poverty	18	4.7%	367	95.3%	385	100%
6	Economic empowerment	144	37.4%	241	62.6%	385	100%
7	Proportional political representation	62	16.1%	323	83.9%	385	100%
8	Equal pay for equal work	10	2.6%	375	97.4%	385	100%
9	Caste empowerment	19	4.9%	366	95.1%	385	100%
10	Welfare	15	3.9%	370	96.1%	385	100%
11	Equality	47	12.2%	338	87.8%	385	100%
12	Adequate representation	32	8.3%	353	91.7%	385	100%

The accompanying table depicts the distribution of leader respondents according to the definition on social justice. According to the data, 144 (37.4%) of the leading respondents defined social justice as economic empowerment. As many as, respondents 87 (22.6%) defined social justice as equal opportunity. A considerable portion of respondents 62 (16.1%) defined social justice as proportional representation. Almost equal size respondents 47 (12.2%) and 41 (10.6%) defined social justice as equality and justice to all castes respectively. A significant portion of respondents 32 (8.3%) defined social justice as adequate representation. Almost equal size respondents 19 (4.9%) 18 (4.7%) and 15 (3.9%) defined social justice as caste empowerment, poverty elimination and welfare respectively. A considerable portion of respondents 10

(2.6%) defined social justice as equal pay for equal work. In the end, equal-size respondents 6 (1.6%) and 6 (1.6%) defined social justice as equal distribution and reservation respectively. As many as, respondents 16 (8%) defined social justice as equal distribution. Almost equal size respondents 14 (7%), 13 (6.5%) and 11 (5.5%) defined social justice as adequate representation, equal opportunity and caste empowerment respectively. A considerable portion of respondents 8 (4%) defined social justice as equality. At the end, only two respondents (1%) defined social justice as welfare.

**H<sub>1</sub>: There is no significant relation between social status and voters' opinion of political parties' social justice.**



Table 1.5

			Social status of caste -Category					Total
			BC	OC	SC	ST	Minority	
Voters' opinion on Political parties promised social justice according to their ideologies	Agree	F	170	15	67	31	15	298
		%	73.5%	75%	83.8%	79.5%	100%	77.4%
	Agree to some extent	F	21	0	4	6	0	31
		%	9.09%	0.0%	5.0%	15.4%	0.0%	8.1%
	Disagree	F	40	5	9	2	0	56
		%	17.3%	25%	11.3%	5.1%	0.0%	14.5%
Total		F	231	20	80	39	15	385
		%	100%	100%	100%	100%	100%	100%

Chi-square( $X^2$ ) value =24.661<sup>a</sup> df = 14 P (Sig)= 0.038

Above the table shows that voter opinion on political parties promised social justice according to their ideologies, according to Karl Pearson chi-square test at degree of freedom is 14, whereas calculated Chi-square ( $X^2$ ) value=24.661 and the calculated significance value is 0.038<0.05(when p=0.05), Which is lesser than p value. This represents variables social status of caste -Category and Voter opinion on Political parties promised social justice according to their ideologies are

significantly related and statistically dependent. Hence, the null hypothesis(H<sub>2</sub>) is rejected and alternate hypothesis (H<sub>a</sub>) is accepted. Chi-square test value indicates that the relationship between variables is statistically dependent.

**H<sub>2</sub>: There is no significant relation between social status and voter understanding of political leaders' poll management on social justice.**

Table 1.6

			Social status of caste -Category					Total
			BC	OC	SC	ST	Minority	
Voter understanding of political leaders' poll management on social justice	Agree	F	105	10	37	19	0	171
		%	45.4%	50%	46.3%	48.7%	0%	44.4%
	Agree to some extent	F	45	3	14	14	0	76
		%	19.4%	15%	17.5%	35.9%	0%	19.7%
	Disagree	F	81	7	29	6	15	138
		%	35%	35%	36.3%	15.4%	100%	35.8%
Total		F	231	20	80	39	15	385
		%	100%	100%	100%	100%	100%	100%

Chi-square( $X^2$ ) value =40.621<sup>a</sup> df = 14 P (Sig)= 0.000

Above the table shows that voter opinion on political parties promised social justice according to their ideologies, according to Karl Pearson chi-square test at degree of freedom is 14, whereas calculated Chi-square ( $X^2$ ) value=40.621 and the calculated significance value is 0.00<0.05(when p=0.05), Which is lesser than p value. This represents variables categories and voter understanding of political leaders' poll management on social justice were significantly related and statistically dependent. Hence, the null hypothesis(H<sub>2</sub>) is rejected and alternate hypothesis (H<sub>a</sub>) is accepted. Chi-square test value indicates that the relationship between variables is statistically dependent.

## 9. SUGGESTIONS

1. Voters acknowledged that social justice practices have also implemented post elections.
2. The poll management and electioneering strategies are working effectively on the respondents who are poor, helpless, socially excluded, and less empowered.

3. The poll management and electioneering strategies shouldn't be factual hindrances in achieving actual social justice, individual empowerment, and societal development

## 10. CONCLUSION

The study conducted in five assembly segments of erstwhile Karimnagar in Telangana state. The research conducted with basic aim of studying awareness of social justice of voters as well as political party leaders. Many visits of research field, researcher studied socio economic conditions of respondents. Social justice understanding vary from one to another due to diversified socio-cultural backgrounds and income patterns. Political leaders, intellectuals and people have awareness on social justice. In the erstwhile Karimnagar district had experience many social movements such as Farmer revolution, Subaltern movements, Naxalbari movement and Telangana statehood movement. Respondents' affiliation with various associations were studied. Association played crucial role to aware people on social justice idea. Association gave various interpretations on social justice.



Political parties did poll management on social justice promises such welfare, pensions, subsidies, incentives to caste professions, community benefits, nominated posts to castes, and proportional representation in local bodies. This study is useful to assess the idea of social justice patterns and people aspiration.

### 11. FURTHER RESEARCH.

The further studies on social justice should be measured to know the development of that constituency and people decision making on present political parties.

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## EXPLORING THE CONTEMPORARY ISSUE OF CHILD LABOUR IN ‘THE CRY OF THE CHILDREN’

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### ABSTRACT

*The Cry of the Children is one of the important poem published in Blackwood Magazine in 1842 by Elizabeth Barret Browning, it is concerned with the contemporary issue of child labour. Victorian age is regarded as ‘the golden age’ of England. Besides the technological innovations and Industrial Revolution, class system remains one of the important Characteristic of Victorian England.*

**KEYWORDS:** *Victorian age, Class system, Industrial Revolution, Child labour*

### INTRODUCTION

Victorian age (1820-1914) is known for the rise in technology such as spinning wheel which revolutionised the textile industry, steam engines and railways which eventually led to Industrial Revolution, characterised by mass production as well as consumption. As the demand for the goods increased, so did the demand for the labourers. Class system existed during that time namely upper class who were the Industrialists who owned the means of production, middle class were the officers and lower class consists of labourers including children. Even after education was made compulsory through the Education act of 1870, children working in coal mines and mills were deprived not only from education but also from their childhood. The poor ventilation in mines caused respiratory problems which resulted in the poor health condition. Due to invention of Railways, some of the children were engaged as rail road workers. Elizabeth Browning highlights this miserable condition of children using ballad style in the poem. Education and a good health system were needed for children during those times, but it was limited only to the upper class and middle class to some extent.

In the opening paragraph, she addresses the people as ‘brothers’ and questions them if they are able to hear to the weeping of children who are engaged as laborers in mines and mills as they lean their heads against their mother’s. The poetess has used the natural elements like lambs, young birds, fawns and flowers in the poem to depict the nature in contrast to industrial advancements taken place during the period. Furthermore, she questions the people for not caring the crying children as they are running out of time to ask so. One can get to know why the old man, old tree, old year, or old wound cry but the reason why young one’s cry is hard to find. Technical innovations had affected the children working in mines negatively that major ill-effects upon their health are evident in the poem, because they are usually weak and tired. Long term exposure to hazardous materials have proven to be fatal even in the present times. It is ironical that death is considered to be blessing just because it would end the sufferings for the children. As mentioned in the poem, a girl named Alice has died prematurely, thus ending all of her

sufferings. Along with adverse physical health effects, labourers in those times also had suffered mentally as well. Working class during that era had to engage in long working hours from 12 to 14 hours per day which affected them psychologically. Even today, the area close to any factory or mine is not that pleasant as it is usually near the residential settlements or schools. The same can be clearly seen when the writer asks the children to stay away from mines and enjoy the nature by plucking flowers and singing, but children working there are psychologically drained that they are unable to do so due to unpleasant surrounding and escape the reality. This can be interpreted in two ways first being they are used to work and second, because no one even cares to help them out. The writer has depicted the miserable plight of young ones by asserting their physical as well as psychological state of mind when these children trembled during the work and their eyes are red because of insufficient sleep. Not only adults but even small children had to work for their survival. Children praying to the machines and instruments to stop for a while so that they can rest for some time. This shows their mental state during their work. Labourers working for hours would get low wages as compared to their work. Most of their hours were spent in the factories and mills, creating a lot of noise that they won’t be able to communicate between themselves, no one could notice the children crying so they believe that their prayers won’t reach God by cause of such noise. Losing faith is also visible in the poem when God is metaphorically referred as “dumb like a stone”. The prayers made to God are questioned by the working children, their assumptions conclude losing of hope for a better living in future.

The Great Exhibition of 1881 at crystal palace symbolised the prosperity of England but the underlying conditions of labour class and working children in particular were ignored. As a coin has two sides, in the same way it is seen during the contemporary period that along with the advancements, conditions of labourers were worsened. To meet the desired demand, more production of goods within less time has to be done. Trade unions were formed to counter the exploitation of labourers. Measures to improve the conditions of labourers was noticeable from the passing of



Factory Act in 1833, which stated 48 hours per week as working hours for 9 to 13 age group and 12 hours per day for 13 to 18. Victorian era broke the love for the nature element which existed in romantic period, and shifted to materialist and urban mindset.

## CONCLUSION

During the Victorian period, England was developing at a great pace but the conditions of labour class and working children was no less miserable than those of slaves. Slavery Abolition act was passed in 1833, only the children below the age group of six were exempted. Some children worked as slaves and some of them worked in mines and mills to counter their weak financial condition. Elizabeth Browning has perfectly depicted the condition of child labours in her poem.

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# EFFECTIVENESS OF MODULAR APPROACH IN TEACHING TECHNICAL WRITING AMONG SECOND YEAR CRIMINOLOGY STUDENTS OF ISU

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## ABSTRACT

*The researcher used a two-group Pre-test/ Post-Test Quasi-experimental Design to determine the perceived effectiveness of modular approach in teaching Technical Writing among Second year Bachelor of Science in Criminology students of Isabela State University- Cauayan, specifically, it sought to determine the profile of the respondents in terms of age, sex, and type of school graduated from; the academic performance of the students in Technical Writing; the significant difference in the academic performance of the students in the two groups and the reactions of the students on the use of the module in terms of content, organization, label, presentation of concepts, and exercises.*

*The results show that most of the respondents of the study (70 or 83.3%) were aged 17-18; most of them were 52 (61.9%) males and most of them 83 (98.8%) graduated in a public school; and there is a significant difference between the pre-test and post-test achievement scores of students and the students' who were taught without module got a higher pre-test mean score than that of the students with module. The students with module (experimental group) got a higher post-test mean score than that of the students without module (control group), thus implies that the use of learning modules enhanced the learning of the students and that modular instruction is better than the traditional method of teaching and there is no significant difference between the scores of with module (experimental group) and without module (control group) students thus affirms that the effectiveness of the modular instructional materials cannot be totally attributed to the module; however, when tested, it manifested a significantly different performance among those students and that the use of module is as effective as the usual traditional lecture discussion method.*

*The result also shows that the students perceived that the use of the Technical Writing Module is said to be very effective as it with regards to content, organization, label, presentation of concepts, and exercises and that instructional modules are primary vehicles for delivering content knowledge to students.*

*Based on the findings, it was concluded that aside from the module itself, there are other factors like the teacher factor, and the groupings of the students that could contribute to the high performance of students in Technical Report Writing, instructional modules are primary vehicles for delivering content knowledge to students and the use of instructional modules greatly enhance learning.*

**KEYWORDS:** *module, student achievement, writing, profile*

## INTRODUCTION

The importance of Instructional Materials in any teaching and learning process cannot be over emphasized. This is for the fact that such materials enhance, facilitate and make teaching and learning easy, lively and concrete. Instructional Materials as the name suggests, are materials of visual, audio and audio - visual category that helps to make concepts abstracts and ideas concrete in the teaching/learning process. They are also materials which the teacher uses in supplementing his teachings. Instructional Materials include materials used to facilitate learning for better results; likewise, it is the use of the chalkboard, manuals, books, charts, models, overhead projectors, films, television and computers in teaching process. In order to ensure an effective teaching learning process, it is important for the teacher to be thoroughly acquainted with the teaching resources and services available to him. The components of instructional materials available to teachers and

students are in large numbers and also vary according to the functions of each of them.

English plays a vital role in the academic performance of the students. As an international language, it is a "must-learn" language. To be globally competitive, to amount something in one's profession, to meet the demands and survive the pressures of college, one must learn to speak and write Standard English adequately. In this age of information and globalization, students are exposed to a rapid advancement in every aspect of life. There is a great demand to develop learning and thinking skills to enable us to cope with, change. Unfortunately, students' communication skills have been steadily deteriorating. Thus, when students get into college, their language deficiencies make coping a very difficult task.

Student's ability to express themselves in English is one of the most important skills. Their ability to express, with the use of appropriate words, styles, can provide self-confidence





and can contribute to the success in all areas where communication is a must. Here, in many varied situations, students give away a part of themselves on the bases of how they speak and how they write. However, writing is one of the difficult skills for many students. They would rather speak than write thinking that it has a lot of considerations and would need a lot of readings before they could write. (Wilczynski, 2009) College instructors, particularly those teaching English are aware of this fact. They recognize that the serious inability of students to read with comprehension and to express themselves orally and in writing, as well as their insufficient vocabulary, is, indeed a critical cause for concern. Willoughby (2000) mentioned that innovation in teaching of English is needed because the world is changing. An English teacher plays an important role in the innovation of teaching English. As classroom managers, they are the ones in-charge in the selection and the use of instructional materials which they think will help them achieve the desire instructional goals. In recent years; administrators in different institutions have focused their attention in their performance of the schools. They aimed to quality education by giving quality instruction to produce quality and competent graduates for them to be globally recognized.

The same vision is shared by the Isabela State University Cauayan Campus. As a growing University, they face the challenge of delivering quality education to their students. That is why there is a great effort to improve students' skills. There are many factors that affect the performance of the students. One of these is the use of instructional materials like modules in teaching English. Today, people are expecting so much from the graduates of Criminology in terms of theories and practices and techniques which they learned from when they are in school. However, often times Criminology Interns assigned to write are not prepared.

Aware of the academic performance of the students in Technical Writing, the researcher was motivated to develop

module in English particularly Technical Writing for Criminology and the target group are the 2nd year BS Criminology students. This was another attempt to try innovative approaches/strategies in teaching English using the modular form of teaching, for it believed that the modular approach is very effective in optimizing learning English. This approach allows students to understand concepts, principles and procedures. This may help to improve the teaching competencies of the faculty and to come up within Enhancement program to the student's needs.

The study entitled "Effectiveness of Modular Approach in Teaching Technical Writing among Second Year Criminology Students of ISU" aimed to determine the perceived effectiveness of modular approach in teaching Technical Writing among Second year Bachelor of Science in Criminology students of Isabela State University- Cauayan.

Specifically, it sought to answer the following questions:

1. What is the profile of the respondents in terms of:
  - 1.1 Age
  - 1.2 Sex
  - 1.3 Type of School Graduated
2. What is the academic performance of the students in Technical Writing in the experimental and control groups before and after the use of the instructional module?
3. Is there a significant difference in the academic performance of the students in the two groups before and after the use of the instructional module?
4. What are the reactions of the students on the use of the module in terms of:
  - a. Content
  - b. Organization
  - c. Label
  - d. Presentation of concepts
  - e. Exercises

## Conceptual Framework

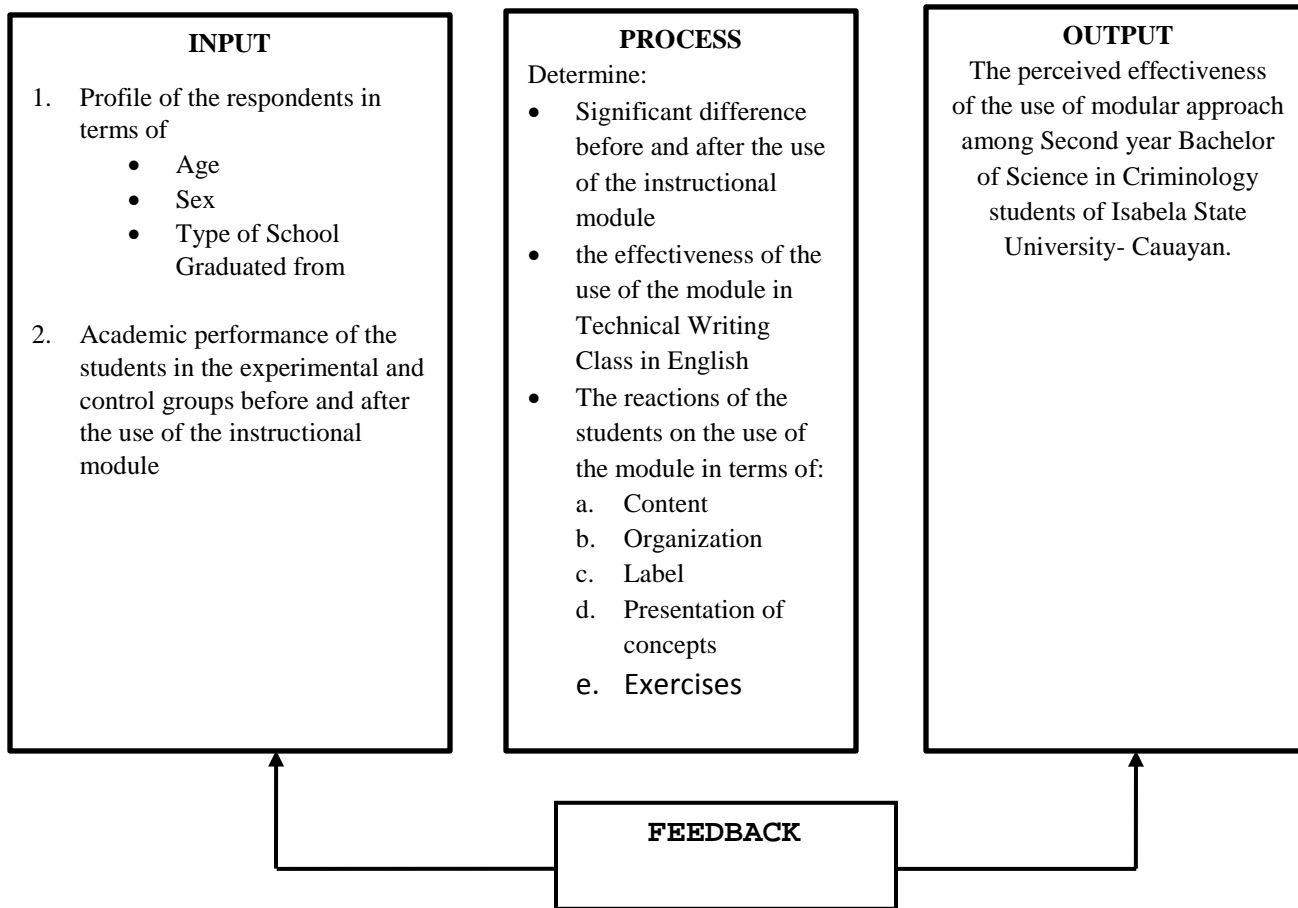


Figure 1.0 Paradigm of the Study

This research makes use of the systems analysis of input- process- output process. The *input* includes the profile of the students in terms of their age, sex, and type of school graduated from, their academic performance in the experimental and control groups before and after the use of the instructional module. The *Process* covers determining if there is a significant difference before and after the use of the instructional module, the reactions of the students on the use of the module in terms of content, organization, label, presentation of concepts, exercises and the use of module in the academic performance of the students in the experimental group. The output shows the perceived effectiveness of modular approach in teaching Technical Writing.

## RESEARCH METHODOLOGY

### Research Design

To determine the effectiveness of the utilization of personalized modules and to be able to make comparisons

between the use of traditional lecture-discussion and modular instruction as methods of teaching to the Criminology students of Isabela State University- Cauayan, the researcher used a two-group Pre- test/ Post- Test Quasi- experimental Design.

### Respondents of the study

The respondents of the study were the Criminology students of Isabela State University – Cauayan Campus particularly the two identified second year sections who were enrolled in English 15 - Technical Writing during the First Semester of S.Y. 2016-2017.

Both groups were homogeneously grouped upon enrolment. The BS Criminology 2-2 section which is composed of 50 students was identified as the experimental group which was exposed to modular instructions. The other section or the BS Criminology 2-1 composed of 50 students also, was identified as the control group and they were exposed to the traditional method of teaching Technical Report Writing.



### Data Gathering Tools

The researcher used reliable tools and valid instruments to elicit the expected accurate data for the study, namely: interview, module, and pre-post-test:

1. Interview. The researcher conducted interviews with the different English Instructors to elicit comments and suggestions for the revision and improvement of the modules to be used.
2. Modules. The modules were formulated by the researcher. Each module was patterned from the course syllabus prescribed for English 15: Technical Report Writing. This was checked and evaluated by the English specialist of ISU-Cauayan. Proper changes and necessary revisions were made after careful checking by the English specialist. Comments and suggestions of the other English specialists were also considered in the finalization of the modules. Try-outs of the modules were made to those who had taken Technical Report Writing subject but were not part of the respondent group.
3. Pre-test and post-test. The pre-test and post-test were the main instruments used in order to determine the effectiveness of the modules which served as the basis in comparing the performance levels of the respondent students using the two different methods in teaching Technical report Writing. The pre-tests and post-tests were presented to all English Instructors in ISU-Cauayan to get valuable comments and suggestions to improve these. The contents of the pre-tests and post-tests were also based on the topics in the course syllabus.
4. Questionnaire. To determine the perception of the students in the use of modules in learning Technical Writing in terms of content, organization, label, presentation of concepts and exercises, the researcher adopted and revised the instrument used by Cabrera (2010). The instrument was divided into six categories: the first category was composed of five questions evaluating the material in terms of its content; the second division contained four questions, which determined the organization of learning experiences of the module; the third division was composed of three questions about the label; the fourth division contains five questions about the presentation of concepts; the last part was composed of four questions which evaluated the material in terms of the exercises. The questionnaire was floated to the students when they finished the contents of a module.

The items were answered by the respondent-subjects using a numerical scale from 1 to 5 where 5 has the highest qualitative description as follows:

- 1 Strongly Disagree
- 2 Disagree
- 3 Somehow Agree
- 4 Agree
- 5 Strongly Agree

### Data Gathering Procedures

The researcher used the course syllabus, books, and other related references in the construction and development of a module. The construction of the module was done from July to August, 2016. The first draft or the initial draft was presented to the English instructors of ISU-Cauayan for further critiquing and for comments and suggestions. The same process was also done in the construction of the pre-test and post-test. The revisions in the construction of pre-test and post-test was made based from the comments and suggestions of the English instructors. Both experimental and control groups took the pre-test and post-test of each module. Results were evaluated, analyzed, and thus was compared.

Since the second year BS Criminology respondents were composed of four sections grouped in two both of homogeneous groups, these were grouped into an experimental class and a control class. Two sections served as experimental group and the other as control group. The researcher taught the same subject with the use of the same books, the same references, and classes were in the same room and at different time schedules. Instructional methods differed in the approach to be used.

The researcher administered the post-test after exposing all the topics included in the module to the experimental group and also after using traditional methods of teaching to the control group.

### Statistical Treatment of Data

The data gathered were tabulated, computed, and analyzed using the statistical tools below:

Descriptive statistics (simple frequency count and percentage) was used to describe the profile of the students in terms of their age, sex and school graduated from. T-test was used to compare the pre-test and post-test mean scores of the subjects under the experimental and control group

For further understanding of the data, the Likert scale below was used in interpreting the results of the students' reaction on the use of module and traditional lecture-discussion as methods in teaching Technical Writing.



Scale	Interval	Descriptive Interpretation
1	1.00 – 1.80	Strongly Disagree
2	1.81 – 2.60	Disagree
3	2.61 – 3.40	Undecided
4	3.41 – 4.20	Agree
5	4.21 – 5.00	Strongly Agree

Furthermore, the following arbitrary boundaries were used in interpreting the pre-test and post –test performance of the experimental and control group.

Score	Description
33-40	Outstanding
25- 32	Very Satisfactory
17- 24	Satisfactory
9-16	Good
1-8	Poor

## RESULTS AND DISCUSSION

This chapter presents the analysis and interpretation of data gathered through the use of questionnaires and the pre-test

and post-test which were answered by the respondents of the study.

Table 1 shows the frequency and mean distribution of the respondents in terms of age.

**Table 1. Age of the Respondents**

Age	Frequency	Mean
<b>17- 18</b>	70	83.3
<b>19- 20</b>	8	9.5
<b>21 and above</b>	6	7.2
<b>Total</b>	84	100.0

Table 1 shows that out of 84 respondents of the study, 70 (83.3%) were aged 17-18; 8 (9.5%) were aged 19-20; and 6 (7.3%) were aged 21 and above.

**Table 2. Sex of the Respondents**

Sex	Frequency	Mean
<b>Male</b>	52	61.9
<b>Female</b>	32	38.1
<b>Total</b>	84	100.0

Table 2 above shows that out of 84 respondents of the study, 52 (61.9%) were male and 32 (38.1%) were female.

**Table 3. Type of School Graduated**

Type of School Graduated from	Frequency	Mean
Private	1	1.2
Public	83	98.8
<b>Total</b>	<b>84</b>	<b>100.0</b>



Table 3 shows that out of 84 respondents of the study, 1 (1.2%) graduated in a private school while 83 (98.8%) graduated in a public school.

**Table 4. Academic Performance of the Students in Technical Writing in the Experimental and Control Groups Before and After the Use of the Instructional Module**

Group		Mean	DI	SD	df	t -value	p-value	Interpretation
Without Module	Before	20.0	S	3.24	37	16.65	0.00	Significant
	After	32.4	VS	3.13				
With Module	Before	14.4	G	2.87	47	43.48	0.00	Significant
	After	33.6	O	2.72				
t- value		1.84		Not Significant				
p- value		0.07						
O- Outstanding		VS- Very Satisfactory		S- Satisfactory		G- Good		

Table 4 shows the pre- test achievement mean scores of student respondents. The table above shows that the students who were taught without module had a pre- test mean score of 20.0 with a descriptive interpretation of *Satisfactory*; while the students who were taught with module had a pre- test mean score of 14.4 with a descriptive interpretation of *Good*.

This shows that the students without module got a higher pre-test mean score than that of the students with module.

The table shows the post- test achievement mean scores of students. The table shows that the students who were taught without module had a post- test mean score of 32.4 with a descriptive interpretation of *Very Satisfactory*; while the students who were taught with module had a post- test mean score of 33.6 with a descriptive interpretation of *Outstanding*.

This shows that the students with module got a higher post- test mean score than that of the students without module.

On Batulan's (2000) study, he stated that the use of learning modules enhanced the learning of the students and that modular instruction is better than the traditional method of

teaching; but the result also shows that there is no significant difference between the scores of the with module (experimental group) and without module (control group) students; thus it affirmed the study of Malana (2000) that the effectiveness of the modular instructional materials cannot be totally attributed to the module. It might be that the experimental group is better than the control group even if the sectioning was done heterogeneously.

The result also acknowledged the study of Ballesteros (2003) that the use of the modularized instruction somehow improved and enhanced the performance of the students exposed to this strategy. However, when tested, it manifested a significantly different performance among those students and that the use of module is as effective as the usual traditional lecture discussion method.

The result also shows that there is a significant difference between the pre-test and post-test scores of students thus rejecting the null hypothesis.

**Table 5. Student's Response in their Reactions regarding the use of the Module in Technical Writing**

A. Content	Mean	Interpretation
The content invites the interest of the learners.	4.83	Strongly Agree
The contents are suited on the learning abilities of the students.	4.75	Strongly Agree
The content stimulates the students to gain confidence in attaining high level of learning.	4.82	Strongly Agree
The contents are properly planned by the lecturer to come out with more comprehensive learning packages.	4.83	Strongly Agree
5. The topics are easily understood because the procedures are clear.	4.73	Strongly Agree
<b>Category Mean</b>	<b>4.79</b>	<b>Strongly Agree</b>
<b>B. Organization</b>		
The module furnished more comprehensive sets of learning activities enabling the students to deal with problems and become more responsible.	4.72	Strongly Agree
Each exercise is organized in a manner wherein there are connections between what the students are learning and what will learn.	4.82	Strongly Agree
The exercises are planned in an orderly sequence.	4.72	Strongly Agree



Each exercise is interrelated with other exercises.	4.59	Strongly agree
<b>Category Mean</b>	<b>4.71</b>	<b>Strongly Agree</b>
<b>C. Presentation of Concepts</b>		
Using the module, procedures are easy to follow.	4.78	Strongly agree
The language used in the module is suited for the college students.	4.81	Strongly agree
The module encourages understanding and retention of information.	4.84	Strongly agree
The module prepares the students for actual learning activities.	4.85	Strongly agree
The exposure to the module enables the students during the actual performance of various learning activities.	4.74	Strongly agree
<b>Category Mean</b>	<b>4.80</b>	<b>Strongly Agree</b>
<b>D. Label</b>		
The text used is appropriate to the students.	4.80	Strongly agree
The font style and size is clear and readable.	4.83	Strongly agree
The design is attractive and catchy.	4.65	Strongly agree
<b>Category Mean</b>	<b>4.76</b>	<b>Strongly Agree</b>
<b>E. Exercises</b>		
The content of each exercise are arranged in proper sequence.	4.79	Strongly agree
Each exercise given contains systematized knowledge and facts that were collected from various references.	4.75	Strongly agree
Each exercise used in the module was based on what has been learned in related subjects.	4.79	Strongly agree
The exercises stimulate and provoke the students to attaining high level of learning.	4.83	Strongly agree
<b>Category Mean</b>	<b>4.79</b>	<b>Strongly Agree</b>
<b>Grand Mean</b>	<b>4.77</b>	<b>Strongly Agree</b>

Analysis shows that majority of the respondents answered Strongly Agree on the statements regarding the contents of the Technical Writing module with an overall mean of 4.79.

Majority of the respondents answered Strongly Agree on the statements regarding the organization of the Technical Writing module with an overall mean of 4.71.

Majority of the respondents answered Strongly Agree on the statements regarding the label of the Technical Writing module with an overall mean of 4.76.

The respondents also answered Strongly Agree on the statements regarding the presentation of concepts of the Technical Writing module with an overall mean of 4.80.

Most of the respondents answered Strongly Agree on the statements regarding the exercises given in the Technical Writing module with an overall mean of 4.79.

The grand mean of 4.79 with a descriptive interpretation of Strongly Agree also shows that the students

who used the Technical Writing Module affirmed that the module used in the experimental group is perceived to be very effective as it is positively helpful and useful with regards to content, organization, label, presentation of concepts, and exercises.

The result also confirmed Oakes and Saunders' (2000) study that textbooks and other materials like instructional module are primary vehicles for delivering content knowledge to students; as such textbooks and curriculum materials, in large part, determine what students do and not to learn thus they insisted that student's access to content knowledge requires more than specified instructional program and skillful teacher.

## DISCUSSION OF RESULTS

Based on the analysis done, the following are the findings:



The results show that most of the respondents of the study (70 or 83.3%) were aged 17-18; most of them were 52 (61.9%) males and most of them 83 (98.8%) graduated in a public school.

Results also showed that there is a significant difference between the pre- test and post-test achievement scores of students and the students' who were taught without module got a higher pre- test mean score than that of the students with module.

The students with module (experimental group) got a higher post- test mean score than that of the students without module (control group), thus implies that the use of learning modules enhanced the learning of the students and that modular instruction is better than the traditional method of teaching.

There is no significant difference between the scores of with module (experimental group) and without module (control group) students thus affirms that the effectiveness of the modular instructional materials cannot be totally attributed to the module (Malana, 2000); and it also confirms that that the use of the modularized instruction somehow improved and enhanced the performance of the students exposed to this among strategy. However, when tested, it manifested a significantly different performance among those students and that the use of module is as effective as the usual traditional lecture discussion method (Ballesteros, 2003).

The result also shows that the students perceived that the use of the Technical Writing Module is said to be very effective as it with regards to content, organization, label, presentation of concepts, and exercises that affirms the study of Oakes and Saunders (2000) instructional modules are primary vehicles for delivering content knowledge to students.

## CONCLUSIONS

Based on the findings, the following conclusions were drawn:

1. Aside from the module itself, there are other factors (like the teacher factor, and the groupings) that could contribute to the high performance of students in Technical Report Writing.
2. Instructional modules are primary vehicles for delivering content knowledge to students.
3. The use of instructional modules greatly enhance learning.

## Recommendations

From the foregoing conclusions, the following are recommended:

1. For the teachers. In order to ensure an effective teaching learning process, it is important for the teacher to be thoroughly acquainted with the teaching resources and services available to him.
2. For the students. Teaching materials can support student learning and increase student success thus the

teaching materials should be tailored to the content in which they're being used, to the students in whose class they are being used, and to the teacher.

3. For curriculum planners. Teaching materials support student's learning, thus instructional modules are an important feature of any university course; thus it should be made available.
4. For future researchers. Studies on the use of modular approach in teaching on other content areas such as Science and Mathematics may be conducted to further measure the effectiveness of this approach in the classrooms.

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# UNFURL THE HISTORY OF GREEK

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## ABSTRACT

*“There are two truths in the world- the bible and Greek literature”. Greek is a family of a single language, native to Greece, the ancient Greek refers to the period between 800 BC – 500 BC. There was advancement in art poetry and technology during that period. At present Greek is the official language of Cyprus, the European Union, and Greece. The impact of ancient Greek on Christianity and the western world is unforgettable. Greek clothing was simple yet it had outlandish importance in the history of clothing. The people of Greek wore garments that include- chitons, himation, kolpos, epiblema, and more; the clothes were not exactly stitched, but rather were clinched; There were mostly drapes seen in the clothing. Ancient Greek literature has stories about the 12 Olympians and the Greek pantheon. The powers and the strength possessed by each of them.*

**KEYWORDS-** Ancient Greek, Greek literature, Greek clothing, 12 Olympians, Powers of the Olympians.

## INTRODUCTION

A study of the garments worn in the Greek period was made in sense of their functions serving capability and aesthetic beauty. The Ancient Greeks were not fussy about their clothing. The garments they wore were made for function, and they were made simply. A single piece of fabric could be styled and restyled again, suiting its purpose. And with Greek summers being brutally hot, the less fabric and complicated seams to deal with were better. In the research, a study about the fabrics used to make the clothing was studied, which included the linen and wool fabric-making process. A study about the types of garments worn including- peplos, chiton, himation, epiblema, and chlamys was made.

The Greeks used brown, red, and yellow dyes made from plants, bark, and minerals. Many of their garments were bleached white and adorned with hand-applied designs with geometric patterns. The ancient technique of cloth making and weaving was deeply studied. A deep study of men's and women's clothing including Greek hats and footwear was made. A glimpse of the pieces of jewelry used in the ancient Greek period including bronze, silver, and gold jewellery was also thrown. A study about the Greek preference for the natural look over that of heavy makeup was made. The most famous hairstyles, tattoos, and perfumes used by the Greeks were also studied.

Women's rights compared to men's were studied and elaborated. Unable to vote, own land, or inherit, a woman's place was in the home and her purpose in life was the rearing of children. In this research, a study about the ancient Greek pantheons was also made including Hera, Demeter, Athena, and

Aphrodite, and their importance in Greek mythology was also studied. Further, the role and responsibilities of women belonging to all ages in Greek were studied, including girls, young women, and young girls. The work performed by Greek women mostly include working in bakeries or factories as a worker, slave or either working as sex prostitute. The research was totally based on a study of the position of women in Greek society, which was no more than a slave.

An idea about ancient Greek clothing can be acquired from the ancient Greek sculptures and the trace paintings over them. The clothing worn by the Greek people was the most colorful. The fabrics were decorated elaborated colors and designs.

### 1. CLOTHING IN ANCIENT GREEK-

At the time of 800-500 BC, the Greek people mostly wore 2 types of fabric mainly- wool and linen. The wool fabric was spun at home and the linen was imported. Ancient Greek clothing mainly consist of rectangular, square fabric pieces folded around the body, pinned at the side seam and shoulder, and then belted. There were major similarities between the clothing worn by men and women.

### 2. FABRICS OF THE GREEK PERIOD-

During the time of Greek period, there existed commonly 2 kinds of fabric, wool, and linen, wool was obtained by the people sheep's and was spun at home, mostly by women and servants of the house, and was mostly worn during winters; it was woven by a wooden loom. The other fabric used was linen; it was not found in the region and was imported, mostly for the



hot seasons. The linen was from flax that came from Egypt. Cotton and silk were the other fabrics that existed, but could be afforded by a few wealthy men.

**WOMEN'S CLOTHING**-Usually, a look of kalpos look (pouch kind of look) was greeted by most of the clothing in the Greek times. A proper Greek woman revealed nothing. A tunic was usually worn by the women, the length of the tunic mostly depends on the type of work they did, and women mostly wore tunics up to floor length. The tunic was pinned at the seam and tied at the waist.

**CHITON**- was a tunic that was worn by women; it was made up of linen material that made it very light and comfortable for the hot western region. When the chiton was draped at only one shoulder, it was called an EXOMIE. The drape in the women's clothing was given with the help of buttons, loops, and brooches.

**PEPLOS**- or peplum was a kind of tunic made from large rectangular fabric pieces that were also popular amongst women.

**HIMATION**- was a kind of cloak worn by Greek people during colder weather to get warmth, the cloak was made of wool fabric.

**EPIBLEMA**- was a kind of shawl it was worn by the women over the chiton.

**STROPHINO**- As the clothing worn by the Greek people was mostly baggy and loose, the Greek women also wore Strophino under the chiton and peplos, which was a soft band worn around the mid-section of the body.

**MEN'S CLOTHING**- Usually, a look of kalpos look (pouch kind of look) was greeted by most of the clothing in the Greek times. Men usually went out for work or for hunting, they also wore tunics, but of a shorter length, till knee level. CHITON was a tunic made from linen fabric and was worn by men, it was wide enough to allow for sleeves it was fastened in the arms with buttons and pins. Men also wore EXOMIE, a one-shoulder draped chiton, worn for horse riding, work, and exercise. HIMATION was cloth worn by the people to protect themselves from the cold weather, it was worn by the soldiers to protect themselves from cold, and they also wore it as nightwear. PETASOS is a wide-brimmed head cover that was also worn by the Greeks to protect themselves from the sun. CHLAMYS was a short cloak worn by the men for riding.

**SHOES AND ACCESSORIES**-The Greek people mostly proffered to be barefoot at home, but for some special occasions, they wore shoes and boots with their tunic. A belt or griddle was



used by the people to secure the people and the chiton at the center. PETASOS was a broad-brimmed hat that was worn by the Greek men at special occasions.

**MAKEUP**-Pale skin was the most desirable feature amongst the women, it showed their wealth and that they don't need to work for others; there also existed lipsticks. The most common jewelry worn by women includes necklaces, rings, and earrings. A brooch was a jeweler piece that was used by women to clinch the cloak; gold and silver-made pieces of jewelry were common amongst the rich class.

**GREEK PANTHEONS**-The 12 Olympians are the major deities of the Greek pantheons. The 12 Olympians were Zeus, Hera, Poseidon, Demeter, Athena, Apollo, Artemis, Ares, Aphrodite, Hephaestus, Hades, and Dionysus. Each and every Olympian had a relationship amongst them, and each of them had a specific area of rule.



- Hera- the queen of all Olympian gods, she was the wife to Zeus. She was the goddess of women and marriage. Peacocks, lions, and cows were sacred to her.
- Zeus, Hades, and Poseidon were three brothers, each of whom had a place to rule. Zeus was the god of the sky; Hades was the god of the underworld and Poseidon was the god of water.
- Zeus- Zeus means bright or sky. Zeus being the king of the Greek gods was her husband of her, he was the god of thunder and sky, and the thunderbolt was the weapon of his choice. Zeus was the father of many gods at Mount Olympus.
- Hades- was the god of the underworld, he possesses precious metals of the earth. He was believed to have a hat that could make the wearer invisible, through this hat he married Demeter's only daughter, his symbol includes wealth and the lovely three-headed dog.
- Poseidon- was the god of water not only rivers but oceans too. He always carried a trident; he tamed the horses and cause earthquakes too.
- Apollo- Apollo was the god of light, sun, poetry, and truth. His twin sister was Artemis; he is associated with music, art, and healing. He was often seen holding a lyre, which was a gift from Hermes.
- Hephaestus- was the ugly god among all, he was the god of fire. He was the son of Zeus and Hera was through Mount Olympus by his mother Hera, as he limped and was born lame. He married the unfaithful Aphrodite; he forges weapons for gods. The smashing of steel in the molten lava creates earthquakes and volcanoes, he worked beneath the earth's surface.
- Aphrodite- was the god of beauty, love, and fertility, she married Hephaestus Aphrodite was born from the

white foam produced by the severed genitals of Uranus after his son Cronus threw them into the sea.

- Artemis- was the goddess virgin goddess of wild animals and hunting, she also helped women in child birthing. Her temple came under the 7 wonders of the ancient world, she was said to be unfaithful.
- Athena- was the goddess of wisdom and courage. She was the patron of Athens and the people of the city built a temple in her honor called Parthenon- a temple of Athena built on the acropolis at Athens in the fifth century BC. Owls, helmets, and spears were among her symbols.
- Dionysus- Dionysus was the ancient Greek god of wine, winemaking, grape cultivation, fertility, ritual madness, theater, and religious ecstasy.
- Ares- was a god of war, and many people hated him because he was filled with blood lust (craving, willingness to kill other peoples.) despite being the god of war, he wasn't a great fighter and often lost to his sister Athena.

All the Olympians are the major deities of the Greek pantheons and had a different style of worship and still have their imprints over the Greek culture and history.

A study about the status and freedoms of women the ancient Greek times was studied by many researchers. The ancient Greek women had a little voice of their own, their daily works include wool-working and washing, relationships, and their virtues, which were depicted by the men in control. Study of the archaeological remains of ancient Greek cultures, including representations of goddesses and mortal women in statues, vase paintings, and figurines, was studied deeply to know the importance of clothing, jewelry, and cosmetic embellishments throughout Greek history. In the research a study about the main garments worn by women in the Greek



period was made, the women mostly wore kurtas, peplos, and chiton.

## CONCLUSION

Ancient Greek clothing was mainly about drapes and unstitched, clinched garments. They were commonly worn by people according to season; nylon and wool were the two main fabrics used, belonging to the era of 800- 500 BC, Greek people still wore fashionable clothes, shoes, and accessories. Makeup for getting the pale look was also commonly seen during that time. The Greek pantheons were duly respected and praised by the commoners, each of the twelve Olympians had an impact on the Greek culture and people's life, and all the twelve Olympians had sacred things that were used for worshipping them. Other than that, Greek literature was also equally important. In today's time, the Greek language is the official language of- Greece, the European Union, and Cyprus. It is also recognized in countries like Hungary, Italy, Romania, Ukraine, and Turkey. Greek roots of fashion are also used to coin many new-era fashions in today's world, like drape clothes and peplum dresses. Thus, we can state Greek fashion and style still act as a cradle for 21<sup>st</sup>-century clothing fashion.

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# FACTORS RESPONSIBLE FOR CHANGING CONSUMER BEHAVIOR IN ORGANIZED RETAIL SECTOR

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## ABSTRACT

The Indian retailing industry is becoming exceptionally competitive, as many players are targeting India has power as a potential customer because of its 2<sup>nd</sup> highest population. Government initiatives for the FDI (Foreign Direct Investment) in retail are motivating investors to invest their money in this growing sector. The new entrant in the retail industry in India signifies the establishment of retail revolution. Indian retail market is expected to grow immensely in coming years, where more players are willing to invest in Indian retail market since the FDI policy become more flexible.

The aim of this research study is to ascertain who buys where, what, when and how. The results of this research are useful to find out the variation in customer buying behavior their preferences and the choices. This paper summarizes the factors responsible for the change in buying behavior of Indian customer and also focuses on the evaluation of Indian retail sector.

**KEYWORDS** – Transformation, Market share, Competitive, Potential, Immensely, FDI (Foreign Direct Investment)

## I. INTRODUCTION

The Indian retail sector has emerged as one of the most energetic and fast-paced due to the entry of several new domestic and international players. Today retail sector contributes 22- 26% to country's GDP and plays an important role in providing 2<sup>nd</sup> maximum employment. Post Covid-19, the retail market of India is one of the fastest-growing market economies in the world. Indian retail market is vastly dominated by unorganized retail formats like local vendors, local grocery shops, chemist and druggist stores, owner-managed general stores, apparel stores, footwear stores, hand cart hawkers, kiosks etc.

The change of perception & attitudes of Indian consumers and the emergence of organized retail formats have transformed the face of retailing in India. Organized retailing bids massive potential for future progress of retailing in India. Research on “**Factors Responsible for Changing Consumer Behavior in Organized Retail Sector**” will provides information about the consumer buying behavior and attitude towards the organised retail sector, present scenario and the future prospects of this sector, and also we study the factor responsible for the change in buying behavior of customer. It also highlights the major players in retail sectors in India and the customer services provided by the retailers. This research also deals with the factor responsible for the change in buying behavior of customer towards retail sector and the factors responsible for the growth of organised retail sector in India.

## II. OBJECTIVES

1. To understand the customers behavior and attitude towards organized retail undertakings.
2. To identify the major factors responsible for change in customers buying behavior.
3. To study the present scenario of business environment in retail institutions.
4. To study the major factors responsible for growth of organized retail sector in India.

## III. RESEARCH METHODOLOGY

This paper is the outcome of explanatory and descriptive work, and book study on retailing in India as well special reference to organized retail sector in India. To complete this, various books, journals and papers, periodicals have been consulted.

## IV. RESEARCH DESIGN

This paper is the outcome of explanatory and descriptive work, and book study on retailing in India. The research design will be used in this study on ‘**Descriptive**’.



## V. EXPECTED OUTCOME OF THE STUDY

It was clearly shown that higher income group preferred organized retail outlets, overall, majority respondents spent more amounts in organized retail outlets.

Most of the respondents preferred organized retail outlets because of wider product range, one stop shopping, choice of more brands, choice of more variants and better parking facility

This study will help to know the current situation of Indian Business scenario towards FDI in retail sector and if the market positioning of retail institutions is up to the international standard.

This study will ensure that what are the effective factors responsible to shift the customer's perception towards the retail sector.

## VI. IDENTIFICATION OF CUSTOMERS

The terms customer and consumer are not synonymous. A customer is a buyer of a product or a service; a consumer is the ultimate user of a product or a service.

The buying behavior of the customer is influenced by many factors, this research study shows the factors that change the preferences in buying.

## VII. INDIAN CONSUMER BUYING BEHAVIOR TOWARDS ORGANISED RETAIL SECTOR

The Indian consumer has undergone a noteworthy revolution. Just two or three decade ago, the Indian consumer saved most of his income and purchased the bare necessities and rarely indulged himself.

As the Indian economy becoming stronger and purchasing power of the consumers are rising, consumer starts focusing on to maintain their status as well. Now this transformation of consumer forces them to maintain credit cards, standard cars, 3 to 5 star rated restaurants, branded clothing exposure to the shopping culture of the west and a desire to improve his standard of living, the Indian consumer is spending like never before. Well organized shop, air conditioned malls, world class infrastructures and variety of products and multitude of malls and supermarkets is fueling his addiction.

### Customer buying behavior patterns

To buy is to purchase. To shop is to visit business establishments for assessment or purchase of goods. Therefore shopping is an important element of customer behavior in purchasing. A customer placing an order over the telephone is considered as buying, not shopping.

Consumer behavior is categorized as complex buying behavior, variety-seeking behavior, dissonance-reducing buying behavior and habitual buying behavior of consumers. Consumer behavior types are determined by what kind of product a consumer needs, the level of involvement, and the differences that exist between brands.

Customer buying behavior patterns can be grouped in relation to:

1. Place of Purchase
2. Items Purchased
3. Time and Frequency of Purchase
4. Method of Purchase
5. Response to Sales Promotion Devices

## VIII. FACTORS INFLUENCING THE BEHAVIOR OF THE CONSUMER

The consumer buying behavior is a major subject of study across the globe. In India retailers and retail formats are evolving on a great extent. Understanding the reasons for consumer's behavior is very important for retailer. Following are the factors which influence the customer's decision making process.

**1. Variety of commodities:** The variety of commodities is perhaps the most important reason for customers to patronize a particular shop or outlet. The range of commodities offered plays an important role in case of categories like devalues, books and music. The initial curiosity of the store may draw a consumer to a retail store, but converting him into a buyer and retailing him over a period of time is largely dependent on the quality and the variety of commodities offered by the store.

**2. Convenience of Shopping at departmental store:** While buying medicines, most customers would prefer the buy from the chemist near the doctor clinic or near the hospital. The element of convenience is a fast gaining promises in the world of organized retail. This is so accurate in the case of items like grocery/fruits and chemists.

**3. Time taken by travel to the shop:** The time required to reach a particular retail location is becoming critical. This is very much relevant in cities or metros like Mumbai, where travel time is high. This has resulted in many local areas developing in terms of shopping to facilitate buying.

**4. Socio economic factors:** Socio economic factors are seen as a fundamental to development. India is a nation that is fastest growing in this retail sector and which has a large middle class a youth population which is happy spending and a steady rate of growth of G.D.P.

The retailer needs to understand that the need hierarchy is different for each market. It is important for the retailer to consider socio economic change in a geographic region over a period of time as it is indicator of the facilities available at several stages and the quality of life of the population this would indirectly be related to the organized retail.

## IX. THE FACTORS RESPONSIBLE FOR ORGANIZED RETAILING GROWTH IN INDIA

Organized retailing is a recent development. It is the outcome of socioeconomic factors. In a very short span of time, Indian retail industry has become the most striking and emerging retail



market in the world. Healthy economic growth, changing demographic profiles, increasing disposable incomes, and changing consumer tastes and preferences are some of the major factors that are encouraging growth in the organized retail market in India.

**1. Growth in the purchasing power of middle-class consumers:** With higher consumer demand and greater disposable income have given opportunity of retail industry to grow and prosper. They expect quality products at decent prices. Modern retailer offers a extensive range of products and value-added services to the customers as per the middle-class purchasing power. Hence this has resulted in the evolution of organized retailing in India.

**2. Increase in the ratio of working women:** Today's women are literate and well-qualified; they have to maintain a balance between home and work. The buying behaviour of working women in India is different from the homemaker's purchasing decision. They do not have sufficient time for spare and they expect everything under one roof so they prefer one-stop shopping and modern retail outlets therefore offers one store retailing.

**3. Value for money:** Organized retailing deals in large volume and is able to enjoy economies of large-scale production and distribution. They eliminate intermediaries in the distribution channel. Organized retailer offers quality products at reasonable prices. Example: Big Bazaar and Subhiksha. The opportunity to attract more revenue is the reason that new business groups are entering this sector more and more.

**4. Entry of big corporate family:** Big business tycoons such as Amazon, Birla, Tata, Birla and Reliance etc. have entered into the retail sector, and are in a position to provide excellent products and services.

**5. Entry of foreign brand retailers:** Indian retail sector is catching the interest of foreign retailers such as wall-mart, tesco etc. Due to liberalization multinationals have entered our country through joint ventures and franchising. This additionally is responsible for increasing organized retailing in India.

**6. Growth in income:** An increase in literacy level has resulted in growth of income among the population. Such growth has taken place not only in the cities but also in towns and remote areas & this has led to increase in demand for better quality consumer goods. Rising income levels and education have contributed to the evolution of new retail structures.

**7. Upsurge of consumerism:** With the emergence of consumerism, the retailer has to face a more aware, knowledgeable and demanding consumer. As the business exists to satisfy consumer needs, the increasing consumer expectation has forced retail organizations to change their format of retail business. Consumer need, want, demand, convenience, choice, comfort, time, location and perception etc. are the important factors for the growth of organized retailing in India.

## X. LIMITATION OF THE STUDY

1. Not possible to cover the entire region and to study every consumer's perception.
2. Customers are biased sometimes they are usually influenced socially.
3. Sometimes they give you information based on not as per their experience but what their family and friends told them.
4. Time constrain has prohibited from going deep into the subject.
5. The information obtained or the collection of data is limited.
6. Due to time constraints study is restricted to limited places/cities only.

## XI. CONCLUSION

The endeavor has been made here to show along what lines and with what techniques studies of customer behavior can be made in retail stores. Possible uses of the results for the solution of marketing problems have been suggested or indicated. To spell out fully and systematically the many practical uses to which such studies can be put by producers, manufacturers and distributors would require a series of articles—perhaps a book. This article is intended to stimulate those who can gain the most from such studies to take advantage of the opportunities for learning more about customer behavior in the market-place.

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# CALCULATION OF THERMODYNAMIC PARAMETERS OF CHEMICAL REACTIONS IN THE PROCESS OF CLEANING EXPANDER GASES FROM ACID COMPONENTS

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## ABSTRACT

Today, calculation of thermodynamic parameters of any processes provides an opportunity to determine the direction of chemical reactions. Taking this into account, this article calculated the thermodynamic parameters of substances formed during the cleaning of expander gases. As a result, the mechanisms of formation of substances and directions of reaction were determined. Entropy ( $\Delta S$ ) and Gibbs energies ( $\Delta G$ ) of reactions were calculated to determine the direction and realization of the reaction.

**KEYWORDS:** cleaning, acid components, hydrogen sulfide, carbon dioxide, absorption, thermodynamics, entropy ( $\Delta S$ ), enthalpy ( $\Delta H$ ), activation energy ( $E_a$ ), solubility product ( $SP$ )

## INTRODUCTION

Thermodynamics (or the general theory of heat) studies macroscopic processes in bodies and substances [1-5]. At the same time, he also studies the phenomena associated with a large number of atoms and molecules in substances. Thermodynamics studies only the thermodynamic equilibrium states of bodies and slow processes, which can be considered as practically equilibrium states that continuously follow each

other [6-11]. Some of their thermodynamic parameters (enthalpy, entropy and Gibbs energy) are needed to determine the direction of chemical reactions [12-16].

## MATERIALS AND METHODS

Table 1 presents some thermodynamic parameters of the substances involved in the reactions in the process of cleaning the expander gases from acidic contains.

**Table-1.**  
Standard thermodynamic parameters of substances involved in the purification of expander gases from acid components

Substance and its state	$\Delta H^{\circ}_{\text{for.}, 298,15}$ kJ/mol	$\Delta G^{\circ}_{\text{for.}, 298,15}$ kJ/mol	$S^{\circ}_{298,15}$ J/(mol·K)
NaHCO <sub>3</sub> (cry.)	-949,08	-851,1	101,3
Na <sub>2</sub> CO <sub>3</sub> (cry.)	-1129,43	-1045,7	135,0
Na <sub>2</sub> CO <sub>3</sub> 10H <sub>2</sub> O (cry.)	-4077	-3906	2172
Na <sub>2</sub> S (cry.)	-374,47	-358,13	79,50
H <sub>2</sub> S (g)	-20,9	-33,8	205,69
CaCO <sub>3</sub> (cry.)	-1206,8	-1128,4	91,7
Ca(OH) <sub>2</sub> (cry.)	-985,1	-897,1	83,4



CaS (cry.)	-476,98	-471,93	56,61
NaOH (cry.)	-495,93	-379,8	64,43
NaOH (sol.; 20H <sub>2</sub> O)	-470,53	-	-
NaOH (sol.; 50H <sub>2</sub> O)	-470,17	-	-
NaOH (sol.; 100H <sub>2</sub> O)	-469,98	-	-
NaOH (sol.; 1000H <sub>2</sub> O)	-470,10	-	-
NaOH (sol.;	-470,45	-419,44	48,0
CO <sub>2</sub> (g)	-393,51	-394,38	213,67

The daily output of expander gases released at the volatile gas processing plant is 200 m<sup>3</sup>. It contains 8-8.8% H<sub>2</sub>S, 3-3.7% CO<sub>2</sub>, 1-1.2% water vapor, up to 0.2% MDEA, and the rest is CH<sub>4</sub> gas.

When the expander gases are passed through NaOH and Ca(OH)<sub>2</sub> solutions, the following reactions take place.

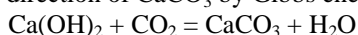
- Ca(OH)<sub>2</sub> + CO<sub>2</sub> = CaCO<sub>3</sub>↓ + H<sub>2</sub>O
- Ca(OH)<sub>2</sub> + H<sub>2</sub>S = CaS↓ + 2H<sub>2</sub>O
- 2NaOH + CO<sub>2</sub> = Na<sub>2</sub>CO<sub>3</sub> + H<sub>2</sub>O
- 2NaOH + H<sub>2</sub>S = Na<sub>2</sub>S + 2H<sub>2</sub>O

However, the solubility coefficients of precipitates formed by calcium ion differ from each other. SP<sub>CaCO<sub>3</sub></sub> = 3.8•10<sup>-9</sup>, SP<sub>CaS</sub> = 1.3•10<sup>-8</sup>. This shows that when the expander is passed through the absorbent solution, only CaCO<sub>3</sub> precipitates.

$$SP_{CaCO_3} = [Ca^{2+}] \cdot [CO_3^{2-}] = 3.8 \cdot 10^{-9} \text{ mol}^2/l^2$$

## RESULT

As a result, unreacted hydrogen sulfide forms Na<sub>2</sub>S with NaOH. Based on the above data, we determine the reaction direction of CaCO<sub>3</sub> by Gibbs energy.



$$\Delta H = H_{\text{prod.}} - H_{\text{ini.}}$$

$$\Delta H = (-1206.8 - 285.83) - (-985.1 - 393.51) = (-1492.63) + (1378.61) = -114.02 \text{ kJ}$$

$$\Delta S = S_{\text{prod.}} - S_{\text{ini.}}$$

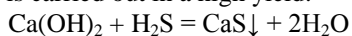
$$\Delta S = (91.7 + 69.91) - (83.4 + 213.67) = -135.46 \text{ J}$$

Enthalpy and entropy were calculated in order to determine the reaction direction of formation of CaCO<sub>3</sub>. Gibbs energy is calculated based on the obtained results.

$$\Delta G = \Delta H - T\Delta S$$

$$\Delta G = -114.02 - 298 \cdot (-135.46 \cdot 10^{-3}) = -73.65 \text{ kJ}$$

Gibbs energy was -73.65 kJ. This shows that the reaction is carried out in a high yield.



Above, we compare the precipitation formation with CaS.

$$\Delta H = (-476.98 - 2 \cdot 285.83) - (-985.1 - 20.9) =$$

$$(-1048.64) + (1006) = -42.64 \text{ kJ}$$

$$\Delta S = (56.61 + 2 \cdot 69.91) - (83.4 + 205.69) = -92.66 \text{ J}$$

$$\Delta G = -42.64 - 298 \cdot (-92.66 \cdot 10^{-3}) = -15.03 \text{ kJ}$$

Comparing the Gibbs energies of CaCO<sub>3</sub> and CaS, we found that the energy of CaS is higher. This means that the yield of CaCO<sub>3</sub> precipitation is high.

## CONCLUSION

In short, it is very convenient to calculate the thermodynamic parameters of processes when determining the direction of any chemical reaction and whether it will occur or not. In this article, thermodynamic processes were used to determine the deposits formed during cleaning of expander gases from acidic additives. As a result, we theoretically proved the formation of CaCO<sub>3</sub> in practice.

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# THE PRINCIPLE OF DETERMINISM AS A NORM OF SCIENTIFIC CHARACTER IN RELIGIOUS KNOWLEDGE

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## ANNOTATION

*The main objective of the study is to study how the general philosophical principle of determinism systematizes religious knowledge, acts as a norm of the scientific nature of religious studies, determines the harmonious combination of secular education and various forms of manifestation of the religious worldview of a modern person in a peaceful interfaith dialogue. To do this, it is necessary to consider the relationship between the principle of determinism and the anthropological interpretation of the concept of freedom of conscience and religion through the peculiarities of the language of worship, texts of scriptures and legends.*

**KEYWORDS:** *worldview, religion, religious consciousness, religious competence, secular knowledge, determinism, the language of worship, globalization, religious doctrine, education.*

## RELEVANCE

The terms “religion” and “religious worldview” are always associated with the processes associated with the traditional way of life, worldview and worldview of both an individual person and a certain ethnic group, nationality or nation as a whole. However, the study of the features of the forms of manifestation of freedom of conscience and faith is not limited to characterizing the factual material that has taken place in history. One of the most urgent problems of studying religious studies in the system of secular education is the definition of the modern essence of the religious worldview as the ideological basis of the civil and life positions of a person and the harmonious combination of the unity of secular knowledge and religious worldview. Taken together, this provision is the essence of the conceptual idea of the UN resolution “Enlightenment and Religious Tolerance”. [1]

This interrelation, expressed in a harmonious combination of ethno-confessional diversity and secular, democratic, civil society, shows the entire degree of relevance of the chosen topic in the dynamics of education and upbringing systems.

## METHODS AND DEGREE OF DEVELOPMENT

The general philosophical principle of determinism, which is based on the causal relationship of the phenomena of the world, serves as a method for studying religious studies with the correlation of fundamentally polar and opposite concepts - “secular education” and “religious worldview”. There are corresponding philosophical and methodological, legal, psychological, linguistic and other studies on certain aspects of the determination of religious knowledge. On the problems of the correlation of faith and reason, religious consciousness as a cognitive phenomenon, the methodology of science, neo-Thomism and scientific knowledge, research is

given in the works: Garaja V.I., Aliyeva B.A., Abdusamedova, Shermukhamedova N.A., A.I., Radugina A.A., Zotsa V.A., Shakhnovich M.M., Yablokova I.N., Achildieva A.A., Burunkova Yu.F. and other scientists. The problem of determining religious knowledge in terms of setting philosophical tasks, set out in a logical sequence of a chain of concepts interdependent in content - knowledge - consciousness - knowledge - truth and faith, shows that it is in the center of attention of the history of religion, however, in the interpretation of the topic of this article proposed by the author, however, it has not been the subject of special study.

## RESEARCH RESULTS

The role of the principle of determinism in religious knowledge is defined as the norm of its scientific nature. The principle of determinism is the doctrine of the interconnection and mutual certainty of all phenomena and processes, it is the doctrine of universal causality. According to determinism, everything that happens in the world, including the course of the history of human life, is predetermined either by fate, or by gods, higher powers, or by nature, or by human will. Religious studies studies religion as a social phenomenon, forms of manifestation of religious beliefs in the history of the development of society, religious consciousness and religious organizations. It is known that religion is the object of study of theology, theology, Islamic philosophy of kalam, atheism, nominalism, realism, scholasticism and other teachings related to the problems of revelation. Religious science, being a philosophical science, reveals the patterns of the emergence, development and functioning of religion, its structure and various components and phenomena. In the structure of religious knowledge, the following stand out: the phenomenology of religion, the psychology of religion, the history and philosophy of religion. The whole set of these directions is methodologically united by the general



philosophical principle of determinism. Religious studies as an independent science began to take shape in the second half of the 19th century; one of its founders is the German philologist, religious scholar, specialist in general linguistics and mythology Max Müller, who studied the comparative typology of the most ancient religious texts. It was the results of this scientific search that led to the need to systematize knowledge in the field of philosophy, anthropology, sociology, history, ethnography and archeology, into an integral fundamental science, such as religious studies. The cause-and-effect relationship of the ideological sources of a certain religious doctrine shows how the sacred writings, sacred texts and sacred traditions reflected the essence of the way of life and worldview of the person who professed it. Sacred revelations about real life on earth were expounded in the sacred texts. Sacred texts are scriptures that have received the status of sacred in any denomination or religious and theological doctrine. For example, the Vedas are accepted as sacred texts in the religions of Brahmanism, Hinduism, Vishnuism, the Avesta in Zoroastrianism, Zervanism, Parsism, the Torah in Judaism and Christianity, the Tripitaka in Buddhism, the Gospel in Christianity, The Quran is in Islam. The presence of dogma, symbolic practice and sacred text are the main features of religion. In the history of philosophical doctrine, the problem of consciousness is one of the important elements of the object of philosophical analysis and the methodological role of the principle of determinism from the standpoint of ontology, the theory of being and thinking, and religious consciousness. The conceptual basis for explaining any, including social, phenomena was the idea of a causal or functional conditionality of everything that happens. Such explanations make it possible to make forecasts for the future and orient social practice, as well as individual actions, to the future. Therefore, all rationalistic theories of classical philosophy, physics or sociology were focused on the search for cause-and-effect relationships, on determinism, their formulation in the form of universal patterns. Therefore, the principle of determinism has largely become an expression of the scientific norm of rationality as such. However, events are currently taking place that require a radical change in the situation regarding the relevance of the study of religious studies in the aspect of the regulatory function of the principle of determinism. This position is explained by the logical interrelation of the sequence of concepts: knowledge - knowledge - faith - truth. Their unity is expressed in language as a means and method of human cognitive activity and the specifics of his attitude to life values.

Linguistic determinism requires the development of a teleological, target vector of social communication, which gives the principle of determinism a value-rational meaning in terms of the integrating function of religion. The formulation of this important research topic in the system of interactive coordinates of moral, political, legal and aesthetic consciousness causes science to turn to socially constructive knowledge, language, codes of symbolization and institutionalization of knowledge as immanent determinants of social communication.[2]

In modern studies of the nature of language, there is a tendency to form an extreme “pragmatic turn”, which is expressed in the consideration of language as a system derived from various biological, environmental, cognitive and sociocultural factors and the rejection of autonomous, “objectivist” approaches that study language as an independent object that determines (determines ) knowledge and culture, which was studied, for example, in the framework of the “linguistic turn”.[3]

Language is not only a derivative of individual and sociocultural foundations, but also functions as a basis, reason, support for individual and social development, acting as a structural and functional element of social memory, non-genetic inheritance systems, such as religious consciousness, religious cult and the activities of religious organizations. It follows from this that language is the initial determinant of substantiating the specifics of religious studies as a philosophical science. At the same time, the principle of cause-and-effect conditionality in the system of phenomenology and the history of religion acts as their methodological basis and norm of scientific character. The disclosure of the process of formation of the religiosity of the individual reveals the determination and regular relationship and interdependence of religion as a phenomenon of objective reality with the religiosity of the individual as a phenomenon of subjective reality, that is, objective and subjective. The determinants of a person's religiosity are the socio-cultural conditions of life, family, authorities, active personal and life position. This allows us to understand the reasons for the emergence and formation of the religiosity of the individual, to reveal the content of one or another characteristic of the religiosity of the individual. Under the religiosity of the individual, we mean a complex socio-psychological formation, which reflects the worldview position of the individual, the meanings and meanings of religion are fixed, the ways of their implementation in human life. Modern conceptual ideas of a harmonious combination of religious and secular, scientific aspects of the worldview are reflected in the program document of the Development Strategy of New Uzbekistan. The fifth priority direction aims to ensure spiritual development and raise this area to a new level. Here, an important task is to turn a healthy worldview and creation in society into a nationwide movement through the widespread promotion of the idea “From Action Strategy to Development Strategy”, based on the principles of goodness and humanism, “New Uzbekistan is an enlightened society”. This provides for the organization of law-educational events to form a legal culture among the population, combined with the study of the rich history, scientific and cultural heritage, national and religious values of our people.[4]

The study of the determination of religiosity as one of the promising tasks of the philosophy of religion gives a holistic picture of the ways in which a modern person enters the religious world, identifying the initial factors in the formation of religiosity among young people. The basic determinants that determine the formation of a person's religiosity are socio-cultural living conditions, family and close relatives, authorities, as well as an active civic position



of the person. A significant influence on the formation of religiosity among young people is exerted by the socio-cultural conditions of life, the place that religion occupies in the modern world. The society around them is filled with a religious context - the confession of Islam, Orthodoxy or the traditions of the faith of another confession. The specificity of the socio-cultural conditions of life affects the position that religion occupies in the social system, determines its value for society and the individual, and has a significant impact on the formation of a person's religiosity. At the same time, the system of ideas about the significance of this factor differs among representatives of different faiths. Uzbekistan is a multinational state that ensures a peaceful ethno-confessional dialogue. reliable guarantees of freedom of conscience and religious beliefs, contributes to the implementation of the principle of tolerance - as evidence of the peaceful coexistence of representatives of 17 religious denominations, people of different nationalities, ethnic groups, and nationalities living in Uzbekistan. According to data from July 1, 2022, the list of the list of the Committee for Religious Affairs under the Cabinet of Ministers of the Republic of Uzbekistan, there are 17 officially registered religious denominations and 2281 religious organizations in the country.[5]

These include - Islam, Russian Orthodox Church, Roman Catholic Church, Full Gospel Christian Church, Evangelical Christian Baptists Church, Seventh Day Adventist Christian Church, New Apostolic Church, Gospel Lutheran Church, Voice of God Christian Church, Witnesses Church Jehovah, Korean Protestant Church, Armenian Apostolic Church, Jewish Religious Community, Bahai Faith Community, Society for Krishna Consciousness, Buddhist Temple, Bible Society of Uzbekistan. Article of the Constitution of the Republic of Uzbekistan No. 31 guarantees freedom of conscience. Freedom of conscience is guaranteed for everyone. Everyone has the right to profess any religion or none. Forced imposition of religious views is unacceptable.[6]

The second important factor in the system of formation of a person's religiosity is the family, the relationship between the person and close relatives. It is in these interpersonal relationships that a purposeful process of religious communion is carried out, as a result of the influence of the authority of parents, a circle of other close relatives of the older generation, conversations in which relatives talk about the essence of religion, about joint religious activities - praying, visiting mosques, shrines, reading religious literature . For example, each orthodox Muslim, according to his position on faith, defines himself according to four main factors, the first factor concerns the directions in Islam - Sunnis - Shiites - Kharijites (Ibadis), the second factor refers to ideological movements according to the philosophy of Kalam - Mutazilites - Ash'arites - Maturidites , the third factor - by belonging to the madhhab as a religious and legal school - these are the Hanafis - Hanbalis - Shafiites - Malikis, and the fourth factor by belonging to the tarikat - Yassaviya - Naqshbandiya - Kubravia, etc. Or, for example, understanding the sacred significance of the Temple Mount in Jerusalem as the embodiment of the shrines of the three Abrahamic religions - Judaism, Christianity and Islam, makes it possible

for students to understand that the biblical Abraham and the Koranic Ibrahim (according to the basics of the Jewish, Biblical and Koranic traditions) are the prophet of the monotheistic religion, from which follows also the historical factual material uniting Judaism, Christianity and Islam based on the four scriptures The Abrahamic religions of Taurat (Torah) - sent down to the prophet Musa (Moses), Zabur (Psalter) sent down to the prophet Dovud (David), Injil (Bible) - sent down to the prophet Isa (Jesus) and the Koran - sent down to the prophet Muhammad, into a single system of Abrahamic monotheistic religions. The process of determining the religiosity of a person reveals the existence of another factor - authorities. Authorities in a person's life have a special influence on his worldview and worldview. The basis of this influence may be faith or experience of interaction, which allows you to rely on the wisdom and competence of authority. Respect, recognition of the wisdom and morality of authority makes the opinion of this person extremely important for the formation of any beliefs, including those related to religion. The opinion of authorities becomes especially significant at the stage of active formation of a person's worldview position in adolescence and youth. It is during these periods of life that the social contacts of the individual expand, the circle of the social environment increases, new people appear nearby, whose opinion can influence the formation of the individual's worldview.[7]

The determinant of a person's own ideological activity plays a decisive role in the process of forming the creative potential of religious consciousness, for example, in Islam on the basis of the concepts of "Sharia, Marifat, Tariqa and Haqiqat". Four steps of such an approach to God:

- Sharia - the initial educational and educational system, mandatory for all believers, involving external acquaintance with the texts of the Koran;

- Tarikat - the path of internal perfection, where the deep sacred meaning of the Koran is comprehended;

- haqiqat - the level of higher perfection, at which the truth is revealed and the original meaning of the Koran, given by the Almighty to the Prophet himself, is comprehended;

- maarifat, when the understanding of the Almighty is achieved not only with the mind, but also with the heart.[8]

The philosophy of religion considers numerous forms of determinism of non-causal or non-causal determination that also operate in religious linguistic value concepts.

This is, firstly, mental determinism, due to a person's perception of an atmosphere of some kind of reverent fear, holiness, mystery and religious majesty, piety, comprehension of iman in the behavior of the faithful.

Secondly, it is functional determinism, which reveals all possible moral aspects of behavioral dependence, reflected in the essence of paired philosophical categories: content and form, essence and phenomenon, individual and general, piety, fear of God - sin and apostasy (shirk) and others.

Thirdly, this is informational determinism, which also does not belong to causal determinism, since the informational components of cause-and-effect relations have a certain independence from material-energy processes.



Fourthly, this is definitive determinism, manifested in the unity of the general and the individual, when one concept is defined through the essential content of another. Definitive determination takes its name from the Latin “definitio” - definition, and means that every beginning has some basis that determines why this beginning is exactly like this, and not some other. Definitive determinism assumes that each beginning has its own “place” in the composition of the world whole, and it is this definition that acts as the basis of the beginning, which leads to the limitation of the whole to this beginning. For example, “Trimurti” - as the embodiment of the trinity of the divine principle of the supreme Brahma-Shiva-Vishnu in dharmic religions, the universal path of “Tao” in Taoic religions, in the “monotheism” of the unity of the Abrahamic religions - Judaism, Christianity and Islam. Fifth, it is teleological or goal determinism. Teleology is an ontological doctrine of explaining development in the world with the help of final, target causes. She sets herself the task of answering the question “why, for what purpose?”. In modern methodology, it is considered as a principle of explanation that complements traditional causality - causes-goals. According to teleological determinism, in many processes of the universe, the goal as a law predetermines their course. Teleological determinism as a philosophical principle, established in science and the methodology of science, gives rise to the anthropic principle, which establishes the dependence of the emergence and existence of man on the physical parameters of the Universe. The Universe has such properties that life and consciousness must have arisen in it at a certain stage. Let the emergence of life be the result of an incredible combination of numerous circumstances, but, according to this principle, in the end, life could not have arisen.[9]

The language of religion determines a person’s perception of the surrounding world through the categories of the native language, expressing elements of religion, in terms of fate, fate, fate, sinfulness, shirk, righteousness, iyman, karma, the idea of retribution, predestination, etc. Reflecting moral norms, the language of religion and religious consciousness, correlated with the concepts of conscience, duty, piety, mercy, humanism, form the spiritual and moral content basis of the value attitude to the world, human life, his creative aspirations. Awareness of the highest ideals of kindness and compassion is today becoming a paramount factor in preventing acts of violence, cruelty, war and destruction. The history of philosophy shows that the cult practice of expressing the sacredness of religious texts is determined by the peculiarities of the language of worship used when reading prayers, performing sacrificial rituals and other religious practices. Liturgical languages usually use conservative, archaic language forms in vocabulary, syntax, phonetics, which are guided by the language norms of previous generations, eras, historical formations. For example, the language of worship, even if it is related to the spoken language, is often incomprehensible to most of its followers, for example, in Islam as one of the world religions, the language of worship is Arabic, it is he who unites Muslims from all over the world who speak their national languages. But it is the Arabic language, accepted in Islam as divinely

revealed, that determines its absolute sacredness, which gives rise to the basis for a person’s perception of the atmosphere of some kind of reverent fear, holiness, mystery and religious sublimity of the worldview as a whole. In religious studies, there are four stages in Muslim determination through the mechanisms of divine predestination: a) divine absolute omniscience;

b) a prescription through a written fixation of the divine will;  
c) the permission of the Almighty, which covers all existence as a whole, as well as each thing and living being separately;  
d) creation, which includes all human actions.[10]

The determination of the formation of religious consciousness in its creative content is determined by the functions of religious studies as a philosophical science that contains a harmonious combination of scientific secular knowledge and features of religious belief.

## CONCLUSION

The study of the features of the operation of the principle of determinism as a norm of scientificity in religious knowledge reveals the conditionality of human activity by the world of culture and the peculiarities of religious belief. The logic of the sequence of posing questions of philosophy as a whole is determined by ontological, epistemological, axiological and praxeological tasks. The synthesis of the last two aspects of a person’s attitude to the world is reflected precisely in the system of religious studies - value and practical knowledge in understanding and comprehending the truth with the help of the language of religion, the language of worship. Determination in religious knowledge is represented by a complex integral process: on the one hand, knowledge and intellectual potential are determined by the world of technological innovations, and on the other hand, spiritual and moral self-determination, religion, often acts as the main determining factor in material processes. The study of this mutual determination, the limits of the functioning of each of the parties is an important task of modern philosophy of religion, which involves a detailed study of the forms of action of the principle of determinism in religious knowledge.

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## THE ROLE OF THE FAMILY INSTITUTE IN THE FIGHT AGAINST DRUG ADDICTION AMONG YOUTH

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### ANNOTATION

*This article highlights the causes of drug use by young people and the role of the family institution in combating it, and offers suggestions on various factors and solutions to problems that help to protect young people from drug addiction.*

**KEY WORDS:** Youth, family, parents, older generation, east, west, society, addiction, crime, moral values, education, upbringing, healthy environment, external signs.

In the context of the growing influence of globalization processes on all spheres of society, a number of activities aimed at combating crime, preventing drug addiction and other types of offenses among young people are being carried out. This process is one of the urgent issues not only with the reforms in the internal socio-political system of the state, but also in the activities of international cooperation on a global scale.

In the mid-90s of the 19th century, the UN Security Council noted three factors that threaten human life and future. These are: proliferation of weapons of mass destruction; the consequences of human wrongdoing; widespread use of drugs. Currently, drugs pose a greater threat to humanity than the most dangerous weapons of mass destruction. At the same time, the increasing number of drug users, mostly minors, as well as women, shows how dangerous it is.

According to statistics, the number of people using various synthetic drugs is increasing. Despite the pandemic, the amount of drug trafficking has not decreased. By 2020, the number of members of the "darknet"-hidden internet segment, whose activity temporarily decreased in 2017, has increased. In the conditions of the pandemic, the purchase of drugs is carried out through the Internet [1].

In the Republic of Uzbekistan in 2017-2019, on average, more than 56 thousand 500 people were in the accounts of health institutions, 11.4% of them are young people, 80.5% are alcoholics, 12.8% are drug addicts [2].

Today, we need new, modern forms and technologies that will allow us to really change the situation in the fight against drug addiction among young people. To solve specific problems, it is necessary to develop a preventive model in the family, relying on our national traditions. At the same time, the issue of choosing adequate forms and methods of work organization is of particular importance. In order to prevent drug addiction, it is necessary to have objective information,

to properly organize free time of young people and to use it wisely. It is important to take into account the interests and needs of young people, as well as the characteristics of different age groups of teenagers. Educational institutions and their experienced educational psychologists play an important role in forming a healthy lifestyle among the young generation. The educational institution plays a leading role in the organization of sanitary and educational work on the prevention of unruly behavior among students, violation of moral norms, as well as prevention of smoking, alcoholism and drug addiction. Therefore, unity of spiritual-educational and educational processes should be sought in the modern family.

Undoubtedly, the role and influence of the family is incomparable in the formation and promotion of the unique spirituality of any nation. Because the purest and purest feelings of a person, the first concepts and imaginations of life are first formed in the bosom of the family. It is natural that the foundations of the spiritual criteria and views that define the child's character, nature and worldview - goodness and nobility, nobility and kindness, honor and dignity - are settled in the family environment [3].

In this sense, the family is the main social institution that teaches to establish relationships with all spheres of a person's life: emotional-volitional, moral, spiritual, as well as with the outside world, as well as in the education and formation of an independent personality. The family, as the starting point of everything, can also be a destructive path for the teenager. This, in turn, leads to his formation as a social destroyer. According to some experts, social disorder is a person's inability to adapt to environmental events, to enter into social relationships correctly [4].

For a teenager, the existence of these wrong relationships means that it is impossible to show their basic social roles [5].



If a teenager cannot fulfill his main positive social roles, he is forced to look for other ways and means to realize himself. It may be that they leave their home because their needs cannot be met, in another, the adolescent takes a path of developing addiction and chooses to change their mind by experimenting with various psychoactive substances.

In 1990, the well-known Russian scientist N. Sirota developed a classification of risk factors affecting the emergence and development of drug addiction in adolescence, in which the following were identified:

Alienation in the family, inconsistency and growing discontent in relations with parents;

Avoidant, superficial style of communication in the family;

Official attitude to family problems, ignoring them, etc [6].

Education in the family is one of the important tools in prevention and prevention of the formation of drug addiction in young people. It is in the family that the initial socialization of the individual takes place, and certain social directions appear that determine the choice of the individual's future lifestyle. Also, the family environment is one of the criminogenic factors that cause crime, and it also appears as the place where most crimes take place.

The socialization of the child starts from the early years, and the mother is the support for him, especially in the preschool age, her influence on the child is high. The process of formation of a person in the family is mainly manifested as a result of the education and life experience of the representatives of the older generation. As a direct social environment, the family, compared to other social institutions, has maximum opportunities for children to communicate with social values, to join social and professional structures.

One of the most important conditions for preventing young people's interest in drugs is a healthy family environment, which forms a trusting attitude of family members towards each other. The great German philosopher Hegel said that family relationships are based on the principles of moral rules, love and trust. Therefore, parents should create an atmosphere of mutual understanding, love, trust and friendship in the family, seek to find common interests, and pay more attention to children.

In the East, the educational components of the family are wide and include:

Material and household conditions;

Number and composition of family members;

The spiritual and spiritual environment of the family;

The level of development of the family team;

Nature of relations between family members;

Working environment of the family;

Life experience and cultural-educational level of adult family members;

Glorification and inheritance of national values in the family;

Role models of parents;

Access to mass media and cultural media;

The family's communication system with each other and others;

Level of pedagogical culture of family members;

Distribution of pedagogical forces in the family;

Family traditions;

Characteristics of parents' professional experience,

etc.

The analysis of family conflicts on the basis of drug addiction shows that it is not always possible to adapt in one family for a number of reasons. Therefore, the promising development of the concept of family criminotherapy in crime prevention developed by D.A. Shestakov is shown. Criminotherapy of family relations (grouped socio-psychological prevention) is considered the main type of crime prevention, and according to the scientist, family criminotherapy aims to prevent crimes by changing interpersonal relations in the family. The focus of the criminologist should not be on an individual person, but on the interaction between a person with a tendency to commit a crime and his family, the dynamics of the situation. The methodology of criminological therapy is universal for different types of criminogenic families, such as conflicted and alienated, malicious and aggressive, family of experienced drug addicts and family of casual users of drugs.

Experts have tested several models to explain how different factors in adolescents' lives influence their addiction, all of which suggest that the family institution plays a central role in long-term drug use. The negative influence of peers on a teenager causes him to start using drugs or alcohol. In other words, while peer influence is often the cause of adolescents' initiation of negative behaviors, a positive family environment is the main reason why adolescents refrain from such behaviors, including drug and alcohol use, delinquency, and crime [7].

Although the negative influence of peers on a teenager cannot be denied, the relationship of a teenager with his parents has a significant impact on his social circle. When teenagers have a positive relationship with their parents, they choose peers who are positive influences [8].

Such studies allow us to identify the main causes of the drug problem in families.

According to Western researchers, there are various factors that help protect children from psychoactive violence. For example:

A sense of secure and healthy attachment in the parent-child relationship;

Parental control and effective discipline;

Upbringing in the spirit of socially useful and national, family values;

Constant involvement of parents in the child's life;

Parental support (emotional, cognitive, social and financial).

Such studies focus on children and families experiencing acute or chronic difficult life events and confirm that parenting and family factors help young people cope with difficult family situations and achieve positive outcomes [9].

Research shows that children who are willing to help, encourage independence, insist on rules, and are consistent and fair about discipline are more resilient and adapt to



difficult situations than other children. These types of parents are often called "authoritative parents" [10].

Other factors that contribute to resilience include a well-structured family environment, fostering relationships, family values, family cohesion and flexibility, and family-friendly problem solving and coping skills that continuously build in all family members.

Research shows that parents and families can be powerful protective factors in the lives of children and adolescents. Some family traits can act as strong risk factors. Inability to cope with children's behavior, overly strict and inconsistent discipline, and lack of opportunity to acquire social skills cause social, psychological, and academic problems in children and adolescents [11].

In general, a chaotic environment in the family and lack of family harmony is one of the main factors in the origin of drug addiction.

The measures mentioned above are part of comprehensive social measures aimed at preventing drug addiction in the family. If the normal socialization of the individual is provided in the family and creative work, healthy lifestyle, socially significant interests, and high moral qualities prevail among his values and skills, then the person will have strong immunity against bad habits that cause drug addiction. Prevention of drug addiction in family life is closely related to the problems of anti-drug education of children in pre-school educational institutions, general education schools, and educational institutions. If the state does not have an anti-drug education system, they can serve as a prevention center that provides a barrier to drug addiction. Prevention of drug addiction in educational institutions is an urgent problem. Drug addicts engage in unique internal group relations, look for like-minded people, join groups, mislead the weak-willed, and create a whole drug network, where new victims fall on the basis of individuals, relationships, connections.

The risk of learning drugs depends largely on the situation in the family, so parents of students should be directly involved in the prevention of addictive behavior. Parents have misconceptions about the following issues:

Drug addiction is only a problem of incompetent families;

My children are not interested in drugs, so there is no need to teach them about it;

Prevention is the work of schools and doctors;

Strong control, lack of free time in the child - a guarantee of healthy behavior;

They believe that they are not responsible for drug prevention work.

Such parents do not know about the signs of drug use, do not believe that their children will become addicted to drugs. They do not understand the causes of addiction, and when their children become drug addicts, they turn to specialists late. They do not realize that children are influenced more by their own example than by advice. If parents have a positive attitude towards psychoactive substances such as tobacco and alcoholic beverages in front of their children, it is safe to say that children will have the same attitude.

In the process of prevention, parents should:

Current drug situation;

Factors causing and hindering the formation of dependent behavior;

Causes of drug addiction;

Signs of drug use;

It is necessary to introduce information such as the role of the family in the prevention of drug addiction;

Also, it is necessary to familiarize with the addresses of institutions that can be turned to in case of a problem with drugs in the family.

In other words, the interests of the children and youth of the parents participating in the meeting should be taken into account.

Parents should inform their children about psychoactive substances in the family and inform them about the consequences of consumption. Such an environment should be based on love for children, adequate demands and justice.

Parents should know the following about drug addiction in the family:

Causes of children's behavior disorders;

Psychology of motivation and punishment;

Situations related to drug use;

Child and dependency;

How to keep a child from consuming psychoactive substances, etc.

In the family, parents should be informed about the basic principles of preventing drug addiction in their children:

It is not necessary to deny the interests and needs of the child (pay attention to him, take care of him, take an interest in his life, help him in a difficult situation);

Respecting the child's independent choice (in clothes, hairstyle, music, etc.);

Without denying the danger of drug addiction, talk to the child about it;

Strictly prohibiting the child's interest in drugs, their consumption, and systematically carrying out explanatory work;

Pay attention to changes in the child's behavior and always monitor;

Set an example by taking a responsible approach to your health and healthy lifestyle;

Discuss more feelings in the family, boldly tell the child that you love him;

Compliance with the rules of non-dispute handling;

Allowing the child to independently resolve conflicts with peers in safe ways;

An attentive parent reacts quickly to changes in his child's behavior. It should be remembered that if the parents do not pay attention to the child, if they are not interested in his life, then others may "take care" of the child. These "others" may not only have their own opinion about drugs, but also their own self-interest. Therefore, working with parents to prevent drug addiction is one of the main aspects of the school.

Research shows that children and teenagers often get information about alcohol or drugs through movies and social



media. Most of these movies may have wrong ideas and as a result they will get the destructive ideas of the movies in their minds.

According to our observation, external signs indicating the use of psychoactive substances, drugs:

States of agitation or lethargy, lethargy;

Speech is meaningless, incomprehensible;

A mask-like, hypomimic, swollen face or, on the contrary, a violation of the animation of facial expressions;

Lack of memory, inability to think logically, explain their actions and reasons;

Insomnia replaced by incomprehensible energy, rapid fatigue;

Uncertain, staggering gait, uncertain, impulsive actions;

Swelling of the eyelids, redness of the face, the appearance of oily coatings;

Excessively narrowed or dilated pupils;

Needle marks on hands;

frequent odors coming from the nose;

specific smell from the mouth, clothes (similar to the smell of tobacco, smoke, glue or household chemicals);

decreased biological response, negligence.

As can be seen from the above points, there is a specific method for identifying teenagers who are addicted to drugs. External and internal signs can determine whether or not a teenager is addicted to drugs.

Domestic and foreign experts involved in drug addiction prevention - sociologists, psychologists, teachers, psychiatrists and drug addicts - believe that the family can and should protect the child from drug addiction.

## CONCLUSION

Therefore, the effectiveness of prevention in the family directly depends on the level of parents' involvement in it. It is the family that is able to give the child a stable immunity to drugs. Therefore, it is necessary to develop methods for solving preventive problems. Thus, mistakes in family education can lead a child to the abyss of addiction. Today, it is appropriate for parents to exercise strict control over their children's attendance at secondary schools, to oblige students to subscribe to various educational newspapers and magazines for children, to participate in sports and science clubs in secondary schools. Also, along with summer camps, children will learn various skills through the organization of computer technology, foreign language, mountaineering, tourism, young botanists, gardening courses in summer schools.

The formation of such an attitude in the family in the fight against drug addiction becomes a truly national effort and includes efforts both at the government level and through non-governmental structures and organizations.

Political scientist V. Kochkarov says that the future of the Uzbek family will change radically in the 21st century. Because the process of transformation of family relations is taking place. Family values, worldviews are changing. Differences between the worldview of parents and children are increasing more and more [12].

Creating a healthy environment in society has always been in focus. It is necessary to fight drug addiction among young people, first of all, starting with proper attention to education in the family. Effective use of legal norms is required to reduce this evil in society. After all, by inoculating all members of society with the "vaccine of honesty" [13] and the punishment of drug addiction, it leads to the loss of human mental condition as not only responsibility before the law, but also as a torment of conscience. In this context:

**Firstly**, taking into account the urgency of raising our children on the basis of national education, morals, and high spirituality, improving the most effective and practically tested methods and approaches of stabilizing the family environment and spirituality in it;

**Secondly**, based on the fact that the family is the first place for the formation of a child's mind, to study the material and spiritual foundations of further strengthening the educational opportunities of parents and to develop practical recommendations;

**Thirdly**, based on the characteristics of our national mentality, to develop new methods and means of instilling in the minds of young people the saying "Neighborhood is both father and mother";

**Fourthly**, it is desirable to improve the family legislation, having thoroughly studied the issue of combating drug addiction among young people.

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## SOME CONSIDERATIONS ON THE STUDY OF TABOO PROHIBITIONS

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### ABSTRACT

*This article contains scientific comments about the study of taboo prohibitions in world folklore. Prohibitions are studied in detail by Russian scholars, and great attention is paid to the study of Turkic, especially Bashkir folklore. Scientific works devoted to the study of taboos are also analyzed.*

**KEY WORDS:** *taboo, prohibition, Turkish prohibitions, holy, forbidden*

Taboos played an important role in the social and daily life of various nations. Since taboos are found in almost all genres of folklore, nowadays, their role and importance are widely studied. It is known that prohibitions have developed as norms of life over many centuries and have been generally perceived in people's mind as a specific measure of morality. As prohibitions have a syncretic character, the study of their genesis and mythological basis remains to be an actual issue today. The study of taboos in a scientific aspect helps to understand the process of the emergence of the first ideas about morality, to understand how people's views on morality, rights, duties, and responsibilities arose and developed. According to scientists, taboos were the only form of regulation of laws covering all spheres of life.

Although prohibitions have been studied in world folklore since the 18th century, they have been studied later in Russian, Turkic, Turkish, and Bashkir folklore. Analysis of modern Bashkir folklore as a separate genre means that prohibitions have their own characteristics. In Uzbek folklore studies, some comments about prohibitions have been stated.

In world folklore, the topic of prohibitions is first explored in the works of J. J. Frazer "Zolotaya Vetv" and Z. Freud "Totem i Tabu". Captain James Cook followed the life of the Polynesian Indians - aborigines, wrote an article in English in 1777 and coined the term taboo.

Taboo - "...words that are forbidden to be used in terms of incompatibility with religious beliefs and morals", actions, words and phrases that are forbidden to be used for some reason. Such acts were either sanctified or threatened as supernatural punishments that led to damnation. According to the understanding of ancient people, it was forbidden to mention the names of mythological creatures such as scorpions, wolves, scorpions, or animals, as if the names of such things would harm a person. **J. Frazer**, the concept of taboo appeared during the primitive community system and

was meant to celebrate, strengthen, sanctify, sometimes cursed. Tabu: Don't do this thing, because of this action, this ugly thing will happen. Gradually, in the social life of the society, various prohibitions arose from such thinking: ritual prohibitions - weddings, funerals, professional prohibitions - hunting, fishing, and moral prohibitions. The main reasons for the creation of these prohibitions were considered to be regulation of public life, protection of people from various dangers. Because these prohibitions, which encourage abstinence from habits and behaviors considered bad, appeared in ancient times, today's views on them are also different. For example, Frazer writes that the Eskimos forbade boys to play with string, supposedly because they thought that if he grew up to become a hunter, his fingers would become entangled in the string of a harpoon[1]. During the primitive communal system, there were more prohibitions on behavior and food that were considered indecent. Since taboos appeared very early, in the early primitive period of human society, it is impossible to determine for what purpose and when they were created.

While thinking about totems and prohibitions, Z. Freud notes that the ancient Romans, Jews and Greeks also had the concept of taboo. According to the scientist, prohibitions were used in two senses. The concept of taboos is even older than the concept of gods, meaning sacred or dangerous, stingy, forbidden, "holy fear". Z. Freud, commenting on the emergence of prohibitions, emphasizes that prohibitions arose as a result of the connection of people and things with supernatural, mysterious forces, that these taboos, which appeared under the influence of connection with supernatural forces, were taken over by the head of the tribe, the priest, and were passed down from generation to generation and became traditions. He points out that there are several main purposes for the emergence of taboos. Prohibitions arose in order to protect the priest's belongings



from damage, to protect weak women, children, and ordinary people from the priest's magical power and the dangers associated with touching the dead or eating forbidden foods [2]. In particular, there are more prohibitions related to important life events related to coming of age, marriage, childbirth. Various prohibitions appeared in order to protect people from the anger of supernatural forces - gods and devils, or the unborn, young children from various dangers. According to the scientist, the first system of punishing people is related to taboos. It was often possible to escape the inevitable punishment by performing religious ceremonies or by earnest penance. Sometimes taboos were both permanent and temporary. Taboos later gave rise to ritual folklore.

Since the 19th century, Russian scientists have tried to study this topic in detail. D.K. Zelenin, N.A. Alekseev, S.N. Artanovsky, Z.P. Sokolov, V.Ya. Propp, N.A. Baskakov, K.V. Chistov, V.I. Eremina, A. Scientists such as A. Popov, M.F. Kosarev, A.E. Burtsev, V.E. Dobrovolskaya, A.N. Afanasev [3] conducted serious research in this regard. Also, Russian scientists such as A.S.Kargina, A.V.Kostina, S.N.Belyakova, O.V.Egorova, L.V.Rubtsova have researched this topic in different aspects from their articles. In particular, D.K. Zelenin, A.E. Burtsev, V.E. Dobrovolskaya studied in depth the important role and specific features of prohibitions in the life of society. In 1929, the Russian folklorist D.K. Zelenin analyzed the forbidden words found in the peoples of Eastern Europe and Central Asia in his research. In this case, prohibitions related to the domestic, commercial and animal husbandry spheres of human activity are considered. According to the scientist, a word or a person's name can affect nature and human destiny[4]. A.E. Burtsev also studied the taboos used in the daily life of Russians living in Siberia [5]. Russian folklorist V. E. Dobrovolskaya also comprehensively studied the place and role of prohibitions in the life of the society, and focused on their semantics and significance. Also, this scientist studied prohibitions related to beekeeping and floriculture, sleep [6].

Taboo, which is one of the important magical concepts in the life of Turkic peoples, has been studied by Turkish folklorists as a concept that had a significant impact on the development of artistic thinking. Taboos and idioms in the samples of ancient folk oral works are first found in the work "Devonu lug'otit turk" by Mahmud Kashgari, a great researcher of the Turkic language, a great scientist of the 11th century. The culture, lifestyle and rituals of the peoples of Siberia, Altai, the Caucasus, and Central Asia have been extensively studied in a comparative-typological aspect.

Although prohibitions in the folklore of Turkic languages were initially studied by D.A. Zolotaryov, F.V. Plesofsky, A. Gadzhiev, A.A. Burykin, but the specific features of prohibitions related to the ancient worldview of the Turkic peoples were studied by A. Vildanov, V.I. Rassadin, N.A. Alekseev tried to reveal. G.Vidanov was the first to express his opinion about the place of prohibitions in the ancient religious outlook of the Turkic peoples[7]. V. I. Rassadin tries to explain the prohibitions on words and names. [8] His research focuses on the hunting prohibitions of the

Turkic peoples. N.A. Alekseev, while studying the first religious views of the Turkic peoples living in Siberia, also paid special attention to taboos [9].

Turkish scientist A. Inan[10] provides information about the prohibitions imposed on Shamonites. In the 20th century, Bashkir scientists such as R. Fakhretdinov, F.A. Nadyrshina, G.R. Husainova, R.A. Sultangareeva, A.M. Suleymanov, F.F. Gaysina, F. Khisamitdinova and A.S. Mutina researched. R. Fakhretdinov[11] studied prohibitions in children's folklore, while F.A. Nadrshina in his scientific research detailed the function and place of prohibition words in Bashkir folk proverbs[12]. G.R. Husainova identifies the types of prohibitions in Bashkir folk magic tales[13]. R.A.Sultangareeva, A.M.Suleymanov researches prohibitions in rituals[14], and F.Khisamitdinova researches types of moral prohibitions in Bashkir mythology[15].

Bashkir scientist Gaysina Fanira Faskhetdinova analyzed prohibitions as a separate genre and defended her dissertation "Zaprety kak folklornyy janr v traditsionnoy kulture bashkir" ("Prohibitions as a folklore genre in Bashkir traditional culture") in 2013. In the scientist's research, prohibitions are interpreted as an independent genre of folklore. F Gaysina pays special attention to the study of the pre-Islamic and post-Islamic prohibitions of the Bashkir people. In the pre-Islamic prohibitions, taboos related to nature, animals, birds, celestial bodies and natural disasters were created, while the prohibitions created during the Islamic era are taboos familiar to the entire Muslim world. Islamic prohibitions and spiritual values have entered folklore through hadiths, moral views, stories, oral and written monuments, teachings of Sufis, dervishes[16].

A.S. Mutina also tried to study prohibitions in Bashkir children's folklore. According to the folklore scholar, folklore genres, including bans, help a child overcome fear, regardless of nationality and place of residence[17].

In her article, L.A. Abukaeva tried to determine the genre specificity of Mari prohibitions - oysrts. According to the scientist who studied the relations between prohibitions and other genres of folklore, prohibitions have fully penetrated into the structure of fairy tales, songs, and legends. It states that the main function of taboos is to treat objects of worship with respect[18]. Tatar folklorist Kh.Sh. Makhmutov researches the specific aspects of folk aphorisms and taboos that appeared after Islam on a scientific basis. It is known that in the prohibitions created before the introduction of Islam, there were views related to supernatural forces, celestial bodies, and shamanism. With the introduction and spread of Islam, there were prohibitions that absorbed religious symbols[19]. M. Kh. Bakirov also tried to study prohibitions in Tatar folklore on a scientific basis [20].

In the following years, taboos were studied in philosophical, ethnographic, sociological, and philological aspects. Among the Bashkir scientists, ethnolinguistics of taboos was studied by R.N. Khadiev, history of prohibitions by R.N. Sulaymonova, philosophically by D.J. Valeev, Z.Ya. Rakhmatullina, L.A. Itkulova, and prohibitions in relation to creatures, wild animals and birds by A.F. Ilimbetova, F.F.



Ilimbetov, Z.G. Aminev, L.A. Yamaeva studied that as a result of the adoption and spread of Islam, prohibitions that absorbed religious symbols were formed [21].

In Uzbek folklore studies, attention is paid to the study of some aspects of taboos. K.Imomov's book "Poetics of Uzbek Folk Prose" contains ideas about one of the ancient mythological rituals-ceremony, "initiation", when a gray-haired boy - a teenager who has reached the age of puberty begins to break the clan-tribal order (that is, breaks the taboo). Initiation was considered a religious ceremony that a teenager must attend during the transition to manhood. According to the mythological concept, the dead who broke the prohibition, resurrected after participating in the ritual ceremony, and considered born, indicates that the roots of the prohibition go back to very ancient times [22]. Folklorist O. Qayumov, who studied the folklore of Uzbek shamans, notes that prohibitions are important in the practice of Uzbek shamans and their rituals, taboos embody a certain mythological essence and are an integral part of the religious view. It is reported that in shaman's visions, pain is imagined as a result of evil spirits occupying the human body, and the tradition of finding the pain without telling its true name is the reason for the use of metaphor in shaman's sayings[23]. The scientist's candidacy work on fairies also contains comments on the prohibitions imposed on the image of fairies.

Also, Sh. Nazarova, who studied the specific features of the trial motive in Uzbek folklore studies, notes that the roots of this motive go back to the ancient men's association "Forty chiltons". It is argued that the roots of the test motif arose in order to discipline gray boys who broke the ban in ancient times[24].

In conclusion, it should be noted that prohibitions appeared in the early stages of human society, and changed and improved with the development of mankind. The prohibitions created for various reasons and purposes reflect the rules of the individual society.

So, the study of taboos and prohibitions in folklore can be evaluated as follows:

1. The specific characteristics of taboos have been thoroughly studied in world folklore by scientists such as J. Fraser, Z. Freud, Russian and Bashkir folklorists.
2. Some aspects of prohibitions in Uzbek folklore have been studied in the researches of K. Imomov, O. Qayumov, and Sh. Nazarova.
3. Although it has been studied as a separate genre in Bashkir folklore studies, we believe that it is necessary to study taboos as a separate category.
4. The study of the prohibitions in folklore genres expands the ideas about the development of moral views created during the development of mankind, and serves to form ideas about the education of a perfect person.

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