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THE IMPACT OF MANAGEMENT INFORMATION SYSTEM IN PRODUCTION ORGANIZATIONS

Okeke Kosisochukwu Ebube¹

¹Department of Management, Faculty of Management Sciences
University of Port Harcourt, Nigeria

Ogu Kingsley Obinna²

²Department of Management, Faculty of Management Sciences
University of Port Harcourt, Nigeria

Nwoye Christian Obiekwe³

³Department of Management, Faculty of Management Sciences
University of Port Harcourt, Nigeria

ABSTRACT

This research study examined the impact of management information system in production organizations' in selected production companies in Port Harcourt. Various literatures that showed the impact of MIS on manufacturing firms' decision-making was reviewed, primary and secondary data were used in the study. This study checks how management information system helps an organization to perform effectively. It also appraised the problems encountered in the installation and structural framework of information systems as well as analyzing the socio-economic factors that affects the flow of information in production companies in Port Harcourt. From the research, it has been deduced that management information system has significant impact on production organizations in terms of decision-making and profitability. Finally, in other to make an organization to perform effectively and function well, this research would recommend that MIS should form an important unit in all production organizations. Since the survival of any production firm in this technology era depends on it.

KEYWORDS: Management Information System (MIS), Decision- Making, Profitability, Production Companies, Information System, Port Harcourt.

INTRODUCTION

Management Information System (MIS) is generally thought of as an integrated system providing information to support operations, management and decision-making functions in an organization (Ajayi and Omirin, 2007). MIS involves three primary resources: technology, information and people. All of these resources are important but the most important resource is people. MIS are regarded to be a subset of the overall internal controls procedures in a business,

which cover the application of people, documents and procedures used by management accountants to solve business problems such as costing a product, service or a business-wide strategy (Lucey, 2004). An MIS is basically concerned with the process of collecting, processing, storing and transmitting relevant information to support the management operations in any organizations (Laudon and Laudon, 1999). Information plays a crucial role in the decision-making process. Decision-making is the process of choosing

what to do by considering the possible consequences of different choices (Beyth, fishhoff, Jacobs and furby 1991).

The role of information in decision- making cannot be over emphasized because effective decision -making demands accurate, timely and relevant information. Information resource is one of the major issues and indices of manufacturing firms planning. Where the relevant information required for planning are not available at the appropriate time, there is bound to be poor planning, inappropriate decision- making, poor priority of needs, defective programming or scheduling of activities. Hence, the manufacturing system will not be efficient and effective in its operation (Simon 1994); thus, MIS is an accessible and rapid conveyor belt for appropriate high quality information from its generation to its users.

However, management is the act of getting people together to accomplish desired goals and objectives using available resources efficiently and effectively (Balking, Robert, luiz and Gomez 2008). Management comprises planning, organizing, staffing, leading or directing, and controlling an organization for the purpose of accomplishing a goal. The essential role of MIS is to bring eligible individuals who would transform raw data into meaningful information to be used presently in future decision-making process. It aids the functioning and monitoring of an organization. It also describes the components and resources to ensure the proper functioning of an organization. The use of MIS has changed the physical layout of offices to accommodate local networks and departmental integrated systems. It is also a formalized procedure to provide management at all levels and in all functions with appropriate information from all relevant source to enable them make timely and effective decisions.

A well-planned management information system enables a business firm to determine its information needs in a perspective that is important to its need, which is evaluated in relation to the overall operation of the organization (Andrew 2004). Effective MIS requires operational personnel who are skilled in a wild array of quantitative techniques. All levels of management need information on which to base decisions, plan, organize and control the overall structure of management information system. Information is the key element in any organizational process. It results from the processing of data. It is also a central component of communication process. It is also a system used in converting data from internal and external sources into information and communicate that information in an appropriate form, to managers at all levels in all functions to “enable them to make timely and effective decisions for planning, directing and controlling the activities for which they are responsible.”(Bee and Bee, 1999). In discussing MIS, the definition and main components of information

system are brought into focus. Information System (IS) is a business process, a way to control and manage people, technologies and organizations through the use of information to give a competitive edge (Gates and Hemingway, 2000). According to kumar (2006), in order to define MIS, it must be principally divided into three facets that constitute it- which are management, information and system. Management is the process through which firms organize, initiate and control their operations in their environment. Kumar also stated that information generally refers to analyzed business statues, principles and theories advanced by various scholars.

Finally, system according to kumar refers to a set of elements joined together for a common objective. Based on the foregoing definitions, MIS refers to a system that uses information in order to ensure apt management of businesses. Fundamentally, all the facets of MIS run concomitantly in order to ensure overall efficiency of the whole system. Failure in one part means overall failure for the other parts since they are all designed to function independently (davenport and short 1990). An effective management information system typically employs computer and other sophisticated technology to process information that reflects the day-to-day operations of the company. Based on the above, management information system is an integrated manual computer system that provides information to support the operations of managements and the decisions making functions of a company. In most organizations, the management information system covers at least these three systems which are likely to be the following:

- [1] Personal system: It traces flow of employees in the firm, that is, those entering and leaving the firm, their pay, and even seniority location.
- [2] Commercial system: This traces the flow of material, sub-material etc into and out of the firms.
- [3] Financial system: This traces flow of money or fund into, through or out of the firm.

Historically, managerial uses of management information system were focused in making internal operations faster, more accurate and more efficient. Today, the more exciting users of management information system are those that provide additional values for external user. Those managers who find ways to bring additional values to their external user with the firm management information system will gain additional market shares. Planning, directing and controlling are the essential ingredients for management. In essence, the processing of data into information and communicating the resulting information to the user is the key function of MIS. It should, therefore, be noted that MIS exist in organizations in order to help them achieve objectives, to plan and control their processes and operations, to

help deal with uncertainty, and to help in adapting to change or, indeed, initiating change.

STATEMENT OF THE PROBLEM

Many production companies are not aware of the importance of MIS in decision- making and solving problem. Those that are aware have not fully incorporated it into their system; this led to making some wrong decision that at times tells negatively on their productivity and profitability. It is pertinent to note that an MIS and its subset are effective if only the management is ready to establish an MIS that is covering all the operations of the organization and control measures are set up to protect it and professionals are the one managing it. Therefore the study tends to examine the impact of MIS in production companies in Port Harcourt.

OBJECTIVES OF THE STUDY

1. To examine the impact of management information system on production firm’s decision making.
2. To examines the effect of MIS in manufacturing business profitability.

HYPOTHESES OF THE STUDY

HO₁ MIS does not assist production companies in decision making

HO₂ MIS does not have significant impact on production companies’ profitability

LITERATURE REVIEW

Management

Management is the organization and coordination of the activities of a business in order to achieve defined objectives.

Management is often included as a factor of production along with machines, materials, and money. According to the management guru Peter Drucker (1909-2005), Management consists of the interlocking functions of creating corporate policy and organizing, planning, controlling, and directing an organization's resources in order to achieve the objectives of that policy. Sir Thomas More (1478-1535). The size of management can range from one person in a small organization to hundreds or thousands of managers in multinational companies.

Information

Information is data that have been put into a meaningful and useful context and communicated to be used for decision making. It is a processed data. When information is entered into and stored in a computer, it is generally referred to as data. After processing (such as formatting and printing), output data can again be perceived as information.

Characteristics of information:

The characteristics of good information are as follows,

- Relevance
- Timeliness
- Accuracy

- Reliability
- Usability etc.

System

A system is a set of component called subsystem which operate together to achieve common purpose.

Management Information System

A management information system is a system that has these three alternatives;

- I. Measures the impact of decisions, either before or after they are made.
- II. Measures the environment, because we can neither control nor forecast the effect of changing external circumstances
- III. React in an appropriate time-frame to enable us learn the development of potential trouble areas in time to take appropriate action.

Hence, MIS collects, processes, transmits and stores data on an organization’s resources, programs, and accomplishments etc.

Management information system (MIS) is a computerized database of financial, marketing, human resource and accounting information organized and programmed in such a way that it produces regular reports on operations for every level of management in a company. It is usually also possible to obtain special reports from the system easily. The main purpose of the MIS is to give managers feedback about their own performance; top management can monitor the company as a whole. Information displayed by the MIS typically shows "actual" data over against "planned" results and results from a year before; thus it measures progress against goals. The MIS receives data from company units and functions. Some of the data are collected automatically from computer-linked check-out counters; others are keyed in at periodic intervals. Routine reports are preprogrammed and run at intervals or on demand while others are obtained using built-in query languages; display functions built into the system are used by managers to check on status at desk-side computers connected to the MIS by networks. Many sophisticated systems also monitor and display the performance of the company's stock. Prentice Hall, 2005.

Production

Production can simply be defined as the process of transforming input to output. According to management dictionary it is the act of creating output, i.e. a good or service which has value and contributes to the utility of individuals. It is a process of workers combining various material inputs and immaterial inputs (plans, know-how) in order to make something for consumption (the output).

Company

A company, is a legal entity made up of an association of people, be they natural, legal, or a mixture of both, for carrying on a commercial or

industrial enterprise. Company members share a common purpose and unite in order to focus their various talents and organize their collectively available skills or resources to achieve specific, declared goals. (Wikipedia)

Production Company

A production company is a company that converts raw materials or components into finished products. These products are intended to meet the expectations and demands of customers. A production company according to kazmi et-al is any company that uses components, parts or raw materials to make a finished good. These finished goods can be sold directly to consumers or to other producing businesses that use them for making a different product. Production companies in today's world are normally comprised of machines, robots, computers and humans that all work in a specific manner to create a product.

Production companies can be very simple, with only a few parts required for assembly, or they can be very complicated, with hundreds of parts needed to create a finished product.

The Role of Management Information System In Production Companies

Management Information Systems (MIS) provide regular information to Producers to allow them to make decisions based on data rather than guesses. Also, MIS can lower operation cost. The use of MIS to share information across functional areas can eliminate redundant efforts. This is particularly important as small business grows. When a company has only a few employees, it is relatively easy for them to be in contact with one another often enough to share knowledge directly. As the number of employee's increases, however, and people are divided into teams or functional areas, it becomes more difficult to keep the lines of communication open and encourage the sharing of ideas. As a result, for example, the sales and marketing departments may spend time developing descriptions of new products that highlight different features of the product, creating confusion that ends up with customers not understanding exactly what a product does, and leading to product returns or even the loss of customers. The basic idea about management information system measures inputs and/or outputs, allowing managers to analyze the relationship between them and make decisions based on the outcomes they desire (Clarke, 2007).

Types of Management Information System

It should be recognized that not all types of Management information systems can be applied in production industries because the entire business environment in production firms is somehow different from other business. Below are the main types that apply in most of the production firms:

- **Financial Management Information System (FMIS)** - Financial Management Information System (FMIS) creates reports about a company past and present money activities. The FMIS can show a company's profit and losses, financial records about a company, and states how the company is doing, decisions on spending and how a company can control cost. FMIS most of the times is applied in production industries that use the same financial systems.(Alfred M. Jaeger and Rabindra Nath Kanungo, 1999)
- **Marketing Management Information System (MMIS)** - Marketing Management Information System (MMIS) handles product creations, sales, prices, advertisements and future business decisions. MMIS makes decisions on product and service appearance. MMIS manages customer contacts, makes questionnaires for customer feedback about their company product or service and tracks customers' spending habits.
- **Human Resource Management Information System (HRMIS)** - Human Resource Management Information System (HRMIS) manages employees and selection of employees. HRMIS looks at needs of the employees, the workforce rules, the hiring process, training, and job assignments. The company's HRMIS is in charge of payroll and medical care for its employees.

Role of Management Information System In Improving Decision Making

It is vital for there to be a good information system since decisions are based on information available. In relations to this, Jahangir (2005) states that based on the significant role that information plays in choice of decision to be made, organizations must ensure that they have a good management information system. As a notable general observation, a good MIS ensures good decision making just in the same way bad MIS propel the making of bad decisions.

Essentially, before deciding on which MIS strategy to use, it is vital to ensure that the choice made is fully compatible with your current system. This will not only help in avoiding erratic choices but it will also save you the time and money that would have been otherwise wasted by that person (Rhodes, 2010; Jahangir, 2005). In addition to that, it is noteworthy for the MIS strategy or tool used to be in line with the decisions that are to be made. In other words, there should be a connecting point between the decision to be made and the MIS to be used by individual or corporate business owners (Jarboe, 2005). As a key consideration, Management Information Systems is a highly complex and delicate arena that calls for a lot of

caution to be taken by its managers. It is for this reason that it is recommendable for organizations to ensure that they carefully select the individuals who are placed to control the systems. The more cautious and professional a person is, the better the person gets an assurance of positive prospects of MIS with regards to decision making and other related areas of business (Lingham, 2006). In addition, most MIS programs are endowed with the capacity to give real-time updates of the occurrences in company or system. By real-time, scholars simply refer to immediate updates of occurrences in a system. These immediate updates help managers to take necessary actions as soon as is deemed appropriate—especially during the discovery and management of crises.

This augments progress and improvement in company operations through timely decision-making. This is important for companies in the modern-day generation where any slight lapse in decision-making can lead to very huge losses (Allen, et al., 2010). Still, Management information systems are very elemental to improving company securities (Davenport & Short, 1990). Furthermore, the programmability of most MIS saves a lot of priceless time and resources for owners. In other words, through programmability, business managers can program the systems to automatically discover certain deficiencies and even solve them. Consequently, the manager or system operator can use the time and resources he/she would have used in monitoring or fixing problems for other key uses. By routinely programming a Management Information System, the business is bound to make positive progress since time and resources can be easily channeled into rightful business paths (Allen, et al., 2010).

As a fundamental point, a good number of MIS used today can perform multiple tasks all at the same time. This potential to multitask increases efficiency in a company since several business operations can be conducted simultaneously. With special regards to decision making, the capacity to multitask ensures that decisions are made speedily when compared to those systems which can only handle one task at a time. Closely related to the above point, Jahangir (2005) says that some MIS allow multiple users to access the same content all at the same time without any discrepancies. This potentiality boosts accountability from the business operators since multiple people can access a particular content and verify whether they are consistent or not.

As a matter of fact, most organizations tend to suffer due to poor accountability from those charged with the mandate to manage certain details. This safeguard action of some MIS is what macroeconomists refer to as the “gate-keeping” role of MIS in decision-making and overall well-being of the organization.

On another level, a good number of MIS play the role of record keeping or institutionalization of databases that can easily keep confidential or invaluable information. In essence, decision making often calls for the reading of certain past work (Jahangir, 2005). This is where record-keeping comes in handy. On the flipside, databases normally function towards providing future places of information retrieval. Principally, the record keeping and data basing tool of MIS definitely ensures that decisions are made viably while businesses run smoothly. In contributing to the arguments regarding role of MIS in improving decision-making, Rhodes (2010) also adds that Management information systems give managers quick access to information. This can include interaction with other decision support systems, information inquiries, cross-referencing of external information and potential data mining techniques.

These systems can also compare strategic goals with practical decisions, giving managers a sense of how their decisions fit organizational strategy. In summary, Rhodes simply believes that management information systems are a huge contributing factor in the getting of viable information from organizations. Sadly, very few organizations have been able to ardently take up on this role and even lead other organization in the society in doing the same. It is for this reason that there has been a limited improvement in decision-making based on the tailoring of viable information. A candid way of solving this challenge is given later in this paper under recommendations. Over the recent years, there has also been an increased usage of automated Management Information Systems. To a large extent, these automated systems have hugely revolutionized the decision making process in a positive way (*UStudy*, 2010). For instance, by using automated MIS, companies no longer have to rely on 24-hour services from workers. Instead, the machines are able to be programmed to do things on our behalf (Jarboe, 2005). Of course this offers a huge plus in decision-making since managers are relieved of making some decisions, especially the technical ones which can be best interpreted and solved by the automated system.

As a cautionary point, organizations should not entirely rely on automated systems, especially when the decisions to be made have adverse implications to the organization. This is based on the alleged observation that auto systems may sometimes be faulty and thus require frequent periodic monitoring (Demetrius, 1996). So in order not to fall a victim of over-relying on automated systems, Jahangir (2005) advises managers and company owners to ensure that they find a balance in utilizing the human element in operating while assigning some duties to the automate system. By blending the duties of these two extremes, Jahangir states that, this will ensure that both ends of the organization continue to actualize together while

maximizing the potential for each side through check and balances of operations done by the management. Again, MIS is renowned for vesting its operations on systematic methods of operations.

Crucially, this ensures that decisions made in a business are orderly and well-planned, which in effect, encourages objectivity during decision making. As a result, businesses and the decision making process are improved through its systematic and orderly formula of operating (Jawadekar, 2006), and Jahangir (2005) adds that the principles, strategies and modes of operation in MIS can be intellectually used by macroeconomists to sieve between good and bad decisions. Once the sieving is done, good decisions are encouraged while the bad ones are sidelined and greatly discouraged. Effectually, this ensures positivity in terms of decisions made by organizations which, essentially, links up directly to improving the decision making process. A good number of scholars amass that MIS tends to be a more practical business tool with testable methods of operations. Its proposition and argumentations, therefore, provide tangible information that can be used to make substantiated decisions (Jawadekar, 2006). This is in great contrast with a majority of business tools existing today, which are mostly hypothetical. In effect, decisions founded on MIS tend to be accurate and viable when compared to its counterparts which, in turn, encourage improvement of business decisions.

Finally, Management Information systems play the crucial role of providing a wide range of streamlined options from which decision-makers are able to make their preferred choices (Vittal & Shivraj,2008). Vitially, this ensures that whatever choices are made by decision makers, the outcome, more often than not, becomes positive. This, as a matter of fact, is the reason why many decision makers tend to prefer using MIS tools when making tough business choices. And as renowned concept, having good decision choices guarantees viable decisions in our businesses (Vittal & Shivraj, 2008 and Jawadekar, 2006).

METHODOLOGY

Secondary data was used to get information with respect to key variables; Primary data was also used in the study which includes personal interview and questionnaire administered to 8 selected production companies in Port Harcourt. For this study, purposive random techniques were adopted in order to reach into those production companies that are crucial to the accomplishment of the study and in analyzing the research study. Moreover, these companies are known to be vast in the usage of MIS. LIKERT attitude of measuring scale, Chi-square, percentages and table were used.

The formula for chi-square is given as:

$$X^2 = \sum \frac{(FO - Fe)^2}{Fe}$$

Where:

X² = chi square calculated.

F₀ = observed frequency distribution

F_e = expected frequency in the hypothesis

∑ = summation

r = total number of row

c = total number of column

Degree of freedom (df) = (r-1) (c-1)

The hypothesis will be tested at 5% confidence level (p) and 5% significance level.

The decision rules for chi-square is; if computed value is greater than the table value, accept the alternative hypothesis and if otherwise, it is rejected.

DATA PRESENTATION AND ANALYSIS

Questionnaire Administration/Responses

Firms	Distributed	Returned copies	% returned
NKN PLC	30	25	83.3
SMR LTD	30	27	90
EPS LTD	30	26	86.7
FA PLC	30	29	96
JOC LTD	30	27	90
LF PLC	30	28	66.7
SCIGM LTD	30	27	90
SAS LTD	30	25	83.3
	240	214	86

Source: Survey Data 2017

GRADING SCHEDULE

Classification	Grade	Point
Strongly Agree	SA	5
Agree	A	4
Undecided	U	3
Disagree	D	2
Strongly Disagree	SD	1

[A] Impact of MIS on manufacturing firms’ decision making

Table I: The use of MIS has assisted them in choosing the best decision among alternatives

VARIABLES	TOTAL FREQUENCY	PERCENTAGE
STRONGLY AGREE	41	47.6
AGREE	15	17.44
UNDECIDED	1	1.16
DISAGREE	18	20.93
STRONGL DISAGREE	11	12.79
TOTAL	86	100

Source: field survey 2017

From the above table, we can see that 41(47.6%) strongly agree, 15 (17.44%) agree, 1(1.16%) undecided, 18(20.94%) disagree, while the remaining 11(12.79%) strongly disagree. Also from the table

above, majority of the respondent strongly agree that the use of MIS in production companies would help them in making decisions for the company.

Table II: MIS helps them in taking profitable decisions

VARIABLES	TOTAL FREQUENCY	PERCENTAGE
STRONGLY AGREE	32	37.21
AGREE	29	33.72
UNDECIDED	5	5.81
DISAGREE	11	12.79
STRONGL DISAGREE	9	10.47
TOTAL	86	100

Source: field survey 2017

From the above table, we can see that 32(37.21%) strongly agree, 29 (33.72%) agree, 5(5.81%) undecided, 11(12.79%) disagree, 9(10.47%), strongly disagree. Also from the table above, majority of the

respondent strongly agree that the use of MIS in production companies would help them in taking profitable decision.

Table III: MIS help in maintaining customer –staff relationship

VARIABLES	TOTAL FREQUENCY	PERCENTAGE
STRONGLY AGREE	32	37.21
AGREE	38	44.19
UNDECIDED	-	-
DISAGREE	16	18.60
STRONGL DISAGREE	-	-
TOTAL	86	100

Source: field survey 2017

From the above table, we can see that 32(37.21%) strongly agree, 38(44.19%) agree, 16(18.60%) disagree.

Also from the table above, majority of the respondents agree that the use of MIS helps in maintaining customer – staff relationship in production companies.

Table IV: MIS helps in locating potential customer

VARIABLES	TOTAL FREQUENCY	PERCENTAGE
STRONGLY AGREE	25	29.07
AGREE	39	45.35
UNDECIDED	10	11.63
DISAGREE	12	13.95
STRONGL DISAGREE	-	-
TOTAL	86	100

Source: field survey 2017

From the above table, we can see that 25(29.07%) strongly agree, 39 (45.35%) agree, 10(11.63%) undecided, 12(13.95%) disagree. Also from the table

above, majority of the respondent agree that the use of MIS in production companies would help them in locating potential customer.

Table V: MIS assist firms to have competitive edge over competitors

VARIABLES	TOTAL FREQUENCY	PERCENTAGE
STRONGLY AGREE	44	51.16
AGREE	29	33.72
UNDECIDED	-	-
DISAGREE	13	15.12
STRONGL DISAGREE	-	-
TOTAL	86	100

Source: field survey 2017

From the above table, we can see that 44(51.16%) strongly agree, 29 (33.72%) agree, while 13(15.12%) disagree and the rest were nil. Also from the table above, majority of the respondent strongly agree that

MIS assist production companies in taking decisions that will give them competitive edge over their competitors.

[B] EFFECT OF MIS ON PRODUCTION COMPANIES PRODUCTIVITY

Table VI: MIS assist firms in conserving their resources

VARIABLES	TOTAL FREQUENCY	PERCENTAGE
STRONGLY AGREE	39	45.35
AGREE	31	36.02
UNDECIDED	7	8.14
DISAGREE	9	10.47
STRONGL DISAGREE	-	-
TOTAL	86	100

Source: field survey 2017

From the above table, we can see that 39(45.35%) strongly agree, 31 (36.02%) agree, 7(8.14%) undecided, 9(10.47%) and the rest were nil. Also from

the table above, majority of the respondent strongly agree that MIS assist production companies in conserving their resources.

Table VII: MIS has assisted the production companies in producing quality product

VARIABLES	TOTAL FREQUENCY	PERCENTAGE
STRONGLY AGREE	34	39.53
AGREE	39	45.35
UNDECIDED	2	2.33
DISAGREE	8	9.30
STRONGL DISAGREE	3	3.49
TOTAL	86	100

Source: field survey 2017

From the above table, the respondent 34(39.53%) strongly agree, 39(45.35%) agree, 2(2.33%) undecided and 8(9.30%) disagree, while 3(3.49%) strongly

disagree Also from the table above, majority of the respondent strongly agree that MIS has assisted production companies in producing quality product.

Table VIII: MIS has improved the efficiency of manufacturing product.

VARIABLES	TOTAL FREQUENCY	PERCENTAGE
STRONGLY AGREE	36	41.86
AGREE	32	37.21
UNDECIDED	4	4.65
DISAGREE	9	10.47
STRONGL DISAGREE	5	5.81
TOTAL	86	100

Source: field survey 2017

From the above table, the respondent 36(41.86%) strongly agree, 32(37.21%) agree, 4(4.65%) undecided and 9(10.47%) disagree, while 5(5.81%) strongly

disagree Also from the table above, majority of the respondent strongly agree that MIS has improved the efficiency of manufacturing product.

Table IX: MIS has improved the quality of the product in terms of meeting the product specification.

VARIABLES	TOTAL FREQUENCY	PERCENTAGE
STRONGLY AGREE	33	38.37
AGREE	37	43.02
UNDECIDED	4	4.65
DISAGREE	8	9.30
STRONGL DISAGREE	4	4.65
TOTAL	86	100

Source: field survey 2017

From the above table, the respondent 33(38.37%) strongly agree, 37(43.02%) agree, 4(4.65%) undecided and 8(9.30%) disagree, while 4(4.65%) strongly

disagree Also from the table above, majority of the respondent agree that MIS has improved the quality of product in terms of meeting the product specification.

Table X: MIS help in monitoring and analyzing recent technological developments pertaining to the product in view

VARIABLES	TOTAL FREQUENCY	PERCENTAGE
STRONGLY AGREE	33	38.37
AGREE	37	02
UNDECIDED	4	4.65
DISAGREE	8	9.30
STRONGL DISAGREE	4	4.65
TOTAL	86	100

Source: field survey 2017

From the above table, the respondent 33(38.37%) strongly agree, 37(43.02%) agree, 4(4.65%) undecided and 8(9.30%) disagree, while 4(4.65%) strongly disagree. Also from the table above, majority of the

respondent agree that MIS has helped production companies in monitoring and analyzing recent technological developments pertaining to the product in view.

Table XI: MIS helps to reduce customer losses, dissatisfaction, low quality, untimely delivery.

VARIABLES	TOTAL FREQUENCY	PERCENTAGE
STRONGLY AGREE	36	41.86
AGREE	32	37.21
UNDECIDED	4	4.65
DISAGREE	10	11.63
STRONGL DISAGREE	4	4.65
TOTAL	86	100

Source: field survey 2012

From the above table, the respondent 36(41.86%) strongly agree, 32(37.21%) agree, 4(4.65%) undecided and 10(11.63%) disagree, while 4(4.65%) strongly disagree. Also from the table above, majority of the respondent strongly agree that MIS helps production companies to reduce customer losses, dissatisfaction, low quality, untimely delivery.

The hypothesis is intended to determine whether MIS assist production companies in decision- making. For the purpose of testing this hypothesis, tables 1, 2, 3, 4, 5 and 6 will be used in the analysis. The hypothesis is stated below:

H1 = MIS does not assist production companies in decision making

Table XII observed frequencies

Tables	Strongly agree	Agree	undecided	disagree	Strongly disagree	Total
1	41	15	1	18	11	86
2	32	29	5	11	86	86
3	32	38	-	16	-	86
4	25	39	10	12	-	86
5	44	29	-	13	-	86
6	39	31	7	9	-	86
TOTAL	213	181	23	79	20	516

$E = \frac{RT \times CT}{GT}$

Where: RT= Total Role
 CT=Total Column, GT= Gross Total

1, $1 = \frac{213 \times 86}{516} = 35.5$

2, $1 = \frac{181 \times 86}{516} = 30.17$

3, $1 = \frac{23 \times 86}{516} = 3.83$

4, $1 = \frac{79 \times 86}{516} = 13.17$

5, $1 = \frac{20 \times 86}{516} = 3.3$

Table XIII; Analysis of data

Cell	O	E	o-e	(o-e) ²	(o-e) ² /e
1,1	41	35.5	5.5	30.25	0.85
2,1	15	30.17	-15.17	230.13	7.63
3,1	1	3.83	-2.83	8.01	2.09
4,1	18	13.17	4.83	23.33	1.77
5,1	11	3.33	7.67	58.83	17.67
1,2	32	35.5	-3.5	12.25	0.35
2,2	29	30.17	-1.17	1.37	0.05
3,2	5	3.83	1.17	1.37	0.36
4,2	11	13.17	-2.17	4.71	0.36

5,2	9	3.33	5.67	32.15	9.65
1,3	32	35.5	-3.5	12.25	0.35
2,3	38	30.17	7.83	61.31	1.99
3,3	-	3.83	-3.83	14.67	3.83
4,3	16	13.17	2.83	8.01	0.61
5,3	-	3.33	-3.33	-11.09	3.33
1,4	25	35.5	10.5	110.25	3.11
2,4	39	30.17	8.83	77.97	2.58
3,4	10	3.83	6.17	38.07	9.94
4,4	12	13.17	-1.17	1.37	0.10
5,4	-	3.33	-3.33	11.09	3.33
1,5	44	35.5	8.5	72.25	2.04
2,5	29	30.17	-1.17	1.37	0.05
3,5	-	3.83	-3.83	14.67	3.83
4,5	13	13.17	0.17	0.03	0.002
5,5	-	3.33	-3.33	11.09	3.33
1,6	39	35.5	3.5	12.25	0.35
2,6	31	30.17	0.83	0.69	0.023
3,6	7	3.83	3.17	10.05	2.62
4,6	9	13.17	-4.17	17.39	1.32
5,6	-	3.33	-3.33	11.09	3.33
TOTAL					86.8352

Final Decision

From the above, X calculation value of 86.8352 is greater than X table value, which is 31.4 at 0.05 level of significance and at a degree of freedom of 20. Therefore, alternative hypothesis H1 is accepted but H0 is rejected, which means that MIS assist production companies in decision- making.

Hypothesis Two

This hypothesis is intending to determine whether MIS has significant impact on production companies' profitability.

For the purpose of testing this hypothesis table 7, 8, 9, 10, 11 and 12 will be used in this analysis. The hypothesis is stated below:

H2 = MIS does not have significant impact on production companies profitability

TOTAL 9.09

Chi-square X cal = 9.09

Degree of freedom= (r-1) (c-1)

(5-1) x (6-1)

4x5

=20

Level of significance

Degree of freedom of 20 with a level to significance 0.05

X Tab= 31.4

Final Decision

From the above, X calculation value of 9.09 is less than X table value, which is 31.4 at 0.05 level of significance and at a degree of freedom of 20.

Therefore, alternative hypothesis H1 is rejected while H0 is accepted, which means that MIS does not have significant impact on production companies profitability.

Table XIV; analysis of data

Tables	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total
7	34	33	5	11	3	86
8	34	39	2	8	3	86
9	36	32	4	9	5	86
10	33	37	4	8	4	86
11	33	31	8	8	6	86
12	36	32	4	10	4	86
Total	206	204	27	54	25	516

$$E = \frac{RT \times CT}{GT}$$

Where: RT= Total Role
 CT=Total Column
 GT= Gross Total

- 1, 1= $\frac{206 \times 86}{516} = 34.33$
- 2, 1= $\frac{204 \times 86}{516} = 34$
- 3, 1= $\frac{27 \times 86}{516} = 4.5$
- 4, 1= $\frac{54 \times 86}{516} = 9$
- 5, 1= $\frac{25 \times 86}{516} = 4.17$

Table XV; Analysis of Data

Cell	O	E	o-e	(o-e) ²	(o-e) ² /e
1,1	34	34.33	-0.33	0.11	0.003
2,1	33	34	-1	1	0.03
3,1	5	4.5	1.5	2.25	0.5
4,1	11	9	2	4	0.44
5,1	3	4.17	-1.17	1.37	0.33
1,2	34	34.33	0.33	0.11	0.003
2,2	39	34	5	25	0.74
3,2	2	4.5	2.5	6.25	1.39
4,2	8	9	1	1	0.11
5,2	3	4.17	1.17	1.37	0.33
1,3	36	34.32	1.67	2.79	0.08
2,3	32	34	2	4	0.11
3,3	4	4.5	-0.5	0.25	0.05
4,3	9	9	0	0	0
5,3	5	4.17	0.83	0.69	0.16
1,4	33	34.33	-1.33	1.77	0.05
2,4	37	34	3	9	0.26
3,4	4	4.5	-0.5	0.25	0.06
4,4	8	9	-1	1	0.11
5,4	4	4.17	-0.17	0.03	0.01
1,5	33	34.3	-1.33	1.77	0.05
2,5	31	34	-3	9	0.26
3,5	8	4.5	3.5	12.25	2.72
4,5	8	9	-1	1	0.11
5,5	6	4.17	1.83	3.35	0.80
1,6	36	34.33	1.67	2.79	0.08
2,6	32	34	-2	4	0.12
3,6	4	4.5	-0.5	0.25	0.06
4,6	10	9	1	1	0.11
5,6	4	4.17	-0.17	0.03	0.01
TOTAL					9.09

Chi-square X cal = 9.09
 Degree of freedom= (r-1) (c-1) = (5-1) x (6-1) = 4x5 =20
 Level of significance

Degree of freedom of 20 with a level to significance 0.05
 X Tab= 31.4

Final Decision

From the above, X calculation value of 9.09 is less than X table value, which is 31.4 at 0.05 level of significance and at a degree of freedom of 20. Therefore, alternative hypothesis H1 is rejected while H0 is accepted, which means that MIS does not have significant impact on manufacturing firms profitability.

CONCLUSION AND RECOMMENDATION

From the analysis of the results, it can be concluded that the Management Information System adopted by some selected production companies in Port Harcourt have been averagely effective. The respondent have appreciated the fact that an effective Management Information System is very essential if an organization wants to remain relevant in the industry. The role an effective Management Information System plays in an organization are quite enormous and cannot be over emphasized. In conclusion, with all the findings earlier stated above, it would be noted that MIS has significant impact on the manufacturer's performance and decision- making.

Moreover, the survival of any business unit or manufacturing firm in this technology era depends purely on the manufacturer's ability to include the use of MIS in her day -to- day activities. For this, the researchers would like to recommend that MIS should form an important unit in all manufacturing firms since the survival of any manufacturing firm in this technology age depends on it.

Also other recommendations are:

1. There should be the introduction and operation of central-data-base management system through which information can be produced and communicated to various users at any point in time within the firm.
2. There should be flexibility in the nature/pattern and structure of management system in organizations so as to permit informed and easy information flow and accessibility to all information end-users.
3. There should be more seminars and training for the staff in the firms to improve their performance.
4. The company should pay more attention to communication through the media agencies. This goes a long way to promoting the company's control of the market.
5. The company should develop, acquire appropriate and suitable computer software and program to meet

it's ever- growing growth and expansion. In the same vein, skilful and experienced IT workers should be employed to manage the IT department of the firm. This is because without competent staff no appreciable impact can be affected in the firm.

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QUESTIONNAIRE

Please tick the most appropriate option where applicable.

5 Strongly agree. 4 Agree, 3 undecided
 2 Disagree, 1 strongly disagree

Company name.....

Department.....

Job position.....

Duration of work.....

SECTION A; DECISION MAKING

1) The use of MIS has assisted your organization in choosing the best decision among alternatives

5 4 3 2 1

2) MIS helps your organization in taking profitable decisions

5 4 3 2 1

3) MIS help in maintaining customer –staff relationship

5 4 3 2 1

4) MIS helps in locating potential customer

5) MIS assist your firm to have competitive edge over competitors

SECTION B; PROFITABILITY

6) MIS assist firms in conserving their resources

7) MIS has assisted the production companies in producing quality product

8) MIS has improved the efficiency of manufacturing product

9) MIS has improved the quality of the product in terms of meeting the product specification.

10) MIS help in monitoring and analyzing recent technological developments pertaining to the product in view

11) MIS helps to reduce customer losses, dissatisfaction, low quality, untimely delivery.