INFORMATION SYSTEM DEVELOPMENT PLAN FOR VS EATERY

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ABSTRACT

Business transactions will become more efficient and faster, making it better adapted to consumer intelligence (CI). Making ethical judgments can help businesses flourish by enhancing workflow and management, enabling for the development of superior services and opportunities. For a more effective and profitable company operation, a more contemporary gadget system would be ideal. A skilled leader's responsibility is to select a good technique. Fast, efficient, effective, and solid customer connections are characteristics of the VS Eatery Development Plan. Trying old techniques isn't always a good thing, but when it comes to business, there's always something new to try, which is why modernization is a trend and people all over the world are utilizing this sort of thing, which is why the researchers presented this type of System. The purpose of the research is to control the company's sales and inventory operations, make inventory monitoring easier, expedite the inventory report process, and provide correct inventory reports on time. These goals will help to maintain efficient working procedures while producing timely and accurate information for submission and compilation.

KEYWORDS: *Linked Information System, Sales and Inventory System, IT infrastructure, Transaction process, Transaction Processing System, Maintain and Survive.*

1. INTRODUCTION

Information systems have had such a significant impact on the society that historians refer to the current period as the information age. This is owing to the capacity to use information systems to gather, analyze, store, distribute, and alter huge amounts of data. As an information society, it is critical that we evaluate both the social and ethical consequences of the society's usage of information systems [1].

The Business Information System makes it simple to store operational data, revision history, communication records, and documents. Manual data storage takes a lot of time and money. A complex information system keeps information in a database, making it easier to find the data. It assists companies in organizing and analyzing raw data to generate meaningful information [2].

The Internet has transformed how businesses acquire and serve customers, as well as maintain relationships with suppliers. This alters people's access, communication, shopping, and entertainment, as well as corporate competitiveness and operations. Organizations that use the internet also deliver innovative products and services online. Users in enterprises are looking for more effective and efficient information systems used by the company. As a result, organizations must invest heavily in the deployment of information systems in order to get value and advantage in this new environment and remain competitive [3].

The implementation of the strategy throughout can aid in the achievement of the eatery's aims and objectives. In addition, the researchers conducted research on the business of development and how the suggested information system influences their business. This research provides a solution to small company challenges, as well as the opportunity to improve their social relationships and extend their commercial capacities.

1.1 Background of the Company

Food is one of the most basic human requirements. Everyone requires food for energy, stamina, health, and other reasons. Eating has served as a cultural practice in both European and Asian history, producing and reproducing social distinction and reflecting historical and cultural specificities [4]. In addition, every country has a distinct cuisine culture. The food sector is now as significant as other industries across the world. Without a question, cuisine is one of the most important factors that affect consumers' decision to dine at a restaurant.

The business has started on this year in the month of March 21st, Mrs. Vibelyn Soncio, the business owner, saw the opportunity to start a business in an eatery. Mrs. Vibelyn decided to build in Tadeco road, Panabo City, Davao del Norte and saw

that the location provides more prospects for the business because it is near the road, which means that customers and potential customers can easily see it.

The business is a simple eatery with tables and chairs inside. VS Eatery served food at a low cost because it aims to be affordable for the customers particularly on new normal.

1.2 Current routines and business processes
1.2.1 Current Routines

Eatery is a colloquial term for a restaurant where customers may buy and consume prepared cuisine. A diner is one type of restaurant, whereas a Chinese restaurant is another. Eatery is a far less formal phrase than restaurant. It was first used in 1901, from eat, with its Old English root of etan, "to eat, devour, or consume." Food enterprises and restaurants in particular are among the most profitable business prospects, which is why many entrepreneurs are drawn to create an eatery. However, it is frequently difficult to make a restaurant a success [5].

The eatery consists of necessary products, such as the delightful flavor of many types of food, which are sold to customers and supplied to consumers the best quality items at affordable costs. The restaurant also believes that it focuses on customer satisfaction to win its customers' trust and preferences and, if required, handles with any changes to the items and improvements.

The company has Monday to Saturday activities such as selling, cleaning; keeping the surroundings neat and clean. Because it is a restaurant business, the chef must cook for the customers and serve it upon ordering their meal. VS Eatery do not have break time. Staff can only eat when the number of customers is low or there's no customer.

Table 1. Event Table of VS Eatery

Start Time	End Time	Task	Duration
4:00 a.m.	5:45 a.m.	Cooking different food for the business	1 Hour and 45 minutes
5:46 a.m.	5:59 a.m.	Cleaning the place and arranging all the tables and chairs for the early	
5:59 a.m.	6:00 a.m.	The daily opening time of the store.	
6:01 a.m.	8:30 p.m.	Costumer Serving customer and continuous cleaning of the tables of costumer after leaving	13 Hours
8:30 p.m.	9:00 p.m.	Closing the eatery, cleaning all the dirt, washing all the dishes.	30 Minutes

1.2.2 Business Process

VS Eatery opens at 6:00 a.m. till 9:00 p.m. each and every day. Customers are serviced by this type of business, and must wait for the orders to be served. After the diner has finished eating, one of the employees will make the payment. When the diners leave, one of the employees will immediately clear the table. The Eatery always keep the restaurant spotless before opening the doors, especially nowadays in new normal.

1.3 Problems Found

This study seeks to provide solution to the existing problems arose from VS Eatery. These problems including the following:
- **Lack of Information System.** When came to the eatery, the researchers observed and discovered that there was no information system.
- **Inventory.** Manual inventory is employed to monitor the stock of VS Eatery.
- **Financial Management.** The VS Eatery have trouble managing finances while purchasing materials for the dishes, according to the interview.
- **Transaction Process.** Transaction procedure is entirely manual. The Eatery occasionally lose critical company data.

1.4 Goals and Objectives
1.4.1 General Objectives
This study is to provide an information system to achieve the goal in improving the corporate manual process and decision making. It also intends to provide an IT infrastructure for the company workflow as well as to solve specific business difficulties. Another goal is to use the solution we offered to enhance their business operations, payroll, and stock inventories.

1.4.2 Specific objectives
The following are the precise goals of this information system development plan:
• To provide the organization with an accurate and efficient IT infrastructure for getting goods from suppliers and to assist in the development of a profitable business.
• To allocate the management with accurate data about the inventory and supplies using the presented system.
• To develop an information system that will aid business decision-making.
• To impart suggestions and potential solutions for the company's growth.

1.5 Organizational Structure
This shows how certain operations are directed in order to fulfill an organization's aims. Figure 1 shows the work flow inside the VS Eatery organization.
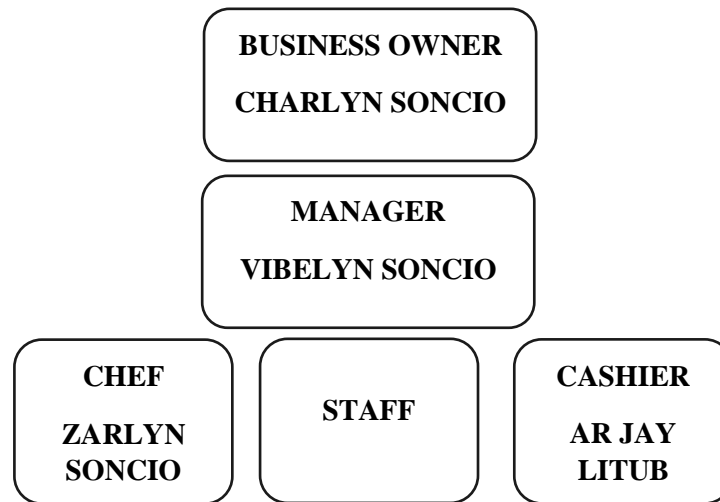

Figure 1: Organizational Structure of VS Eatery

1.6 Stakeholders
A stakeholder may assist a firm or organization in completing a project by offering crucial support, information, and resources. Figure 2 shows the important stakeholders who takes part in to the development of an Organization particularly VS Eatery.
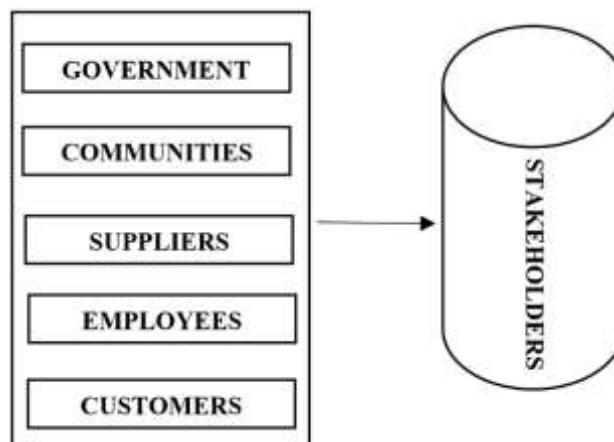

Figure 2: Stakeholders of the Organization

2. PROPOSED INFORMATION SYSTEM

The researchers developed a system to help with the execution of a competent transaction process, inventory procedure, and business expansion. Also, to contribute to and cope with the challenges and problems that arise during the development of such systems.

2.1 Review of Related Study

Detailed review of existing literature related to the topic of a thesis or dissertation to gain an understanding of the existing research and debates relevant to a particular topic or area of the study, and to present that knowledge in the form of a written report.

2.1.1   Related Literature

A computer-oriented system is a sophisticated system. It's more accurate, faster, and far simpler to deal with. However, other people prefer the non-technological technique. As a result, the program is critical for both small and large businesses, and it is designed to give the best services possible. It urge people to switch from a manual to a high-tech automated system since we know it improves business efficiency and production [6].

In addition, computer-based information systems clearly provide a more realistic and well-defined business model for enterprises to compete in today's digital economy. Despite the fast growth of corporate CBISs, it has been observed that there are frequently underutilized and suffer early closure owing to a variety of technical or cultural impediments. In today's economic situation, even small and medium-sized businesses have relied on computerized inventory management systems. As stated in this study, the promoter obtains insight into the processing of files and report generating. The program was designed to generate reports, inventory records, sales invoices, and service items [7].

The business profitability and competitiveness are impacted by a lack of competence to handle a stock monitoring system, including financial and infrastructural facilities. There are also inconsistencies in its supply chain. This problem involves complicated supply chain processes such as acquiring facilities, purchasing raw materials, transforming them into various types of dishes, and delivering to end users. As a result, uncertainty does not influence inventory policy decisions. Cook, for example, is underestimating the market's potential size. It produce more in anticipation of demand in order to earn greater money [8] .

Technology drives today's businesses. Every client encounter and internal procedure is significantly reliant on the computer systems that run everything. Management information systems (MIS) is a broad word that encompasses the numerous technologies that exist in today's businesses, as well as the humans required to administer them. Failure to strategize, fulfilling organizational needs, finding and maintaining talented personnel, remaining current, and integrating all technology are all common issues [9].

An information system can be deemed a failure if its design is not compatible with the structure, culture, and goals of the organization as a whole. Historically, information systems design has been preoccupied with technical issues at the expense of organizational concerns. The result has often been information systems that are technically excellent but incompatible with the organization's structure, culture, and goals. Without a close organizational fit, such systems create tensions, instability, and conflict [10].

Business information systems facilitate decision making and simplify the process of supplying essential information, allowing for faster decision making. Business Information Systems (BIS) may be efficiently deployed to improve communication between companies and workers. Information systems operate better because it keep documents and data in folders that employees can access and share. This guarantees that information flows between management and lower-level staff are monitored. This also allows front-line personnel to participate in decision-making and therefore feel motivated and dedicated to completing a task [6].

The information system can improve staff efficiency and productivity in supporting operations. Employee monitoring and tracking are critical components of information systems. This is especially true in financial transactions where management must avoid fraud and robbery. The security of the IT system is critical since managers rely on it to track customer payments and supplier bills. By enforcing its control features, the system restricts only authorized individuals from connecting to and using the linked services [10].

Certain elements must be considered, acquired, allocated, and controlled by organizations in order to attain these aims and objectives. One of these variables, inventory management, has always been a crucial concern for the company's survival and growth. The goal of inventory management is to keep stocks at the lowest feasible cost while ensuring continuous supply for ongoing activities. When making inventory decisions, management must strike a balance between the various cost components, such as the costs of supplying inventory, inventory-holding costs, and expenses resulting from inadequate stocks [11].

Poor inventory management is one of the leading causes of small business failure. Inventory management is fundamentally a balancing act between having too little and too much. The amount of inventory that is "just right" is frequently a

shifting objective. In addition to having too little or too much inventory, inefficient inventory management occurs because it do not have precise real-time information on how much inventory it have. This raises the possibility of errors in reordering material from suppliers or selling nonexistent inventory [8].

2.1.2   RELATED SYSTEM
The system includes retail shop administration, cash drawer control, payment processing, order management, customer profile access, accounting integrating software, and POS hardware integration, such as barcode scanners and receipt printer capabilities. A POS system provides a completely integrated eCommerce platform that allows businesses to manage goods, have a single customer view, and analyze multichannel sales data in both storefronts and online stores.

2.2   POS System ([Point-of-Sale)
A POS system offers several benefits including as data forecasting, order planning reports, integrated accounting, and automatic inventory management based on client orders. It does not, however, account for other causes of inventory loss, such as spoilage, spillage, inefficient or improper food or drink [12].

Preparation, customer complaint resolution, and theft. Unless the information is entered manually, a POS system cannot account for the aforementioned eventualities. Taking inventory by hand produces a more complete and accurate report [13].

Managing a retail shop necessitates a variety of administrative, management, and marketing abilities. These abilities are required for the shop to function successfully, from maintaining adequate inventory to compiling monthly sales statistics. An effective point of sale (POS) system may go a long way toward ensuring that all of the operations run smoothly, and merchants who invest the time and resources to create such a system before the need, thus it will reap the rewards [14].

2.2.1   Functionality
This shows the ability of a system on how it works or function in a business. The POS or Point of Sale system may function in the following:
- Record transactions that the store made which allows scanning and selling products without wasting time is beneficial for a retail business.
- Managing the stock in real time and know the quantity of goods owned over a given period of time.
- Helps the store meet the customer's needs and ensure customers satisfaction with purchased product. This can lead to additional revenue for the company.
- Record purchases sent to suppliers which allows to limit customer orders based on the amount of stock the store has in its inventory.
- Summarizes the company's activities over a given period of time which allows to have reports on various subjects such as accounting, sales, inventory, etc.
- Managing several stores within the same software in which the amount of work will be greatly reduced.

2.2.2   System Architecture
This reveals the conceptual model that specifies a system's structure, behavior, and additional viewpoints. It is a formal description and representation of a system that is arranged in a way that allows for reasoning about the system's structures and actions.
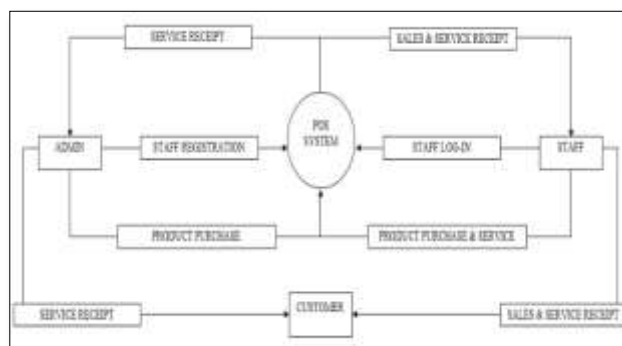

Figure 3: System Architecture of VS Eatery

2.2.3   Economic Feasibility
This show the net benefit of a proposed project receiving or disbursing electronic funds/benefits. It is an important factor in determining the viability of any technology for practical applications.

Table 2. Economic Feasibility of Health at VS Eatery

Cost Description	Cost (php)
Eatery Software	18,000
Training Cost	4,000
Customization of software	5,000
Software Maintenance	3,000
Total Cost	**30,000**

3. PROPOSED IT INFRASTRUCTURE

3.1. Proposed Computer Hardware

The researchers recommended this computer technology for the VS Eatery because it improves transactions, tracks data, and keeps information safe. These also recover the operations in a safer and faster manner in online transactions and preserve customer service connections.

A. *Desktop computer*

A computer device designed to fit on top of a desk can storeessential transactions and secure data.

Computer	Specification	Unit Cost (Php)	Quantity	Total Cost (Php)
Desktop Computer Set	• Core i5-9400 • Gigabyte h310m h 2.0 • 8gb RAM Memory • MSI RX 570 8gb oc • 1 Tera HDD, 256gb SSD • 600w True Rated PSU • Trendsonic Frontier Eclips	34,300.00	1	34,300.00
Overall Computer Hardware Cost				**34,300.00**

Table 3: Proposed Computer Hardware

3.2 Proposed Operating System Platforms

The researchers proposed a quick, familiar, safer, and more secure operating system that can run software applications.

B. *Windows 10 Home*

Antivirus, firewall, and internet defenses are embedded into a Microsoft operating system that supports software applications.

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Table 4. Proposed Operating System

OS Platform	System Requirements	Unit Cost (Php)	Quantity	Total Cost (Php)
Windows 10	**Processor:** 1GHz **RAM:** 1GB for 32-bit or 2GB for 64-bit **Hard disk space:** Up to 20GB available hard disk space **Video card:** 800x600 screen resolution or higher. Direct 9 Graphics processor with WDDM driver	5,974.39	1	5,974.39
Overall OS Platform Cost				**5,974.39**

3.2 Proposed Enterprise Software Applications

Enterprise software promotes company growth and is a tool for effectively running a firm; it assists and manages the complete business process.

Table 5. VS Eatery Features

VS Eatery sales report dashboard	- Reports enable users to monitor the daily procedures of VS Eatery business data such as client reservations and sales performance.
Inventory Management	- Inventory is an important aspect of any food company, notably in the prepared meals, and relates to all supplies and finished dishes. VS Eatery inventory management system to aid with cost control, etc.
Online order entry through VS Eatery POS	- Customers may now purchase online via POS, and the chef will be notified.
Finance	- Customer contact management, customer and sales management, invoicing, import customers, and import sales orders are all features that help the eatery's management thrive.
Billing and Payments	- Give the consumers and employees a more seamless POS experience.

3.2 PROPOSED NETWORK AND TELECOMMUNICATION

According to the study, this form of technology and broadcast communication would benefit this type of firm. The most important aspect of the problem is their limited communication, and any ramifications may reach to the clients and have a fast internet connection.

Switch Hub

The hardware that links devices on a computer. Prepare by changing the package to get advance information to the target device. A system switch is a multiport arrange connection that uses Macintosh offers to advance knowledge at the information interface layer of the OSI model.

Router

A device that interacts between the Internet and your company's Internet-connected equipment. As the name implies, it "routes" traffic between the device and the Internet.

Table 6. Proposed Telecommunication Platform

Network and Telecommunication	Specification	Unit Cost (Php)	Quantity	Total Cost (Php)
Switch Hub	TL-SD1016 D 16 port	1,821.89	1	1,821.89
Router	T L-Wr84 1N Wireless N Router	900.00	1	900.00
Overall Network and Telecommunication Cost				**2,721.8**

3.3 IT MANPOWER

IT manpower is proportional to efficiency. The more people who have access to work, the faster operations can be completed or the more projects an organization may undertake.

Manpower Development
- Education
- Skills
- Competencies
- Personality attitudes embodied.

Small and Medium-Sized Business (SMBs)

A firm is a small and medium-sized business (SMB). Because of its size, it has a diverse I.T. staff. standards – and is frequently faced with unusual I.T. problems – then embark on large undertakings, and whose I.T. Assets (often the budget and employees) are frequently highly driven.

Table 7. Proposed IT Man Power

IT Personnel	Specification	Salary
IT Maintenance Technician	Install, troubleshoot, and fix the hardware and software in the computer system.	**19,974.00/month**

4. CONCLUSION AND RECOMMENDATION
4.1. CONCLUSION

According to research, VS Eatery requires an information system and technology to update its operations. VS Eatery adhere to the traditional manual technique while nevertheless managing the business. However, the researchers saw the potential for this advised design strategy to improve an organization's performance and enhance earnings.

The study discovered how the VS Eatery deal with clients while performing the research; based on the findings, the proposed technology will make the business routines more efficient and speedy. The outcome will be the business; it will attain operational brilliance, resulting in substantial profits.

Business is difficult to run, especially when the company is tiny, but faith, support, and hard work will be rewarded someday. The researchers are happy that VS Eatery gave opportunity to perform and research this sort of company. The researchers expect that this would provide a fantastic opportunity to build the company.

4.1 RECOMMENDATION

This study will help the business grow, this following recommendation, if consider the proposal;

• Implementing the business plan enhance the flow of their business. The researcher also suggests familiarizing the system if consider and accept the suggestion. When contemplating whether to use the proposed system, the researcher also suggests educating the personnel on how to use current technology.

• While faced with an issue, always consider the consequence when making a decision and be patient and prepared to accept the new atmosphere to improve the VS Eatery.

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