Information System Technology Plan for Farmacia Cartaya's

Justin A. Rayon, Charles Jericho H. Villapa, Jobert C. Jamelo, Patrick Leonard U. Magdael

Bachelor of Science in Information Systems, Davao del Norte State College

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ABSTRACT

This research aims to explain in detail the development plan implementing the Information System on Farmacia Catayas. The company is the only one branch of the Panabo City, providing the customers with easy access to quality health and daily products. This study will give information and background of the business and the business owner or the person in charge of the company. By interviewing the owner or the person in charge, this research will provide and state an in-depth analysis of the business process and problems they have encountered in the industry. This study will propose an information system that will meet or assist the needs of the business and solve the current problems. Also, provide an IT Infrastructure plan to assist with the business workflow and management, which could lead to the development of excellent services and opportunities for the company.

Keywords: Customer intelligence, implement information system, business process and management, solve problems.

INTRODUCTION

Background of the Company

On October 18, 2021, Farmacia Catayas was founded in New Pandan, Panabo City. Judelyn Cebrero, the owner and a certified pharmacist, comprise the two employees running the pharmacy. This family-run company has a rich history of delivering pharmaceutical care and actively engaging with the community. Improving access to high-quality, reasonably priced medications for Panabo City residents is Farmacia Catayas' primary goal. By consistently maintaining a dependable supply of essential prescription drugs and delivering dedicated customer service, the pharmacy has established a strong reputation since its founding and earned the trust and loyalty of its customers. In addition, Farmacia Catayas offers over-the-counter medications, basic healthcare supplies, and community-specific pharmaceutical advice. By providing guidance on appropriate medication use and encouraging wellness through its easily accessible and individualized service, the pharmacy plays a critical role in public health. Farmacia Catayas is continually seeking to enhance and expand its product offerings. The pharmacy aims to improve customer convenience and meet contemporary healthcare needs by introducing digital ordering and delivery services. Due to its commitment to providing compassionate, affordable, and high-quality healthcare, Farmacia Catayas is a respected community healthcare partner that continues to grow.

Current Routines and Business Processes

Current Routines

Before opening at 8:00 AM, Farmacia Catayas starts its daily schedule with preparation work like cleaning and organizing the store. After that, employees concentrate on helping clients, handling transactions, and reviewing documentation to ensure everything runs smoothly until 10:00 PM. Before work resumes, a brief lunch break is observed mid-day to cover customer service, inventory checks, and restocking as necessary. Before continuing with extended work hours, which include scheduling deliveries and monitoring product availability, employees can rest for a short while later in the day. Closing procedures, such as last-minute inspections and property security, bring the day to a close. Monthly inventory assessments are also carried out to monitor stock levels and ensure all necessary products are restocked.

Table 1. Event Tables of Farmacia Catayas. New Pandan, Panabo City

Start time	End Time	Task	Duration
7:30 AM	8:00AM	Preparation	30Minutes
12:00PM	12:30PM	Working Time	3 Hours & 30 Mins
8:AM	12:00PM	Lunch Break	30Minutes
12:00PM	4:00PM	Resume Time	3 Hours & 30 Mins
4:00PM	4:30PM	Break Time	30 Minutes
4:00 PM	9:30PM	Resume Time	5 Hours & 30 Mins
9:30PM	10:00PM	Closing	30 Minutes

Business Process

The pharmacy typically conducts its operations beginning with a customer visit or prescription submission, where individuals either present a physical prescription or have it electronically sent by their healthcare provider. During this initial consultation, the pharmacist or pharmacy technician verifies the prescription details, including patient information, drug interactions, and insurance coverage. Following verification, the pharmacy staff reviews medication and checks inventory to ensure the medication is in stock. Due to availability or insurance restrictions, they may need to contact the prescriber for clarification or a replacement. A certified pharmacy technician prepares and fills the prescription after it has been verified, and a licensed pharmacist makes one last check to make sure the dosage, labeling, and patient instructions are correct. After preparation, the pharmacist may provide patient counseling to explain the medication's usage, side effects, and storage guidelines, especially for new prescriptions. Once everything is confirmed, the drug is dispensed, and the customer is paid through insurance processing or out-of-pocket. The process concludes with the recording and archiving of the transaction for compliance and future reference, ensuring that the customer receives safe and effective medication management.

Existing Technologies

They don’t have existing technologies in place to meet customer demands.

Problem Found

- **Lack of IT infrastructure** Without a website or online ordering and delivery system, the pharmacy cannot satisfy customers who wish to order online or cannot physically go there**.**
- **Inaccurate Inventory Records** Inaccurate inventory records present stocks in notebooks or spreadsheets, prone to human errors and inconsistencies.

Goal and Objectives

General Objective

The researchers aim to:

Propose and IT infrastructure for their efficient ordering through online, Order Management System (OMS) and Inventory Management System (IMS) to aid their sales and maintenance for effective working process.

Specific Objectives

The study targets business process optimization together with store routine enhancement. The Farmacia

The research project addresses the aim of enhancing the business processes and daily operations of Farmacia Catayas through **Order Management System (OMS)** and **Inventory Management System (IMS)**. The researchers aim to:

- Supply real-time inventory and order data for achieving error reduction and stock management improvement. Streamline the ordering process to enhance customer satisfaction and operational efficiency.
- Customer satisfaction and operational productivity will increase as a result of the ordering process becoming more effective.
- The pharmacy will receive support to switch from manual record-keeping to automated systems which enhances both sales and inventory control.

Organizational Structure

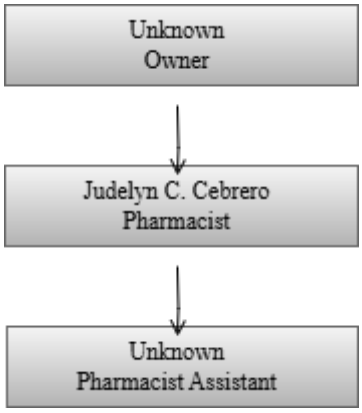

Figure 1: Organizational Structure of Farmacia Catayas. Panabo City

Stakeholders

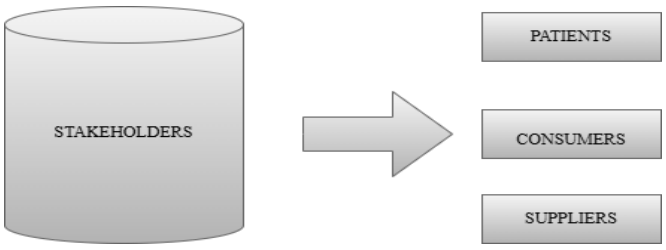

Figure 2: Stakeholders of Farmacia Catayas. Panabo City

PROPOSED INFORMATION SYSTEMS

The researcher proposed Ordering Systems and Inventory System. This information system can assist the business in developing, establishing, growing, and expanding.

Name of Information System

Inventory Management System - is a software solution that efficiently tracks, organizes, and oversees stock levels. It ensures smooth ordering, storing, and distributing processes while minimizing excess or insufficient

inventory. Ultimately, it functions as a system that handles inventory details by coordinating various elements and participants involved in managing stock[1].

Order Management System (OMS) - is a digital tool for handling customer orders from initial placement to final delivery. It helps coordinate sales, inventory, and logistics to ensure smooth and accurate operations. This system is especially beneficial for businesses dealing with physical products, as it allows companies to effectively manage and store records of both sales and purchases[2].

System Functionality

Used to manage customer orders from the time they are placed until they are delivered.

- Tracks when a customer places an order and when it is fulfilled.
- Helps the company deliver accurate and timely orders.
- Makes it easier to update inventory records in real-time.
- Builds efficient warehouse operations and improves decision-making.

System Architecture

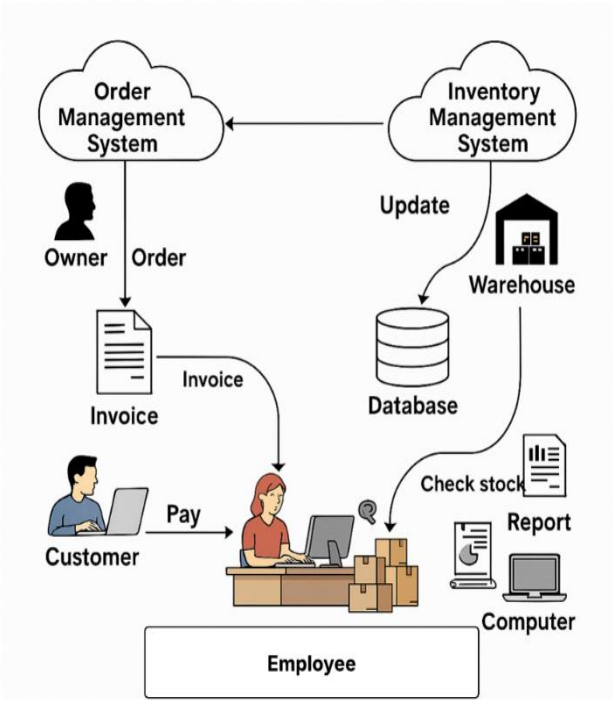

Figure 3. System Architecture of Farmacia Catayas. New Pandan, Panabo City

Cost Structure

Table 2. Cost Structure

Cost Description	Cost
Operational Cost	₱45,000
Maintenance Cost	₱10,000
Total Cost:	₱ 55,000

Proposed it Infrastructure and Peopleware

Proposed Computer Hardware

In the twenty first century, and technology slowly evolving itself. We're working to increase efficiency and fast transaction. So we'll need a fast-paced working processor to keep on top of all the data, files, or other data things that need to be saved.

Table 3. Computer Hardware

Computer Hardware	Specification	Unit Cost	Quantity	Total Cost
Desktop	Personal Computer or Business uses	₱10,000	1	₱10,000
Overall Cost: ₱10,000				

Proposed Operating System Platforms *Windows 11*

It is a significant release of the Windows NT operating system developed by Microsoft

Table 5. Operating System

OS Platform	Specification	Unit Cost	Quantity	Total Cost
Windows 11	1 gigahertz (GHz 4 gigabytes (GB) 64 GB	₱1,000	1	₱1,000
Overall Cost: ₱ 1,000				

Proposed Enterprise Software Applications

Enterprise can help the business growth also it is very effective and efficient to every business.

Table 6. Enterprise Software Applications

Enterprise Software	Specification	Unit Cost	Quantity	Total Cost
Enterprise Business Intelligence	robust data integration capabilities, advanced analytics, interactive visualizations, self-service BI, data governance, and strong security features.	₱6,555		₱6,555
Overall Cost: ₱6,555				

Proposed Data Management

Table 7. Data Management

Proposed Data Management	Specification	Unit Cost	Quantity	Total Cost
Microsoft Office	Excel Powerpoint Word	₱5,200	1	₱5,200
Overall Cost: ₱5,200				

Proposed Network & Telecommunications

The researcher offered this type of network which is Local Area Network (LAN) as a valuable tool for accessing data information and speeding up internet connections.

Table 8. Network & Telecommunications

Proposed Network & Telecommunications	Specification	Unit Cost	Quantity	Total Cost
Internet	25 Mbps of download speed and 3 Mbps of upload speed. Some can get a way with fewer Mbps, and others need more	₱2,000	1	₱2,000
Lan	1Mbps coax cable or 10BaseT twisted pair	2,700	1	2,700
Overall Cost: ₱4,700				

Proposed Internet Platforms

Online platforms bring costumer and producers together, allowing exchanges that would not happen otherwise.

Table 9. Internet Platform

Proposed Internet Platforms	Specification	Unit Cost	Quantity	Total Cost
Social Media	As web based and mobile-based Internet Application that allows the creation, access, and exchange of user-generated content	Free	1	Free
Overall Cost: Free				

Proposed IT Manpower

The researcher offered IT specialists who can assist and perform tasks to solve an existing problem. On the other hand, preventive maintenance involves proactive maintenance to avoid system failures.

Table 10. IT Manpower

Proposed IT Manpower	Specification	Unit Cost	Quantity	Total Cost
	1. Ensuring that parts, materials and systems are in good working order, prevent maintenance helps prevent failure. Troubleshooting is a systematic approach to identifying the source of the problem in a computer system. A solid preventative maintenance program helps in reducing	₱16,432	1	₱16,432

	losses.			
Overall Cost: ₱16,432				

CONCLUSION AND RECOMMENDATION

Conclusions

The study concludes that Farmacia Catayas needs an Information System to address the challenges caused by its current manual operations. Implementing the proposed Order Management System (OMS) and Inventory Management System (IMS) is vital for enhancing operational efficiency, streamlining business processes, and improving customer satisfaction. Establishing this IT infrastructure will increase the pharmacy's productivity and support its sustainable growth and digital advancement.

Recommendations

The study shows that enhancing the business's operations by adopting practical Information Systems and upgrading IT infrastructure is necessary. To achieve operational excellence, we recommend implementing an Inventory Management System (IMS) and an Order Management System (OMS) in our proposal to increase efficiency and improve the current business processes.

- The recommended system supports the management of inventory and order processing. The proposed methodology will help improve how inventory and orders are handled in the current business.
- We aim to develop and recommend these systems as valuable tools for efficient business management.
- Engaging external consultants is advised to modernize the IT infrastructure and perform basic technical diagnostics to ensure proper system control.

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