A PROPOSED CLOUD-BASED ENTERPRISE RESOURCE PLAN FOR BAGTILAY PHARMACY

A Capstone Project

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Service Management for Business Process Outsourcing Track

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THE RESEARCHERS

DEDICATION

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THE RESEARCHERS

Abstract

The goal of this study is to evaluate the effectiveness of the enterprise resource plan for Bagtilay Pharmacy, which will make it simpler and faster for the company to review data from Bagtilay at Ramos West Isabela and offer recommendations and solutions to the issues they run into on a daily basis. The proponents point out that the business is having issues with manual cashiers, inventory, and purchase orders, which can sometimes result in product duplication or missing files and reports that make it difficult to monitor business transactions in a timely manner.

The primary focus of this project is dealing with products in terms of their inventory and other information. Additionally, it shows all the data that is available, including the total number of users, categories, goods, and stock. The admin can control the project to the extent of his or her option from the user group management section, despite the fact that it is divided into the three categories of admin, pharmacist, and pharmacy aid. In this web application's overview, the administrator has complete control over the system and can handle all inventory information, business transactions, and much more.

Data collection for this descriptive study used quantitative and qualitative methods. A survey and an interview with employees of the Bagtilay Pharmacy were undertaken. The acquired data were analyzed and their meaning was determined using the mean, frequency, and percentage.

The respondents based on ICT resources revealed that the responses in Yes has a Grand Mean 33.3% and 66.6% in No, and the respondents based on Manpower skills in ICT has a Total Grand Mean of 69.94% described as Yes and at 29.97% in No. The researchers assess Bagtilay Pharmacy's readiness for the ERP framework adoption. It was determined that the Bagtilay Pharmacy wasn't capable of adopting the ERP since it lacked the necessary financial stability.

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CHAPTER I

INTRODUCTION

1.1 Project Context

The Enterprise Resource Planning (ERP) system is a business information system that integrates and optimizes a corporation's business processes and transactions. ERP is an industry-driven idea and technology widely acknowledged as a feasible approach for achieving integrated enterprise information systems in the industry.

Unlike many other public services and businesses, community pharmacies will remain open throughout the COVID-19 pandemic to provide vital counseling, knowledge, and medicine to patients and local communities. However, with a rise in demand for drugs and a shift in public behavior, such as panic purchasing of over-the-counter painkillers in response to the lockdown, pharmacy teams are under enormous strain.

The researcher observed that the organization faces a problem like a continuing drug shortage due to delayed drug delivery. Because of the COVID-19 pandemic and because sometimes the demands are too high, the pharmacy did not expect the rapid change in needs. Moreover, Bagtilay Pharmacy uses a traditional way of managing their business, and it is a very lousy and slow process. The interlink between the organizations was not appropriately organized, leaving various loopholes in the workplace for making errors both intentionally and unintentionally. The whole process was a complete mash-up, and it was not just a problem for the workforce; it was also the customer who often faced issues regarding time and money loss, which often made them move from one organization to another. Even business organizations were at a loss because of improper communication within their businesses. One of the proponents observes that if a customer wants to purchase a product, then the customer will go to the store and ask for the product. The pharmacy aid will find the product if it is available or not. Then when the product is not available, the pharmacy assistant will note the product. request/order from the supplier, and sometimes the order is duplicated, causing duplication of the product. The communication gap among the departments was so high that sometimes it would take two days to process the information from the pharmacy store to the supplier. Another thing is that when managing the inventory, the in and out of the product is not well monitored and that causes delays in ordering and drug shortages.

The purpose of this proposal is to propose a Cloud-Based Enterprise Resource Plan that can help the Bagtilay Pharmacy track the orders and manage the supply to check the medicines and products that are in and out of the pharmacy, to generate reports every day on which drugs and products are in demand, and to record each transaction that is happening inside the pharmacy. The pharma aid uses inventory management and POS to manage the stocks and ensure that the medicines and products are in good condition. In addition, POS is to give factual information on supplies available and lock the products to avoid consequences and medicine duplication.

1.2 Purpose and Description

This research is a Cloud-based Enterprise Resource Plan for Bagtilay Pharmacy, a three-year plan based on the organization's and management's ability to build a business re-engineering process that will use information and communication technology (ICT). Due to the identified difficulties with Bagtilay Pharmacy, this research proposes an ERP for Bagtilay Pharmacy as a solution. The goal of this project is to plan and provide an enterprise resource plan for Bagtilay pharmacy so that they can have accurate and reliable information when it comes to data management to avoid overstocking and to know what the products that are in demand.

1.3 Objectives

The main objective of this project is to design an Enterprise Resource Planning for Bagtilay Pharmacy to be used in managing the transactions in the pharmacy.

Specifically, this project aims to:

1. Identify Bagtilay Pharmacy's current problems in terms of Enterprise Resource Planning related to their daily transactions and services.

2. Design an ERP solution for the problems identified.

3. Evaluate the readiness of Bagtilay Pharmacy in the adaptation of ERP framework.

• ICT resources

• Manpower skills in ICT

4. Adopt an ERP system for the following transactions.

• Sales

• Purchase & Inventory

1.4 Scope and Limitation

The study's focus is on the sales, inventory management, and purchase functions of an Enterprise Resource Plan. While fulfilling customer orders, Sale can improve sales activity monitoring and delivery accuracy. Controlling the expiration of products and avoiding overstocking and First In First Out (FIFO) are all aspects of inventory management. All manufacturers who order multiple items from multiple vendors need to have a solid supplier database in place. The ERP collects and organizes all of the information you'll need about your suppliers, including their names and addresses, as well as the medicines and products they offer and their tax identification numbers. So that you may submit requests and orders with confidence, you'll always have the appropriate information from your providers.

The research focused on the planning stage. It means that there is no developmental period involved. A cloud-based system that can only be accessed using an internet connection to work.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter covers the review of related literature and studies that the researchers used in conceptualizing this research project.

2.1. Related Literature and Studies

2.1.1 Why Outsource?

According to K. Mundra and P. G. O. Prakash, in today's world, every business tries to increase the efficiency and effectiveness of its functioning and operations. They want to reduce operating costs while improving their performance. The worldwide enterprise resource planning systems market saw a growth of 9% taking the sales to reach. The majority of the companies in the world use Enterprise Resource Planning Systems for this purpose. Multiple modules make up an enterprise resource planning system, and they all work together to centralize corporate data from many departments.

2.1.2 Cloud Computing

According to El-Gazzar, R.F. (2014). Cloud computing has received increasing interest from enterprises since its inception. With its innovative information technology (IT) services delivery model, cloud computing could add technical and strategic business value to enterprises. However, cloud computing poses highly concerning internal (e.g., Top management and experience) and external issues (e.g., regulations and standards). This paper presents a systematic literature review to explore the current key issues related to cloud computing adoption.

2.1.3 What is ERP?

According to Baker (2019), most problems in ERP implementations are related to defining what the ERP system should do. This is difficult because employees cannot always articulate exactly what they do, why they do it or why they do it in a particular manner. Functional requirements should describe data relationships, process relationships and work flows. Jenson and Johnson(1999) recommend blueprinting the ‘current state’ of organizational processes. They suggest using business modeling techniques, documenting business events, identifying tasks and who performs them and diagramming the flow of information. They also suggest conducting a gap analysis comparing current practices with those provided by the ERP system.

The newest development in ERP systems is cloud-based ERP solutions. Due to the advantages associated with the implementation of cloud ERP compared to traditional ERP and the additional features that cloud computing technology delivers, cloud ERP is rapidly expanding as a contender to replace local ERP systems. Cloud ERP may be used right away and doesn't require a lot of upfront expenditure. Consequently, cloud ERP systems provide small and medium-sized enterprises a number of benefits (SMEs).

Regarding adoption factors, cloud computing is a subject that is being studied in academic and non-academic literature. In one industry environment, however, hardly any study is done on C-ERP. Similar to this, there is minimal research on C-decision-making ERP's process. Companies use the CC hybrid model as a present and future strategy, according to consumer goods industry and retail market research data. Despite the numerous technological and financial advantages, firms are hesitant to implement CC, especially in ERP because these systems are regarded as crucial to their missions. ERP enables system and business process integration across the entire organization. They may view possibilities and concerns differently depending on a country's location, industry, size, level of competition, and pressure. Since businesses of all sizes view opportunities and issues differently, there is a gap in the literature regarding the sort of industry that employs C-ERP. Size, business criticality, and organizational relevance are relevant criteria.

A pharmacy is frequently a busy location. Customers who require various prescriptions and expert guidance on how to utilize these medications frequently overflow the store. To supply client satisfaction through the service provided, the operations bring about a number of activities that must be completed promptly. Pharmacy duties also include checking medicine expiration dates, describing prescriptions, and maintaining stock levels in addition to sales and counseling duties. A cheap solution, such as pharmacy ERP (Enterprise Resource Planning) software, is required as a result of all these actions to guarantee efficient business operations. To ensure care and support for their patients during COVID-19, pharmacists, like psychiatrists, adjusted their methods. Community pharmacists must overcome a variety of obstacles to maintain patient care because they are considered a crucial frontline service. These consist of aiding in infection prevention, controlling supply chains, avoiding hoarding, and offering evidence-based medical advice.

The uncertainty surrounding the coronavirus illness of 2019 (COVID-19) led to anticipatory drug purchases worldwide, raising demand to previously unheard-of levels. Drug shortages occurred as a result of the disruption of the pharma supply chain caused by the closure of drug manufacturers to stop the spread of COVID-19. Pharmacy personnel modified regional procedures, implemented thorough antimicrobial stewardship, and placed restrictions on the amount of some medications that could be purchased at once in reaction to these prescription shortages.

This paper's major goal is to outline the effects of enterprise resource planning (ERP) and information technology (IT) systems on projects to update business processes. Syofyan and Putra (2020) define organizations or corporations as living objects or communities that strive to live up to the expectations of their creators. Owners who are also investors expect that their investments will advance the business (Sofyan, Putra, & Aprayuda, 2020). Investing in information technology can help us realize one of these dreams. Investment in information technology is necessary to preserve business vitality and competitiveness and is becoming increasingly important for the survival and expansion of the companies (Lu & Jinghua, 2012). A business must incur a comparatively high cost and considerable risk when investing in information technology. However, spending money on IT might open up chances to boost efficiency and enhance business operations (Putra & Rahayu, 2020).

When an organization's internal resources are integrated based on content, organizational capabilities are produced. Implementing Enterprise Resource Planning will improve organizational capabilities in information technology (ERP). ERP is a computerbased integrated system created to process business transactions and promote integrated planning, real-time production activities, and quick customer response, according to Aremu, Shahzad, and Hassan (2019). The management of all company resources that have an integrated function in one system is facilitated by an ERP system, which can provide material resource planning. An ERP system is an information system that integrates and automates all departments within a company, including finance, human resources, logistics, etc.

2.1.4 Inventory Management System.

According to Jeonsoft (2014), Inventory System aims to provide easier and faster way to monitor the movement of the business’ stock of goods. It is interactively designed to possibly do the common tasks done in customary way. From item entry, releasing of items, inventory adjustment, transferring of goods from one warehouse to another and production, sure you can keep track of your inventory. JIS uses Jibes XP Tools that has been especially configured with properties that would help you organize well the flow of your inventory. To ensure the security maintenance of JBS system, it has JADE (Jeonsoft Administrative Enforcer) programmed to protect the transactions in your system. Users will be asked to enter their login name and password to confirm if they are entitled to access the system. Using JADE, Administrators can also assign a specific module for employees to access since they are only entitled to access modules that are related to their work.

A sales and inventory monitoring system collects data to aid in production scheduling, accurate details, and reliable information. For example, some systems use recent sales data to forecast how many of a type of product will be needed to meet consumer demand in the near future. This includes monitoring the levels of a product at all locations. A good example is a global company with customers all over the world. The customer may live in Philippines, but the system must see if the warehouse in China has a product available to ship to Philippines. The similarities of the proposed system to the Sales and Inventory Monitoring Systemare almost the same in terms of Automated System, Connectivity, Platforms (PC or Android), and Point of Sale.

2.1.5 Supply Chain Management.

Supply Chain Management (SCM) is the comprehensive management and control of the movement of goods and materials, as well as the information related to them, across all divisions of a business and, in theory, across all phases of the supply chain. Thus, an SCM's activities have an impact on both internal business operations and cross-company networking with suppliers and clients. As a result, the internal supply chain works to improve the flow of materials and information throughout all of the value chain's divisions. "Inventory control," according to Chitale A.K. and Gupta R.C. (2014), is the process of continuously allocating receipts and issues so that stock balances are sufficient to support the current rate of consumption while taking into account the economy. In order to record economic prices and create a valued source in the right quantity, inventories are kept under control and made available when needed.

2.1.6 Point of Sale

The technology was advanced again to leverage modern day personal computing (PC) technology. Over the next several years, support for barcode scanning and payment card reading was added. Today, the most familiar example of a POS system would be the check-out counter at a retail or grocery store. However, there are many more forms of point-of-sale systems used in many business types (Posmatic, 2014).

A transaction made through a POS terminal enables the use of cash in deposit accounts for two purposes simultaneously. On the one hand, it enables the account holder to make any transaction without the physical presence of the cash. On the other, it enables the bank to use the cash for different purposes like credit for investors. This means specific

sums of cash can add higher value in short time. (Yonas2015, Sep 28)

A consumer is those people that use payment cards for the purchase of goods and service from merchants. Merchants are businesses who accept payment cards as a form payment for goods and services. Merchants are also the implementers of the POS systems (Gomzin, 2014).

2.2 Synthesis

The related literature specifies that articles are assessing the study. With the help of the literature provided by the proponents through the internet in terms of Enterprise Resource Planning (ERP), Sales, Purchase Management System, and Inventory System, the proponents earned ideas and knowledge supporting the project.

CHAPTER III

TECHNICAL BACKGROUND

3.1 Technicality of the project

Figure 1. The network architecture of Enterprise Resource Plan (ERP)

Figure 1 shows the network architecture of Enterprise Resource Plan. The system is connected to a router with the internet, and the different users can access the system through the switch. All of the information and data are always available on time because all the system's data is connected to the cloud. Therefore, it can generate daily reports for each transaction of a business. The pharmacy aide will request data from Sale management. The POS is where the transaction processing happens, and it will go to the switch and access the inventory management system and sale management system to check if the item is available and connect to the router. The router will give the data to the cloud and bring the reports to the POS, and the data will be feedback to the pharmacy assistant.

3.2 Traditional way of managing of Bagtilay Pharmacy

Figure 2. Traditional way of managing of Bagtilay Pharmacy

Figure 2 shows the traditional way of the Bagtilay pharmacy. First is the supplier; here you can see the products and receive an order. After that, they start storing the products and check the stock if some items are duplicated or available or not. They create an invoice on which you can see the list of goods shipped, usually showing the price and the terms of sale, and are ready to sell to the customer.

3.3 Technologies to be used

The following technologies are suggested for developing cloud-based computing. Cloud computing allows the user to do more than just browse and access by increasing what was already possible in cloud-based services. Cloud computing provides the user with the ability to store data and information. Software-as-a-Service, or SaaS for short, is a cloud-based method of providing software to users. SaaS users subscribe to an application rather than purchasing it once and installing it. Users can log into and use a SaaS application from any compatible device over the Internet. The actual application runs on cloud servers that may be far removed from a user's location.

Software as a service (SaaS) is a software distribution model in which a cloud provider hosts applications and makes them available to end users over the internet. In this model, an Independent Software Vendor (ISV) may contract with a third-party cloud provider to host the application.

3.4 How will the project work?

The proposed ERP solution is a cloud-based system. The system is connected to the internet with a local area network, and all the data and information are stored on the cloud. From the sales management system, the pharmacy aid will operate this system from there. The user will transact with a client who is buying the products and check if the products are available on the system cloud or not. If not, the system will generate reports, and the purchase management system will take some actions on where that product can get some stocks. After that, the inventory management system will add the restocked product to the system. All of the in and out transactions and services of the organization are stored in the cloud to generate reports to track the must-buy products in the pharmacy and what is happening daily.

CHAPTER IV

METHODOLOGY

This chapter presents the methodology used in the study. The proponents used the three phases of the Information System Strategic Plan. First is the Visioning Phase, which initiates and manages the project, understands the business situation, vision, documents, and confirms the business analysis. Second, the analyzing phase understands the current IS situation and solution alternatives. Third, the direction phase is developing the IS vision and direction, developing the IS plan, and identifying IS projects. Lastly, is the recommendation phase, being the development of the business case and communication of the plan.

Figure 3. Three phases of the Information System Strategic Plan

Figure 3 shows the different phases in the planning phase are the visioning phase, analysis phase, and direction phase

1. Visioning phase

• Department/ agency vision/mission statement

• Department agency profile

• The organization and its environment

• Strategic concerns for ICT use

2. Analysis phase

• Conceptual framework for information system

• Detailed description of proposed IS

• Databases required

• Network layout

3. Direction phase

• Internal ICT projects

• Performance measurement framework

• Development investment program

• Cost-benefit analysis

4.1 Visioning Phase: Requirement Analysis

4.1.1 Department/Agency Vision/Mission Statement

Name of Organization: Bagtilay Pharmacy

Type of Organization: Sole Proprietorship

DTI/SEC Registration No: 00125839

Main Office Address: 95 Ramos West San Isidro, Isabela

TIN: 924-9390-32

Figure 4. Organizational Profile

Figure 4 shows the number of employees in the Bagtilay Pharmacy, consisting of the Purchase Department, Sale Department, and Inventory Department.

4.1.3 The organization and its environment.

Figure 5. The organization and its environment.

Figure 5 shows the department/organization where there is a transaction between the hospitals and other organizations. The Department of Trade and Industry (DTI) role is to realize the country’s goal of a globally competitive and innovative industry and services sector, contributing to inclusive growth and employment generation and checking papers. Bureau of Food and Drug Administration (BFAD) serves as DOH's key regulatory agency and implementer of the country's food control system. In addition, they inspect medicine's quality expiration.

Historical Background

The Prowellness pharmacy, now the Bagtilay pharmacy, was founded in 2006 by Dr. Pio Devera Bagtilay JR. With the cooperation of his family and friends, they started in a small pharmacy in Rizal East San Isidro, Isabela. However, after two years, the pharmacy was transferred to Ramos West San Isidro, Isabela because they started an infirmary hospital with the pharmacy.

Vision Statement

To be the center of excellence in the pharmaceutical field, catering to the people of San Isidro and its neighboring towns. It shall start with a program as a health education provider to its consumers so that they are more aware of both the generic/trade names, dose and route of administration, and side effects provided in our Philippine drug formulary.

Mission Statement

Committed to providing the concept of total health care and education for all, it shall encourage the community to be aware of the drugs prescribed with regards to their generic/trade names, doses, and side effects, adhering to the rules and regulations mandated by the Philippine Pharmaceuticals Association.

Table 1. Strategic concern for ICT use in Frontline Service

Service Critical

Management

Operation

Business

System Problem Intended use of ICT

Frontline POS Manual computation of sales products. Point of Sale System

Pharmacy No real-time checking of medicine’s expiration in Pharmacy Inventory management system

Cashier Delayed retrieval and consolidation of patient’s bill Purchase management system

Table 1 shows the strategic concern for ICT use in front-line services. It shows the identified and critical management and operational business systems. The processes usually involve front-line services based on the stated problems encountered by the clients, employees, and management in each process.

Table 2. Strategic concern for ICT use in Back Office

Services Critical management/ operation/business

system Problem Intended use of ICT

Back office Reports Manual

Generating Reports

Daily Sale Management System (POS)

Supply of medicine

Delivery of Products Every day the supply and products are not adequately monitored due to the traditional setup of the pharmacy.

Taking lots of time to determine what products are needed to restock. Purchase

Management system

Inventory Management

It is taking too long to manage the inventory of products.

The number of supplies and products is miscounted sometimes. Inventory

Management System

Table 2 shows the strategic concern for ICT use in the back office. It shows the identified and critical management and operational business systems. Those are the processes usually involved in back-office services based on the clients, employees, and management in each process.

4.2 Analysis Phase: Information System Strategy

4.2.1 Conceptual Framework for Enterprise Resource Plan System

Traditional

Figure 6. Conceptual Framework of the Propose study

Figure 6 shows the conceptual framework containing the Enterprise Resource Plan (ERP), a cloud-based technology that helps the pharmacy store eliminate the traditional way of managing its business operations. On the right-hand side, that’s how the traditional way works, and on the other hand, the proponents come up with these functionalities: inventory, purchase, and point of sale. It will help the pharmacy perform well.

4.2.2 Detailed Description of the Proposed Information System

Table 3. Detailed Description Proposed IS

Hilsoft Lite Inventory License

• Purchase Order Management

• PO Entry & Printing

• Receiving Report

• No Shipment Monitoring &

Landed Cost

• Partial Receiving

• Purchase Order Summary &

Receiving Reports

• Order Management

• Sales Order Entry & Printing

• No Credit Limit Checking

• Logistics & Delivery Mgt

• Sales Order & Delivery Report

• Inventory Management

• Location Stock Transfer

• No Branch Stock Transfer Out / In

• No Job Order Management

• Material Issuances

• Production Report

• Wastages & Spoilage

• Issuance Reports

• No Production Variance Reports

• Stock on Hand Reports • Item Setup

• Item File (Merchandise, Supplies & Consumables,

• Raw Materials and Finished Goods)

• Up to Two Locations

• Up to Two Unit of Measures per Item

• Item Categories

• Costing Method

• Multiple Price Levels

Reorder Points & Reorder Qty (Min/Max

Inventory Level)

• No Bill of Materials Setup

• Users & Configuration

• Single Company

• Single Branch Setup

• Single Currency

• Up to 5 Users

• No Document Batch Processing

• Single Approval Process

• No Document Digital Attachment Audit Trail Reports

STATUS For Build up

DEVELOPMENTAL STRATEGY Outsourced

COMPUTING SCHEME Client-Server

USER INTERNAL Pharmacist, Administrator

EXTERNAL N/A

OWNER Pharmacy

Table 3 shows the detailed description of the proposed Inventory Management System. The system has its report, and this description is the guideline in developing the system. The proposed system status is for buildup. Their development strategy is outsourced. Their computing scheme was client-server Inventory Management System has its user only an internal user and the company’s owner.

Table 4. Detailed Description Proposed IS

Hilsoft Lite Accounting License

• General Ledger

• Journal Entry & JV Print

• Open / Closed Period Year End

• Max of Two-Segment Chart of Accounts

• Standard (Audit Format) Balance Sheet, Income

Statement, Trial Balance,

Cashflow

• Financial Report Generator (For Management

Reporting)

• Account Payable • Vouchers, DM’s & Check Vouchers

• Supplier Maintenance

• Payable Aging, AP Register, Check Register

• Optional BIR related reports

(Summary List of

Purchases, Purchase Journal, VAT Relief,

Monthly-Alpha List for Expanded

W/Tax) \*With

20% of License Fee Additional

• Account Receivables

• Sales Invoice, CM & OR

• Customer Maintenance

• PDC Monitoring • Receivable Aging, AR Register, OR Register, Sales Reports

• Optional BIR related reports

(Summary List of

Sales, Sales Journal, VAT Relief) \*With

20% of

License Fee Additional

• Cash Management

• Cash Adjustments, Fund Transfers

& Bank

Reconciliation

• Check Releasing

• Bank Accounts Maintenance

• Cash Position, Cash Forecasting & Bank Recon

Reports

• No Budget Management

• Users & Configuration

• Single Company

• Automatic Tax-Computation

• Single Branch Setup

• Single Currency

• Up to 5 Users

• No Document Batch Processing

• Single Approval Process

• No Document Digital Attachment Audit Trail Reports

STATUS For Build up

DEVELOPMENTAL STRATEGY Outsourced

COMPUTING SCHEME Client-Server

USER INTERNAL Pharmacist, Administrator

EXTERNAL N/A

OWNER Pharmacy

Table 4 shows the detailed description of the Proposed Purchase Management System. The system has its description, and this description is the guideline in developing the system. The proposed system status is for buildup. Their development strategy is outsourced. Their computing scheme was client-server Purchase Management has its user between internal and external and includes the owner of the system 4.2.3 Databases Required (POS)

Table 5. Databases Required (POS)

NAME OF DATABASE Sale Management System (POS) Database

GENERAL

CONTENTS/DESCRIPTION This database stores all the transaction in POS

STATUS For Build up

INFORMATION SYSTEMS SERVED POS System

DATA ARCHIVING/STORAGE MEDIA Cloud Storage

USER INTERNAL Administrator, Pharma aide

EXTERNAL Employee’s, Patient/Customer

OWNER POS department

Table 5 shows the databases required for Sale Management (POS), the names of the databases used for the Sale Management System (POS), and the description of the general content of the databases. The status of the database is being built up. First, it must specify the Point-of-Sale System (POS) that will serve the database. Then, in the data archiving store, identify all the possibilities to store the data; it also has two users—internal and external users. Internal users must specify the department’s name to use the Sale Management System (POS) in the organization. External users must say who can access the information, and the owner of the database must name the department that will use it

4.2.3 Databases Required (IMS)

Table 6. Databases required (IMS)

NAME OF DATABASE Inventory Database

GENERAL

CONTENTS/DESCRIPTION This database contains/stores the following information

• Name of Product

• Highest Selling of Products

• Latest Sale

• Recently Added Product

STATUS For Build up

INFORMATION SYSTEMS SERVED Inventory Management System

DATA ARCHIVING/STORAGE MEDIA Cloud Storage, External Drive

USER INTERNAL Administrator, Pharma aide

EXTERNAL N/A

OWNER Inventory Department

Table 6 shows the databases required for inventory; the names of the databases used for the Inventory Management System; and the description of the general content of the databases. The status of the database is being built up. It must specify the inventory management system that will serve the database. In the data archiving store, identify all the possibilities to store the data, and make sure it has only one user. Internal users must specify the department name that will use the Inventory Management System in the organization; the owner must determine the department name who shall be in charge of occupying the database.

4.2.3 Databases required (SCMS)

Table 7. Databases required

NAME OF DATABASE Purchase Database

GENERAL

CONTENTS/DESCRIPTION This database manages and oversees the flow of goods, data, and finances.

STATUS For Build up

INFORMATION SYSTEMS SERVED Purchase Management System

DATA ARCHIVING/STORAGE MEDIA Cloud Storage

USER INTERNAL Administrator, Pharmacist

EXTERNAL Supplier

OWNER Purchase Department

Table 7 shows the databases required for the Purchase System, the names of the databases used for the Purchase Management System, and the general content of the databases. The database status is build-up if there is none. It must specify the purchase management system that will serve the database. In the data archiving store, identify all the possibilities that could be used to store the data. It also has two users—internal and external users. Internal users must specify the department name that will use the Purchase Management System in the organization, and external users must specify who can access the information. The owner must specify the name of the department that shall be in charge of occupying the database.

4.2.4 Network layout

Figure 7. Network layout

Figure 7 shows the proposed network layout of the Bagtilay pharmacy is presented, showing the retained and submitted infrastructure. Each system is linked to the switch and then to the router, which reroutes it into its designated path.

4.3 Direction Phase: ICT Project

4.3.1 Internal ICT projects (POS)

Table 8. Internal ICT projects(POS)

Name/Title Sale Management System

Objectives • To provide a more effective and efficient way of managing the business.

• To avoid errors in product and supply redundancy.

• Monitor what is happening in the business in terms of sales.

Duration 1 Year

Deliverables Receipt, Reports, Sale Management System, Personal Computers, Printer.

Table 8 shows the detailed description of the ICT project for the Sales Management System (POS). The objectives to meet the system are on the second row of the table.

Finally, it shows the duration of the projects and the deliverables.

4.3.1 Internal ICT projects (IMS)

Table 9. Internal ICT projects(IMS)

Name/Title Inventory Management System

Objectives • To avoid overstocking and understocking of products in inventory

• To ensure that resources are available in sufficient quantities whenever and wherever they are needed.

• To eliminate duplication in ordering stocks.

Duration 1 Year

Deliverables Monitoring of products, inventory system, ensuring the safety of the products, tracking sales, reports

Table 9 shows the detailed description of the ICT project for the Inventory Management System. The objectives to meet the system are on the second row of the table.

It shows the duration of the projects and the deliverables.

4.3.1 Internal ICT Projects (SCMS)

Table 10. Internal ICT projects(SCMS)

1 Name/title Purchase Management System

2 Objectives • If needed, get product design help or other services from suppliers.

• Minimize inventory investment

• To minimize total system cos, satisfy customer service requirements, improve standardization

3 Duration 1 year

4 Deliverables Refining, design, and Purchase

Management System, monitoring of in and out of supply transportation.

Table 10 shows the detailed description of the ICT project for the Purchase Management System. The objective to meet the system is on the second row of the table.

It also shows the duration of the projects and the deliverables.

4.3.2 Performance Measurement Framework.

Table 11. Performance Measurement Framework (Inventory Management System)

Hilsoft Lite Inventory License

Hierarchy of

Targeted Results Objectively Verifiable

Indicator Base

Line

Data Targets Data collection methods Responsibilit y of collect data

Intermediate Outcomes

Better access to

IMS No. of minutes of tracking of products 5mins if a search of products Real-

Time System reports Pharmacy

Immediate

Outcomes

To improve IMS % of accuracy and efficiency of tracking No Base

Line

Data 100% of accuracy and efficienc y of tracking System reports Pharmacy

Outcome

Developed IMS No. of IS

Computer

Printers

No. of UPS 0 IS

0 IS

0 UPS 1 IS

1 IS

1 UPS Mandatory Reporting Pharmacy

Table 11 shows the performance measurement framework of the Inventory Management System, which indicates the hierarchy of target results in three parts. Intermediate outcomes are the effects of the ICT project on people. The immediate outcome is the effect of the ICT project on the organization, and the output of the project is the measurement of office productivity, including the hardware and systems. The OVI is the main half measurement of the system's intermediate, immediate, and output. The baseline is the current OVI. "Target is the estimated result of the ICT projects. The data collection method collects data and manages the department’s response to the proposed project.

4.3.2 Performance Measurement Framework.

Table 12. Performance Measurement Framework. (Supply Chain Management)

Hilsoft Lite Accounting License

Hierarchy of targeted results Objectively

Verifiable

Indicators

(OVI) Baseline Data Targets Data

Collection

Methods Responsibility to collect Data

Intermediate outcomes better access to SCM No. Of minutes checking products 5 min of checking products Real-time System report Pharmacy

Immediate outcomes to improve SCM %of checking products No

baseline data 100%

efficiency checking of products System report Pharmacy

Output developed SCM No of IS

Computer

No. Of

UPS 0 IS

0 IS

0 UPS 1 IS

1 IS

1 UPS Mandatory Pharmacy

Table 12 shows the Purchase Management System, which indicates the hierarchy of target results in three parts. Intermediate outcomes are the effects of the ICT project on people. The immediate outcome is the effect of the ICT project on the association, and the yield of the venture is the estimation for office usefulness, including the equipment and frameworks. The OVI is the main half measurement of the system's intermediate, immediate, and output. The baseline is the current OVI. "Target is the estimated result of the ICT projects. The data collection method gathers information and is in charge of managing how people respond to the proposed project.

4.3.3 Development Schedule

Table 13. Development Schedule of the Proposed IS

ICT PROJECT Year 1

Hilsoft Lite Accounting License

Hilsoft Lite Inventory License

Table 13 shows the scheduling of the proposed Information System on the first year the system’s implementation.

4.3.4 Summary of Investment plan

Table 14. Summary of Investment plan

Budget Item Year 1 Year 2 Year 3

Physical

Target Cost Physical

Target Cost Physical

Target Cost

OFFICE PRODUCTIVITY

Desktop Computer 3 67,500.00 0 0 0 0

UPS 1 5,898.00 0 0 0 0

Printer 3 in 1 1 4,500.00 0 0 0 0

Thermal Paper 1 500.00 1 500.00 1 500.00

INFRA-STRUCTURE

Router 1 2,990.00 0 0 0 0

Switch 1 580.00 0 0 0 0

LAN cable 1 490.00 0 0 0 0

RJ45 1 Box 150.00 0 0 0 0

OUTSOURCED Information Systems

Hilsoft Lite Accounting License 82,000.00 0 0

Hilsoft Lite Inventory License 82,000.00 0 0

Cloud Server 15,000.00 15,000.00 15,000.00

Total: 261,608.00 15,500.00 15,500.00

Table 14 shows the summary investment every year, including the office productivity, infrastructure, and outsourced information systems physical target and cost per year.

4.3.5 Cost-Benefit Analysis.

Table 15. Cost-Benefit Analysis

Hardware

Item Price

Desktop Computer 67,500.00

UPS 5,898.00

Printer 4,500.00

Router 2,990.00

Switch 580.00

LAN cable 490.00

RJ45 150.00

Thermal Paper 500.00

Software

Item Price

Hilsoft Lite Accounting License 82,000.00

Hilsoft Lite Inventory License 82,000.00

Cloud Server 15,000.00

Hardware Cost Total 82,608.00

Software Cost Total 179,000.00

Total: 261,608.00

Table 15 shows the hardware items and software of the proposed Sale Management and Inventory Management System. It also shows the total amount of the hardware and software.

4.3.6 Cost-Benefit Analysis of Traditional & Proposed

Table 16. Cost-Benefit Analysis of Traditional & Proposed

Traditional Proposed

Bond paper (500pcs. per ream, ₱150) -18reams/year 2,700.00

Pen (Box) -12 pen/year 1,000.00

Record Book

-1 record book/year 800.00

Calculator

-1 Calculator/year 2,000.00

Router 2,990.00

Switch 580.00

LAN cable 490.00

RJ45 150.00

Thermal Paper 500.00

Desktop Computer (x3) 67,500.00

UPS 5,898

Printer 4,500

Hilsoft Lite

Accounting/Inventory License 164,000

Cloud Server (Annually) 15,000.00

Pharma aide

41.62 /hour

=50perday\*24days\*12mont hs

=14,400 customer/year =14,400\*6mins/60\*41.62

=59,932.00 =14,400\*2mins/60\*41.62

Pharmacist

72.91 /hour

=25perday\*24days\*12mont hs

=7,200 customer/year =7,200\*10mins/60\*72.91

=87,492.00

=7,200\*6mins/60\*72.91

=52,495.00

Inventory

41.62/hour

=4hours\*24days\*12months

=1,152 hours/year

=4hours\*24days\*12months

\*41.62

=47,946.00

=1hours\*24days\*12month

s\*41.62

=11,986.00

Total: 201,870.00 346,066.00

Table 16 shows the comparison of expenses between the Traditional and Proposed. Table 17. Variance Between Traditional & Proposed

Year 0 Year 1 Year 2 Year 3

Bond paper 2,700.00

Pen 1,000.00

Record Book 800.00

Calculator 2,000.00

Router 2,990.00

Switch 580.00

LAN cable 490.00

RJ45 150.00

Thermal Paper 500.00 500.00 500.00

Desktop Computer 67,500.00

UPS 5,898.00

Printer 4,500.00

Hilsoft Lite

Accounting/Inventory License 164,000.00

Cloud Server 15,000.00 15,000.00 15,000.00

Pharma aide 59,932.00 19,977.00 19,977.00 19,977.00

Pharmacist 87,492.00 52,495.00 52,495.00 52,495.00

Inventory 47,946.00 11,986.00 11,986.00 11,986.00

Total: 201,870.00 346,066.00 99,958.00 99,958.00

Total Variance: -144,196.00 -44,238.00 55,720.00

Table 17 shows the Variance and expenses between the Traditional and Proposed System per year.

4.3.6 Return of Investment (ROI).

Table 18. Return on Investment (ROI).

Return of Investment Pharmacy Sale Management and Inventory Management System

Year 0 Year 1 Year 2 Year 3 Total

Value Benefit 346,066.00 99,958.00 99,958.00 545,982.00

Discount Rate 1 .9091 .8264 .7513

Present Value Benefit 314,608.00 82,605.00 75,098.00

Development Cost 346,066.00

Ongoing Cost 28,838.00 8,329.00 8,329.00

Discount Rate 1 .9091 .8264 .7513

Present Value Cost 26,243.00 6,883.00 6,257.00

Present Value of Ney Benefit and Cost 288,365.00 75,722.00 68,841.00

Cumulative

NPV 346,066.00 57,701.00 -18,021.00 -86,862.00

Payback Time 0.62

1year and 1month

Table 18 shows the return on investment (ROI) of the Sales Management System and Inventory Management System, the total duration of the system, the value benefit, the development cost, and the present value of the cost. This table also shows the computation of the payback period of the system.

4.4 Project readiness.

The organization’s readiness was measured through cost-benefit analysis (CBA) and return on investment (ROI). Upon the calculations, the proponents found out that the organization wasn’t ready to adopt the plan.

CHAPTER V

RESULTS AND DISCUSSIONS

This chapter discusses the results of the studies and the realization of the objectives of the project. The tables and figures below represent the answers to the main objectives of the project, such as:

5.1 Identifying the Problems

5.1.1 Identify the current problems of Bagtilay Pharmacy in terms of Enterprise Resource Planning related to their daily transactions and services.

Table 19. Thematic Analysis of the problems

Frontline Problems

Sales -Manual computation of sales products.

-Inaccurate sales recording and monitoring

-Manual Computation

-Manual Receipt

-Manual generation of reports using log book.

-Delayed retrieval and consolidation of patient’s bill.

Inventory -No real-time checking of medicine’s expiration date. -Manual checking of available medicine.

-Manual tracking of slow- and fast-moving medicine.

-Manual generation of reports using log book.

Purchase -Slow tracking of purchase orders.

-Manual generation of reports using log book.

Table 19 shows the answer to the objectives of the study. The current problems of Bagtilay Pharmacy in terms of Enterprise Resource Planning related to their daily transactions and services were identified.

5.2 Design an ERP solution for the problems identified.

Figure 8. Conceptual Framework for Enterprise Resource Plan System

The conceptual frameworks containing the Enterprise Resource Plan (ERP) are cloud-based technologies that help the pharmacy store eliminate the traditional way of managing its business operations. On the right-hand side, that’s how the traditional way works, and on the other hand, the proponents come up with these functionalities: inventory, purchase, and point of sale. It will help the pharmacy perform well.

5.3 Evaluate the readiness of Bagtilay Pharmacy in the adaptation of ERP framework.

The proponent conducted a survey questionnaire for the entire Bagtilay Pharmacy.

The Bagtilay Pharmacy consists of 3 respondents.

Table 20. Perception of the respondents based on the ICT resources

ICT Resources Yes No

1.Do you have Computer in your workplace. 0 0% 3 100%

2.Do you have a fast and stable internet connection. 3 100% 0 0%

3.Do you have a printer/scanner. 0 0% 3 100%

Grand Mean 1 33.3% 2 66.6%

Table 20 shows that the ICT resources of Bagtilay Pharmacy revealed that item number “Do you have Computer in your workplace.” have a 100% in terms of the responses in No and has a 0% in Yes. While the item number 2 “Do you have a fast and stable internet connection.” Has a 100% in Yes and 0% in No and item number 3 “Do you have a printer/scanner.” Has a 0% in Yes and 100% in No.

Overall results on the perception of the respondents based on ICT resources revealed that the responses in Yes has a Grand Mean 33.3% and 66.6% in No. To conclude, the computer and printer/scanner has observed 100% none ICT resources. However, the data revealed that they have a fast and stable internet connection.

Table 21. Perception of the respondents based on the Manpower skills in ICT

Manpower skills in ICT Yes No

1.I have basic computer skills. 2 66.6% 1 33.3%

2.I have the ability to use the Windows operating system (file management). 2 66.6% 1 33.3%

3.I am able to work with peripheral devices (e.g.

scanner, printer). 2 66.6% 1 33.3%

4.I have the skills to use Word application. 2 66.6% 1 33.3%

5.I am capable of typing. 2 66.6% 1 33.3%

6.I have the ability to use computer system safely (in terms of hardware and software). 2 66.6% 1 33.3%

7.I am able to use emails (e.g. create an email, write, respond, etc.) 2 66.6% 1 33.3%

8.I can use internet. 3 100% 0 0%

9.I have the ability to backup computer files. 2 66.6% 1 33.3%

10.I can solve common errors on my computer. 2 66.6% 1 33.3%

Grand Mean 2.1 69.94% .9 29.97%

Table 21 shows that item number 1 "I have basic computer skills", item number 2 "I have the ability to use the windows operating system (file management)", item number 3 "I am able to work with peripheral devices (e.g., scanner, printer)", item number 4 "I am capable of using Word Application", item number 5 " I am capable of typing.", item number 6 " I have the ability to use computer system safely (in terms of hardware and software).",

Item number 7 “I am able to use emails (e.g. create an email, write, respond, etc.)” Item number 9 “I have the ability to backup computer files.”, and Item number 10 “I can solve common errors on my computer.” Has a 66.6% in Yes and 33.3% in No.

On the other hand, item 8 “I can use internet.” Has a 100% in Yes and 0% in No. Overall, the results of this table revealed that the perception based on Manpower skills in ICT has a total grand mean of 69.94% described as Yes and at 29.97% in No.

5.4 Adopt an ERP system for the following transactions.

Upon interview and observation, the researchers gathered all the problems that the company encountered for each transaction within the pharmacy. This determined the problems were discussed and enumerated under Table 1 of the strategic concern of ICT use in front line service and Table 2, the strategic concern of ICT use in back line service.

Hilsoft Lite Accounting/Inventory License

Hilsoft Lite Accounting/Inventory License is an ERP and accounting systems are critical in any expanding business, and many have failed. Hilsoft is proud to have created world-class, fully web-based software for SMEs that truly works.

Domain: www.bagtilaypharmacy.com 5.4.1 Administrator Interface

Figure 9. Administrator Interface

Figure 9 shows the Administrator interface. Here you can see the functionality. It enables the administrator to manage content and system settings. 1. You can access the action center, general ledger, customers, suppliers, cash, inventory, and users and configure them. 2. Here you can access accounts receivable. You can add an entry account for customers to keep accurate financial records. 3. Here you can see the overview, transactions, maintenance, and reports. 5.4.2 Purchase order interface

Figure 10. Purchase order interface

Figure 10 shows the purchase order interface is one of the primary responsibilities and maintenance assets of records. 1. This supports a variety of purchasing systems and purchase orders that are commonly used. 2. Purchase Order Entry: This is where you can track and manage purchase orders in order management. 3. Purchase order line details: this section specifies the product(s) and quantity being ordered.

5.4.3 Inventory System Interface

Figure 11. Inventory System Interface

Figure 11 shows the inventory consists of breaking down all the elements that make up a web page: 1. headers, dashboard, user administration, categories, products, media files, states, states report 2. And you can see here the highest selling products, the latest sales, and recently added products.

The solution was to adopt the proposed Cloud Base Enterprise Resource Plan (ERP) to remove the slow and traditional way of managing the pharmacy and also to have a fast and reliable data when it comes on inventory management and to eliminate using papers for each transaction.

The Purchase and Inventory Management System. The system has its description, and this description is the guideline in developing the system. The proposed system status is for buildup. Their development strategy is outsourced. Their computing scheme was client-server. The Purchase and Inventory Management System has only an internal user and the company’s owner.

CHAPTER VI

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter shows the summary, conclusion, and recommendation of the study. This project was conducted to propose an Information Strategic Plan for Bagtilay Pharmacy. The researcher conducted interviews and observed different employees' workplaces. The Bagtilay Pharmacy gives information needed for the proponents’ study.

6.1 Summary

The researchers examined the business workflows, organizational information, and other aspects that influence Bagtilay Pharmacy's front-line services, such as ancillary and cashiering. The payroll, records, accounting, and inventory were all handled through the Point of Sale (POS). This research looked at the existing ICT scenario in frontline and back-office services. The services identified an issue and studied it through interviews with Bagtilay Pharmacy employees. Manual Point of Sale transactions, manual inventory of stocks, and difficulties in retrieving and processing reports in the back office were among the issues identified by the researcher in frontline services, accounting services, POS services, and inventory services. Due to the pharmacy's usual arrangement, the difficulty in attendance was the manual generating daily reports. Every day, the supplies and merchandise are no longer safely monitored. It takes a long time to determine which things to replenish. Manipulation of product stock is taking far too long. Sometimes the broad variety of suppliers and products is miscounted. Following the adaption of the suggested information system, the enterprise resource plan (ERP) and other planned information systems would address any problems found.

The results of the study imply that the Bagtilay Pharmacy itself has no ICT resources. It is given that the company is in the traditional way of providing services to people. Apart from this, the study conducted revealed that the majority of Bagtilay’s employees were knowledgeable in manipulating and using ICT tools. This implies that most of the respondents have skills in ICT.

6.2 Conclusion

The development of enterprise resource planning (ERP) is a challenge in an organization. Successful planning is important in the realization of the impact of information systems. Adopting new technologies is an issue today for a growing organization. Bagtilay Pharmacy is an organization that embraces opportunities and invests in new technologies. An effective ICT solution for the organization is needed today. The researchers were able to design an ERP for Bagtilay Pharmacy. With the use of this Information System Strategic Plan, the researchers were able to:

Analyzed the current ICT situation and identified the problems encountered by Bagtilay Pharmacy, which are shown in tables 1 and 2. The adaptation of the proposed ICT solution is shown in tables 5 and 6. The benefits of implementing the proposed ICT solution in the organization include improved sales and inventory systems. The daily transactions and processes offered by Bagtilay Pharmacy will now provide better, more accurate and consistent services.

The researchers evaluate the readiness of Bagtilay Pharmacy in the adaptation of the ERP framework. It was identified that the Bagtilay Pharmacy wasn’t ready in terms of financial stability and wasn't capable of adopting the ERP for the Bagtilay Pharmacy.

6.3 Recommendation

Based on the study conducted, the Enterprise Resource Planning (ERP) provides an efficient plan and an accurate result after the development and implementation of all the proposed systems. On the contrary, we strongly believe that the Bagtilay Pharmacy is not ready for the development and full implementation of all systems proposed to improve services and transactions. It is not applicable to fully implement the system at Bagtilay Pharmacy due to some factors such as high cost and not able to meet the needed requirements for the System.

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Glossary

ERP- Enterprise resource planning (ERP) refers to a type of software that organizations use to manage day-to-day business activities such as accounting, procurement, project management, risk management and compliance, and supply chain operations. A complete ERP suite also includes enterprise performance management, software that helps plan, budget, predict, and report on an organization’s financial results.

MAN POWER- The entire number of persons who can work to complete a task is referred to as manpower. The amount of manpower you have will determine how quickly you clean your house after a huge party. The term "manpower" can refer to both men and women, and it can refer to "labor force," "workforce," "workers," or simply "people."

CLOUD- Cloud computing refers to the on-demand availability of computer system resources, particularly data storage (cloud storage) and computational power, without the user having to handle them directly. Functions in large clouds are frequently dispersed across numerous locations, each of which is a data center.

SAAS - Software as a service (or SaaS) is a way of delivering applications over the Internet—as a service. Instead of installing and maintaining software, you simply access it via the Internet, freeing yourself from complex software and hardware management. SaaS applications are sometimes called Web-based software, on-demand software, or hosted software. Whatever the name, SaaS applications run on a SaaS provider’s servers. The provider manages access to the application, including security, availability, and performance.

SME- Small and Medium Enterprises. The European Union (EU) defines a small enterprise (i.e., commercial organization, or business) as one with fewer than 50 employees, and a medium enterprise as one with fewer than 250 employees. There are no standard definitions for small or medium enterprises in the United States, though a small business is generally defined as one with fewer than 100 employees. A small office/home office (SOHO) or microbusiness is defined as a company with fewer than ten employees. A large business enterprise (LBE) is a company that is larger than a medium company. Also see LBE and SOHO.

Cloud Computing - The delivery of various services over the Internet is known as cloud computing. These resources include data storage, servers, databases, networking, and software, among other tools and applications. Cloud-based storage allows you to save files to a remote database rather than maintaining them on a proprietary hard drive or local storage device. As long as an electronic device has internet access, it has access to the data as well as the software programs needed to run it. People and corporations choose cloud computing for a variety of reasons, including cost savings, enhanced productivity, speed and efficiency, performance, and security.

ISP - An Internet service provider (ISP) is a corporation that provides both personal and business customers with Internet connectivity. ISPs allow clients to use the internet, shop online, conduct business, and communicate with family and friends for a price. Other services that ISPs may offer include email, domain registration, web hosting, and browser packages. Based on the services it provides, an ISP may alternatively be called an information service provider, a storage service provider, an Internet service provider (INSP), or any combination of these terms.

Switch Hub - PC organizing gadget that utilizes bundle changing to advance information; one primary part of the web foundation and of every PC network an organization switch (likewise called exchanging center point, crossing over center, and, by the IEEE, MAC span) is organizing equipment that interfaces gadgets on a PC network by utilizing parcel changing to get and advance information to the objective gadget. An organization switch is a multiport network span that purposes.

ISSP - Refers to the Information Systems Strategic Plan that contains the agency’s overall strategy which involves medium term (3–5-year plan) planning for its information and communications technology (ICT) thrusts, strategies and programs for development. It indicates the ICT resource requirements of a particular agency on a per year basis.

Appendix A. Graphic Interface

A. Administrator Interface

1. -Action center

-General ledger

-Customers

-Suppliers

-Cash

-Inventory

-User & configure.

2. Here you can access accounts receivable, you can add an entry account

3. Here you can see the overview, transaction, maintenance and reports.

1. This support a vareity of purchasing systems and purchase orders that in commonly use.

2. Purchase Order Entry is where you can track and manage purchase orders in order management.

3. Purchase order line details this specidies the product(s) and quantitty of product(s) being ordered.

c. Sale and Inventory Interface

1. Headers, Dash board, user management, Categories, Products, media files, states, states report. And you can see here the highest selling products, latest sales, recently added products.

Appendix C. Other Relevant Document

Appendix D. Gallery

The researchers Ivan megg I. Bagtilay, Ian L. Medina, Emmanuel L. Tomas BSIS

4 students presented their Virtual proposal defense last September 18, 2021 entitled A

PROPOSED CLOUDBASED ENTERPRISE RESOURCE PLAN (ERP) FOR BAGTILAY PHARMACY.

This screen shot was taken during our Virtual System defense last February 18, 2022. The researchers Ivan megg I. Bagtilay, Ian L. Medina, Emmanuel L. Tomas BSIS 4 students presented their system entitled A PROPOSED CLOUDBASED ENTERPRISE RESOURCE PLAN (ERP) FOR BAGTILAY PHARMACY.

This screen shot was taken last May 27, 2022 during the final defense of the researchers Ivan megg I. Bagtilay, Ian L. Medina, Emmanuel L. Tomas with their adviser Mrs. Grace D. Bulawit, MIT. The panelist were Darios B. Alado, DIT (Panel chair),

Romero Dante C. Salum, MSIT. (Content Panel) and John M. Facun MSIT. (Technical Panel).

Appendix D. Curriculum Vitae

CURRICULUM VITAE

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GRAMMARIAN’S CERTIFICATE

This is to certify that the undersigned has reviewed and went through all the pages of the capstone project entitled, “A Proposed Cloud-Based Enterprise Resource Plan for Bagtilay

Pharmacy” as against the set structural rules that governs the composition of sentences, phrases, and words in the English Language.

Signed:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Grammarian

Affiliation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Mobile Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Conforme:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Adviser

ISUE-ICT-GMR-123

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