Development of a Computerized Sales Order and Inventory System

for RBM Motorparts Accessories

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Prepared by:

JUAN,MARY ROSE

NALAUNAN,JAMES ALBERT D.

DELACRUZ,RENZ G.

SUGAY,VHEEJAY D.C.

ZAMUDIO , RENZ CARLO A.

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APPROVAL SHEET

This research entitled "**Development of a Computerized Sales Order and Inventory System for RBM Motorparts Accessories"** prepared and submitted by **JUAN,MARY ROSE., NALAUNAN,JAMESALBERTD., DELACRUZ,RENZG., SUGAY,VHEEJAY D.C.**and **ZAMUDIO RENZ CARLO A.** in partial fulfillment of the requirements for the Subject CAPS2: Capstone Project has been examined for ORAL EXAMINATION.

MR. DOMINGO V.TANAEL
Research Adviser

PANEL OF EXAMINER

Approved by the Committee for Oral Defense on date with a grade of

_____.

MS. ARLENE O.GARCIA
Panelist

MS.ANN CAMILE M. MAUPAY,MIT
Panelist

MS. PEBBLES PUNZALAN
Panelist

Accepted in partial fulfillment for the Subject CAPS2: Capstone Project

MR.DOMINGO V.TANAE

Program Head

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DEDICATION

The members dedicate this project to Almighty God, to our beloved family and friends who have been a source of inspiration and strength, helping us achieve success in our work

We dedicate this to our parents, whose support and encouragement have been key to our success.

Lastly, we dedicate this project to Mr. Ryan B. Jorn Corpuz for his commitment, wisdom, and collaboration in bringing this project well executed.

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CHAPTER I

THE PROBLEM AND ITS BACKGROUND

Introduction

Project Context

RBM MOTORPARTS, ACCESSORIES & SERVICES is a company specializing in motor parts and services, located at 57 Gen. Evangelista Street, Caloocan, Philippines. It was established by Mr. Ryan Bjorn Michael Corpuz, CEO, in 2023 to provide people with the opportunity to have their motorcycles serviced by specialists.The RBM Motorparts & Accessories Services currently operates using manual processes. The owner manages the financial operations and oversees services and sales, while the staff is responsible for providing services and handling sales.RBM Motorparts' current inventory management system relies on Microsoft Excel, which has several limitations, including:Inability to transfer sales and product data seamlessly between months.Lack of data security.No backup files, leading to higher risks of data loss.Potential for unintentional data deletion and unauthorized access.Seeing that there was room for improvement, our team set out to solve this problem by creating a customized inventory system for RBM Motorparts & Accessories Services. The goal of this research is to provide a reliable, easy-to-use, and affordable solution that improves decision-making skills, expedites inventory management procedures and sales, and ultimately boosts the operational effectiveness and competitiveness of the business.

Statement of the Problem

Objective of the Study

I. General Objective

The researchers aim to develop a system that will address the needs of RBM Motor parts Accessories. This system, titled "Development of a Computerized Sales Order and Inventory System for RBM Motor parts Accessories," is designed to help the company manage its operations more efficiently. The system aims to resolve issues like the inability to transfer sales data from Microsoft Excel between months and the interface being less intuitive.

II. Specific Objective

To Allow the adding, deleting, stocking in, stocking out, adjusting numbers, editing the info of products.

To Implement the logging of the history of the functions stated above to track activity and prevent loss To Enable Categorization of products for easier searching

To Implement barcode scanning for efficient stock management.

To Enable a checkout process for sales transactions.

To Display business stats for tracking sales and inventory performance. To implement Receipt generation for the customer's benefit

To Ensure secure access with two-factor authentication.

Scope and Limitations

Scope

The project aims to create a web-based Inventory System for RBM Motor parts & Accessories to efficiently organize datasets and incorporate features such as sales tracking, order management, and other essential functionalities. By addressing the limitations of the current manual processes, the proposed system will provide a streamlined, accessible, and hassle-free solution to enhance inventory management and operational efficiency.

Account Module . Allows current and future staff to create accounts, input personal data, and manage their profiles. The owner is responsible for managing staff accounts and has access to staff account information.

Inventory Management . Establishing a secured and well-organized inventory, have a well-tracked database for the availability and adequately supervised the quality and quantity of each product for motor parts and accessories.

Products price updates . Provides functionality for supervising personnel in updating product prices as required, ensuring accuracy and consistency.

Reports .Providing a monthly report for the daily operation of the whole month by using the Automated Itemization System.

Limitation

- Does not include complex accounting features such as ledger management, tax calculations, financial forecasting, etc.

- Responsiveness on mobile web browsers may not be as good

Significance of the Study

Owner. The owner is responsible for managing the business of RBM Motorparts, Accessories & Services as the primary user of the system. determine how effectively the system fixed the issues of the previous system like incapability of transferring sales between months, absence of data security and backup files, and probability of unintentional data deletion and unauthorized access. The owner can make informed decisions, improve operational efficiency.

Employees. The employees of RBM Motorparts, Accessories & Services, with the help of the system can easily access the list of products and do tasks like adding, deleting stocking in, stocking out, adjusting numbers, editing info, and sales processing. This leads to increased productivity, improved workflow, allowing employees to focus on customer service and other essential activities.

Future Researchers. They will have a comprehensive material at their study for the utilization of datasets, formulation of new methods, and aid students in having more fruitful and gratifying academic progress. supports academic progress by illustrating real-world applications of information systems.

Definition of Terms

System – Ensures faster and more accurate work by automating tasks and keeping records updated in real time.

POS (Point of Sale) System – A system designed to make sales recording faster, easier, and more accurate. It records customer purchases, generates receipts, and tracks daily income in the shop.

Inventory System – A tool within the POS that helps employees monitor stock levels of motorcycle parts, gears, and accessories. It automatically updates the inventory when items are sold or delivered by suppliers, ensuring an accurate record of stocks.

Automated Alert – A feature in the system that informs staff when a product is running low or out of stock. This ensures timely restocking of items.

Admin (Administrator) – The person in charge of accepting and counting the product from the supplier, monitoring inventory, sales, and reports. The admin ensures that the system is running efficiently and that stock levels are well-maintained, including creating daily reports. The administrator oversees the system's operations to ensure a smooth workflow.

Employees – Also responsible for using the POS system to process customer purchases.

CHAPTER II

Review of Related Literature and Studies

Foreign Literature

The focus of the research is to demonstrate how web-based online inventory systems can be used to optimize worker performance in business processes. This research project studied relevant literature to apply the descriptive approach. Based to this research, web-based online inventory systems are an innovation that help manage goods and simplify complex tasks. This is excellent information for large companies that need to run their businesses, which is why so many businesses use online inventory systems to get things done. Online inventory system users compete with one another to improve their current systems so they can better support the operations of the business (Soegoto and Palalungan, 2020).

Large businesses that operate in the sales and warehousing sectors today sometimes conduct inventory physically, have technical services, and don't maintain stock inventories, etc. Since a change is reflected using web technologies, web systems or web applications for inventory control are crucial to the effectiveness of the areas they represent in small, medium, and big enterprises. The purpose of a web system is to monitor the various business processes that are represented in an organization. These processes are primarily based on the requirements of the organization, which means that all the components must be studied, analyzed, applied, and validated. This has an impact and can result in cost savings on both software and hardware while also meeting all of the business's needs. Based on a review of the literature and an analysis of the state of the art for web systems today, the current work aims to gather and review the strategies made for the development of a web system, the different approaches or frameworks and frameworks that are used during the deployment of web systems (Misahuaman et al., 2021).

The Maperow Store's Sales and Inventory System is a tool to make it easier to store inventory of both goods and sales. Currently, sellers struggle to keep track of and manage their sales data since sales outcomes were once manually documented on paper using antiquated techniques. Sales data is therefore vulnerable to corruption and loss. This is a result of most firms lacking a mechanism for handling such sales data. The sales and inventory system at the Maperow store was created after the problem's vulnerability was identified. The vendor will have clear and easy access to information regarding the inventory of goods thanks to this system. Aside from that, the particular study to be examined in this project is the sales and inventory system in the Maperow Store. The users of this system are the consumers, and the person in charge is the seller. The waterfall model, which makes sense while constructing a system, is the methodology employed in this system's development. Hypertext Preprocessor (PHP) and Hypertext Mark-up Language (HTML) are the programming languages used, and MySQL database is also employed in the development of this system. Users of this system can access online concepts from any location. Shopkeepers would benefit greatly from this since it will facilitate their business relations with clients and enhance their shopping experience. Since ordering and arranging things is made shorter and easier, store productivity will rise swiftly as a result. It is anticipated that this system will simplify the process for sellers to update their inventory, keep track of sales, and conduct a speedier, more organized sale of items. Finally, having this method will assist the store's management in making the most profit at the lowest possible expense. It is intended that the suggested system enhancements will help the system function better so that future developments by developers can create even greater features (Azmi, et al., 2022).

It has been reported in recent years that the majority of firms record their inventory data manually into spreadsheets and maintain them with little to no technology innovation. This technique has several drawbacks in the modern era, as it has shown to be difficult to successfully manage inventories. Inventory management is a complex topic in the retail sector. To satisfy customer demand, businesses need to keep inventory in warehouses. Finding the right amount of inventory to meet demand while preventing overstocks is the aim of inventory management. A web-based inventory control system has been created in

this research project to address the shortcomings of the prior system. In order to track products as they move from the point of purchase to the point of sale, across stores (in the event that emergency supplies are needed from nearby stores), inside individual stores, and finally directly to customers, the Web-based system was designed with tracking techniques like QR codes and barcodes in mind. It also provides the corporate office with accurate, up-to-date information on a daily basis regarding each store's inventory levels. Additionally, it enables certain people to access the system at any time from different locations and perform different functions, such as store managers, heads of operations, and furthermore (Erameh and Odoh, 2021).

The way an organization operates has also drastically changed in this age of modernization, which is rife with technology like artificial intelligence (AI), data analytics, and software engineering. Enhanced efficiency and productivity as well as an overall higher standard of living are some of these improvements. Technology is a wide phrase that can be applied to almost any field, but there is one industry in particular—the agriculture sector—that gets less attention and discussion than other industries. Agriculture continues to be one of the most significant industries that is inextricably linked to human existence, giving people the vital nutrition they require by meeting one of their most basic needs: food. Given the extent to which technology is improving other fields, it is therefore appropriate that we examine how technology might be applied in this particular field to produce something significant with the goal of raising agricultural farming's production and efficiency. To put it another way, the project's goal is to determine how software engineering competence, specifically with regard to the suggested concept of a Web-based Agricultural Monitoring and Sales Management System, might be used to enhance agricultural farming (Yang et al., 2022).

The growth of the business sector motivates businesses to continuously strive for raising the caliber of goods and services they offer to customers. By using Reviews These solutions, corporate customers can increase their competitive advantage in terms of performance, efficiency, effectiveness, and company development. To assist the purchasing service system and a stock of goods that can assist small and medium-sized business owners with data administration, this research will analyze and design a point of

sale (POS) management application. The process of creating this point-of-sale (POS) application begins with gathering all the necessary data through observation and interview techniques. Next, an object-based approach diagram is designed using application design tools, such as flowcharts and the Unified Modeling Language (UML), and the POS application is implemented. All stakeholders or associated parties whose tasks are directly tied to the point of sale (POS) application can benefit from its application (Kambivi et al., 2020).

Local Literature

A beneficial piece of software for a variety of company sectors operating in stores, goods, and services is the Inventory Management and Monitoring System, which allows proprietors of goods and services to keep track of sales and purchases, supply and demand, risk, and opportunities. Poor inventory management results in unsatisfied buyers, excessive cash away in warehouses, slower sales, and occasionally negative effects on the working environment, investments, and businesses, not to mention probable monetary losses. Issues with inventory control frequently led to differences in actual counts and records, which can eventually result in higher than desired inventory levels. On the other hand, comprehensive inventory records save money on inventory and serve as the basis for many administrative decisions and processes, including dead stock, vendor evaluation, tracking, forecasting, and ordering. Most of the inventory system's applications, according to the researcher, were for sales and products (Bravo, 2024).

This software project is an online inventory management system for a Pagadian City, Zamboanga del Sur, Philippines-based small business. It mainly assists the aforementioned commercial enterprise's owner in carrying out routine inventory management online via a web platform. This method not only made the entire business process better, but it also made it possible for the business owner to conveniently and efficiently manage stocks. The company has four locations as well as a mobile store that travels the city to serve customers. Furthermore, the business owner was faced with a number of difficulties because the inventory management system currently in place is

entirely manual and relies on paper files. These difficulties included data inaccuracy as a result of the reliance on paper for data recording and process inefficiency as a result of the manual recording and distribution of inventory and sales reports. In order to overcome these difficulties, this software project used an automated computing solution that made use of a web platform where data are electronically recorded, analyzed, and reports are generated electronically (Baylosis et al., 2023).

The rapid and efficient flow of information is now necessary due to modern technology. Over the past few decades, it has raised many people's overall standard of living. It only takes a few clicks to place a purchase from a website thanks to the development of the internet market. The efficiency and convenience that technology offers have greatly enhanced our quality of life. The inventors came up with a solution that would address the issues with the manual method of inventory management for Ryan & Son's Winery, a specific local business. The firm owner suggested that the researchers create an online ordering system. Following their comprehension of the procedure, the researchers went over every issue pertaining to the use of the present system. It requires evaluating the current system, conducting interviews, obtaining data, and recording the many kinds of data that the system processes. After identifying the issues with the current situation, the researchers developed a method based on the conceptual framework and system architecture defined in "Dynamic Online Ordering and Data-Driven Inventory Management System with SMS for Security." Researchers used a variety of data-gathering techniques, including questionnaires, online surveys, library or document analysis, interviews, and observation, to design and develop the project in order to create a dynamic online ordering system and data-driven inventory management system. In order to create a dependable and effective system, the proponent collected feedback on the system's functionality and interface through a survey at the conclusion of the study. The main innovation of the "Dynamic Online Ordering and Data-Driven Inventory Management System with SMS for Security" is its use of a computerized inventory control system for more efficient and reliable monitoring and recording of products, as well as an online ordering system for ease of use of customers, along with an

SMS feature to notify customers and provide security to both clients and business owners. The system's primary functions are inventory management and online ordering (Bermusa et al., 2020).

Customers can easily place orders using the web-based ordering system's user-friendly interface. The technology gives business owners the ability to track inventory levels, manage orders, and create reports on the backend. The system's forecasting module, which makes use of

past sales data to project future demand, is one of its primary features. Businesses may guarantee product availability, minimize waste, and optimize stock levels with this capacity. The forecasting module analyzes sales trends and patterns using a variety of statistical and machine learning algorithms. Regression analysis, exponential smoothing, and moving averages are among the techniques combined to improve forecast accuracy. Additionally, the system has a feedback mechanism that continuously feeds real sales data into the forecasting model to increase its accuracy. The influence of the system on customer satisfaction and operational efficiency is thoroughly analyzed in this research. The system's implementation in various start-up enterprises is showcased through case studies, which show notable enhancements in order fulfillment times, inventory turnover rates, and overall business performance. In conclusion, combining forecasting features into a web-based ordering system gives new companies a strong tool for streamlining processes and making informed decisions. By using this technology, startups can position themselves for long-term growth and success in the cutthroat market landscape by increasing their efficiency, lowering operating expenses, and improving their capacity to satisfy client demand (Prince et al., 2024).

In the modern world, technology is essential. It has streamlined, expedited, and enhanced our daily lives to the point where it is now an essential component. As a result, paper-based systems have been replaced by automated systems in every business and corporate entity. Businesses may now easily and accurately track their data and streamline their procedures. Given this, the Integrated Inventory Management and Asset Tracking System with User-

Centric Computer Kiosk Interface project was created to assist them in automating their manual processes and provide them with the means to effectively and precisely manage, arrange, and store all of the products, machinery, purchase orders, and news reports. The descriptive research method, which offers the process of evaluating, categorizing, and providing context for each item of information acquired, is the approach employed in this project. The Developmental Method is the alternative. The Modified Waterfall Model was used by the proponents because it offers a structured flow of development stages along with a few adaptable iterative phases to support enough documentation and design evaluations to guarantee the generated system's quality, dependability, and maintainability. The ISO 9126-1 Model was employed by the advocates to assess the system. This model, which includes factors like functionality, usability, dependability, efficiency, portability, and maintainability, was the tool they used to evaluate the system (Accad et al., 2023).

Foreign Studies

One of the most interesting aspects of working in business is selling. Sales are the "eyes and ears" of the business, seeing and interacting with consumers. In B2B business, sales management performs a variety of duties that are impossible to complete without the coordinated assistance of product management and other departments. It is made evident in this part that sales engineers must stay in direct communication with clients. They can only ascertain the wants of their clients in this way, both now and in the future. It is crucial to have a digital "backbone" made up of AI and analytics-capable technologies. At digital interactions, information must be given to customers (Tintelnot, 2023).

By providing understanding of the key factors that lead to success, this study will significantly advance the field of sales management. Additionally, the study will offer insightful suggestions on how other companies might enhance their sales management procedures. Setting objectives, allocating resources, and overseeing sales operations are all parts of the process of managing sales to boost profits and revenue. An acute awareness of market and industry trends, relationship-building abilities, and good communication skills are all necessary for effective sales management. Sales managers are responsible for

inspiring and guiding their teams to meet goals, creating a culture of cooperation, teamwork, and ongoing learning, and allocating the required resources. The process of establishing objectives, planning a sales force, and overseeing sales is known as sales management. Actions aimed at boosting profits and income. Strong sales management is necessary for proficiency in communication, capacity for fostering connections, and acute awareness of market as well as market patterns. Sales managers need to inspire and guide their teams to meet certain goals. targets, create a culture in sales that values cooperation, teamwork, and constant learning, and supply the required materials (Chaudhary et al., 2023).

One other business model that entrepreneurs can utilize to sell things to customers is internet sales. Online sales are increasing for businesses as more people use internet services since they are affordable and convenient. Enhanced efficiency fosters business development by offering a wider range of goods for online media marketing. This has led to the growth of the online "Nara Collection" ballet shoe business, which is simple to operate, doesn't take a lot of capital, and doesn't require a complicated management system. This business can already function with just the product images and internet access to promote it on websites that sell items and social media platforms. A web-based online sales information system was developed in order to streamline the online sales procedure. Through the use of this application, products can be promoted online and made widely known to the general public. The development of this information system also speeds up and simplifies the transaction process, allowing the cashier to print report information and solve issues with sales data with ease (Hendriyanto and Cakranegara, 2022).

Antariksa Store is a store with an emphasis on audio and technology. The Antariksa Shop has to handle inventory products well in order to be a seller. The Antariksa Shop's inventory system, which records entering goods, stock, and outgoing goods, is still operated manually, which makes it difficult to record products and leads to report writing errors. In light of these issues, the Antariksa Shop seeks to leverage its information system to address its internal issues. In response to these issues, the Antariksa Shop developed a web-based

inventory information system to manage its current inventory. Web-based inventory information system developed utilizing Waterfall modeling and the SSAD technique. HTML, CSS, JavaScript, and PHP are the programming languages used to develop information systems, while a MySQL database is utilized for data storage. Information systems are implemented utilizing User Acceptance Test (UAT) and Black Box techniques. It is anticipated that the Antariksa Store's Web-Based Inventory Information System will facilitate the management of incoming, outgoing, and inventory items as well as simplify report creation and reduce item recording errors (Ariesta et al., 2020).

In order to advance technology, a web-based application was created to enhance the Altamart store's performance. Altamart is a supermarket that facilitates the purchasing and selling of everyday necessities. In addition, Altamart offers a variety of foods and beverages, including bread, snacks, instant noodles, syrup, mineral water, and more. In its establishments, Altamart still conducts transactions using manual instruments. Customers only need to use this application to transact remotely, get the entire cost of the things they want to buy, quickly learn the specifics of the goods, access billing records online, and select from a variety of available payment methods. Customers also have the option of selecting a home delivery service. In order to avoid having to visit the store, customers can wait for the goods to be delivered to their location. It can only deliver inside the immediate vicinity, though. This research led to the creation of a web-based application for buying and selling transactions that can facilitate transactions for both buyers and users (grocery stores). The website can help users keep track of goods coming in and going out, and if you make points, the outcomes are based on data collected during trials (FP etal., 2023).

Local Literature

One of the key procedures in supply and distribution management is inventory management. One of the most valuable assets of a company is its inventory, especially for those in the production line. When an inventory-related issue arises, such as when there is a shortage of goods, the business operation of the company will be affected. The state in which the business is unable to immediately satisfy a customer's demand is known as an

out-of-stock situation. Thus, the goal of efficient inventory management is to ensure that there are enough inventory levels to meet demand without going afterward. This paper's primary goals are to develop a framework for a reordering system that may be utilized as the primary instrument for truckload optimization, reaching the target inventory level, and restocking inventory. All the reordering system's components, including the reordering point (ROP), intended inventory level, safety stocks, restocking cycle, expected lead time, and truckload maximization, are significantly correlated, as the study demonstrated. The reordering system template can assist in achieving the appropriate inventory level at sales stations, according to this research. To obtain the best truckload per delivery trip, the study also presents a truckload optimization model. To figure out the reorder flow of the system, the study provides the general framework of an efficient inventory management system on effective supply and distribution management in one of the food seasoning product producers in the Philippines. The business must create a regular procedure for replenishing the stock based on the out-of-stock condition and the sales station's current average inventory level. The primary and supporting components of the reordering system template were acquired for this study to predict the reordering point (ROP), the ideal inventory level, safety stocks (Bautista et al., 2022).

Inventory management is the component of corporate management that deals with planning and controlling inventories. It includes planning when and how to plan, estimating demand, and monitoring supply levels. Keeping more inventory costs money, takes up physical space, and increases the possibility of loss, damage, and spoiling. Conversely, inadequate inventory frequently results in operational disruptions and increases the likelihood of low customer satisfaction, both of which can be harmful to a business's reputation. The volume of inventory, warehouse allocation, ordering frequency, shelf life, and production demand were evaluated in relation to the United Victorious Feed Mill Corporation's current inventory management procedures. With the use of integer linear programming, a mathematical model was developed to assist the business in reaching its ideal level of inventory. The objective function was to lower the price of buying US soy and yellow corn

because of the season. Shelf life, yearly manufacturing needs, and warehouse space were all considered. The researcher created a Visual Basic system to make sure the user only uses one program to record all pertinent data, such as production output and delivery. Furthermore, the technology enables management to modify the parameters of the model. The system was described to the business owner by the researcher. Since it eliminates the need for repetitive chores and enables owners to monitor their employees' progress, the method is well-liked by them. However, actual system testing is not possible at this time as the company is now getting ready to move company buildings. The researcher concluded that this method will be helpful because it will be easy to modify the parameters due to their recent purchase of a new, larger building and storage (Napa, 2023).

The marketplace on the internet is created to compel vendors to boost their revenue and sales. The online product markets are used in a number of ways, but none of them are reliable or accurate. In order to develop a system application known as the "Online Agricultural Marketplace System (DEMETER)," which helps farmers and boosts harvest transactions and earnings, this study analyzes agricultural entities utilizing a dynamic programming process. Studies have been conducted on the integration of information and communication technologies with agriculture. Computer programmers can use a DPA to get answers to complex queries. Rather of providing an explanation for a particular phenomenon, descriptive research was employed to characterize the characteristics of the study region. Additionally, throughout the data processing phase, the researchers deployed data visualization to offer a visual depiction of the collected data. This makes it possible for researchers to create a visual environment where they may obtain insights and spot trends and patterns in the data they have collected (Cordano, 2023).

The objective of the project is to eliminate the client's need for order allocation calculations, which now take more time and human interaction due to the usage of various spreadsheets. These are usually caused by two factors: the particular requirements of an order from a client, and the application of ratio and proportion formulas. The user would need to give some situations more consideration because their client might indicate which variations

they would like to have. Standard users can now manage the supported product inventory, assign inventories according to client needs, and print relevant reports for review and delivery preparation thanks to the built system. Admin users can access not only the features offered to normal users but also user and client management, control over some choice-based fields. The project's objectives were to decrease the client's reliance on spreadsheets, offer a centralized, user-friendly platform for this part of the company, and maybe cut down on the time and human involvement required for order allocation. The system was developed in accordance with the client's specifications by the developer. Because the system can compute the units to be distributed automatically, it may be possible to expedite the order allocation process by requiring less time and human participation (Ocampo, 2023).

Information systems have helped the majority of firms stay robust thus far. . Market rivalries are still thriving, and information systems give companies the advantage they need to either get ahead of the competition or preserve a competitive edge. The Sales and Inventory System was created to offer a way to manage the current problems that this company is facing. The lack of an established system results in convoluted sales and inventory transactions and delayed reporting. Another problem that must be considered is keeping an eye on things both inside and out. Researchers proposed the Sales and Inventory System as a solution to the existing issues. To ascertain end users' information needs, the organizational setting, and the existing system, the user requirements are examined. The user wishes to manually place buy orders, computerize internal orders, and obtain item information. The study aims to automate sales and inventory processes for the company, make inventory monitoring easier, streamline the process of generating inventory reports, and deliver accurate inventory reports on schedule. These objectives will support the preservation of effective operating flows and facilitate the timely and accurate production of data for submission and compilation (Nohara et al., 2021).

Synthesis

Web based online inventory system is still the company's best partner in carrying out the company mission. It is also an innovation from humans as an effort to build a web-based inventory system that will help companies. However, detailed inventory records reduce the cost of inventory and form the foundation for several administrative choices and actions, such as ordering, tracking, forecasting, dead stock, and dealer evaluation. Selling is one of the most fascinating parts of working in business. Sales observe and communicate with customers as the "eyes and ears" of the company. Sales management handles several tasks in B2B organization that cannot be accomplished without the well-coordinated support of product management and other departments. One aspect of controlling the statistics to enhance sales is monitoring and assessing sales KPIs, insights into sales performance, fact-based decision-making, and goal setting to motivate and reward sales teams. Based on the sales station's current average inventory level and the out-of-stock situation, the company needs to establish a regular process for restocking the stock. Since the organization's requirements form the basis of these procedures, each component needs to be examined, evaluated, implemented, and verified. This affects and has the potential to save costs on hardware and software while satisfying all of the needs of the company. In the retail industry, inventory management is a complicated subject. Businesses must retain goods in warehouses in order to meet client demand. The goal of inventory management is to determine the ideal level of stock to satisfy demand while avoiding overstocks. In this research project, a web-based inventory control system has been developed to overcome the limitations of the previous system. The area of corporate management that deals with organizing and managing inventories is called inventory management. It entails determining demand, scheduling when and how to plan, and keeping an eye on supply levels. Keeping additional inventory raises the risk of loss, damage, and spoiling in addition to being expensive and requiring physical space. On the other hand, limited inventory often leads to low customer satisfaction and operational disruptions, both of which can be

detrimental to a company's reputation. In order to provide a visual representation of the gathered data, the researchers also used data visualization during the data processing stage.

This enables researchers to establish a visual environment in which they can find patterns and trends in the data they have gathered and get insights.

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