**SALES AND INVENTORY MANAGEMENT SYSTEM WITH BARCODE SCANNER FOR ERLINDA’S STORE**

An undergraduate thesis outline submitted to the faculty of the Department of Information Technology, Cavite State University – Imus Campus, Cavite in partial fulfillment of the requirements for the degree of Bachelor of Science in Information and Technology with Contribution No. \_\_\_\_\_\_\_\_. Prepared under the supervision of Prof. Rosalina D. Lacuesta.

**INTRODUCTION**

The advancement of technology in the business industry makes transaction processing much easier. Rather than manually storing data, a company that goes through an automated procedure provides more sense of security and accuracy. Retailers who fail to improve their business operations risk being left behind by losing out on essential information needed for the growth of the business.

One of the most popular examples of technology integration in business operations is the Sales and Inventory Management System. It is a business solution that is used to track sales activity as well as inventory at the same time. According to the Digital School of Marketing (2020), this type of integration has become more popular. Reportedly, the global retail automation market is anticipated to top $275 billion (about R3.9 trillion) this year. The system helps businesses in planning and identifying difficulties such as under-stocking and over-stocking items, both of which can have a direct impact on cash flow. As a result, the business owner can maintain track of the business’s profitability and make decisions about its future.

Businesses have noticed that sales and inventory systems save time for them by accelerating transactions while increasing accuracy perhaps the biggest benefit of using it. By enabling easy interaction between employees and shoppers, it boosts business confidence in customer service. It is a quick method of managing inventory that is updated electronically each time a sale is made; all a business need to do is print out a report and control the inventory that needs to be restocked. (Acopiado et al 2019).

Erlinda’s Store is located at 1041 Bayan Luma Patindig Araw Imus City, Cavite. Beverages, Rice, Canned/Jarred Products, Personal Care, Cleaners, Frozen Food and Snacks are some of the items sold at the shop, but they are known primarily for selling frozen goods, fresh fruits and vegetables, meat, poultry, and seafood. It is a one-branch operation with only 3 people, including the 2 owners. It also has been in operation for nearly four decades, and all transactions are still done manually. For a long time, the store has had trouble with their business transactions due to the manual method of documenting sales, but due to the COVID-19 pandemic, those problems become even more difficult. The study was conducted in order to provide a solution by developing a system that could assist the business in increasing its productivity in transacting by the use of barcode technology in which, it would provide a Point of Sales and Inventory System, which would assist the business in keeping records in an efficient and accurate manner as well as provide convenience on consumer transaction. The implementation of the system would be of big help for the business to thrive and success.

**Statement of the Problem**

The store is having difficulty processing a customer's order. Product prices are often forgotten because prices are unattached, especially when it comes to fresh goods products that are subject to price adjustments. As a result, they end up manually looking for the prices in their notebook and writing receipts manually in the fresh goods section, and the customer brings the receipt to the cashier to pay, causing both the cashier and the customer inconvenience. *How to implement a faster process of sales transactions on day-to-day business operation?*

The Store records and keeps track of its product inventory using pen and paper. Most of the time, the store manually records new products they received from the supplier and physically counts the remaining supplies in each product to decide which ones need restocking and how many goods the will need to order from their supplier. Due to the manual process, they are having difficulty accessing and maintaining accurate inventory records. *How to have real-time access to their inventory of the products?*

The store is having difficulty in terms of sales management. Because of the large number of customers, especially during peak hours, the store does not attempt to manually record every single transaction. Due to its lack of a sales record, the owner can only assume if they are gaining or losing money by collecting daily sales and ignoring the store's expenses. *How to have an accurate sales report?*

**Objectives of the Study**

In general, the study aims to provide Erlinda's Store with a more effective and productive manner of managing the Sales and Inventory system using a Barcode Scanner.

Specifically, this study intends to build and develop a system that includes:

1. User Account Management is responsible for creating user accounts and assigning roles within the store system.
2. Items organization menu that will keep track of item descriptions such as item fixed or generated barcode, variety, prices, and discounts, as well as batch and items category.
3. Computerized sales system with the presence of barcode scanner that will handle the sales transaction of the store.
4. Inventory control system includes color-coded alerts for items with critical storage capacity, bestsellers, reorder points and items due to expire.
5. Supplier Management feature that holds the store's supplier information and ordering transactions, as well as reporting and returning damaged items to them.
6. Generated sales, inventory and supplier reports based on user desired time frame.

**Significance of the Study**

The development of Sales and Inventory System with Barcode Scanner for Erlinda’s Store will be beneficial to the following people:

**Client.** The System will help the client to achieve a quicker and accurate transaction process on their business. It will also guide them in making profitable business decisions based on the data presented in the system.

**Researchers.** The development of the system will be beneficial for them to enhance their skills in programming by making the system improve and develop. The researchers will also develop their planning and designing techniques that will meet the standard of the client. Lastly, Engaging in this serious kind of project will also enhance their ability in teamwork, patience and problem solving.

**Future Researchers.** The propped study can be used as a suggestion and reference for their future research. These findings will help future researchers to propose entirely new avenues to explore in their studies and also address the limitation of the research.

**Scope and Limitation of the Study**

The research focuses on the computerization of a new system for a client's current manual management system. Login/Account Module, Supplier Module, Purchase Order, Item Module, Inventory Module, Notification Module, and Sales and Financial Report Module are the components that make up the system.

**Login/Account Module.** In this module, the administrator will be responsible for adding, updating, and removing staff accounts as well as viewing reports on staff event logs. The administrator and employee will each have their own account in the system. When the admin logs in, they have access to all of the system's modules, whereas the cashier only has access to the customer's purchase order and the current day's sales report.

**Supplier Module**. In this module, the administrator can input, update, and delete their supplier’s information. It also has an option for directly emailing the selected supplier managing deleted suppliers to restore deleted suppliers in case they need to contact them again or permanently delete them. The viewing option is also available for the chosen supplier to summarize their order transactions and records of damaged and issued items received. The administrator can order items from the supplier using the purchase order option, which allows them to add items, choose suppliers, create purchase descriptions or terms and conditions, and manage the order's status.

**Purchase Order Module.** In this module, the cashier will process the order of the customer. It has the option of scanning the item barcode or selecting products from the product catalog as a backup if the barcode fails. The user can apply a discount, such as a senior citizen discount, input the customer payment, and reflect the customer's change. They can also print a receipt and hand it to the customer once the transaction is over.

**Notification Module.** In this module, the administrator would be notified both on the system on their email regarding the following warning; if the number of available stock for your item is at the specified order level and needs to be replenished immediately, if the item batches are about to expire, and if there is critical storage level on the shelves provided for the item.

**Sales and Financial Report Module.** The administrator can use this module to generate a summary of their sales and financial reports based on the time range they choose, such as daily, weekly, monthly, and yearly sales reports. They can also see a report on each item’s sales. Date, sales number, total item sold, total amount, and summary of total revenue, cost, profit, sales, and expenses are all shown in a table in the report. This module will also allow you to manage other types of expenses including utility bills, taxes, and employee salaries, which will be displayed in a table alongside a summary of overall expenses. This will also include the management of an item's return and refund process. The information regarding the sales number, date and time, item return, refund, and supplier id will be provided on a table. The report can be printed directly or exported as a spreadsheet.

**Item Module.** The administrator can view all of the items available in the store in a table form with this module. They have the ability to add, update, and delete items, each item contains details on the item's basic item information, variations, batching, and price rules. It also allows users to manage item categories, such as adding and viewing each item inside them. When an item, particularly in the fresh goods section, missing a static barcode, the administrator can generate and print an item barcode by selecting the item and configuring the label attributes and printer to be used. They can also use the excel import and export tool to in adding new items and generating item reports.

**Inventory Module.** In this module, the administrator can manage the stocks of every item in their store. This will include adding information on reorder point, storage level, quantity in, and damaged quantity. They may see the table consisting of inventory number, item code, name, variant, stock in, date, stock out, amount, cost, and category in a table, the color of every row can be different from each other depending on its status, for example, green for a bestseller. The user can also generate and print current day, past 7 days, past 30 days, and current year inventory data tracking reports for each or all of the items in the store. They can also use the excel import and export tool to in adding new items quantity and generating inventory reports.

**References**

https://digitalschoolofmarketing.co.za/blog/what-is-a-sales-and-inventory-management-system/