INVENTORY MANAGEMENT PRACTICES AND PERCEIVED FINANCIAL PERFORMANCE OF RETAIL ENTERPRISES: AN ASSESSMENT

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Abstract

Small retail businesses provide little information regarding their inventory management practices. Therefore, this study aims to elaborate on and discuss certain practices in order to determine if there is a significant relationship between inventory management practices and the financial performance of small retail stores in Baliwag City, Bulacan. Researchers used the descriptive-correlation method, which is the most appropriate method to characterize the relationships between two or more variables. Researchers distributed a qualitative and quantitative analysis of survey questionnaires to 20 various hardware and construction supply stores operating in Baliwag City, Bulacan, where they utilized non-probability sampling, which eventually led to these target respondents. Findings revealed that in terms of firmographic profile, the majority of businesses are composed of only 1–3 employees and operate for an estimated 4–6 years. Moreover, exactly half of these stores have an average income of P100,001 to P250,000. Lastly, results showed that inventory management practices of small retail stores in Baliwag City, Bulacan, were strongly and positively correlated to their financial performance, and researchers concluded that the Theory of Inventory Management Pyramid of Kumar Singh greatly supports this study, wherein the organizational management must choose and create strategically plans that will enable them to keep inventory costs under control and minimize them while still offering the appropriate levels of customer service. As a result, usage of technology such as Microsoft Excel, which drives efficiency and innovation in businesses through automation, as well as stock cards, were recommended to be considered by these stores. With this, the achievement of target or desired market results can be increased composing of lower inventory costs and an increase in returns.

Keywords: inventory, inventory management, financial performance, retail enterprises

Introduction

Businesses often work when there is efficient management of employees, finance, or material resources which are essential and must be accordingly taken care of especially inventories. According to (Hayes, 2022) the ordering, storing, using, and selling of an organization's inventory is referred to as inventory management. In line with (Horton, 2021), success or failure can be measured by profitability, it is a company's capacity to generate a return on investment. These two play vital roles in one's business and as a result, proper inventory management has become crucial which can lead to a possible result of increase in profits.

According to the Department of Trade and Industry, small businesses, specifically retail stores, are made up of more than 99 percent of enterprises in the country, which are continuously growing in the present. Inventories are current assets that play a significant portion in a business which can generate profits that can sustain the respective firm. Thus, a productive usage of capital can be an outcome of proper management.

Inventory management is also responsible for maintaining raw materials or other supplies, such as work-in-process and finished goods, at levels that maximize service while minimizing costs. This is due to the fact that businesses with a lot of inventory typically have to pay significant inventory charges such as transportation costs, holding costs, and management costs.

In the industry of retailing, effective inventory management has a substantial impact on the organization's performance. Retailing includes all the activities and processes involved in selling goods or services to clients as well as one of the significant marketing activities may it be in the past centuries until current modern societies. Target markets and other promotional initiatives help to create demand, and a lean supply chain meets consumer demands. As a result, there are a lot of inventories in the retail sector that need to be sold to final customers.

Inventory management is critical for keeping sufficient stock and, indeed, represents a key success factor that shows how effective or efficient a company is in controlling its inventories.

However, it is a fact that there is only a small amount of information on inventory management practices in small business settings.

Furthermore, to provide more information regarding the inventory management practices in retail enterprises, this study examined and has begun to bridge this gap through conducting a research of how selected retail stores in Baliwag City, Bulacan are managing their inventories. This study will evaluate and discuss the inventory management practices used by these retail establishments as well as any difficulties they may experience in using these practices. Survey questionnaires will be distributed systematically to the target respondents and a qualitative and quantitative analysis will be performed to answer the research questions raised. The body of knowledge in inventory management for small firms is thereby will enhance by this research.

Review of Related Literature Inventory Management

Inventory management monitors supplies of goods and products, parts, and other ingredients, as well as the amount of stock on hand, manufacturing, and sales. Optimizing inventory levels reduces the likelihood of frequent inventory issues, such as high storage costs and out-of-stock products. If there is an excess of inventory, it may be expensive to purchase and may sit on the shelf for an excessive amount of time, moreover, it may eventually go bad since bad inventory functions as a waste (Singh and Kumari, 2020); (Kumari and Singh 2022). That is why to efficiently track inventory, each online business needs a different approach to inventory management (Lopienski, 2021). Furthermore, because it has complete access to real-time data, implementing an inventory management system is a proven approach to distribute inventory efficiently as the supply chain expands (Lopienski, 2021). Inventory management affects how well a company runs its operations, treats its customers, and boosts revenues.

Moreover, according to (Singh, 2018), there are three levels of management expertise – inventory control, inventory planning, and inventory optimization.

Inventory Control

Inventory control, also referred to as stock control, is the process of making sure that company has enough supplies on hand. Based on (Schwarz, 2022), it guarantees that the business can satisfy consumer demand and provides financial elasticity with the right internal and production controls.

Implementing effective inventory control procedures can ensure a firm's financial performance and that its products satisfy the needs and expectations of its customers. Moreover, data from purchases, reorders, shipping, warehousing, storage, receiving, customer satisfaction, loss prevention, and turnover are all necessary for effective inventory control (Schwarz, 2022). According to Wasp Barcode Technologies, in 43% of small enterprises, the inventory is not tracked or handled manually. Monitoring your stock levels is essential for order fulfillment and inventory management.

According to (Kenton, 2023), the first-in, first-out (FIFO) method of inventory control is an asset-management and valuation method in which assets produced or acquired first are sold, used, or disposed of first. This presumption is commonly accepted as the most technically accurate way for inventory valuation because it is closely tied to the actual flow of products. The FIFO flow concept is a logical one for a business to follow since selling off the older goods first reduces the risk of inventory obsolescence (Bragg, 2022).

The FIFO system is used by pharmacies, supermarkets, and other businesses for any perishable goods or products that spoil, such as food or medicine (Fritsch, 2021). Moreover, (Humpreys, 2022) stated that non-perishable products sectors, like clothes stores, can also employ the FIFO technique to make sure that existing inventory is sold before incoming inventory arrives.

On the other hand, another type of inventory control is the perpetual inventory system. It defines the easiest strategy to prevent stock-outs is to track inventory using a system that estimates inventory based on sales and purchases (Schwarz, 2022). In this form of inventory system, barcodes and RFID are the most frequently used.

In a study conducted by (Handojo et al., 2020), the application of inventory control to SMEs in Indonesia is through a barcode system using smartphones. Due to their limited financial resources, SMEs typically do not maintain a sizable inventory of goods. As a result, SMEs often have a small inventory of commodities and rely on turnover from stock products. The monitoring of stock item data is unquestionably quite important as a result. Stock-outs, which result in lost sales, are easily possible in the event of an error. SMEs can download stock data via an application installed to help with inventory management, and inventory control can be done by scanning the barcodes attached to the items.

Inventory Planning

Inventory planning is crucial to effective inventory management because it enables businesses to purchase only the products they actually need and determines how frequently they should place new orders. It stated that the main objectives of inventory planning are to minimize storage costs, ensure that there is enough inventory when consumer demand increases and estimate or anticipate inventory levels (Schwarz, 2019).

In addition, retailers utilize safety stocks to define the amount of excess inventory that their company should hold in order to reduce the danger of an undesirable stock-out (Boichuk, 2020). However, there are two opposing goals for safety stock. The first is to reduce the expense of a stock out, and the second is to reduce the expense of carrying a safety stock (Gupta, 2020).

Study by (Heaviside, 2020) concluded that to be able to determine the minimum stock required in a retail store are Forecasting method, Economic Order Quantity and Reorder Point. Based on relevant recent information, the forecasting method calculates statistically what will happen with the stocks in the future. A forecast period can be determined using this method, which also allows for the use of Moving Average, Weighted Moving Average, Single Exponential Smoothing, and Double Exponential Smoothing. However, the study demonstrates that the Forecast Moving Average approach is the best one the retail shop may utilize among the four.

Inventory Optimization

In order to meet demand, inventory optimization seeks to cost-effectively order the appropriate amounts of the right products. This is accomplished by incorporating supply and demand volatility into stock rule and inventory parameter adjustments. Inventory optimization seeks to achieve optimal availability while lowering inventory costs and reducing the risk of expensive surplus or obsolete stock. It does this by balancing service level (product availability) goals with inventory investment restrictions (Drakeley, 2023).

However, Inventory optimization and management have a significantly large impact on the retail industry. Every retailer aims to optimize their return on investment, and in order to do so, they must make sure that they are informed of the changes and that their inventory investments are kept at the best, or optimal, level, which is a difficult objective to achieve. Retailers encounter significant difficulties managing and storing their inventory. In a related study by (Stanelyte, 2021), it was determined how the demand of the consumer drives the entire phenomenon of inventory in the retail industry. Since products in the retail sector tends to sell quickly, it is crucial to predict client demand precisely in order to develop the ideal model for inventory replenishment.

In addition, in-depth data analytics systems that may be used to predict future client needs based on purchase history data are only one of the tools available to retailers to help them satisfy customer demand. Other factors, including the price that customers pay for products, the expense of maintaining inventory, and the management of product loss, can still lead to poor demand management performance even when inventory is managed properly. Retailers can utilize a variety of inventory management techniques to assist their stores satisfy customer demand. The local market environment and the retailer's product line determine the best inventory levels for a certain store. (Chawla, et.al., 2019).

As per (Drakeley, 2023), there are three key inventory optimization techniques that can increase efficiencies and reduce costs; (1) demand forecasting; (2) inventory policy and; (3) replenishment. Each aspect is crucial to guarantee you have the right stock in the right places at the right time to meet customer demand.

Financial Performance

A company's ability to create income and effectively manage its assets, liabilities, and investors' and stockholders' financial interests is measured by its financial performance. It is an arbitrary indicator of how successfully a company can turn resources from its main line of activity into income. This term is frequently used to describe the general state of a company's finances throughout a specific time frame (Kenton, 2023).

According to (Gungor, 2020), the financial performance of businesses plays a key role in achieving this aim. A strong financial performance not only indicates how well resources are being used, but it also makes a business more competitive overall. It helps businesses to draw in investors, get funding, and adjust to changing market conditions. In addition, having a solid financial base gives the business the flexibility to maintain its workforce, meet its obligations to stakeholders, and weather economic storms—all of which are critical to its long-term survival and success.

In addition, (Hada & Mihalcea, 2020) mentioned that the entity's financial performance is a key area of interest for both its internal and external environments. Thus, the wants or interests of the parties involved in the entity's economic existence must be somewhat taken into account while measuring financial performance. Internally, a deep comprehension of financial performance helps the company establish strategic priorities, make well-informed decisions, and allocate resources as efficiently as possible. Financial measurements are thoroughly analyzed by creditors, investors, and other stakeholders from the outside to evaluate the entity's stability, development potential, and overall health. Reliable and transparent financial reporting builds confidence and trust, which affects investment choices and market perceptions. As a result, the entity's financial performance plays a crucial role in determining the overall course and success of the business by acting as a link between internal management plans and external perceptions and decisions.

Theoretical Framework

Inventory management is essential for maintaining inventory availability across a range of areas, including customer service, manufacturing, and distribution. The organizational management must choose and create strategic plans that will enable them to keep inventory costs under control and minimize them while still offering the appropriate levels of customer service (Singh, 2016).

First Stage: Inventory Control

Along this stage, the foundation of the organization's inventory management lies. The inventory control phase focuses on various activities such as maintaining inventory accuracy like cycle counting, implementing a system to record every inventory transaction, and establishing inventory valuation processes (Singh, 2016). Making investments in people, procedures, and technology is critical at this stage in order to provide a solid inventory management foundation. The constant development of information technology makes it much simpler to facilitate goods inventory control that is why companies are willing to invest in such systems.

Second Stage: Inventory Planning

The company should manage its inventory strategically after determining the procedures to maintain its accuracy and valuation in the Inventory Control level and obtaining visibility over inventory. In the second stage, quantitative models are used in Inventory Planning to establish inventory policy, which essentially involves making crucial choices regarding the amount (how much) and timing (when) of the order. These models assist in the computation of variables such as optimal order quantities, safety stock, reorder point, order up to levels, etc., that efficiently help with the resolution of the prior identified concerns.

Third Stage: Strategic Inventory Optimization

Innovative organizations achieve this level of inventory management, and once it reaches this stage of expertise that is the time when organizations might anticipate using its inventory management process as a competitive edge. Exemplary instances

of top practices that businesses implement at this level include: (1) Implementing best practices for inventory management, which includes collaborative planning, vendor-managed inventory (VMI), just-in-time delivery, forecasting and replenishment (CPFR), cross-docking, etc. (2) Coordinating with suppliers to cut lead times, which will help to decrease inventory levels. (3) Enhancing forecast accuracy through the development of more accurate forecasting models and the encouragement of improved communication among supply chain management and marketing and sales staff. (4) Applying outstanding procedures that lessen supply and demand unpredictability in order to cut down on the requirement for safety stock. (5) Postponing the product customization to downstream stages of the production chain. (6) Employing simulation and optimization tools to determine the best locations in the network to store inventory and the appropriate amount to store at each location (Singh, 2016). Basically, inventory planning involves network-wide optimization rather than local optimization.

Conceptual Framework

The main objective of this study is to determine how various inventory management practices are used in the retail sector by small enterprises in Baliwag City, Bulacan. To fulfill and justify the specific aims of this study, the researchers must collect data and carry out the relevant processes. Thus, researchers conceptualize the framework in Input-Process-Output (IPO).

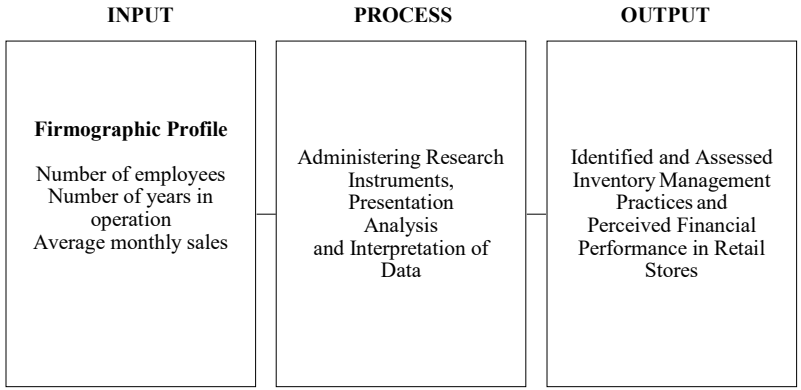

Figure 1. Research Paradigm of the Study

Figure 1 illustrates the paradigm of the study. The input, process, and output are all part of the paradigm. Feedback is required to ensure that the research output complements the research input. The figure will show how the study will obtain answers to the problems that have been precisely addressed.

The input frame of the research paradigm contains the firmographic profile and an assessment of inventory management in terms of the different practices or the factors given. The procedure or method for assessing the effect and relationships of variables in the input frame is provided by the process frame. The output frame includes the identified and assessed inventory management practices and perceived financial performance in retail enterprises. The output frame is used to generate an assessment. It is evaluated to support the outputs' effects on the inputs. As a result, the output must accurately respond to the problems in the input.

Statement of the Problem

The aim of this study is to identify the various inventory management practices used and perceive their financial performance by retail enterprises in Baliwag City, Bulacan and to know the implementation of these practices in their business operations. Specifically, it sought to answer the following questions:

1. What is the firmographic profile of business in terms of the following:
   1.1 Number of Employees,
   1.2 Years of Operations and,
   1.3 Average Monthly Sales?

2. How may the respondents' inventory management practices be described in term of :
   2.1 Inventory Control,
   2.2 Inventory Planning and,
   2.3 Inventory Optimization?

3. How may the respondents perceive their financial performance?

4. Is there a significant difference in the assessment of inventory management practices of retail stores when they are grouped according to their profile?

5. Is there a significant difference in the respondents' perception of their financial performance when they are grouped according to their profile?

6. Is there a significant relationship between inventory management practices and perceived financial performance of the respondents?

Hypotheses of the Studty

The researchers will expect this study to produce the results they need after acquiring the necessary data.

Ho_1: There is no significant difference in the assessment of the inventory management practices of retail stores when they are grouped according to profile.

Ho_2: There is no significant difference in the respondents' perception on their financial performance when they are grouped according to profile.

Ho_3: There is no significant relationship between inventory management practices and perceived financial performance of the respondents.

Method

Research Design

The researchers used a descriptive-correlation method in order to determine the relationship between the assessments of Inventory Management practices of retail stores when they are grouped according to profile in Baliwag City, Bulacan. The goal of this quantitative research method is to characterize the relationships between two or more variables. This method is the most appropriate in order tos assess the gathered information, test the hypothesis, and interpret the results and findings.

The descriptive method is a fact-finding study that involves gathering information about a particular phenomenon without manipulating or controlling the variables. This type of research design will be used for the provided population's statistical analysis. It also enables the researchers to explain the characteristics of the demographic segment rather than just generate the necessary data.

A type of methodology known as descriptive correlational design seeks to explain the link between two or more variables without establishing a cause-and- effect relationship. To determine whether there is a relationship between at least two variables, it involves collecting and analyzing data regarding them. The goal of the quantitative research method is to characterize the relationships between two or more variables wherein a picture of the current situation can be obtained through the use of descriptive correlation design.

Research Population

The research population of this study refers to the hardware and construction supply retail enterprises in Baliwag City, Bulacan. The researchers utilized a non-probability sampling, specifically convenience sampling to the total respondents of twenty (20) from Poblacion, Poblacion, and Tangos. These target respondents are owners and inventory management officers of Hardware and Construction Supply retail enterprises. This sampling method gives the small enterprises in the population an opportunity of being a respondent.

Moreover, the researchers select these respondents because they have an accurate quality to represent the respondents of our study and also because they are the most reliable and convenient respondent for this research.

Research Instrument

The researchers utilized a survey questionnaire as their research instrument in order to assess the inventory management practices and perceived financial performance of retail enterprises at Baliwag City, Bulacan.

The research instrument used was a self-made and adapted survey questionnaire which undergoes the process of pilot testing, designed to gather data and assist the researchers in determining how respondents were evaluated in order to gather deeper data relevant to the study paper's objectives.

The questionnaire was drawn out based on the Three Levels of Management Expertise - Inventory Planning, Inventory Control, and Inventory Optimization, in order to be able to determine the inventory management strategies employed by the respondents. The questionnaire is composed of three (3) parts.

Part I - The firmographic profile of the respondents in terms of Number of Employees, Business Operation in Years, and Average Monthly Sales.

Part II - The assessment of the respondent in the level of inventory management practices in terms of Inventory Control, Inventory Planning, and Inventory Optimization.

Part III – The perceived financial performance of the business.

Ethical Consideration

In conducting the study, the researchers made sure that the specific ethical consideration in writing research is followed when performing the study.

Informed consent. The researchers asked the participants their consent to be part of their study. This is given to the participants before answering the questionnaire (Appendix B). The researchers explained to them the purpose and goals of the research. Further, the involvement of the participants was made clear that it is voluntary and they have the rights to withdraw their consent at any time.

Anonymity and confidentiality. The researchers kept the identities of the respondents confidentially that is why the names of the respondents were not taken; however, they used codes as identification such as 1 (which stands for respondent 1). The researchers made sure that the identities of the respondents were not revealed in public unless they agree to it.

Honesty, sympathy and respect. In conducting the study, the participants treated with honesty, sympathy, and respect by the researchers throughout the entire procedure. These are the requirements that researchers should followed to create a good relationship with the respondents.

Data Gathering Procedure

Prior to the conduct of their data gathering, the researchers write to the Municipality of Baliwag City asking for a list of small businesses under the retail sector, along with the names of the barangays where each one was located in Baliwag City, Bulacan. The researchers also write a written consent for the approval from their respective school to conduct a data collection outside the Baliuag University. A letter asking the population to conduct the study was created after months of planning. Moreover, the researchers look for a statistician that will validate the questionnaire that the researchers had created before they started the survey. The survey is will be carried out by the researchers in several barangays in Baliwag City, Bulacan, including Barangay Bagong Nayon, Poblacion, and Tangos.

Furthermore, the researchers' primary instrument for gathering the required data was a survey questionnaire. The researchers will first give a consent form to the respondents to participate in the study. If they agreed to answer the research questionnaire honestly and with full knowledge, researchers will additionally explain the significance of the study to the respondents and define some terminologies after giving the paper copies of surveys form. They may change their mind later and withdraw their participation even if their agreed earlier. As a result, the researchers will adhere to the rules when creating this study and include moral principles to uphold social and ethical norms. Every piece of information submitted for this study will be kept private and used exclusively to carry out this research.

Statistical Treatment of Data

The study's data collection was categorized and structured based on the research design and the problem formulated. To make the implementation and presentation simpler the following statistical analysis will be applied to the results:

Frequency Distribution. The frequency distribution was used to classify the business of the respondents according to the types of retail store, number of employees, number of years in the business, estimated capital, and estimated monthly income. Additionally, the frequency will display the respondents' actual responses to a range of questions or items in the questionnaire about the methods of inventory management practices in the retail stores' operations.

Percentage Distribution. The percentage of the item is determined by dividing the frequency with the total number of respondents from the sample.

Weighted Mean. Calculating the weighted average involves multiplying each data point by its weight and summing those products. Then sum the weights for all data points. Finally, divide the weight*value products by the sum of the weights.

The scoring of the Likert Scale is for the favorable statements:

Level of Values	Limit Index	Verbal Interpretation
4	3.25 – 4.00	Strongly Agree
3	2.50 – 3.24	Agree
2	1.75 – 2.49	Disagree
1	1.00 – 1.74	Strongly Disagree

ANOVA or analysis of variance is a statistical technique that divides observed variance data into distinct components for use in further testing. When analyzing data from three or more groups, a one-way ANOVA can be used to determine the correlation between the independent and dependent variables.

Results and Discussions

Table 1. Frequency and Percentage Distribution of Firmographic Profile of Businesses According to Number of Employees

Number of Employees	Frequency	Percentage (%)
1-3 employees	9	45.0
4-6 employees	6	30.0
7-9 employees	3	15.0
More than 10 employees	2	10.0
Total	**20**	**100.0**

Table 1 presents the firmographic profile of the businesses according to the number of their employees. Among the 20 businesses, nine (45.0%) have one to three employees. Six (30.0%) businesses have four to six employees. Three (15.0%) businesses have seven to nine employees. Lastly, only two (10.0%) have more than 10 employees. (Chron, 2020) stated that one of the main struggles small business owners faces is selecting the appropriate people. Managers actively observe the number of employees a business utilizes at any given time because manpower affects everything from production to client relationships. Though a larger population of employees in a retail business contributes to its sales and productivity, most of the retail stores prefer having lesser employees as it helps in being organized and having a systematic inventory management.

Table 2. Frequency and Percentage Distribution of Firmographic Profile of Businesses According to Number of Years in Operation

Number of Employees	Frequency	Percentage (%)
1-3 years	7	35.0
4-6 years	8	40.0
7-9 years	4	20.0
More than 10 years	1	5.0
Total	**20**	**100.0**

Table 2 presents the firmographic profile of the businesses according to the number of years in operation. Among the 20 businesses, seven (35.0%) have been in operation for one to three years. Eight (40.0%) businesses have been in operation for four to six years. Four (20.0%) businesses have been operating for seven to nine years. Lastly, only one (5.0%) have been operating for more than 10 years.

Quijano (2023) stated that hardware supplies remain necessary and irreplaceable for everything from little home repairs to major building projects, even in an era where digital technology is widespread. Because there is a steady market for hardware products in the Philippines, the hardware industry is a profitable one. As a result, most retail establishments have been in the industry for four to six years.

Table 3. Frequency and Percentage Distribution of Firmographic Profile of Businesses According to Average Monthly Sales

Average Monthly Sales	Frequency	Percentage (%)
Less than P100,000	4	20.0
P100,001-P250,000	10	50.0
P250,001-P500,000	4	20.0
More than P500,000	2	10.0
Total	**20**	**100.0**

Table 3 presents the profile of the businesses according to the average monthly sales. Among the 20 businesses, four (20.0%) have average monthly sales of less than Php100,000. Ten (50.0%) businesses have average monthly sales of Php100,001 to Php250,000. Four (20.0%) businesses have monthly sales of Php250,001 to Php500,000. Lastly, two (10.0%) business have average monthly sales of more than Php500,000. According to a report from the Department of Trade and Industry (2022), it has a total of 1,109,684 business enterprises operating in the Philippines which the small enterprises constitute of 8.69% or 96,464. In addition, (Bustillo et. al., 2022), according to their findings, 50.88% of small businesses in Cagayan earned between Php50,001 and Php100,000 on average each month.

Table 4. Mean and Standard Deviation and Interpretation for Businesses' Inventory Control

Indicators	*SD*	*M*	Interpretation
A specific individual is in charge of monitoring and guaranteeing the accuracy of the inventory.	0.510	3.55	Strongly Agree
I/We carry out the cycle counts on fast- moving products to verify inventory accuracy.	0.510	3.55	Strongly Agree
I/We update the inventory immediately after transaction.	0.510	3.45	Strongly Agree
I/We track the inventory using software or technology.	0.489	3.35	Strongly Agree
I/We manually tally or track the inventory.	0.587	3.35	Strongly Agree
Overall Weighted Mean	**0.522**	**3.45**	**Strongly Agree**

Table 4 presents the mean and standard deviation of the businesses' inventory control that shows the respondents strongly agree with all of the indicators based on the average weighted mean (M = 3.45, SD = .522) with interpretation of "Strongly Agree".

Based on the results, indicator 1 and indicator 2 got the highest scoring items and received an overall mean (M = 3.55, SD = 0.510). On the other hand, the lowest scorer is from indicator 4 with an average weighted mean of (M = 3.35, SD = .489), followed by indicator 5, garnering ((M = 3.35, SD = .587). All of the five indicators of this variable received an interpretation of "Strongly Agree".

This indicated that hardware retail enterprises effectively practice inventory control in their businesses by establishing processes for valuation and maintenance for inventory accuracy like cycle counting. They are investing in people to monitor their stock's accuracy, and even implementing systems to record all inventory transactions. Furthermore, they show strong acknowledgment of tracking their inventories manually and by using technologies to maintain better control over inventory. Using an inventory management software solution reduces errors in your inventory management, which makes your business more efficient, more profitable, and better equipped to serve your customers (Magallanes et. al., 2021). However, it is still evident that respondents mostly utilized manual tally to track their inventory management.

Table 5. Mean and Standard and Deviation Interpretation for Businesses' Inventory Planning

Indicators	*SD*	*M*	Interpretation
I/We order the products at a certain point of time.	0.503	3.40	Strongly Agree
I/We fulfill the customer's request daily and no stocks out happen.	0.470	3.30	Strongly Agree
I/We organize the products based on the optimal/ ideal order quantity to prevent shortages or excess of inventory.	0.503	3.60	Strongly Agree
The value and quantity of inventory that will be added to the store are renewed at regular interval of time.	0.489	3.35	Strongly Agree
I/We use quantitative techniques such as Forecasting Demand, Economic Order Quantity (EOQ), or Reorder Point to determine to safety stock, cycle stock, and cost of inventory	0.503	3.40	Strongly Agree
Overall Weighted Mean	**0.493**	**3.41**	**Strongly Agree**

Table 5 presents the mean and standard deviation of the businesses' inventory planning. Like the previous table, this table also shows that the respondents strongly agree with the indicators of inventory planning based on the overall mean (M = 3.41, SD = .493, N = 20).

The findings revealed that indicator 3 got the highest scorer item with an average weighted mean of (M= 3.60, SD= 0.503). Moreover, the 1st and 5th indicators both received (M= 3.40, SD= 0.503). Lastly, there is only a difference of .05 between indicator 4 with (M= 3.35, SD= 0.489) and indicator 2 with (M= 3.30, SD= 0.470).

This revealed that hardware retail businesses successfully use inventory planning as they regularly place orders for products at certain times, which prevents them from ever running out

of stock. Additionally, they also order the right amount of stock based on their estimation of what customers will purchase, ensuring that they never have an excess or shortage of inventory. Consistently, hardware retail enterprises in Baliwag City, Bulacan purchase an appropriate value and quantity of inventory that will be added to the store which are renewed at regular interval of time. Lastly, they use quantitative techniques such as Forecasting Demand, Economic Order Quantity (EOQ), or Reorder Point to determine to safety stock, cycle stock, and cost of inventory. In summary, the overall result that the researchers gathered from respondents when it comes to inventory planning obtained a "Strongly Agree".

According to (Rifai et. al., 2021), to enhance the decision making in business regarding inventory, considering the adoption of inventory control tools as well as Economic Order Quantity calculations is crucial. With the two, the business will streamline the business capability in collecting and holding information on the product they are selling. More so, the two will increase the probability of reducing unwanted wastages and dead stock (Rifai et al., 2021).

Table 6. Mean and Standard Deviation and Interpretation for Businesses' Inventory Optimization

Indicators	*SD*	*M*	Interpretation
I/We are estimating the kind and quantity of products the customer may buy through their purchasing history and product preference.	0.513	3.50	Strongly Agree
I/ We store excess merchandise that would not fit on the business's designated display shelves in a back room or storage area.	0.503	3.40	Strongly Agree
I/We automatically get our goods from our suppliers even without placing an order.	0.639	3.25	Agree
I/We place an order for inventory once a customer contacts us with an inquiry.	0.616	3.20	Agree
Overall Weighted Mean	**0.567**	**3.34**	**Strongly Agree**

Table 6 presents the mean and standard deviation of the businesses' inventory optimization. Unlike the previous two variables which composed of indicator 1 with (M = 3.50, SD = .513,

N = 20) and indicator 2 with (M = 3.40, SD = .503, N = 20) the table for inventory optimization shows that some indicators did not receive an interpretation of "Strongly Agree." These include the following: Indicator 3 (M = 3.25, SD = .639, N = 20), and indicator 4 (M = 3.20, SD = .616, N = 20).

Nevertheless, the overall mean (M = 3.34, SD = .567, N = 20) shows that generally, the respondents strongly agreed with the indicators of the said variable.

This indicated that hardware retail enterprises mostly use a back room or storage room to store their excess products when it does not fit at the shelves. This means that they often utilize the space at their stores. Moreover, as they have customers who repeatedly buy from them, they used such information specifically its purchase history to estimate their product preferences and determine what to order from the suppliers. Some hardware retail enterprises automatically get their goods from their suppliers even without placing an order, this means that some of them regularly order their items from a specific supplier. Overall, the hardware retail enterprises strongly agree to this indicated that when products cannot fit on the shelves, hardware retail enterprises typically keep their surplus inventory in a back room or storage area, this shows that they make frequent use of the area in their establishments. Furthermore, since they had clients that make recurring purchases from them, they used this data, particularly the client's purchase history, to estimate the products that the client prefers and to decide what they should buy from the suppliers. Some hardware retail enterprises place regular orders for their products from a certain supplier since some of them automatically get their goods from their suppliers even when they don't place an order. In general, the hardware retail businesses strongly agree with the four-inventory optimization-related challenges.

Determining reorder quantities include considering sales history, looking for demand trends, tracking lead times, and setting optimal reorder levels. Proper restocking helps prevent stockouts and keeps consumers satisfied with the items that are available, which has an impact on customer satisfaction and profit of the business (Tranzact, 2023).

Table 7. Mean and Standard Deviation and Interpretation for Businesses' Perceived Financial Performance

Indicators	*SD*	*M*	Interpretation
Return on Equity has increased due to inventory management.	0.510	3.45	Strongly Agree
Inventory Management improves Return of Asset.	0.510	3.55	Strongly Agree
After implementing inventory management practices profit have increased.	0.503	3.40	Strongly Agree
Growth in sales has improved due to inventory management.	0.503	3.60	Strongly Agree
Business performance in terms of market share has improved.	0.503	3.60	Strongly Agree
Average Weighted Mean	**0.506**	**3.52**	**Strongly Agree**

Table 7 presents the mean and standard deviation of the businesses' perceived financial performance. This shows that the respondents strongly agree with the indicators of inventory control based on the overall mean (M= 3.52, SD = .506) with interpretation of "Strongly Agree".

The results shows that indicator 4 and 5 got the highest scores and received an overall mean (M = 3.60, SD = 0.503), followed by the indicator 2 (M = 3.55, SD = 0.510). On the other hand, the lowest scorer is from indicator 3, accumulating average weighted mean of (M = 3.40, SD = 0.503), followed by indicator 1 (M = 3.45, SD =0.510). In summary, all of the five indicators of this variable received an interpretation of "Strongly Agree".

This revealed that hardware retail enterprise's perceived financial performance has been positively impact by their inventory management practices. Respondents strongly agreed their growth in sales, business performance in terms of market share and profit has improved due to their inventory management. They expressed satisfaction to the affectivity of doing efficient inventory management to ensure that businesses maintain the right amount of inventory at all times. This prevents overstocking, which ties up capital and can lead to inventory obsolescence,

and avoids stockouts, which can result in lost sales. By optimizing inventory levels, businesses can use their assets more effectively and improve ROA. Effective inventory management helps businesses maintain high levels of product availability. Customers are more likely to make purchases when they can find the products, they want readily available. By reducing stockouts and ensuring consistent product availability, businesses can attract and retain more customers, driving increase in overall financial performance.

Table 8. Kruskal-Wallis Test Results of Inventory Management Practices Across Groups Based on Number of Employees

Variable	Groups	N	Mean Rank	*X2*	*df*	p
Inventory control	1-3 employees	9	11.11			
	4-6 employees	6	10.75			
	7-9 employees	3	12.33	2.700	3	.440
	More than 10 employees	2	4.25			
	Total	**20**				
Inventory planning	1-3 employees	9	9.72			
	4-6 employees	6	13.50			
	7-9 employees	3	10.33	3.398	3	.334
	More than 10 employees	2	5.25			
	Total	**20**				
Inventory optimization	1-3 employees	9	10.61			
	4-6 employees	6	10.75			
	7-9 employees	3	10.33	.075	3	.995
	More than 10 employees	2	9.50			
	Total	**20**				

A series of Kruskal-Wallis Tests was done to determine whether there is a significant difference in the inventory management practices of the retail stores across the four groups based on the number of employees. A nonparametric test like Kruskal-Wallis is considered more appropriate due to the limitations in the number of respondents per group.

Results showed that the groups do not significantly differ in terms of the three variables, namely, inventory control [$X^2(3)$

= 2.700, p = .440], inventory planning inventory control [$X^2(3)$ = 3.398, p = .334], and inventory optimization inventory control [$X^2(3)$ = .075, p = .995]. This shows that based on the responses in this study, the number of employees of the businesses does not significantly affect their inventory management practices.

According to (Lauckner & Ramirez, 2022), although micro businesses can employ up to 10 employees, most of these stores are operated and owned by a single person. These stores usually have no funds to hire more employees which cause the owner to handle different jobs at once, including sales, marketing, operations, and inventor management (Lauckner & Ramirez, 2022).

Table 9. Kruskal-Wallis Test Results of Inventory Management Practices Across Groups Based on Number of Years in Operation

Variable	Groups	N	Mean Rank	*X2*	*df*	p
Inventory control	1-3 years	7	11.00			
	4-6 years	8	11.88			
	7-9 years	4	7.63	1.731	3	.630
	More than 10 years	1	7.50			
	Total	**20**				
Inventory planning	1-3 employees	7	10.36			
	4-6 employees	8	13.19			
	7-9 employees	4	6.13	4.253	3	.235
	More than 10 employees	1	7.50			
	Total	**20**				
Inventory optimization	1-3 employees	7	10.43			
	4-6 employees	8	12.25			
	7-9 employees	4	5.63	4.569	3	.206
	More than 10 employees	1	16.50			
	Total	**20**				

Another series of Kruskal-Wallis Tests was done to determine whether there is a significant difference in the inventory management practices of the retail stores across the four groups based on the number of years in operation.

The table shows that the groups do not significantly differ in terms of the three variables, namely, inventory control [$X^2(3)$ = 1.731, p = .630], inventory planning inventory control [$X^2(3)$ = 4.253, p = .235], and inventory optimization inventory control [$X^2(3)$ = 4.569, p = .206]. This shows that based on the responses in this study, the stores' number of years in operation also does not significantly affect their inventory management practices.

Additionally, (Bustillo, 2022) discovered that the majority of companies have been in operation for six to ten years, demonstrating that the number of years in operation has no significant effect on the inventory management practices used by the various groupings.

Table 10. Kruskal-Wallis Test Results of Inventory Management Practices Across Groups Based on Average Monthly Sales

Variable	Groups	N	Mean Rank	*X2*	*df*	p
Inventory control	Less than P100,000	4	11.00			
	P100,001-P250,000	10	11.30			
	P250,001-P500,000	4	11.13	2.557	3	.465
	More than P500,000	2	4.25			
	Total	**20**				
Inventory planning	Less than P100,000	4	10.13			
	P100,001-P250,000	10	12.05			
	P250,001-P500,000	4	9.63	2.454	3	.484
	More than P500,000	2	5.25			
	Total	**20**				
Inventory optimization	Less than P100,000	4	12.50			
	P100,001-P250,000	10	10.45			
	P250,001-P500,000	4	9.13	.751	3	.861
	More than P500,000	2	9.50			
	Total	**20**				

Kruskal-Wallis Tests were again conducted to determine whether there is a significant difference in the inventory management practices of the retail stores across groups based on average monthly sales.

The table shows that the groups also do not significantly differ in terms of the three variables, namely, inventory control [$X^2(3) = 2.557$, $p = .465$], inventory planning inventory control [$X^2(3) = 2.454$, $p = .484$], and inventory optimization inventory control [$X^2(3) = .751$, $p = .861$]. This shows that based on the responses in this study, the stores' average monthly sales do not significantly affect their inventory management practices.

Sales and inventory management system is we proposed to reduce these problems and will increase the competency and efficiency of their work (Herath, 2017). The observed data indicates that, although monthly sales volumes vary, these variations do not appear to have a significant effect on the inventory management tactics used by the stores that are the subject of the inquiry. In the context of this study, this suggests that other factors or approaches may have a greater influence on inventory management practices, underscoring the intricacy of the relationship between sales success and inventory management in the establishments under observation.

Table 11. Kruskal-Wallis Test Results of Respondents' Perceived Financial Performance Across Profile Groups

Variable	Groups	N	Mean Rank	*X2*	*df*	p
Number of employees	1-3 employees	9	9.67			
	4-6 employees	6	12.83			
	7-9 employees	3	10.50	1.849	3	.604
	More than 10 employees	2	7.25			
	Total	**20**				
Number of years in operation	1-3 years	7	11.21			
	4-6 years	8	12.38			
	7-9 years	4	5.38	4.219	3	.239
	More than 10 years	1	11.00			
	Total	**20**				
Average monthly sales	Less than P100,000	4	10.25			
	More than P500,000	2	7.25			
	P100,001-P250,000	10	11.95	1.683	3	.641
	P250,001-P500,000	4	8.75			
	Total	**20**				

Kruskal-Wallis Tests were again conducted to determine whether there is a significant difference in the respondents' perceived financial performance when grouped according to profile.

When grouped according to the number of employees, the respondents do not significantly differ in their perceived financial performance [$X^2(3) = 1.849$, $p = .604$]. Likewise, when it comes to the number of years in operation, the respondents also do not significantly differ in their perceived financial performance [$X^2(3) = 4.219$, $p = .239$]. Lastly, when it comes to average monthly sales, the respondents also do not significantly differ in their perceived financial performance [$X^2(3) = 1.683$, $p = .641$]. In other words, based on the results taken from the respondents, the businesses firmographic profile does not influence their perceived financial performance. It is supported by the study conducted by (Bustillo, et al., 2022) that there is no significant difference in financial performance particularly cash flow and profitability when they are grouped according to the number of employees.

Table 12. Pearson Product-Moment Correlation Coefficient Table for the Inventory Management Practices and Perceived Financial Performance

Variable	Statistical Treatment	Perceived Financial Performance
Inventory control	Pearson Correlation	.602**
	Sig.	.005
	N	20
Inventory planning	Pearson Correlation	.434
	Sig.	.056
	N	20
Inventory optimization	Pearson Correlation	.646**
	Sig.	.002
	N	20

Pearson product-moment correlation coefficients were computed to determine the relationship between the respondents' perceived financial performance and each of the variables under inventory management practices. Results show that there is a strong positive significant relationship between perceived finan-

cial performance and inventory control (r = .602, N = 20, p = .005). This means that based on the data from the 20 respondents, as the inventory control improves, their perceived financial performance also becomes better.

A study by (Gamariel, 2021), reveals to the result of their study that the inventory control is effective and they greatly affecting the profitability of the business; however, there are some challenges such striking a balance between overstocking and running out of store and underproduction stoppages, ineffective stock management can lead to inadequate holding of stock. Make sure the storage cost of the available or left over stock be maintained at a reasonable level of cost so has not to draw the cumbersome quota on the profit realized and also cost of sales have to be at minimal, so has not to expend the profit before making it.

Meanwhile, there is no significant relationship between inventory planning and perceived financial performance (r = .602, N = 20, p = .005). Although the relationship is positive and at a moderate level, this is not conclusive because of the computed p-value.

According to (Anshur et. al., 2018), there is a lack of agreement regarding the correlation between inventory performance and financial performance. Although some literature suggests a positive relationship between the two, other research demonstrates no significant difference at all between inventory performance and financial performance (Anshur et. al., 2018).

On the other hand, another strong positive significant relationship between perceived financial performance and inventory optimization (r = .646, N = 20, p= .002) was computed. This means that based on the data from the 20 respondents, as the inventory optimization improves, their perceived financial performance also improves.

In addition, (Gartner Peer Community, 2023) stresses that optimizing inventory can be extremely beneficial to any company that sells raw materials or completed goods. You will notice results on working capital and the more difficult to assess surges in inventory carrying costs on the balance sheet if your company has a significant inventory overage, which leads to poor inventory health (Gartner Peer Community, 2023). Businesses

can benefit from a well-optimized inventory system in a number of ways, including lower expenses, better cash flow, higher customer satisfaction, and higher sales.

Conclusions

The study examined inventory management practices in hardware stores in Baliwag City, Bulacan. It found that improved inventory optimization and control improve perceived financial performance. However, the study found no significant relationship between employee numbers and inventory management effectiveness. The number of years of a business's operation did not show a consistent relationship with inventory management practices. Thus, even startups with limited employees can successfully implement appropriate inventory management practices. Thus, the researchers concluded that inventory management is greatly practiced by Hardware Stores in Baliwag, Bulacan and it positively affects their business performance.

Based on the foregoing results and discussions, the researchers drawn the following conclusions:

The study concludes that inventory management practices can effectively enhance the performance of specific hardware stores in Baliwag City, Bulacan. This will enable them to considerably improve the performance of their stores by cutting expenses, enhancing customer satisfaction, and optimizing operations.
In terms of number of employees managing the hardware stores, it was concluded that most of them have one to three employees only.

The study reveals that the hardware stores in Baliwag City, Bulacan should continue to practice inventory management because effective inventory management helps control costs by avoiding overstocking, which ties up capital, and preventing stockouts, which can lead to lost sales. By maintaining optimal inventory levels, hardware stores can reduce storage costs and minimize the risk of unsold or expired products.

In summary, practicing inventory management is essential for hardware stores in Baliwag City, Bulacan to remain competitive, control costs, improve customer satisfaction, operate efficiently, make data-driven decisions, reduce shrinkage, main-

tain good supplier relationships, and adapt to market changes. Continuing to prioritize inventory management will contribute to the overall success and profitability of these stores.

Recommendations

Based on the findings and conclusions, the researchers derived the following recommendations:

Retailers should consider using Microsoft Excel and enrolling in free online courses about inventory management. Business owners will find this useful in developing a deeper and more comprehensive understanding of the significance of inventory management and what programs is the most effective to use. They can pick up strategies, plans, and methods to enhance their inventory management practices.

Since inventory planning has a positive and non-significant relationship with perceived financial performance, it is recommended that owners place emphasis on developing a policy framework and use stock cards to track the constant movement of goods in their stores. This is to manage their inventories more effectively by studying and applying the EOQ model, reorder point, safety stocks, and demand forecasting to use after inventories are tracked.

Since inventory optimization has a strong positive significant relationship between perceived financial and inventory optimization, retail enterprises like hardware and construction supply businesses are recommended to place emphasis on proper inventory management, such as vendor managed inventory (VMI), collaborative planning, forecasting, and just-in-time implementing best-in-class procedures that lessen supply and demand uncertainty, hence lowering the requirement for safety stock.

Since the businesses' perceived financial performance shows a strong positive significant relationship between perceived financial performance and inventory control, retail enterprises like hardware and construction supply businesses should consider investing in modern technology and implement Electronic Data interchange (EDI). This will lower the cost of inventory and increase returns, which will boost the company's growth.

It is recommended to establish a relationship with a reliable provider and make sure the terms and conditions are understood. Having a good relationship with a reliable supplier is an advantage to the business so they can discuss and agree upon the schedule of product's delivery.

It is recommended that future researchers utilize patience while selecting credible respondents who follow the rules and regulations when operating a business.

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