
INVENTORY MANAGEMENT PRACTICES OF HARDWARE AND BUILDING SUPPLIES BUSINESSES IN NUEVA VIZCAYA

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ABSTRACT

Inventory management is a critical factor in the profitability and growth potential of businesses, particularly in the hardware and building supplies industry. Inventory investment typically comprises 30-50% of a company's assets, making effective management essential. This study sought to examine the inventory management practices employed by hardware and building supplies businesses in Nueva Vizcaya. Specifically, the study aims to identify common, different, and potentially unique inventory management practices within the sector. The research utilized a qualitative approach, employing guided interviews with purposively selected participants, including business owners, managers, and individuals responsible for inventory management. Findings indicate that most respondents continue to rely on traditional inventory management practices, despite the availability of more modern methods. It was also observed that formal techniques for determining optimal purchase quantities were rarely employed, and there was a notable absence of control procedures to address stock-outs, inventory discrepancies, and excessive stock accumulation. The study also identified several common and different inventory management practices, but no uniquely innovative practices were discovered.

Keywords: control, demand forecasting, inventory valuation, monitoring inventory levels, storage and warehousing

INTRODUCTION

Inventory refers to the stock of goods and materials that a business holds for the purpose of resale, production, or use in operations (Arya, 2021). It also constitutes an idle stock of physical goods containing economic value held in various forms by an organization (Rao, 2017). Inventory is classified into three types: raw material inventory, work-in-progress inventory and finished goods inventory (Govuzela, 2023), the utilization of which depends on the nature of a business. Regardless of the nature of business though, inventories are essential assets for various business sectors. As such, investment in inventory takes up a significant percentage of the total assets of the business. McKinsey and Co. (2018) noted that for most retailers, 30-50% of their total capital investment is invested on inventories. Similarly, Deloitte (2019) stated that for some businesses, 40% of their assets is tied up in inventory. Achieng et al. (2018) defines inventory management as a strategy employed by businesses to handle purchases, receipts, packaging, and distribution of inventories, aiming to meet demand levels effectively and efficiently. Udo (n.d.) adds that inventory management effectively eliminates unnecessary investments.

Inventory management is fundamental to an organization's profitability, stability, growth and overall health. Regardless of the enterprise's size, adopting prevalent inventory management practices can help control supply and overall business management (Mendoza et al., 2023). With its primary role of maintaining the desired stock level of inventories (Munyaka & Yadavalli, 2022), Thompson and Scott (2016) state that effective inventory management enables businesses to meet customer demand without overstocking. Thus, businesses must balance inventory shortage and excessive inventory, as both can lead to negative consequences (Hendratna, 2018). There are also opportunity costs from funds that could have been invested in other projects (Mulanid & Ismail, 2019). Furthermore, proper inventory management can lead to higher customer satisfaction by ensuring product availability and maintaining healthy supplier relationships through avoiding stockouts and ensuring timely payments (Baker & Canessa, 2020).

These scenarios illustrate that inventory management plays a crucial role in a company's profitability and growth potential. Without an efficient inventory management system, businesses may inadvertently waste financial resources on unsellable products. Additionally, they risk stock shortages, which can result in order fulfillment delays and unhappy customers. These challenges can quickly reduce profit margins, creating substantial hurdles for a business (Mohamed, 2024).

Like in many businesses, inventory management is also crucial in the hardware and building supplies businesses. These businesses play a vital role in the growth and development of the community by providing essential products and services needed for construction and renovation. This business is a part of the retail trade sector, which is defined under the Retail Trade Liberalization Act of 2000 as any act, profession, or calling that regularly sells products, commodities, or items for consumption directly to the general public (Ang, 2022).

Hardware and building supplies businesses are also among the major businesses in the global economy. This business sector has experienced significant growth over the past few years due to several interrelated factors (Louisiana-Pacific Corp., 2018) like population growth, increasing urbanization, industrial expansion, and a rising global economy. The COVID-19 pandemic also played a significant role in the global sales increase of this business as lockdowns urged people to shift their focus to home repair and renovation projects, resulting in an increased demand for hardware and building supplies (Statista, n.d.). And as shown in global economy data and changes in the economy, it is predicted that revenue from hardware and building supplies globally is expected to increase further

However, while the future of this market appears bright, business owners meet a lot of different challenges, both in internal and external operations. One of the biggest challenges retail trade businesses face is maintaining an accurate inventory count, which can be complicated due to limited resources (Goyal & Gunasekaran, 2017). The study of Kittisak (2023) states that poor demand forecasting, inadequate storage facilities, and lack of inventory control systems are some of the major challenges faced by small and medium enterprises in managing their inventory.

The researchers specifically chose hardware and building supplies businesses due to several reasons. One is the increasing popularity and desirability of this business brought about by multiple construction activities all year round. This includes construction projects funded by the Department of the Interior and Local Government, such as the multi-purpose building project in Quezon, Nueva Vizcaya and the proposed construction project between the Government of the Republic of the Philippines, represented by the Department of Public Works and Highways (DPWH) and Japan International Cooperation Agency (JICA) on the Dalton Pass East Alignment Road Project connecting the provinces of Nueva Ecija and Nueva Vizcaya. There are also projects on commercial buildings, schools, houses, house renovations, bridges, and drainages around the province. Moreover, hardware and building supplies businesses are noted by Pratama et al. (2019) in their study as businesses that have specific needs and challenges to factors such as inventory management, supply chain, and pricing. Pisoni and Pavesi (2013) also mentioned hardware and building supplies businesses as essential industries contributing significantly to a country's economy. The growth of this business increases the advantages it provides to the community, such as job creation, increased tax revenue, and greater support for local trade (IBISWorld, 2021).

Previous international and local studies have explored inventory management practices in hardware and building supply businesses, but most have focused on large-scale enterprises or urban commercial areas. For instance, Diabat et al. (2019) and Monroe and Schuler (2018) highlighted the importance of automation, supplier coordination, and regular audits as best

practices in inventory management for hardware and building materials companies abroad. These studies, however, were conducted in well-established organizations like Ace Hardware and industries with advanced technological support.

On the other hand, local studies such as Cuenca et al. (2021) and Mercado and Naval (2019) revealed that small and medium-sized hardware stores in regions like CALABARZON and Metro Manila often rely on manual systems such as handwritten ledgers or spreadsheets. These systems lead to inaccuracies, inefficient forecasting, and stock management issues. There remains limited research focusing on the inventory management practices of hardware and building supplies businesses in provincial settings, particularly in Nueva Vizcaya, where business environments, resources, and management systems may differ significantly from urban or industrial regions.

With this, the researchers aim to determine the inventory management practices of hardware and building supplies businesses in Nueva Vizcaya, specifically the common, different, and unique practices of the respondents. In this study, common practices pertain to practices that are extensively used by the respondents. Different practices refer to those approaches that deviate from conventional methods, such as modifications in business processes aimed at enhancing the effectiveness and efficiency of inventory management. Whereas, unique practices refer to those employed exclusively by a single respondent, which have not been adopted by other businesses or documented in previous studies. Determining the inventory management practices of hardware and building supplies businesses would provide a general understanding of their inventory management. It would also help in the development of appropriate strategies for inventory management.

Statement of Objectives

This study aims to determine the inventory management practices of hardware and building supplies businesses in Nueva Vizcaya for the first and second semesters of the school year 2023-2024.

Specifically, it sought:

1. To determine the inventory management practices of hardware and building supplies businesses in Nueva Vizcaya.
2. To determine the common inventory practices implemented by hardware and building supplies businesses in Nueva Vizcaya.
3. To determine the different inventory management practices of hardware and building supplies businesses in Nueva Vizcaya.
4. To determine the unique inventory management practices of hardware and building supplies businesses in Nueva Vizcaya.

METHODOLOGY

The study used a qualitative research design. The researchers collected qualitative data using an interview guide to determine the inventory management practices of hardware and building supplies businesses in Nueva Vizcaya and to determine the businesses' commonalities, differences, and uniqueness. The study was conducted in the selected towns of Nueva Vizcaya, namely Bambang, Bayombong, and Solano. These municipalities have numerous established hardware businesses, which make them ideal sources of relevant data. The participants of this study were the owners, managers, or persons in charge of managing the inventory of hardware and building supplies businesses in Nueva Vizcaya, specifically in Bambang, Bayombong, and Solano. The researchers made use of non-probability sampling techniques, specifically purposive sampling. The population of the study consisted of 7 business owners, with a sample

size of 6. The researchers obtained a list of registered hardware and building supplies businesses around Bambang, Bayombong, and Solano from the Department of Trade and Industry (DTI) and from the Municipal Business Licensing Offices of each municipality. They then identified the businesses registered in both the DTI and Municipal BPOs and conducted a preliminary interview to obtain their consent and the number of years the businesses had been in operation. The interview questions were adopted and modified from the study of Aban et al. (2023) entitled “Inventory Management Practices and Challenges of Agricultural Farm Supply Businesses in Selected Municipalities in Nueva Vizcaya.” An inductive thematic analysis was used. In addition, the checklist table format below was used to present the identified inventory management practices of hardware and building supplies businesses in Nueva Vizcaya, as well as the respondents who utilize these practices.

Table 1
Checklist on General Inventory Management Practices

| General Inventory Management Practices | R1 | R2 | R3 | R4 | R5 | R6 |
|--|----|----|----|----|----|----|
| e.g., Manual Inventory Management | ☑ | ☑ | ☑ | | ☑ | |

Furthermore, frequency count was used to distinguish the determined practices of the hardware and building supplies businesses in Nueva Vizcaya. The interpretation of the frequency count is as follows:

Table 2
Checklist on Specific Inventory Management Practices

| Specific Inventory Management Practices | Frequency | Interpretation |
|--|-----------|----------------|
| e.g., Classifying and Organizing Inventory | 1-2 | Different |
| e.g., Manual Inventory Management | 3-6 | Common |

Lastly, to determine the unique practices of the hardware and building supplies business in Nueva Vizcaya, thematic analysis was used.

RESULTS AND DISCUSSION

Section 1. Inventory Management Practices of Hardware and Building Supplies Businesses in Nueva Vizcaya

Table 3
General Inventory Management Practices of Hardware and Building Supplies Businesses in Nueva Vizcaya.

| General Inventory Management Practices | R1 | R2 | R3 | R4 | R5 | R6 |
|---|----|----|----|----|----|----|
| Manual Inventory Management | ☑ | ☑ | ☑ | | ☑ | |
| Classifying and Organizing Inventory | ☑ | | | | | |
| Excel Based Recording and Physical Inventory Counting | | | | ☑ | | |
| Dual Record Keeping | | | | ☑ | | |
| Use of QuickBooks Software for Inventory Management | | | | | | ☑ |

Manual Inventory Management

As Table 3 displays, 4 respondents mentioned making use of manual inventory management practices such as manual recording and counting of inventories. It appears that manual inventory management is still practiced by the respondents despite the availability of various computer softwares that make use of either hybrid or automatic approaches in managing inventory. The study of Mat et al. (2018) mentioned that most retailers rely on simple techniques or manual inventory management systems in managing their inventories due to lack of skills and knowledge in softwares and systems.

Table 4

Inventory Management Practices on Demand Forecasting

| Demand forecasting | R1 | R2 | R3 | R4 | R5 | R6 |
|---|----|----|----|----|----|----|
| Assess and Factors in Various Elements in Estimating Demand | ? | ? | ? | ? | ? | ? |
| Use of Records and Sales Receipts in Forecasting Demand | ? | ? | ? | ? | ? | ? |
| Use of Point-of-Sale System | | | | | | |
| Adjusts Forecasting Methods due to Environmental Changes | | | | | | |

When it comes to the crucial task of forecasting demand, Table 4 reveals that it falls to the owner or the manager of the business. This is in line with the study of Kholidasari et al. (2019) stating that usually, the manager or owner is in charge of replenishment of products in every period and they base it on the demand of the last year. This is not an easy task and sometimes, the managers or owners also determine the ordering size based on intuition and experience.

According to Respondent 4, “Ako, ako kasi ang nagpupurchase ng inventory” [I am (manager), because I am the one who purchases the inventory] (Respondent 4, 2024). Similarly, Respondent 3 stated that, “Ako (owner) ang in charge, maliit lang naman ‘tong business ko” [I am (*owner*) the one in charge, I only have a small business] (Respondent 3, 2024). In relation to this, it was also revealed that the person responsible for forecasting demand is also the one doing purchasing inventories. According to Respondent 6, “Si ma’am ang bahala kasi siya din nagpupurchase ng inventory” [Our ma’am (owner) is in charge because she is the one who purchases our inventories] (Respondent 6, 2024).

Assess and Factor in Various Elements in Estimating Demand

Data reveals that all the respondents similarly assess and factor in various elements in estimating demand such as seasonal changes, price changes, and product saleability.

Respondents 1, 3, and 5 mentioned that one of the elements they assess and factor in estimating demand is the seasonal changes. Studies have shown that demand forecasting is influenced by seasonal fluctuations, with demand often peaking during specific times of the year (Borucka, 2023). Respondent 1 said that during the rainy season, the demand is low because of the reduction of construction and outdoor projects, thus, they also decrease the quantity of purchases. Gebresslassie (2019) supports this saying that being sensitive to weather conditions, construction projects often slow down or halt due to heavy rains resulting in lower demand for construction materials such as cement, lumber and other supplies

Contrary to Respondent 1, Respondent 5 stated that, “Sa tag-ulan mas marami kaming product na pinu-purchase kasi mas gri-nagrab ng mga customers ‘yung opportunity na mas mababa ‘yung presyo” [In the rainy season, we purchase more products because the customers grab the opportunity that the price is lower] (Respondent 5, 2024). Because of the decline in the

demand of construction materials during the rainy season, the suppliers may lower prices of various construction materials to encourage sales amid the reduced construction activities (Vaezin et al., 2022). It appears that the customers of Respondent 5 have observed that prices of some construction materials tend to decrease during the rainy season thus they take advantage and purchase more construction material during this time.

Whereas, Respondent 3 mentioned that when peak season comes, they order more. Furthermore, he cited December and January as examples of the period where demand is high, therefore, they increase their purchases the month before the peak season comes. This further proves that in estimating demand, seasonal changes should be assessed and factored in so that when peak season comes, the hardware and building supplies businesses would have enough stocks.

In addition to seasonal changes, Respondents 3 and 5 mentioned assessing and factoring in price changes when estimating demand because they can have a direct impact on product demand. While the price of hardware and building supplies fluctuates all year round, it is closely tied primarily with the economic conditions such as inflation and currency devaluation, including the fluctuation of demand and supply (Thilakshan et al., 2023). This enables price changes to be assessed and factored in when estimating demand.

Lastly, Respondents 1, 2, 4 and 6 stated assessing and factoring in the saleability of the products because saleability significantly influences the demand in the market. Higher saleability typically leads to increased demand since the customers are more likely to purchase materials that they can utilize effectively in construction projects (Thulasi & Unnikrishnan, 2018).

Use of Records and Sales Receipts in Forecasting Demand

All of the respondents only make use of their book records and sales receipts as a tool in forecasting demand indicating thAT the respondents make use of historical data to do this task. According to Respondent 1, “Yung book records namin tapos ‘yung receipts lang namin” [We only use our book records and sales receipts] (Respondent 1, 2024). Respondents 2 and 3 also stated that they use the same method. Meanwhile for Respondent 4, they make use of Excel. Respondent 6, who recently adopted QuickBooks, stated that they are not yet able to use it for demand forecasting.

Book records and sales receipts provide data on the sales, purchasing patterns and customer preferences of their customers which are essential for identifying the trends and making informed decisions in forecasting demand (Haque, 2023).

Table 5

Inventory Management Practices on Purchase of Inventory

| Purchase of Inventories | R1 | R2 | R3 | R4 | R5 | R6 |
|--|----|----|----|----|----|----|
| Purchasing Through Agents | ☑ | | ☑ | ☑ | | |
| Direct Supplier Communication | ☑ | ☑ | | | ☑ | ☑ |
| Reactive Ordering Based on Stock Depletion | ☑ | ☑ | ☑ | | ☑ | |
| Customer Demand for New Products | ☑ | ☑ | | | | |
| Fixed Ordering Schedule | | | | ☑ | | |

| | | | | | |
|--|---|---|---|---|---|
| Preventive Inspection | ? | | | | |
| Proper Arrangement of Inventories | ? | | | ? | |
| Proper Handling of Inventories | | | | ? | ? |
| Segregation of Hazardous Materials | | ? | | | |
| Resource Utilization and Waste Reduction | ? | | | ? | ? |
| Returning Defective and Obsolete Products | ? | ? | ? | ? | |
| Charging Defective and Obsolete Inventory to Expense | ? | ? | ? | | |
| Use of Documentation and Verification Processes | ? | ? | ? | ? | ? |
| Option to Pick Orders in the Warehouse | ? | | | ? | ? |
| Keeping Inventory Records Updated | ? | | | | |
| Simultaneous Delivery | | | | ? | |
| Careful Handling | ? | | | | ? |
| Employs Purely Manual Labor in Handling Inventories | ? | | | ? | |
| Use of Equipment in Handling Inventories | | | ? | | ? |

Table 6 reveals that most of the respondents maximize their warehouse layout or their storage racks by having their inventories arranged such as storing large items in the warehouse, having separate product arrangement on shelves as well as having display arrangement or planned product arrangement.

Display Arrangement

For Respondents 4, 5 and 6, in order to maximize their warehouse layout and storage racks, they have a display arrangement. One of the strategies that businesses can employ to maximize their storage and display shelves is by allocating limited space to different products. This includes either dedicating a space for each product or having products share the space (Zhang & Rajaram, 2017). Moreover, having display arrangements can significantly attract consumer attention and improve sales as it enhances visibility and accessibility thereby facilitating a quicker decision-making process for customers (Nasyuha et al., 2020).

It was revealed that in terms of ways to control hazards in their warehouse or storage racks, the respondents have safety protocols by conducting preventive inspection, proper handling and arrangement of inventories and segregating hazardous materials.

Resource Utilization and Waste Reduction

Respondent 1 stated that obsolete inventories were used as giveaways or were sold at a discounted price. Likewise, Respondent 4 also mentioned selling obsolete inventories at a lesser price, while Respondent 6 said that defective items such as tiles with cracks are separated and

sold at a cheaper price rather than to let it go to waste. This implies that the respondents are optimizing their resources by minimizing waste and maximizing the value of products that are still of use. However, Datta (2016) says that only a random proportion of defective and obsolete items can be resold at a significant discount, with the remainder requiring disposal.

Returning Defective and Obsolete Inventory

Respondents 2, 3, and 4 indicated that they return defective inventory to their suppliers. This practice aligns with the findings of Cheikhrouhou et al. (2018), who noted that when retailers identify products of imperfect quality, these products are typically sent back to the supplier. This practice indicates the importance of handling defective items as a critical step in maintaining product quality and preventing the recurrence of defects.

Charging Defective and Obsolete Inventory to Expense

Respondent 2 mentioned that for obsolete products, they charge it to expense. The same is done for defective products that they fail to return to the suppliers. Respondent 4 also said that defective tiles would be taken as loss as they cannot be returned. Whereas, Respondent 3 said that obsolete products are thrown away. According to Feng et al. (2014), when inventory is no longer saleable due to defects or obsolescence, it is crucial to recognize this loss in the financial statements to avoid overstating. This implies that defective and obsolete inventories should be expensed, allowing the management to gain a clearer understanding of the business's financial health and improve inventory control.

The researchers also asked the respondent to describe their order picking system. Two important practices were identified based on the answers of the respondents. First, their order picking system has a documentation and verification process and the second one is that their customers have the option to pick up their orders in the warehouse.

Documentation and Verification Processes

Respondent 1 stated that they have a logbook containing the list of items they are requesting from the warehouse. Respondent 5, on the other hand, mentioned that when they transfer inventories from their warehouse to their store, there is a document that requires the signature of the owner or the manager. For Respondents 2 and 3, they issue receipts and purchase orders which are presented to the staff in the warehouse in order for the orders of the customers to be released. Whereas, Respondent 4 mentioned having their staff double check the orders while these are being set for delivery.

While not all respondents stated having formal documentation and verification processes, the majority indicated they implement such procedures. By incorporating verification steps, such as cross-checking items against orders and confirming quantities, businesses can significantly reduce errors that might lead to customer dissatisfaction (Pugliese et al., 2022). Nowadays, businesses also have the option to utilize software that enables real time tracking and verification which can lead to reduction in manual errors and significantly improve customer satisfaction (Bright & Ponis, 2021).

Option to Pick Up Orders in the Warehouse

Respondent 1 said, "Minsan kasi sila na ang napipick up ng order nila sa warehouse kaya may pick up slip kami" [Sometimes the customers pick up their orders to the warehouse, that is why we have pick up slips] (Respondent 1, 2024). Similarly, Respondents 5 and 6 also allow their customers to pick up their orders in their warehouse which provides flexibility and

convenience for consumers. However, other respondents such as Respondent 4 do not allow their customers to pick up orders in their warehouse. For verification purposes, the warehouse staff brings the orders to the front store, where the staff cross checks them during the packing process.

When it comes to the efficiency of the respondents' order picking system, several confirmed that their process effectively reduces errors in fulfilling orders. Respondents 1, 3, 4, and 5 mentioned that their system allows them to compare their order list with the customers' list, double check the items before release, and ensure that their orders are complete and in good condition. In essence, it is effective in improving the accuracy of delivered orders. On the other hand, Respondents 2 and 6 described their order picking system as standard practice, indicating it has been in place for a long time and is likely similar to the systems used by other businesses. While they did not perceive their system as particularly distinct, they mentioned no issues with its performance, suggesting that their orders are consistently accurate.

In relation to the order picking system, the researchers asked further if the respondents have strategies in place to optimize the efficiency and speed of their existing order picking system. It was revealed that only Respondents 1 and 2 have strategies in place which were keeping their inventory records updated and doing simultaneous delivery.

Table 7

Inventory Management Practices on Control

| <i>Control</i> | <i>R1</i> | <i>R2</i> | <i>R3</i> | <i>R4</i> | <i>R5</i> | <i>R6</i> |
|---|-----------|-----------|-----------|-----------|-----------|-----------|
| <i>Adjusting Purchase Quantity</i> | ? | | | ? | ? | |
| <i>Recommending Available Products</i> | | | | ? | | |
| <i>Sourcing Locally</i> | | | ? | | | |
| <i>Multiple Checks for Deliveries</i> | | | | | ? | |
| <i>Accountability on Loss and Breakages</i> | | | | | ? | ? |
| <i>Sales and Discounts</i> | ? | | | ? | | ? |
| <i>Long-Term Storage</i> | | ? | ? | | | |
| <i>Product Quality Restoration</i> | | | | | ? | |

Table 7 shows the determined inventory management practices of the respondents when it comes to controlling their inventories. It was revealed that almost all respondents, except Respondent 6, experienced running of stocks. Some even stated that it was unavoidable. Abdullah et al. (2016) also stated that inventory shortages are caused by late delivery of suppliers. Aside from that, an unexpected surge in demand for certain products can also be a cause for stockouts. On the other hand, Respondent 6 said that they have not yet experienced running out of stock. However, continuously purchasing inventory, even when not immediately necessary, can pose several risks, including higher holding costs and potential overstocking. Therefore, businesses must find a balance between maintaining adequate inventory levels to avoid excess (Sudirga et al., 2021).

The respondents who have experienced running out of stock were further asked about what control procedures have they implemented to prevent shortage of inventory. It was found

that the respondents adjust their purchase quantity, recommend available products, and locally source out their inventory.

Adjusting Purchase Quantity

Respondents 1, 4, and 5 prevent running out of stocks by increasing the quantity of their orders the next time. This is in line with the study of Chancasanampa-Mandujano et al. (2019) stating that adjusting purchase quantities based on demand and stock levels is one of the effective strategies for preventing stock shortages.

Sales and Discounts

Respondents 1, 4, and 6 stated that stockpiled inventories were put on sale or sold at a discounted price. The study of Song et al. (2020) also argues that selling excess products is an effective inventory management strategy, as it helps minimize holding costs and mitigate the risk of obsolescence. By offering stockpiled items at lower prices, businesses can attract more customers, leading to increased sales and a reduction in inventory levels, which in turn frees up valuable storage space.

Table 8

Inventory Management Practices on Monitoring Inventory Levels

| <i>Monitoring Inventory Levels</i> | <i>R1</i> | <i>R2</i> | <i>R3</i> | <i>R4</i> | <i>R5</i> | <i>R6</i> |
|---|-----------|-----------|-----------|-----------|-----------|-----------|
| <i>Recording and Tracking Sales and Purchases</i> | ? | | ? | | | |
| <i>Supervisory Oversight</i> | | | | | ? | |
| <i>Responsibility and Accountability</i> | | | | | | ? |
| <i>Frequency Based on Demand and Stock Levels</i> | ? | ? | | | | |
| <i>Regular Monitoring</i> | | | ? | ? | ? | ? |

Table 8 presents the determined inventory management practices of the respondents when it comes to monitoring their inventory levels. The respondents revealed that they typically organize their book records and receipts in advance. Additionally, they notify the staff who will assist with the monitoring. Some respondents also mentioned that they organize their inventories to streamline the monitoring process.

Overseeing the complete inventory management system is essential to ensure that inventories are being managed effectively. Doing this would require multiple steps and procedures, hence, the researchers inquired on the procedures that are in place for overseeing the complete inventory management system of the respondents. It was revealed that the respondents record and track their sales and purchases and by having a supervisor who would watch over the employees.

Regular Monitoring

On the other hand, Respondents 3, 4, 5 and 6 regularly monitor their inventories. To effectively manage inventory, businesses should regularly monitor their stock levels to ensure they remain optima

Section 2. Common Inventory Management Practices of Hardware and Building Supplies Businesses in Nueva Vizcaya

Table 9

Common General Practices of Hardware and Building Supplies Businesses in Nueva Vizcaya

| General Inventory Management Practices | F | Interpretation |
|---|---|----------------|
| Manual Inventory Management | 4 | Common |
| Classifying and Organizing Inventory | 1 | Different |
| Excel Based Recording | 1 | Different |
| Dual Record Keeping | 1 | Different |
| Use of QuickBooks Software for Inventory Management | 1 | Different |

As shown in Table 9, the most notable common practice on general management among the respondents is the use of manual inventory management or their reliance on traditional practices. A potential reason for this might be because they have become accustomed to using this practice over time. Having used manual systems for years, they have become adept with it, which may explain their continued reliance on traditional approaches despite the availability of technologies (Anagnostou, 2020). Also, most SMEs perceive manual inventory management as simpler and more straightforward compared to automated solutions. This perception can lead them to undervalue modern inventory management systems, believing that their current methods adequately meet their operational needs (Alam et al., 2023). Conversely, the use of Excel-based recording and QuickBooks for inventory management suggests that some respondents have adopted digital tools for this purpose. Although this practice is not common among the respondents, it indicates a growing trend toward modern inventory management practices. However, due to the limited number of respondents in the study, it cannot be definitively concluded that manual inventory management is the predominant practice among hardware and building supplies businesses in Nueva Vizcaya.

Table 10

Common Practices on Demand Forecasting

| Demand Forecasting | F | Interpretation |
|---|---|----------------|
| Assess and Factors in Various Elements in Estimating Demand | 6 | Common |
| Use of Records and Sales Receipts in Forecasting Demand | 6 | Common |
| Use of Point-of-Sale System | 0 | Not Applicable |
| Adjusts Forecasting Methods due to Environmental Changes | 6 | Common |

Table 10 indicates that the majority of the identified practices are common among all respondents, as they generally consider the same types of information when forecasting demand. Mureithi (2022) notes that SME owners and managers derive insights into their businesses by identifying relationships between various variables or recognizing trends, such as price fluctuations and economic changes. Despite this, none of the respondents reported using point-of-sale (POS) software for demand forecasting, primarily because they have not yet adopted such systems. Hartzel and Wood (2017) argue that POS systems offer more accurate forecasts compared to history-based methods, as they provide real-time data. However, respondents are reluctant to adopt POS software due to the associated costs of purchasing and

maintaining it. Additionally, there is a resistance to change; having operated successfully with traditional methods for many years, respondents see little need to invest in new technologies. Banjo (2019) highlights that transitioning from manual records to a POS system can be challenging, as it involves several risks and factors that must be considered.

Table 11*Common Practices on Purchase of Inventories*

| Purchase of Inventories | F | Interpretation |
|--|---|----------------|
| Purchasing Through Agents | 3 | Common |
| Direct Supplier Communication | 4 | Common |
| Reactive Ordering Based on Stock Depletion | 4 | Common |
| Customer Demand for New Products | 2 | Different |
| Fixed Ordering Schedule | 1 | Different |
| Ordering Based on Managerial Decision-Making | 1 | Different |
| Demand-Based Ordering | 4 | Common |
| Stock Level Assessment | 2 | Different |
| Standardized Order Units | 1 | Different |

Table 11 shows several common procurement practices identified among the respondents. Two prevalent methods include purchasing inventory through agents and direct communication with suppliers. Another common practice is reactive ordering, which occurs when stock depletion triggers replenishment. Stock depletion serves as a critical signal in inventory management, helping firms prevent stockouts and maintain a continuous supply of products (Czarny, 2024). In addition, many respondents reported that purchase quantities are typically determined based on item demand. This demand-driven approach is prevalent across various industries, as it ensures that firms can meet customer needs (Kim et al., 2018). Consequently, demand forecasting plays a crucial role in optimizing procurement decisions.

Table 12*Common Practices on Handling, Storage, and Warehousing*

| Handling, Storage and Warehousing | F | Interpretation |
|---|---|----------------|
| Storing Large Items in the Warehouse | 1 | Different |
| Separate Product Arrangement on Shelves | 2 | Different |
| Display Arrangement | 3 | Common |
| Preventive Inspection | 1 | Different |
| Proper Arrangements of Inventories | 2 | Different |
| Proper Handling of Inventories | 2 | Different |
| Segregation of Hazardous Materials | 1 | Different |

| | | |
|--|---|-----------|
| Resource Utilization and Waste Reduction | 3 | Common |
| Returning Defective and Obsolete Products | 4 | Common |
| Charging Defective and Obsolete Inventory to Expense | 3 | Common |
| Use of Documentation and Verification Processes | 5 | Common |
| Option to Pick Orders in the Warehouse | 3 | Common |
| Keeping Inventory Records Updated | 1 | Different |
| Simultaneous Delivery | 1 | Different |
| Careful Handling | 2 | Different |
| Employs Purely Manual Labor in Handling Inventories | 2 | Different |
| Use of Equipment in Handling Inventories | 1 | Different |

Table 12 illustrates common practices in handling, storage, and warehousing. Respondents typically arrange displays to optimize warehouse layouts and storage racks, a fundamental strategy in warehouse management that maximizes space and enhances workflow efficiency (Le et al., 2021). Proper product arrangement creates additional workspace, improving overall operations.

Regarding defective and obsolete materials, respondents frequently minimize waste by repurposing inventory or by returning and disposing of such items. This aligns with the findings of Mashud et al. (2020), who noted that imperfect products are common in production, and goods stored in warehouses may deteriorate over time. Retailers often return defective products to suppliers or sell them at discounted rates.

Additionally, documentation and verification processes are routinely employed during order picking. These practices help prevent errors, ensuring order accuracy and customer satisfaction while minimizing potential losses. Many businesses have integrated these processes into their systems to maintain efficiency. Furthermore, offering customers the option to pick up orders directly from the warehouse is also a common practice among the respondents. This practice allows customers quicker access to their purchases while reducing delivery-related transportation costs.

Table 13

Common Practices on Inventory Control

| Control | F | Interpretation |
|--------------------------------------|---|----------------|
| Adjusting Purchase Quantity | 3 | Common |
| Recommending Available Products | 1 | Different |
| Sourcing Locally | 1 | Different |
| Multiple Checks for Deliveries | 1 | Different |
| Accountability on Loss and Breakages | 2 | Different |

| | | |
|-----------------------------|---|-----------|
| Sales and Discounts | 3 | Common |
| Long-Term Storage | 2 | Different |
| Product Quality Restoration | 1 | Different |

Based on Table 13, adjusting purchase quantity is a control procedure to prevent stockouts among the respondents. This is common because in order for the business to meet customer demands, they should have enough stocks. If they have experienced running out of stock on a certain product, they will have to increase the quantity of their purchase to avoid running out of stock the second time. Business managers who appropriately adjust their inventories to match changes in demand would facilitate cash flow for growth as well as preventing stockouts (Kerim, 2016). It is also common for businesses to manage excess inventory by offering discounts or sales. By reducing prices, they attract more customers, thereby facilitating the sale of surplus stock. This strategy has proven effective for minimizing stockpiled inventory, as discounts can significantly boost customer interest and reduce excess supply.

Inventory Valuation

There are no identified common practices among the respondents regarding inventory valuation, as their responses focused on the selling price of their products rather than the monetary value of their inventory.

Table 14

Common Practices on Monitoring Inventory Levels

| Monitoring Inventory Levels | F | Interpretation |
|--|---|----------------|
| Recording and Tracking Sales and Purchases | 2 | Different |
| Supervisory Oversight | 1 | Different |
| Frequency Based on Demand and Stock Leves | 2 | Different |
| Regular Monitoring | 4 | Common |

Table 14 reveals that the only consistent practice among respondents regarding inventory monitoring is the regular tracking of inventory levels. This monitoring is carried out on a daily, weekly, monthly, or yearly basis, or aligned with the specific purchasing needs of each business. The respondents' adoption of this practice highlights its importance, as maintaining appropriate inventory levels is crucial to ensuring sufficient supplies to meet customer demand (Charles et al., 2023).

Section 3. Different Inventory Management Practices of Hardware and Building Supplies Businesses in Nueva Vizcaya

General Inventory Management Practices

In this study, the different practices imply that a respondent classifies their inventory by recording the type of products. Excel-based recording and the use of quickbooks software is different from what the most respondents make use of as it requires the use of a computer, unlike manual which uses paper and pen. While this is the case in this study, it cannot be generalized due to its limited respondents. In addition, the use of classified and organized

records, along with a dual record-keeping system, is recognized as a distinct practice aimed at enhancing management efficiency.

Demand Forecasting

There were no distinct differences in inventory management practices identified among the respondents. This uniformity can be attributed to the fact that all respondents employ similar methods and practices in estimating inventory demand, primarily relying on historical data such as receipts and business records. Moreover, the respondents also consider similar information when forecasting demand. However, the respondents have varying perceptions on the impact of this information. Seasonal changes significantly influence purchasing behavior, particularly during the rainy season.

Purchasing Inventory

Contrary to the common practices observed among most respondents in this study, some have adopted alternative methods for purchasing their inventories. Normally, most of the respondents are prompted to purchase if their stocks are depleting. When it comes to determining the quantity to be ordered, most of the respondents would normally base the quantity of their purchases on the demand of their products.

Handling, Storage, and Warehousing

The majority of respondents reported implementing specific display arrangements to maximize their warehouse layout and storage racks. In terms of hazard control within the warehouse, most respondents indicated following proper handling protocols as part of their safety measures. Regarding order-picking systems, while respondents largely share similar systems, they employ varying strategies to enhance efficiency and speed. Finally, respondents reported diverse approaches to handling inventories of varying sizes and shapes during the order-picking process.

Control

Several respondents implement unique control procedures. One respondent, for instance, recommends available products to customers based on the exact quantities they plan to purchase, ensuring sufficient stock availability before making recommendations. Another respondent sources products locally to mitigate delays in supplier deliveries, as stock shortages are often attributed to such delays. These strategies differ markedly from the more common approaches among other respondents.

In terms of control measures to prevent discrepancies, only three respondents reported distinct strategies. One employs multiple checks during deliveries, conducting manual inventory assessments when receiving from suppliers or delivering to customers. The other two respondents hold employees accountable for losses, breakages, or damages caused by mishandling, thus enforcing a more responsibility-driven approach.

Inventory Valuation

There were no identified different practices among the respondents regarding inventory valuation, as their responses focused on the selling price of their products rather than the monetary value of their inventory.

Monitoring Inventory Levels

In terms of monitoring inventory levels, the respondents reported having established procedures for managing their entire inventory system. Regarding the frequency of inventory monitoring, most respondents indicated that they regularly track their inventory levels.

Section 4. Unique Practices of Hardware and Building Supplies Businesses in Nueva Vizcaya

The findings indicate that hardware and building supply businesses in Nueva Vizcaya generally adhere to standard inventory management practices, with no distinctive or innovative approaches observed

Most respondents continue to rely on traditional inventory management methods, having become proficient with these techniques over time. According to Wooi et al. (2024), the customization of distinct inventory management practices is uncommon due to challenges such as perishability, fluctuating demand, and competitive market conditions. This suggests that developing unique inventory management systems is difficult, which leads businesses to stick with established methods.

CONCLUSION AND RECOMMENDATIONS

Conclusion

1. The study identified several inventory management practices among hardware and building supplies businesses, revealing a strong reliance on traditional methods. Despite some adoption of computerized solutions, most businesses continue using conventional practices, such as relying on historical sales data for demand forecasting, purchasing, and inventory monitoring. The persistence of these practices stems from limited knowledge, skills, and resistance to change. Additionally, the study found that formal methods for determining optimal purchase quantities are rarely used, and demand forecasting is only partially implemented. This results in businesses confusing forecasting with inventory purchasing. Furthermore, there is a lack of control measures to manage stock levels, leading to risks of stockouts, discrepancies, and overstocking. While the study's small sample size limits generalizability, it offers valuable insight into inventory management practices within the sector in Nueva Vizcaya.
2. Various common practices in inventory management were identified among hardware and building supplies businesses in Nueva Vizcaya. Manual inventory management emerged as the dominant approach, with businesses also utilizing similar data for demand forecasting. Two prevalent purchase methods were identified: through agents or direct communication with suppliers. Inventory purchases were typically triggered by stock depletion or demand forecasts. Additional practices included warehouse layout optimization, handling defective or obsolete items via return or expense charges, documentation processes, and offering customer pickups.
3. Differences in the inventory management practices were determined among the respondents. These differences were influenced by factors such as the product focus of the business and operational efficiency. One key distinction is the adoption of computerized recording software by some businesses. While respondents use similar data for demand forecasting, variations arise in how this data is utilized. Practices such as inventory classification, dual recording systems, and alternative methods, were identified in certain businesses. However, due to the study's limitations, these practices may represent common approaches beyond the scope of this research.
4. The study concludes that hardware and building supplies businesses in Nueva Vizcaya do not employ unique inventory management practices. Although some practices were observed in only one respondent, they are not considered unique, as similar approaches have been documented in other industries or identified in prior research on inventory management.

Recommendations

For the Hardware and Building Supplies Business Owners/Managers. It is recommended that they set up reorder points to manage effectively the movement of inventories. They should also establish monitoring and control mechanisms to prevent inventory theft or loss as well as stock outs and stockpiled inventories. They may also consider making use of computerized recording such as spreadsheets to efficiently and effectively record and track inventories and to increase the accuracy of inventory levels monitoring.

For the School of Accountancy and Business Faculty. They may use this as additional learning material to create case studies based on the findings for classroom discussions and problem-solving exercises. This can help students develop critical thinking and decision-making skills, especially regarding inventory control techniques and their financial implications in business operations.

For Future Researchers. To gain further insights and knowledge on the inventory management practice of hardware and building supplies businesses, they could study about the challenges encountered by particular business sectors in managing their inventory. Moreover, future researchers can also explore studies on the financial health and sustainability of the hardware and building supplies business in terms of assessing the financial position and financial performance of the business. The following factors can be considered:

1. Asset Management Ratios
2. Financial Statement Analysis
3. Profitability Ratios
4. Liquidity Ratios
5. Solvency Ratios and Risk Factors

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