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INVENTORY MANAGEMENT PRACTICES AND BUSINESS SUSTAINABILITY: SMALL ENTERPRISES IN VALENCIA CITY, BUKIDNON

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Abstract : This study aims to examine the relationship between inventory management practices and business sustainability of SMEs in Valencia City, Bukidnon, Philippines. A quantitative approach using a descriptive and correlational research design was used, with a survey questionnaire administered to 100 randomly selected respondents from businesses registered in local. Results show that inventory management practices are generally high among the sampled organizations, for inventory control, inventory systems, and inventory tracking warehouse. In addition, the level of corporate sustainability is considered high, with social sustainability achieving the highest efficiency, followed by economic and environmental sustainability. Moreover, study also found a positive and statistically significant relationship between inventory management practices and corporate sustainability. Inventory control shows the strongest correlation with sustainability, followed by inventory tracking and inventory systems. These findings suggest that effective implementation of inventory management strategies, including strong control mechanisms, efficient systems and meticulous monitoring, can significantly contribute to general sustainability of small and medium enterprises.

IndexTerms – Inventory, Inventory Management, Business Sustainability

INTRODUCTION

Inventory management and supply chain management are the backbone of any business operations. Inventory management is feasible for reducing operational expenses and enhancing customer service quality (Radzuan, K. et al., 2018). Atnafu and Balda (2018) also backed this up by showing that if an organization adopts and uses inventory management, it will significantly increase its performance and competitive advantage.

Implementing inventory management strategies enables a business to forecast future demand, calculate production amounts that reflect changes, and keep customers informed. In addition, it enables businesses to keep track of their stock levels so they can quickly and intelligently determine which items to replenish based on sales volume. Inventory management reduces the likelihood of stock outs, which can result in satisfied customers and an increase in customer retention (Jenkins, 2022).

Most SMEs perceive the sound inventory management practices to be unnecessary and costly, Management of inventory typically represents 45-79% of all business operations and ensures the company has enough raw materials it order to avoid inefficiency of production process hence reducing operation costs (Khan, 2014; Gerald, 2016). Many companies in different parts of the world have been revamping the ways in which they manage their inventories, developing long-term partnerships with suppliers and collaborating with them in inventory control (Chan, Qi, Chan, Lau & Ralph, 2016).

OBJECTIVES OF THE STUDY

Specifically, it aims to answer the following queries:

1. What is the extent of businesses' inventory management practice in terms of;
    - 1.1 Inventory Control;
    - 1.2 Inventory Scheduling; and
    - 1.3 inventory Tracking?
2. What is the perceived level of business sustainability of the in terms of;
    - 2.1 Economic;
    - 2.2 Environmental; and
    - 2.3 Social aspects?
3. Does extent of Inventory Management Practices have a significant influence on Business Sustainability?

RESEARCH METHODOLOGY

The research methodology employed in this study was a quantitative approach using a descriptive-correlation research design. The study utilized survey research, where a questionnaire was developed to collect data from the respondents. The questionnaire was adapted from previous studies and was divided into two sections: inventory management practices, and business sustainability.

The study was conducted in Valencia City, Bukidnon, Philippines, which is known for its economic activities and growth. The respondents were selected through a stratified random sampling method, which ensured that various subgroups within the population of small business enterprises were adequately represented. The survey questionnaire was administered to 100 randomly selected respondents from the list of registered businesses in the locality, as obtained from the city's Economic Enterprise Office.

The validity and reliability of the questionnaire were established through its adoption from previous studies, where the respective authors had tested the instruments. The data collected was analyzed using descriptive statistics, pearson correlation to address the objectives of the study.

RESULTS AND DISCUSSION

The findings indicate that inventory management practices, including inventory control, systems, and tracking, have a positive relationship with sustainability outcomes. Organizations in the sample demonstrated a generally high level of implementation of inventory management practices, which was associated with moderate to high levels of sustainability performance. These results suggest that effective inventory management may be an important factor in supporting sustainability efforts within organizations.

Descriptive statistics were calculated for two main variables: Inventory Practices and Sustainability, along with their respective sub-variables.

Table 1: Level of Inventory Management Practices

Inventory Practices	**Mean**	**Std. Deviation**	Qualitative Interpretation
Inventory Control	4.32	.63	Very High
Inventory System	4.28	.47	Very High
Inventory Tracking	4.33	.45	Very High
Total	4.31	.41	Very high

Legend:

Scale	**Range**	**Qualitative Interpretation**
5	4.2 - 5.0	Very high
4	3.40 – 4.19	High
3	2.60 – 3.39	Moderate
2	1.80 – 2.59	Low
1	1.00 – 1.79	Very Low

Inventory Practices

The overall mean score for Inventory Practices was 4.31 (SD = 0.41, n = 100), indicating a generally very high level of implementation of inventory management practices among the sampled organizations.

Among the sub-variables of Inventory Practices: Inventory Control had a mean score of 4.32 suggesting that respondents have a very high inventory control (SD = 0.63, n = 100), Inventory System showed a mean score of 4.28 suggesting that respondents have a very high inventory system (SD = 0.47, n = 100), and Inventory Tracking demonstrated a mean score of 4.33 also suggesting that the respondents have a very high inventory tracking practices (SD = 0.45, n = 100).

All three sub-variables exhibited mean scores above 4 on the measurement scale, suggesting strong implementation across different aspects of inventory management. Inventory Tracking had the highest mean score, closely followed by Inventory Control, while Inventory System had a slightly lower, but still very high, mean score.

Table 2: Level of Business Sustainability

Sustainability	**Mean**	**Std. Deviation**	Qualitative Interpretation
Economic	3.72	.52	High
Environmental	3.64	.56	High
Social	4.48	.47	Very High
Total	3.94	.38	High

Sustainability

The overall mean score for Sustainability was 3.94 (SD = 0.38, n = 100), indicating a high level of sustainability performance among the sampled organizations.

For the sub-variables of Sustainability: Economic sustainability had a mean score of 3.72 suggesting that the respondents have high economic sustainability (SD = 0.52, n = 100), Environmental sustainability showed a mean score of 3.64 suggesting that the respondents have high environmental sustainability (SD = 0.56, n = 100), and Social sustainability demonstrated a mean score of 4.48 suggesting that the respondents have very high social sustainability (SD = 0.47, n = 100).

The sub-variables of Sustainability showed more variation in their mean scores compared to Inventory Practices. Social sustainability had the highest mean score, substantially higher than the other two dimensions indicating a very performance in this area. Economic and environmental sustainability had lower mean scores, but still above the midpoint of the scale, indicating high performance in these areas.

Table 3: Relationship between inventory management practices and business sustainability

		Sustainability
Inventory Control	Pearson Correlation	**.499[a]**
	Sig. (2-tailed)	**.000**
	N	**100**
Inventory System	Pearson Correlation	**.319[a]**
	Sig. (2-tailed)	**.001**
	N	**100**
Inventory Tracking	Pearson Correlation	**.431[a]**
	Sig. (2-tailed)	**.000**
	N	**100**

a. Significant at .05 level

Inventory Control showed a moderate positive correlation with sustainability ($r = 0.499$, $p < 0.001$, $n = 100$). This relationship was statistically significant at the 0.05 level.

Inventory System demonstrated a weak to moderate positive correlation with sustainability ($r = 0.319$, $p = 0.001$, $n = 100$). This correlation was also statistically significant at the 0.05 level.

Inventory Tracking exhibited a moderate positive correlation with sustainability ($r = 0.431$, $p < 0.001$, $n = 100$). This relationship was statistically significant at the 0.05 level.

All three independent variables showed positive correlations with sustainability, indicating that as the effectiveness of inventory control, systems, and tracking increases, sustainability tends to improve as well. The strongest correlation was observed between inventory control and sustainability, followed by inventory tracking and then inventory system.

These findings suggest that inventory management practices have a notable association with sustainability outcomes. However, it's important to note that correlation does not imply causation, and further research would be needed to establish any causal relationships between these variables.

CONCLUSION

The interpretation indicates that inventory practices with sub-variables inventory control, inventory system, and inventory tracking have a high and positive correlation with business sustainability. The sub-variables of business sustainability are economic, environmental, and social. Social shows the strongest relationship with the inventory management practices with very high qualitative interpretation and economic and environmental shows a high qualitative interpretation and also have a strong relationship with the business inventory management practices.

It is important to recognize that correlation does not necessarily imply causation despite of a notable correlation between inventory management practices and sustainability. An advance inquiry would be required to decide on the off chance that how to coordinate advancements in stock administration hones lead to improved supportability results. In any case, the discoveries propose that organizations centering on upgrading their inventory management capabilities, especially within the ranges of stock control and following, may be able to realize benefits in terms of progressed maintainability execution. In any case, the particular nature of these connections' merits extra examination.

RECOMMENDATION

Based on the analysis presented, it appears that organizations should prioritize improving their inventory management methods, especially in the area of inventory control and tracking, as this can leading to better sustainability results.

The results show that improvements in these areas can have a significant impact on an organization's sustainability performance. However, it is important to note that observed correlations do not clearly establish causation. Further research is needed to better understand the nature of the link between inventory management and sustainability. However, current data indicates that organizations that make efforts to enhance their inventory management capabilities may be well positioned to realize positive sustainability benefits.

Organizations should therefore carefully review their current inventory management methods and identify opportunities for improvement, especially in the areas of inventory control and tracking. Making improvements in these areas can create clear sustainable benefits. At the same time, organizations should remain open to other research that may shed further light on the precise mechanisms linking inventory management and sustainable performance.

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