Consignment Inventory System and Entrepreneurial Success among Micro Warehousing Firms

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ABSTRACT

This study investigated the consignment inventory system and entrepreneurial success among micro warehousing firms. The study adopted cross sectional design and correlation design. Warehousing entrepreneurs practicing consignment inventory system with systemization of passion on micro firms from five south-south states were selected on basis of convenience sampling techniques. A total population of 1000 and sample size of 286 was determined using Slovin's Formula at 0.05 level of significance. The 286 copies of questionnaire were administered, only 257 was deem fit after processing, retriever, coding and cleansing. Three research questions and three hypotheses were raised which was tested with parametric measurement using Pearson Product Moment Correlation because of its bivariate function via SPSS 25 version. From the findings, consignment inventory system strongly correlates with the entrepreneurial success of the micro firms. Hence, the maximum stock level, re-order stock level and minimum stock level has significant influence on the success of the micro firms. Hence, it was revealed that the alternate hypotheses were accepted. Based on the findings and conclusion, it could be recommended that entrepreneurs should design and construct credible validated stock level to ascertain long term success in the enterprise. Also entrepreneur should avoid danger stock level and stock out that would ruins the enterprise ability to achieve her success.

KEYWORDS: *Consignment Inventory System, Entrepreneurial Success, Maximum Inventory Level, Re-order Inventory Level, Minimum Inventory Level*

1. Introduction

It is expected that firms should keep reasonable inventory for smooth operation to   guarantee customers satisfaction and cost saving in other to maximize entrepreneurial success. Every entrepreneur seeks to sustain and maintain reputable level of entrepreneurial success (Robert, Chao, Shanshan & Tae, 2017). The act of maintaining and sustaining credibility in entrepreneurial success portrays are committed the firms could be diligent to her mission and vision (Ovharhe & Igbokwe, 2021). Hence true entrepreneurial success could be ascertained by maintaining and sustaining credible level of degree on achieving the firm's vision and mission (Roger, Steven & Matthew, 2016).

The level of degree of entrepreneurial success can be express in achieving corporate goals and objective in alignment with the vision and mission of the firms (Chibuike, Ovharhe & Amara, 2022). It is important to note that the key element to keep at watch for entrepreneurial success is vision and mission accomplishment. The pursuit on the right track of vision and mission are possible remedies to entrepreneurial success accomplishment (Bertha, Ferry & Himadhani, 2020). Without success accomplishment the enterprise is on the bleeding edge. Success is the bedrock of entrepreneur dreams, vision and mission accomplishment (Ovharhe, 2022). Entrepreneur successes are paramount to excellence in the long-term. Entrepreneurial success is drivers that steams firms' futuristic illumination, that lighten that business environment (Ovharhe, Okolo, Woko & Igbokwe, 2022).

Entrepreneurial success illumination has effect to both the customers and competition (Ovharhe, 2022). The customer utilized the success brightness from the illumination for customer loyalty, customer retention, customer satisfaction and customer relationship. Thus, the competition will act swift to strategized not reduce their market share, because of the brand attraction from the opposition (Alina, Michael & Alexander, 2017).

However, the leading edge enterprise would boast their business growth, market share, frequency of patronage, sales quotas and customer confidence. Nevertheless, the entrepreneurial success achieved through the enterprise synchronization of the vision and mission pursuit would have viable resultant result if correlated with consignment inventory system. Consignment inventory system is the evaluation and monitoring of inventory towards achieving the standardized control measures of stock from the consignor and consignee (Yinyeh, 2013). For entrepreneur to be successful in the business environment on the short-run and long-run, inventory management should be strictly adopted as major concern (Ovharhe & Okolo, 2022). This is because a lot of bottleneck and pitfalls surround enterprise inventory management system is not properly well managed especially issues on lead-time, demurrage, infringement, deterioration, obsolescence, pilferage, theft and damages (Zunic, Delalić, Hodžić & Beširević, 2020).

2. Literature Review

21. Conceptual Review

Consignment inventory system strengthened effective inventory method, stock level and re-order level (Stephen & Jaydeep, 2016). However, there exist clear evidence and observable facts during the covid-19 pandemic, there are challenging time, firms are closed down, others change their operations strategy, reduce production rate, have high rate of obsolete stocks due to

inability to effectively manage their inventory (Skidelky, 2020). This is as a result of the lock-down, isolation period, social distancing and observing the covid-19 protocols (Ovharhe, Woko, Ezeocha, 2021).

-Maximum Inventory Level and Entrepreneurial Success

The maximum level of stock is the level above which a business does not or cannot hold stock in its premises (Shahzad, Syed, Faraz & Moin, 2020). The maximum level of inventory could be described as the maximum capacity of a business to stock goods (inventory or raw material) in its store, which may be due to reasons like demand limitation of goods (in production or sales), the storage capacity of business, rationed funds etc (Ovharhe, Woko & Ogolo, 2021). The 'maximum level of stock' is usually achieved when those goods arrive which were ordered at the 're-order level' of the stock (Sarojit & Chitra, 2017). This stock is then used in the production process (in case of raw materials) or sold (in case of finished goods) and then re-ordered again at the re-order level which again fills up the stock to the 'maximum level (Yunusa, 2021). In antecedent to the tail of discussion, it could be hypothetically stated as follows:

There is no significant relationship between maximum inventory level and entrepreneurial success.

-Re-order Inventory Level and Entrepreneurial Success

In management accounting, reorder level (or reorder point) is the inventory level at which a company would place a new order or start a new manufacturing run (Romero, Rajkumar & Kelly, 2012). Reorder level depends on a company's work-order lead time and its demand during that time and whether the company maintains a safety stock (Saygın, 2020).

Reorder level of stock (also known as reorder point or ordering point) in a business is a preset level of stock or inventory at which the business places a new order with its suppliers to obtain the delivery of raw materials or finished goods inventory (Afolabi, Morakinyo & Olumide, 2017).

Every business has to maintain a certain level of raw materials or finished goods in its store. This is done in order to sustain the continuity of production in case of raw materials and the continuity of sales in case of finished goods (Azeddine & Mohammed, 2017). For this purpose, the business must set a specific level at which it should place a new order with the suppliers of inventory (Ovharhe, Okolo, Woko & Igbokwe, 2022). In the tail of the discussion, it could be said beneath as follows:

There is no significant relationship between re-order inventory level and entrepreneurial success.

-Minimum Inventory Level and Entrepreneurial Success

Minimum and maximum stock levels are stock limits for the customer location product that the customer agrees upon with the supplier (Akinsanya & Akinsanya, 2019). The projected stock must not fall below the required stock level. The maximum stock level is the maximum quantity of stock that is to be on hand at the customer (Alexandre & Jean-Marie, 2021). You can use

different methods to determine these stock parameters (Hayes, 2020; Inegbedion, Sunday & Eze, 2019).

The following applications use the minimum stock level and the maximum stock level:

- Supply Network Inventory

- Replenishment planning

The parameters used by replenishment planning depend on the replenishment planning method. Example are the Supplier Managed Inventory (SMI) business scenario, the supplier has to keep the projected stock between the minimum stock level and the maximum stock level at all times (Ahunanya, Ovharhe, Emenike & Otto (2022). Based on the discussion above, it could be expressed as follows:

There is no relationship between minimum inventory level and entrepreneurial success.

2.2. Economic Order Quantity (EOQ) Model

Economic order quantity (EOQ) is the ideal order quantity a company should purchase to minimize inventory costs such as holding costs, shortage costs, and order costs (Kenton, 2020). This production-scheduling model was developed in 1913 by Ford W. Harris and has been refined over time as adopted by Chibuike & Ovharhe (2022). The formula assumes that demand, ordering, and holding costs all remain constant.

The EOQ is a company's optimal order quantity that minimizes its total costs related to ordering, receiving, and holding inventory (Mohammed, 2018). The EOQ formula is best applied in situations where demand, ordering, and holding costs remain constant over time.

The economic order quantity (EOQ) is the order quantity that minimizes total holding and ordering costs for the year. Even if all the assumptions do not hold exactly, the EOQ gives us a good indication of whether current order quantities are reasonable (Meyer & Pretorius, 2017). Economic order quantity (EOQ), in inventory management, is the order quantity that minimizes the total costs of inventory in a business (Pretorius & Pretorius, 2020).

These costs of inventory include holding costs, order costs and shortage costs. EOQ is a tool used in a continuous inventory review system. Here, inventory levels are continuously monitored, and a fixed quantity is ordered each time the inventory level reaches a specific re-order point (Priniotakis & Argyropoulos, 2018). So, EOQ provides a formula for calculating this appropriate re-order point and the optimal re-order quantity. This ensures instant replenishment of inventory along with no shortages or stock-outs (Krolicki & Noel, 2020).

The Economic Order Quantity (EOQ) is the number of units that a company should add to inventory with each order to minimize the total costs of inventory such as holding costs, order costs, and shortage costs. The EOQ is used as part of a continuous review inventory system in which the level of inventory is monitored at all times and a fixed quantity is ordered each time the inventory level reaches a specific reorder point. The EOQ provides a model for calculating the appropriate reorder point and the optimal reorder quantity to ensure the instantaneous replenishment of inventory with no shortages (Ahunanya *et al*., 2022).. It can be a valuable tool

for small business owners who need to make decisions about how much inventory to keep on hand, how many items to order each time, and how often to reorder to incur the lowest possible costs (Zunic, Besirevic, Delalic, Hodzic & Hasic, 2018).

The EOQ model assumes that demand is constant, and that inventory is depleted at a fixed rate until it reaches zero. At that point, a specific number of items arrive to return the inventory to its beginning level. Since the model assumes instantaneous replenishment, there are no inventory shortages or associated costs (Muscatello, 2018). Therefore, the cost of inventory under the EOQ model involves a tradeoff between inventory holding costs (the cost of storage, as well as the cost of tying up capital in inventory rather than investing it or using it for other purposes) and order costs (any fees associated with placing orders, such as delivery charges). Ordering a large amount at one time will increase a small business's holding costs, while making more frequent orders of fewer items will reduce holding costs but increase order costs (Muhayimana, 2015). The EOQ model finds the quantity that minimizes the sum of these costs (Afolabi, Morakinyo & Olumide, 2017).

3. Methodology

The study adopted cross sectional design and correlation design to show how the predictor variable can influence the criterion variable in the short term and long term among micro warehousing firms. The targeted population is focused on entrepreneurs being specialized in Consignment Inventory System on warehousing from five selected South-South States (Balyesa, Edo, Delta, Rivers and Akwa Ibom) ; the entrepreneurs are experts in the field of consignment merchandizing. The sample size was determined using the Slovin's Formula with convenience sampling techniques. Hence, 200 entrepreneurs each were conveniently selected from the fives state which amount to 1000. The sample size of 286 respondents was determined. The pilot study was based on parallel form reliability. Instrument employed for the study were structured from the earlier work of Ahunanya (2022) thesis (Consignment Inventory System and Obsolescence Management in Micro firms). Test retest was used for the study. The SPSS statistical software was used on five point likert scale. Parametric measurement of the Pearson Product Moment Correlation was used to analyze the bivariate hypotheses.

4. Results and Discussions

Test of Research Hypotheses
The study proceeds to test for research hypothesis in light of the Pearson product moment.
Test of Hypothesis one
Ho$_1$: There is no significant relationship between maximum inventory level and entrepreneurial success.
Table 4.1: Pearson Test for relationship between maximum level and entrepreneurial success

Correlations

		Maximum level	Success
Maximum level	Pearson Correlation	1	.878[**]
	Sig. (2-tailed)		.000
	N	257	257
Success	Pearson Correlation	.878[**]	1

Sig. (2-tailed)		.000	
N		257	257

**. Correlation is significant at the 0.05 level (2-tailed).
Source: *Author's Field Survey (2022) - SPSS version 25 output*

Using the output it can be observed that the Pearson correlation (PC) coefficient is 0.878 which shows a strong and positive orientation of the relationship between maximum level and entrepreneurial success. The significance value of 0.000 which is less than the 5% significance level ($p = 0.000 < 0.05$) leads to the rejection of the null hypothesis. This therefore reinforces the findings and on this basis, the null hypothesis is rejected while the alternate form of the hypothesis is accept therefore concluding that there is a significant relationship between maximum level and entrepreneurial success. Inegbedion and Eze (2019) examined inventory management and organisational efficiency. The classical inventory management techniques were applied to an organisation's inventory system. A door sales company in Ilorin, Nigeria that volunteered information on the basis of anonymity was used and relevant data were collected on six types of doors; panel, flush, sliding, folding and as well as manual and electronic garage doors. Ugboro and Obeng, (2010) in their research they found out that the half-hearted implementation of CIS is a major reason for its failure in most organisations. According to them, organisations are only willing to implement just those aspects of CIS which is supported by existing organisational culture. Their findings revealed that employees did not feel as part of the decision-making process and their ability to make contributions to quality improvement were restricted due to the limited authority granted them to carry out their activities.

Test of Hypothesis Two

Ho₂: There is no significant relationship between re-order inventory level and entrepreneurial success.

Table 4.2: Pearson Test for relationship between re-order inventory level and entrepreneurial success

Correlations

		Re-order	Success
Re-order	Pearson Correlation	1	.772**
	Sig. (2-tailed)		.000
	N	257	257
Success	Pearson Correlation	.772**	1
	Sig. (2-tailed)	.000	
	N	257	257

**. Correlation is significant at the 0.05 level (2-tailed).
Source: *Author's Field Survey (2022)-SPSS version 25 output*
In the table, it can be observed that the Pearson correlation (PC) coefficient is 0.772 which shows strong and positive orientations of the relationship between re-order level and entrepreneurial success. The significance value of 0.000 which is less than the 5% significance level (p = 0.000

< 0.05) leads to the rejection of the null hypothesis. This therefore reinforces the findings and on this basis, the null hypothesis is rejected while the alternate form of the hypothesis is accept therefore concluding that there is a significant relationship between re-order level and entrepreneurial success. Priniotakis and Argyropoulos (2018) investigation revealed that inventory management has become one of the key elements of the supply chain management and can greatly affect the performance of a business. The textile industry is no exception. Traditional approaches in decision making based on manager instincts and hunches are no longer enough in the today's increasingly competitive environment. Small to medium sized family owned textile businesses are usually prone to this way of thinking. Azeddine and Mohammed (2017) examine how consignment inventory system of supply chain with robust control theory. Supply chain management (SCM) in the management of obsolete stock and prevention of loss has become a vital tool for organisations, which desire to improve performance and resilience. More and more attention in SCM has been dedicated to inventory.

Test of Hypothesis Three

Ho$_3$: There is no relationship between minimum inventory level and entrepreneurial success.

Table 4.3: Pearson Test for relationship between minimum inventory level and Entrepreneurial Success

Correlations

		Minimum level	Success
Minimum level	Pearson Correlation	1	.718[**]
	Sig. (2-tailed)		.000
	N	257	257
Success	Pearson Correlation	.718[**]	1
	Sig. (2-tailed)	.000	
	N	257	257

**. Correlation is significant at the 0.05 level (2-tailed).
Source: *Author's Field Survey (2022)-SPSS version 25 output*

In the table, it can be observed that the Pearson correlation (PC) coefficient is 0.718 which shows a strong and positive orientation of the relationship between minimum level and entrepreneurial success. The significance value of 0.000 which is less than the 5% significance level (p = 0.000 < 0.05) leads to the rejection of the null hypothesis. This therefore reinforces the findings and on this basis, the null hypothesis is rejected while the alternate form of the hypothesis is accept therefore concluding that there is a significant relationship between minimum level and entrepreneurial success. Alexandre and Jean-Marie (2021) discussed inventory management in supply chains consignment on pro-active and re-active obsolescence management. The major industrial problems and various effective approaches of inventory control in supply chains are presented and analyzed. Stephen and Jaydeep (2016) provide a useful summary of the major inventory management techniques based on a recent review of the literature in the field and interviews with management teachers and practitioners. Research in the field generally tends to

treat the emerging approaches techniques in silos; few academic papers have attempted to undertake a holistic review of the several key emerging techniques available to today's practitioner.

5. Conclusions and Recommendations

5.1. Conclusions

The study revealed that the predictor variable (consignment inventory management) system has positive significant influence on the response variable. However, it could be debited that from the Pearson product moment correlation there was high correlates among the explanatory variable and criterion variable in the short run and long run. Hence, it could be concluded that the success of every entrepreneurs depends on its ability to manage her minimum stock level and maximum stock level consignment.

5.2. Recommendations

Based on the findings and conclusion, the following recommendations were reached.

1. Entrepreneurs should design and construct credible validated stock level to ascertain long term success in the enterprise
2. Entrepreneur should avoid danger stock level and stock out that would ruins the enterprise ability to achieve her success.

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