

Impact of Inventory Management on Organization Performance and Sales of Textile Industry in Pakistan

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Abstract

Current research aims to explain the association between the inventory management, organizational performance and sales performance. For this purpose, study confirms the concept of theory of resource based view. Furthermore study intends to analyze the impact of inventory management on the organizational performance and sales performance of the textile industry. A cross-sectional data is collected from the professional employees of textile sector working in the Karachi city. A total of hundred and fifteen questionnaire was distributed to the proposed respondents of the study. To analyze the results structure equation modelling was employed to investigate the proposed hypotheses. A measurement model based on the confirmatory factor analysis was employed to elaborate the reliability and the validity of the data. However, structure equation model explain the relationship between the proposed variables. Findings of the research shows that there is a significant relationship between the inventory management and organizational performance of textile sector. Inventory management also has a significant and positive impact on the sales performance of textile sector. Results of the study provide suggestions for the policy makers and research scholars. Production manager of the textile industry must balance their inventory for continuous production to meet the demand of customer which influence on the sales performance. Furthermore a proper sales performance shows is sustainability in organizational performance of textile sector.

Keywords: inventory management, organizational performance, sales performance

Introduction

Inventory management links with strategic decision that is very crucial part for the success of the business operations (Zhang et al., 2021). Successful businesses maintain their supply chain based on the effective flow of inventory which enables them to make an effective industrial leader (Singh & Verma, 2018). According to Gruler et al. (2018) most common challenge in the effective inventory management of a specific industry is to balance the supply of inventory with its demand. A corporate business must have sufficient inventories to meet up the demand of final customer with balance their sales (Wagner, 2010). Inaccuracy in inventory forecasting enhance the over stocking of the raw material and declined the customer services ultimately result in the low sales, reduction in organizational performance and profitability ratios (Bin et al., 2016). Moreover overstocking of the inventory create a warehousing and maintenance cost of material. Inventory control management minimize the total inventory cost by providing balance Customer services (Riza et al., 2018). In the inventory turnover inadequate excess of raw material must be avoided for the smooth production and sales performance. A study found that quality sale performance and growth required a customer's order placement at right time (Gaur & Kesavan, 2015). Inventory management play a significant role in the survival of organization in a way that efficient

management of an inventory loss the customers demand hence sales becomes decline. In addition, firm performance, financial health and success of these businesses also depend upon the effective inventory management (Koumanakos, 2008). According to Kwak (2019) Organizational performance reflects the efficient and effective management of inventory based on available resources which ultimately contribute in the economy of a country.

Earlier literature found that financial performance and sales growth of an organization affected by the inventory management. First the literature suggested that efficient and effective inventory management significant impact on the firm performance (Hayati et al., 2019). In addition, a managerial competence is also related with the proper inventory management (Islam, 2019). Inventory management leads to a success of organization in today's dynamic industry competition. Contribution of an appropriate inventory management in the organization performance is supported by the theory of resource based view (Hashed & Shaik, 2022). Theory of resource base view suggested that a sustainable organizational performance obtained by leveraging of resources. In addition the theory of dynamic capability postulated that organizational ability to change, build and integrate external and internal core competencies is depend upon the changing environment (Mahoney & Pandian, 1992). In the inventory management corporate business must consider and take into account the customer preferences that are varying over the time. Hence the dynamic capabilities and changes are in the inventory management in efficient and effective way required in order to meet the customer demand timely.

Secondly the appropriate maintenance of inventory reduce the cost of holding material (Khan et al., 2020) and low inventory level reduce the appropriate customer demands (Schlapp & Fleischman, 2018). High inventory level have adverse effect on the procurement performance of the raw material and goods, which affects the cash flow performance (Oruko, & Mule, 2022). Inventory management determines the right quantity of material to order and hold it at given time with respect to associated costs (Singh & Verma, 2018). Higher level of inventories enhance the tied up in capital that creates damage, deterioration, obsolescence and the loss of inventory. In contrast, shortage of inventory level create the interruption in the sales performance due to the shortage of stock, underutilization of equipment's and poor customer relationships (Gołaś, 2020).

Best of our knowledge current study try to investigate very first time relationship of inventory management with the firm performance and sales performance. In the previous studies there is a very little attention paid on the inventory management as an indicator of organizational performance and sales performance in the context of textile industry of Pakistan. From supply point of view textile raw material are seasonally produced to meet up the demand of the complete year. Hence meeting the customer demand of complete year is very crucial. For this purpose current study focused on the textile industry because of very little investigations in the real literature.

Significance of Research

Pakistan economy is based on the manufacturing of textile products. These products are mostly depend upon the raw material produced at seasonal level. Hence, it is very crucial to meet up the financial targets and sales performance of a complete year. Current study try to explain how a management decisions regarding inventory level maintain the sale performance and profitability

performance of the textile sector. Current study considers inventory management as a focus variable to predict the organizational performance and sales performance of the textile industry.

Literature Review and Hypotheses

Inventory management and Organizational Performance

Inventory management is defined as a controlling system employed for supply and demand for inventory. More specific it includes observing recording and estimating the level of stocks for the future request and settling to arrange (Grob, 2019; Singh & Verma, 2018). In contrast according to the study Herron, (1967) inventory management is a method which involves the corporate sector replace Store and organized the inventory stock for proper keeping up the supply of goods at minimum cost level.

The study found inventory management significantly impact on competitive advantage of a producing a manufacturing firms (Naliaka & Namusonge, 2015; Kimaiyo, & Ochiri, 2014). According to Wang and Toktay (2008) a corporate sector able to compete in the market on the basis of in time delivery of orders. Compatible advantage includes the core competencies and capabilities on the basis of which firm differentiate its self from its competitors and management decision makings (Nordin, 2008). Compatible advantage of a firm generally suggested that organization have a one or more differentiated capabilities as compared to its competitors (Nayak et al., 2021). These core competencies and capabilities enhance the organizational performance of a firm in terms of profitability and sales (Agnihotri & Rapp, 2011; Majeed, 2011). Moreover, competent advantage based on the inventory decision makings provide customer satisfaction, future relationship with customers that ultimately enhance the profitability of organization (Atnafu, & Balda, 2018).

According to the theory of lean manufacturing inventory refers to provision of raw material and inventory with independent demand and some quantity of the inventory based on the speculation must be on the hand. Theory focuses on the achieving the optimal level of cost inventory management (Apte & Goh, 2004; Palange & Dhattrak, 2021). Furthermore the theory suggested that economic order quantity model can be enhance the quantity of individual inventory items ordered by the customers (Rubio & Corominas, 2008). In the current study, theory of Lean manufacturing explain that how an inventory management system impact on the organizational performance. Lean theory also explore that influence of management decision makings on the organizational performance. Current study make the prudent approach to investigate inventory management. Just in time approach of inventory management also supported by the Lean manufacturing theory (Pinto et al., 2018). A study elaborated just in time management system organization follow the pull based inventory to meet up the production demand and business operations on the basis of supply chain (Vokurka & Lummus, 2000). Another study assess that lean theory manufacturing has impact on the financial performance of corporate sector (Dieste et al., 2021). Their arguments suggested that organization must eliminate the buffer stock and reduce the wastage in the production operations. Another study also postulated leanness has a positive and significant impact on the profitability of corporate sector (Islami, 2022). Leanness also provide a best control system on the inventory. Theory further elaborates that flexibility in the ordering decisions, minimize the inventory stocks on site and reduce carrying cost of inventory (Riofiandi & Tarigan, 2022). Academics Scholars and researchers indicated that corporate sector successfully

optimize inventory system by lean supply practices in order to gain the optimum level of asset utilization to improve organizational profitability growth and market share (Gokhale & Kaloji, 2018; Koumanakos, 2008).

Study conducted by Lwika et al., (2013) show a positive and significant relationship between inventory management and organizational performance in the context of us manufacturing firms. Their findings posited positive impact on the profitability margins. Inventory management is considered as input of supply chain regardless of whether a Firm providing services or product (Cachon & Fisher, 2000; Sarkar, & Kumar, 2015).

Inventory management of a corporate refers to the supply chain element that prominently discussed in the empirical literature in relation to the financial and organizational performance (Shin et al., 2016). Study conducted by Adeyemi & Salami, (2010) on the manufacturing industry found that effective planning of the required raw material positively influence on the production operations and organizational profitability. Another study conducted on the sugar manufacturing industry stated that efficient planning of inventory management system strongly enhance the profitability (Panigrahi, 2013). Hence the study proposed following hypothesis.

H1: There is significant relationship between Inventory management and Organizational Performance

Inventory management and Sales

Investment in the inventory are basically decision makings which are very significant and crucial for the successful operation of business (Abu Gharbieh et al., 2019). Current study explore that management decision makings regarding inventory which can enhance the sales while determining the production of goods and services. Prior researches shows that management decisions asymmetrically response to the sales performance (Rapp et al., 2020). A Study found that management decisions are scale up the resources more quickly as compared to scale down. A gap of information between the inventory management and the sales changes significantly impact on the business production operations (Gallino et al., 2017). Management decision regarding inventory purchasing includes the cost of production in terms of warehouse cost, machinery cost and the cost of labor and workers (Goltsos et al., 2022). A corporate sector reduce the production volume and fire the factory workers during the period of sales declining. For smooth production of inventory by maintaining production capacity at minimal level and avoid the short run resources for cost adjustment (Agnani et al., 2022). For this purpose smooth production and efficient inventory management required in order to create the stability in the sales performance (Sulthana et al., 2022). In addition, management expectation regarding future sales enhance the information gap between sales demand and inventory purchase decisions (Ramos et al., 2020). A management that expect the higher future demand more likely to get congestion cost of higher production level to catch up the sales more quickly (Geunes & Su, 2020). In contrast to reduce congestion cost managers are not willing to reduce the production in the periods of the low sales level. However, they maintain a certain amount of production capacity to meet up current demand level (Zheng et al., 2021). In addition inventory shortage represents create non-trivial cost for the manufacturing firms (Drent, & Arts, 2022). Shortage of inventory create the shortage of production that reduce the required level of demand and future sales (Gallien et al., 2021). A study argued that presence of higher demand required smooth the production level with respect to sales and stocking the inventory levels in excess obtained in times of low demand level (Iranmanesh et al., 2019; Lu, Y., & Xu, X. 2019). Early work on the sales for cost model which shows that information regarding

inventory management unable to fully predict on the basis of future sales (Hwang, et al., 2021; Nirmala et al., 2021). Another study in the literature found that table inventory management positively impact on the production performance that ultimately enhance return on sales. Hence from the above literature following hypothesis proposed.

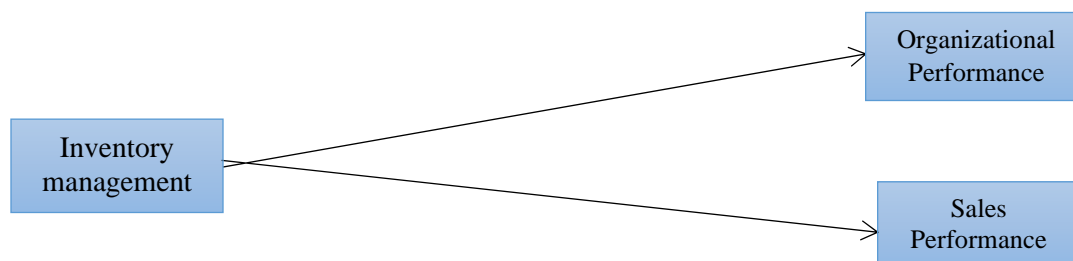
H2: There is significant relationship between Inventory management and Sales Performance

Data and Methodology

The research is correlational as it is supposed to create relationship between inventory management, sales performance and the organizational performance, whereas inventory management is independent variable but sales performance and the organizational performance are dependent variables. Moreover, the study is based on cross sectional, because the whole data is collected at one-time period. Topics covered in the sampling design include the study's target population, frame sampling, sample size, and sampling procedure. As mentioned earlier that the organizational performance and sales performance are the units of analysis of this study, thus it is clear that knowing the exact number of pollution size is not possible for author to calculate the sample size from it. Therefore, the sample size of this study was calculated based on (Hair, Black, Babin, & Anderson) Suggestion of an estimation level of 15-20 observations per studied variable. This study has three variables, 4 items for inventory management, 4 items for sales performance and 4 items for organizational performance resulting in total 12 items. Therefore, a sample size is of 115 participants used for structural equation modeling ("SEM"). The study is based on primary data, where the first hand data is collected by self- administered survey perform by the author to meet the aim of the study because survey technique of data collection is cost effective, safe time, and required no particular skills (U Sekaran, 2000). If this technique is used precisely, it may result in a high level quality data, where response rate is usually higher around 80- 85% (Burns & Bursn. 2000), secondly, author is physically present to answer any issue if respondent fell during responding the answers (Uma Sekaran & Bougie, 2013). AS the current study is predictive rather than confirmatory of an established theory, as the applicable instrument used for the inspection of the information, this research adopted PLS-SEM. This accumulation complied with rule of thumb laid down in the literature (Hair et al., 2011).

Conceptual Model

Earlier literature inventory cycle found a significant relationship with financial performance of corporate sector. For this purpose current study extends of previous literature by incorporating inventory management to explore the sales performance and organizational performance.



Conceptual Model

Data Analysis

The findings of data analyzed with the use of SPSS and Partial Least Square (PLS) 3.0 path modelling is discussed in this chapter. It also addressed the initial data screening and preliminary study, this includes missed value analysis, outlier's evaluation, normality test, multi-collinearity testing and general bias/variance testing process. The findings of descriptive statistics for all latent variables have also been stated. Then the real research findings were described in three separate parts. The descriptive statistics were evaluated through the use of SPSS in the first segment to obtain data validity for this study. The measurement model was calculated in Section two to evaluate the reliability of the individual object, internal reliability of accuracy, Validity of convergent and validity of discriminant. Third section summarized the findings of the structural model (for example, how important is the path coefficients. direct and indirect effects). Finally, the findings of the complementary PLS-SEM study were all discussed, which was intended to analyses the moderating impact of the rules and regulations on the structural model.

Demographic Profile of Respondents

A profile of respondents is listed in Table I. In population research, age distribution of the preliminary respondents, to demonstrate that the majority respondents are 26-30 years of age (52.5%), almost 39.8% are 20-25 and years of age a 10.0% are 31-35 years of age. Male respondents with a majority response rate of 84.7 as compared to 15.3% female respondents. The male has the dominant role over female in Pakistani culture, particularly in the private employment sector. As educational status, it was found that most respondents are graduate than Undergraduate and Master's, it was also reported that over 5.9 percent of responses are Masters, 66.9% are respondents are Graduate and 27.1 % are who has Undergraduate degree.

Table I

Variables	Category	Frequency	Percent
Age	20-25	46	39.0
	26-30	62	52.5
	31-35	10	8.5
Gender	Male	100	84.7
	Female	18	15.3
Education	Undergraduate	32	27.1
	Graduate	79	66.9
	Masters	7	5.9

Descriptive Statistics

The analysis of statistical descriptive was run to gain the descriptive marking where the maximum and minimum scores, standard deviation, and the mean of all variables were estimated. As mentioned earlier in chapter three, a five-point Likert scale was used that ranged from "1 = strongly disagree to 5= strongly agree" Table II displays the mean score of the variables ranging from 2.98 to 3.6102 and the standard deviation scores are ranging from 0.7112 to 0.84209 as shown in Table II below. The statistical descriptive analyses, such as the high and low points, the importance of standard deviation and the mean of all variables, is measured by descriptive analysis via SPSS.

Table II

Variables	Mean	Std. Deviation	IM	OP	SP
Inventory management	2.9831	0.84209	1		
Organizational Performance	3.1208	0.96561	.514**	1	
Sales Performance	3.6102	0.71128	.431**	.449**	1

****.** Correlation is significant at the 0.01 level (2-tailed).

Measurement Model Analysis

Measurement model explain on the basis of confirmatory factor analysis. Confirmatory factor analysis describe the validity and reliability of all variables propose in the study. In the reliability this research explain internal consistency and inter item correlation with in the all variables. Cronbach's Alpha explain inter item correlation between the all question of variable. Furthermore composite reliability explain internal consistency of the items showing that all questions of a variable composite explain the construct. The criteria for meeting the reliability of data is 70%. Between 60 and 70% considered as a good criteria. However below 60% reliability of the item is very poor. Results of Cronbach's Alpha shown that inter-item correlation of inventory management sales performance and organizational performance meeting the criteria of 60%. Moreover criteria for composite reliability is more than 70% that is also full filled by all variables (Table III).

Internal Consistency and Reliability

Moreover, validity of all variables explain under the criteria of convergent validity and discriminant validity. Convergent validity describe under the outer loadings of all items present in the questionnaire. Outer loading basically explain the variance shown by each item within specific variable. Criteria for outer loading is more than 70%. Table IV shown that outer loading inventory management in the first three items is greater than 70%. However, the outer loading for forth item IM4 is less than 70% which is showing that first three questions are valid for the inventory management. Same results are repeating for the sales performance and organizational performance. Outer loading of OP4 and SP4 is less than 70%. For further confirmation of the convergent validity study estimate the average variance extracted that required 50% criteria for all the variables. Hence organizational performance and sale performance meeting the criteria of average variance extracted. (Table III)

Table III

Variables	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Inventory management	0.676	0.805	0.538
Organizational Performance	0.729	0.833	0.621
Sales Performance	0.600	0.754	0.554

Convergent validity

Measurement model analysis is also done to testify the discriminant validity of the mean variable to authenticate the connection of elements of the relevant variable are appropriate to that variable distinctive to items of other variables. Following three tests are mainly used to calculate the

discriminant validity. In order to be approved, the value or the average variance derived should be 0.50 or greater, according to Fornell and Larcker, (1981). Table III shows that all AVE's square shows the outer loading of all elements of each variable is within the limit thus signifying their interconnections, Outer loading also helps in correcting the multi-collinearity issue.

Table IV

	Inventory management	Organizational Performance	Sales Performance
IM1	0.857		
IM2	0.866		
IM3	0.771		
IM4	0.267		
OP1		0.913	
OP2		0.925	
OP3		0.891	
OP4		0.025	
SP1			0.744
SP2			0.919
SP3			0.882
SP4			-0.206

Discriminant Validity

Discriminant validity explain the inter construct correlation and individual construct correlation. It explains the correlation between the items of same traits and different traits. More specifically discriminant validity describe the Hetro-trait and Mono-trait item correlation. Diagonal values in the table five explain the mono-trait correlation or correlation between the items of same variable. Remaining values are non-diagonal values that estimates the correlation between the items of different variables are constructs. Hence the correlation between the items of same variable must be higher than the items of other variable. Findings of the table shows that diagonal values are greater than none-diagonal values which means discriminant validity of inventory management, organizational performance and the sales performance is appropriate (Table V).

Table V

Variables	IM	OP	SP
Inventory management	0.733		
Organizational Performance	0.566	0.788	
Sales Performance	0.468	0.517	0.745

Assessment of Significance of the Structural Model

By executing PLS-SEM (Bootstrapping and structural model) was being assessed (Chin, 2010). On, initial basis predictive power was being evaluated by structural model with the coefficient of determination (R^2 values) of the endogenous construct (Chin, 2010; R. F. Falk & Miller, 1992; Hair et al.; Henseler, Ringle, & Sarstedt, 2012) suggest a minimum acceptable threshold of an R^2 value of 0.10. (Lambert, Cooper, & Pagh, 1998) suggested the R^2 values assessment criteria 0.19 as weak 0.33 as moderate and 0.67 as substantial respectively. Table VI illustrates the R^2 of each

endogenous latent variable where R of the organizational performance was 0.314 and R of sales performance was 0.213. The subsequent step was done to measure the regression effect between the dependent. We examine direct relationship of independent variables either with independent variable. See table VI for the Consequences of path coefficients for direct effects.

Path model show that inventory management has a significant impact on the organizational performance of a textile industry ($P\text{-value} < 0.05$). In addition to its inventory management also significantly and positive corrected with the sales performance ($P\text{-value} < 0.05$). However, impact of inventory management on the organizational performance is higher than on the sale performance because of the higher Coefficient value of 56.6%. Coefficient values for both hypotheses are significance at 1% level of confidence interval. Furthermore adjusted as square of the organizational performance is also higher than the sales performance which is showing that organizational performance highly explained by the inventory management.

Table VI

	Original Sample (O)	Sample Mean	Standard Deviation	T Statistics	P Values
Inventory management - > Organizational Performance	0.566	0.580	0.066	8.620	0.000
Inventory management - > Sales Performance	0.468	0.480	0.077	6.105	0.000

Table VII

Dependent Variables	R Square	R Square Adjusted
Organizational Performance	0.320	0.314
Sales Performance	0.219	0.213

Discussion, Conclusions and Recommendations

Discussion and conclusion

Findings of the research shows that inventory management significantly associated with the organizational performance in the textile industry. Furthermore, inventory management also significantly associated with sales performance. Managerial competencies of textile industry significantly influence on the sales performance that is linked with inventory management behavior and stable production. Balance inventory provide uninterrupted production which fulfill the timely demand of the final customers with proper sales. A continuous production based on the effective inventory management system improve the profitability and liquidity position of a corporate sector. It means a corporate sector must have good reporting system as well as inventory management techniques to optimize sales performance and profitability performance. Findings of the research match with the previous studies and literature review.

Policy implications

Findings of the research provide theoretical implications for the Academics scholars. Study also provide the suggestions for the textile manager to improve sales performance and organization performance of the firms. This study confirms the concept of resource based view theory. Moreover, a corporate manager must employ effective inventory management techniques and practices to enhance the profitability positions of business. Corporate managers are required to employ inventory management techniques which optimize inventory level in order to achieve sales performance.

Limitations and further recommendations

Although this research has a significant policy implications and suggestions for the policy makers, Study still have many limitations in terms of data collection, industry selection and conceptual framework. This research limited to cross sectional data of textile sector. Study only incorporate the inventory management to determine sales performance and organizational performance. Future studies can incorporate the secondary data to investigate the propose model. Moreover, model of the research can be employee in order industrial sectors. Future studies can incorporate other variables to determine the financial performance such as profitability ratios used in the secondary data.

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