African Journal of Emerging Issues
Peer reviewed | Double blind | Interdisciplinary

African Journal of Emerging Issues
(AJOEI)
Online ISSN: 2663 - 9335
Available at: https://ajoeijournals.org

MANAGEMENT

IMPACT OF MATERIAL MANAGEMENT ON PERFORMANCE OF TEXTILE MANUFACTURING FIRMS IN PAKISTAN

[1*]Muhammad Imran Tanveer, [2]Sarah Asif Zafar & [3]Usman Humera Shahid

[1*]Postgraduate student, University of Gujrat

[2,3]Lecturers, University of Gujrat

***Email of the corresponding author: muhammadimran@gmail.com**

Publication Date: September 2022

ABSTRACT

Purpose of the study: The manufacturing sector plays an important role in any economy and has many benefits for economic transformation. The study sought to examine the impact of material management on the performance of textile manufacturing firms in Pakistan.

Statement of the problem: The manufacturing firms in Pakistan have not been operating optimally. Some textile firms such as Punjab Cotton Mills Limited, Glamour Textile Mills Limited and Adil Textile Mills Limited were delisted from Pakistan Stock Exchange. This formed the basis of the current study to examine whether any relationship exists between material management and the performance of textile manufacturing firms in Pakistan.

Research methodology: The study adopted the descriptive research design. The study collected data from six textile manufacturing firms in Islamabad. These firms included Shaheryar Apparel Industry, Azalea (Pvt) Ltd, Kohinoor Textile Mills Limited, Jugnu's Couture, SheWorks Pvt. Ltd and Saif Textile Mills Limited. The collection of the data was done using questionnaires. The study embraced structured questionnaires to collect the data. The analysis of the data was done using descriptive and inferential statistics. The study results were presented in Tables.

Findings: The study found that material management has an impact on performance. It was revealed that material management positively and significantly impacts the performance of textile manufacturing firms in Pakistan. Materials management is a core function of supply chain management, involving the planning and executing of supply chains to meet the material requirements.

Conclusion: The study concluded that material management is a key factor determining the performance of textile manufacturing firms in Pakistan. Materials management is a planning method, organizing and controlling the activities related to the flow of materials in a company. Materials management is vital because it enables an organization to order and classify inventories accurately.

Recommendations: The study recommends that textile manufacturing firms in Pakistan should take many considerations in material management. The companies need to ensure an effective management team/professionals mandated with material management. The firms need to ensure that the rate of spoilage and waste is decreased and that products attain quality standards. There is a need to train employees in the sector of material management to improve their knowledge of the work.

Keywords: *Material management, performance, textile manufacturing firms, Pakistan*

INTRODUCTION

The manufacturing sector plays an essential role in Pakistan's economy and has many significant advantages for its economic transformation (Jung, 2020). The manufacturing sectors are considered as the back born for employment creation. The most developed countries in the World are those that embraced the transformation of the manufacturing sector (Valeri, 2021). Hence, their performance determines their sustainability. The performance can be measured using financial and non-financial measures (Dakhli & Lafhaj, 2018). The performance of the manufacturing firms can be based on the material management (Müller, 2019; Pranata, Soekarni, Mychelisda, Novandra, Nugroho, Rifai &Yuliana, 2022).

Materials management is a planning method, organizing and controlling the activities related to the flow of materials in a company. Materials management is vital because it enables an organization to order and classify inventories accurately (Sormunen & Kärki, 2019). Material

management is related to planning, identifying, procuring, storing, obtaining and distributing material. The duty of the material management division for the flow of material from the time the material is ordered, gotten, and stored till they are utilized is the fundamental duty of material management. Miclo, Lauras, Fontanili, Lamothe and Melnyk (2019) reported that materials management is the process by which a firm provides goods and services. Many firms purchase materials, deliver them to the plant, modify the materials into parts, assemble parts into finished products, and sell and transport the goods to the customer (Ammar, Haleem, Javaid, Walia & Bahl, 2021). This activity of purchasing materials, the flow of materials, changing them into the final product, supplying and selling the item at the market calls for different sorts of materials to handle and regulate their storage, circulation and supply at other places. It is only possible by reliable material management.

Valeri (2021) noted that material management is the act of coordinating all material resources available within the firm in the most economical manner. This guarantees the ideal quality to make products available to customers when required to attain the firm's and management's broad general goals. Nasution, Wibowo, Ramdani and Rofiqah (2021) identified total price, purchasing costs, inventory carrying cost, transportation cost, materials handling cost, office cost, packing cost, advertising cost, obsolescence and wastages as the numerous costs included in these materials. Therefore, managing these materials to lower the related costs is referred to as materials management.

Gola and Kłosowski (2019) noted that material management includes a chain of processes that should be linked and collaborated correctly to guarantee that materials are present in their area of usage when required. The material management process starts with the need generated from the site, followed by this information conveyed to the store department and material is ordered in the store, and the indent is generated. Typically, vendor selection is to be carried out for the most negligible value and best products. Materials are received at store departments and an assessment is conducted. Gudeta (2021) reported that challenges of material management are typical as a result of overstock materials due to incorrect planning, damaged materials because of logistics, handling or in the application, loss of materials due to lack of management, waiting of the materials to arrive in area as a result of the poor tracking system, regular movement of materials as a result of

improper site layout, the rising cost of living, material changes in purchasing or buying situation beginning with the prepared cost estimation.

Materials management gives an indispensable system strategy for the appropriate arrangement of materials activities and the total material price (Koo, Kim, Shim, Kim & Kim, 2018). They see it as something that stands as appointing to a single operating division all primary activities, which contribute to the price of materials. The goal is to boost the performance of materials systems instead of sub-optimizing the performance of sub-individual running units that are a fragment of the material system. Argued that the goal of materials management is to ensure that the right product goes to the appropriate area, at the right time and a manageable cost. The manufacturing firms in Pakistan have not been operating optimally. Some textile firms such as Punjab Cotton Mills Limited, Glamour Textile Mills Limited and Adil Textile Mills Limited were delisted from Pakistan Stock Exchange. This formed the basis of the current study to examine whether any relationship exists between material management and the performance of textile manufacturing firms in Pakistan.

LITERATURE REVIEW

A study by Dakhli and Lafhaj (2018) showed that material management impacts performance. Materials management is a core function of supply chain management, involving the planning and executing of supply chains to meet the material requirements. Many firms purchase materials, move them into the plant, turn the products into parts, assemble components into finished items, and sell and transport the product to the consumer. The fundamental need of material management is to pay the lowest possible costs, consistent with the quality and value needed for purchasing materials. Materials management incorporates all materials functions, i.e., need evaluation, procurement, invoice and examination, storage, concern and usage, repair and maintenance, disposal & bookkeeping and information system. Indian Institute of Material management has established CRIMM in Kolkata collectively with the Indian Institute of Social Welfare and Business Management.

Müller (2019) researched material management's impact on manufacturing companies' performance in Berlin, Germany. The study adopted the descriptive research design. The collection of the data was done using questionnaires. The study's findings showed that material management has a positive and significant impact on the performance of manufacturing companies. The

research recommended that firms should ensure making use of specialists in their supply chain management to promote effective procurement techniques; there is a need for SMEs to practice incorporated material management system; this will make certain good practices at every phase of the material flow and which developing workers capabilities through training on current relevant material management strategies is essential to getting outcomes that will promote general business effectiveness. Pranata, Soekarni, Mychelisda, Novandra, Nugroho, Rifai and Yuliana (2022) noted that material management has a positive and significant impact on performance.

A study by Li, Choi and Sethi (2020) reported that most companies in China do not value the role of materials management in enhancing their productivity. On many occasions, the function seems to be a reserve in the system, while in various other experiences, the duties are utilized firmly. A few companies are of the assurance that material management is just a recurring role of the procuring segment, therefore, moderating it to the background. Rising from this backdrop, the research's particular purposes are finding out how a company may deal with the issues identified and how reliable material management may boost the productivity of a company. The research found that material management utilized by the company leads to the company's profitability; enough storage space stops disruption of the manufacturing process, among other issues. As a result of the above, it was recommended that there should be a reputable record system of materials for the operations of the company as it influences manufacturing and the training of employees to get new skills and knowledge needed for the work for the profit of the company.

Hastig and Sodhi (2020) studied the effect of material management on performance firms in the USA. The study used the descriptive research style; study design is defined as a plan, framework and method of examination conceived to acquire a response to study questions and control variance. The outcome of the investigation showed that material management has a positive effect on performance. Performance firms ought to take a more comprehensive look at the functions of materials management and how it is helpful to performance firms' supply chains to allow performance facilities and find areas where help is required. The research advises that materials management has efficiently maximized performance in different performance firms' facilities, but the process cannot correctly stand alone. A sophisticated planning and scheduling system (APS) must be executed in cost reduction, stock reduction, and material flow enhancement.

Shad, Lai, Fatt, Klemeš and Bokhari (2019) discovered that most enterprises in Germany appreciate the role of materials management in increasing their productivity. The effective management of the materials increases productivity. The research disclosed that material management employed by the company contributes to the firm's productivity, and sufficient storage facilities protect against the interruption of the manufacturing process and other things. As a result, it was advised that there ought to be a proper record system of materials for the company's operations as it impacts manufacturing and the training of workers to get new skills required for the work for the company's advantage.

Essel (2021) researched the effect of material management on the performance of manufacturing firms, particularly the chosen cement companies. A purposive sampling method was used, while a judgmental strategy was utilized to select 20 employees from purchasing/store/ logistic department of the chosen cement company specifically, amounting to 40 participants as a sample size for the research. The information gathering tool for the study was a structured survey and a personal interview. Data analysis was carried out with the help of multiple regression analysis. Results exposed that materials management dimensions together contribute substantially to firm performance. The research also revealed that materials stock, procurement and inter-departmental cooperation have an insignificant influence on firm performance, while only materials storage substantially influences firm performance. The research concluded that proper materials management is a veritable instrument for company performance. The research suggested that management should embrace efficient materials management, specifically in the materials inventory, procurement and inter-departmental cooperation, for the company to achieve its vision of being an international leader in cement performance and the largest employer of labor globally.

Rey-Ares, Fernández-López and Rodeiro-Pazos (2021) researched the impact of material management on the performance level of fast-moving consumer items enterprises in Italy. The study layout was utilized and the questionnaire was an essential tool for data gathering made through two material management measurements (raw materials and work-in-progress) and performance dimensions (material efficiency and yield). Surveys were administered to 470 participants and information collected was assessed utilizing canonical correlation. Findings of canonical correlation analysis disclosed that the mix of material performance and yield (profitability proxies) had a statistically significant association on sets of material management

being determined by raw material and work-in-progress. The research concludes that material management enhancement will improve FMCG firms' performance in Italy. The firms need to guarantee the maintenance of the maximum material resources in their store room and lower unhealthy material use methods crucial to reducing profitability.

Patrucco, Ciccullo and Pero (2020) discovered that material management impacts performance. Materials management is a core function of supply chain management, involving the planning and executing of supply chains to meet the material requirements. The study concluded that material management is a crucial factor in determining performance. Materials management is a planning method, organizing and controlling the activities related to the flow of materials in a company. A firm should take many considerations in material management. The firms need to ensure that spoilage and waste rates are decreased and that products attain quality standards. There is a need to train employees in the sector of material management to improve their knowledge of the work. The companies need to ensure an effective management team/professionals mandated with material management

METHODOLOGY

The study adopted the descriptive research design. The study collected data from six textile manufacturing firms in Islamabad. These firms included Shaheryar Apparel Industry, Azalea (Pvt) Ltd, Kohinoor Textile Mills Limited, Jugnu's Couture, SheWorks Pvt. Ltd and Saif Textile Mills Limited. The collection of the data was done using questionnaires. The study embraced structured questionnaires to collect the data. The analysis of the data was done using descriptive and inferential statistics. The study results were presented in Tables.

RESEARCH FINDINGS AND DISCUSSION

The findings of the study mainly included the correlation and regression results. The correlation aimed to show the association between the variables, while the regression results aimed at giving the relationship between the variables.

4.1 Correlation Analysis

The correlation results are presented in Table 1.

Table 1: Correlation Analysis

		Performance	Material Management
Performance	Pearson Correlation	1.000	
	Sig. (2-tailed)		
Material Management	Pearson Correlation	.257 **	
	Sig. (2-tailed)	0.000	0.000

The correlation results from Table 1 indicate that material management is positively and significantly associated with performance (r=.257, p=.000). The study agrees with Dakhli and Lafhaj (2018), who showed that material management impacts performance. Materials management is a core function of supply chain management, involving the planning and executing of supply chains to meet the material requirements. Shad, Lai, Fatt, Klemeš and Bokhari (2019) discovered that most enterprises in Germany appreciate the role of materials management in increasing their productivity. The effective management of the materials increases productivity. Patrucco, Ciccullo and Pero (2020) discovered that material management impacts performance. Materials management is a core function of supply chain management, involving the planning and executing of supply chains to meet the material requirements. The study concluded that material management is a crucial factor in determining performance. Materials management is a planning method, organizing and controlling the activities related to the flow of materials in a company. Hastig and Sodhi (2020) showed that material management positively affects performance.

4.2 Regression Analysis

The section consisted of model fitness, variance analysis and coefficient regression. The results presented in Table 2 show the model fitness.

Table 2: Model Fitness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.354a	0.281	0.262	0.0248771

The results from Table 2 depict that material management was found to be satisfactory in explaining the performance in Pakistan. This was supported by the coefficient of determination,

also known as the R square of 0.281. This implied that material management explains 28.1% of the variations in performance.

Table 3: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.210	1	2.210	58.158	.000b
	Residual	13.240	348	0.038		
	Total	23.450	349			

The results in Table 3 indicate that the overall model was statistically significant. The results show that material management is a good predictor of performance. This was supported by an F statistic of 58.158 and the reported p-value of 0.000, which was less than the conventional probability significance level of 0.05. The regression coefficient results are presented in Table 4.

Table 4: Regression of Coefficient

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.375	0.072		5.208	0.002
Material Management	0.781	0.257	0.213	3.039	0.015

The results presented in Table 4 revealed that material management is positively and significantly related to performance (β=0.781, p=0.015). This was supported by a calculated t-statistic of 3.039, which is larger than the critical t-statistic of 1.96. The results revealed that when the material management improves by one unit, the performance will increase by 0.781 units while holding other factors that influence performance constantly. Shad, Lai, Fatt, Klemeš and Bokhari (2019) discovered that most enterprises in Germany appreciate the role of materials management in increasing their productivity. The effective management of the materials increases productivity. Patrucco, Ciccullo and Pero (2020) discovered that material management impacts performance. Materials management is a core function of supply chain management, involving the planning and executing of supply chains to meet the material requirements. The study concluded that material

management is a crucial factor in determining performance. Materials management is a planning method, organizing and controlling the activities related to the flow of materials in a company.

CONCLUSION AND RECOMMENDATIONS

The study concluded that material management is a key factor determining the performance of textile manufacturing firms in Pakistan. Materials management is a planning method, organizing and controlling the activities related to the flow of materials in a company. Materials management is vital because it enables an organization to order and classify inventories accurately.The study recommends that textile manufacturing firms in Pakistan should take many considerations in material management. The companies need to ensure an effective management team/professionals mandated with material management. The firms need to ensure that the rate of spoilage and waste is decreased and that products attain quality standards. There is a need to train employees in the sector of material management to improve their knowledge of the work.

REFERENCES

Ammar, M., Haleem, A., Javaid, M., Walia, R., & Bahl, S. (2021). Improving material quality management and manufacturing organizations system through Industry. *Journal of Management*, 4(2), 17-34

Dakhli, Z., & Lafhaj, Z. (2018). Considering materials management in construction: An exploratory study. *Journal of Logistics*, 2(1), 7-13

Essel, R. E. (2021). Assessing Materials Management Practices Effect on Firm's Performance in Ghana Using Dominance Analysis: Evidence from a Listed Company. *Journal of Operations and Strategic Planning*, 4(2), 194-201.

Gola, A., & Kłosowski, G. (2019). Development of computer-controlled material handling model by means of fuzzy logic and genetic algorithms. *Neurocomputing*, 33(18), 381-392.

Groover, M. P. (2020). *Fundamentals of modern manufacturing: materials, processes, and systems*. John Wiley & Sons.

Gudeta, M. (2021). *Construction Materials Management Practice and Perceived Project Performance: The Case Of Yotek Construction Plc* (Doctoral Dissertation, St. Mary's University).

Hastig, G. M., & Sodhi, M. S. (2020). Blockchain for supply chain traceability: Business requirements and critical success factors. *Journal of Operations Management*, 29(4), 935-954.

Jung, J. (2020). The fourth industrial revolution, knowledge performance and higher education in Pakistan. *Journal of Higher Education Policy and Management*, 42(2), 134-156.

Koo, J. H., Kim, D. C., Shim, H. J., Kim, T. H., & Kim, D. H. (2018). Flexible and stretchable smart display: materials, fabrication, device design, and system integration. *Advanced Functional Materials*, 28(5), 180-184.

Li, G., Li, L., Choi, T. M., & Sethi, S. P. (2020). Green supply chain management in Chinese firms: Innovative measures and the moderating role of quick response technology. *Journal of Operations Management*, 66(8), 958-988.

Miclo, R., Lauras, M., Fontanili, F., Lamothe, J., & Melnyk, S. A. (2019). Demand Driven MRP: assessment of a new approach to materials management. *International Journal of Performance Research*, 57(1), 166-181.

Müller, J. M. (2019). Business model innovation in small-and medium-sized enterprises: Strategies for industry 4.0 providers and users. *Journal of Manufacturing Technology Management* 5(2), 16-31

Nasution, A. P., Wibowo, E. A., Ramdani, R., & Rofiqah, T. (2021). Urgensity of Environmental Management System Implementation on Oil Palm Plantation Management Policies in North Sumatera. *Journal of Social Transformation and Regional Development,* 3(1), 1-6.

Patrucco, A., Ciccullo, F., & Pero, M. (2020). Industry 4.0 and supply chain process re-engineering: A coperformance study of materials management in construction. *Business Process Management Journal* 7(2), 28-35

Pranata, N., Soekarni, M., Mychelisda, E., Novandra, R., Nugroho, A. E., Rifai, B., ... & Yuliana, R. R. D. (2022). Technology Adoption Issues and Challenges for Micro, Small and Medium Enterprises: A Case Study of the Food and Beverage Sub-Sector in Indonesia. *The Journal of Asian Finance, Economics and Business*, 9(3), 265-274.

Rey-Ares, L., Fernández-López, S., & Rodeiro-Pazos, D. (2021). Impact of material management on profitability for Italy fish canning companies. *Marine Policy*, 13(5), 104-113.

Shad, M. K., Lai, F. W., Fatt, C. L., Klemeš, J. J., & Bokhari, A. (2019). Integrating sustainability reporting into enterprise risk management and its relationship with business performance: A conceptual framework. *Journal of Cleaner performance*, 20(8), 415-425.

Sormunen, P., & Kärki, T. (2019). Recycled construction and demolition waste as a possible source of materials for composite manufacturing. *Journal of Building Engineering*, 2(4), 103-107

Valeri, M. (2021). *Organizational studies: implications for the strategic management*. Springer Nature.