

## THE IMPACT OF INVENTORY MANAGEMENT TECHNIQUES ON SERVICE QUALITY MEASURES WITH REFERENCE TO SERVICE SECTOR

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### ABSTRACT

“The Impact of Inventory Management Techniques on Service Quality Measures with reference to service sector ” is to investigate the relationship between inventory management techniques and service quality measures. The review tries to comprehend how viable stock administration rehearses, for example, request anticipating, provider coordinated effort, and productive stock control, influence administration quality markers like patient fulfillment, holding up time, and accessibility of clinical supplies. The article aims to improve service quality through improved inventory management techniques by analyzing data from the hospital's inventory management system, conducting surveys, and employing statistical analysis.

**Key words:** Inventory Management, Service sector, Service quality

### INTRODUCTION

Every organization has to have an effective inventory management system in place, and healthcare organizations are no different. Effective inventory management can boost service quality indicators and enhance patient outcomes in healthcare organizations. With reference to KIMS HEALTH Trivandrum this study intends to investigate the effect of inventory management techniques on service quality metrics.

This study aims to look at the relationship between service quality measurements at the KIMS HEALTH Trivandrum inventory management strategies. It seeks to ascertain how inventory management techniques like inventory control, inventory turnover, and demand forecasting affect service quality indicators including patient happiness, wait time, and cost-effectiveness.

A standardized questionnaire used in the study's quantitative research methodology to gather information from hospital employees. Measures of service quality and inventory management

practices are covered in the questionnaire, and statistical tools including regression analysis, correlation analysis, and descriptive statistics are used to analyze the results.

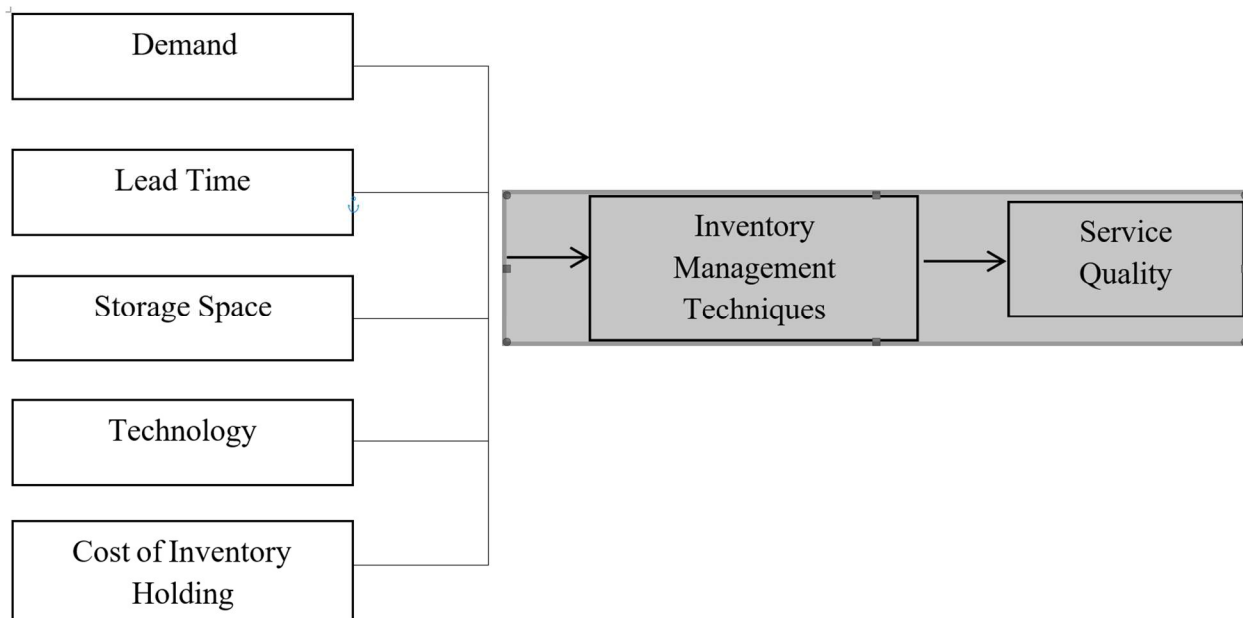
The results of this study gives important information on how inventory management strategies affect service quality indicators at the KIMS HEALTH Trivandrum. The hospital will be able to make well-informed judgements about inventory management to the identification of the inventory management techniques that are most effective in raising service quality indicators.

Additionally, the study also adds to the body of knowledge on inventory management in healthcare organizations, especially in developing nations like India. Further study conducted on it, and healthcare organizations are able to strengthen service quality metrics and their inventory management procedures.

**STATEMENT OF THE PROBLEM**

KIMS HEALTH Trivandrum is having trouble maintaining ideal inventory levels, which could directly affect the patient service quality metrics. Issues like stock outs, excess inventory, and resource waste can result from improper inventory management. These problems may cause delays in the delivery of necessary medical supplies, higher expenses, and a general reduction in service quality. Therefore, it is crucial to look into how inventory management strategies affect service quality indicators in the hospital context, with an emphasis on KIMS HEALTH Trivandrum. To increase the hospital's overall operational efficiency and patient satisfaction, potential solutions and improvements to inventory management and service quality can be found.

**The proposed model for the article**



***Factors Affecting***

***Independent  
Variable***

***Dependent  
Variable***

**Objectives of the study**

- To study the factors of inventory management based on demographic profile.
- To study the relationship between inventory management techniques and service quality.
- To find out the impact of inventory management techniques on service quality.

**Hypothesis for the study**

Hypothesis 1

H0: There is no significant difference between demographic factors with respect to inventory management.

H1: There is significant difference between demography factors with respect to inventory management.

Hypothesis 2

H0: There is no relationship between inventory management techniques and service quality. H1: There is a relationship between inventory management techniques and service quality. Hypothesis 3

H0: There is no significant influence of inventory management techniques on service quality. H1: There is a significant influence of inventory management techniques on service quality.

**Review of Literature**

Sharma, N., and Chakraborty, S. (2022). Service quality in warehousing operations: A systematic survey in the Indian logistics industry. This writing audit explores service quality dimensions and measurement in warehousing operations in India. The authors analyze factors such as inventory exactness, request picking efficiency, safety measures, and customer satisfaction measurement tools. They emphasize the significance of service quality in warehousing to ensure opportune request fulfilment, minimize errors, and enhance customer satisfaction in the Indian logistics landscape.

Kapoor, A., and Verma, S. (2022). Evaluating service quality in reverse logistics: This literature audit focuses on service quality assessment in reverse logistics operations in India. The authors analyze dimensions such as item returns management, customer support, transparency, and satisfaction measurement approaches. They discuss the job of service quality in lessening costs,

enhancing sustainability, and further developing customer experiences in the reverse logistics processes in India.

Choudhury, S., and Sharma, M. (2022). Measuring service quality in web-based business logistics: A comprehensive survey of writing in the Indian market. This audit paper examines service quality dimensions and measurement tools used in online business logistics operations in India. The authors investigate factors such as conveyance speed, request exactness, communication, and customer satisfaction assessment methods. They discuss the significance of service quality in ensuring customer satisfaction, rehash purchases, and positive brand discernment in the developing online business landscape of India.

Bhatia, R., and Singh, A. (2022). Service quality in third-party coordinated operations providers: A systematic review in the Indian setting. This literature review explores service quality aspects and measurement in third-party coordinated factors providers operating in India. The authors analyze factors like order satisfaction, transportation proficiency, information accuracy, and customer satisfaction measurement approaches. They emphasize the importance of service quality in building long haul relationships, gaining an upper hand, and fostering customer loyalty in the Indian coordinated operations industry.

Kumar, V., and Mathur, K. (2021). Blockchain innovation for inventory the board in the Indian planned operations area. This paper investigates the capability of blockchain innovation in improving inventory the board rehears in the Indian coordinated operations industry. The creators examine the advantages of straightforwardness, security, and detectability presented by blockchain frameworks and feature their pertinence in inventory tracking, production network coordination, and risk the board.

### **Type of Research**

The research design used in this study is descriptive. It includes survey & fact-finding enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present. The main characteristics of this method is that researcher has no control over the variable be can only report what happen or what happening.

### **Source of Data**

Primary and Secondary data are the sources of data that are used for Research.

### **Primary data**

Essential information alludes to unique information gathered first-hand from its source. It is specific to the research or study that is being carried out and is gathered through direct observation, surveys, experiments, or interviews.

### **Secondary data.**

Information that has been gathered by someone else for a different purpose and is available for use by others is referred to as secondary data. Pre-existing data can be used to support research or analysis by being analyzed and interpreted.

### **Sampling design**

A sample is a group of people or things selected for analysis from a larger population and used in the study. For us to be able to apply the findings to the entire population, the sample used in the research must be representative of the population.

### **Population**

This study was conducted at KIMS HEALTH Trivandrum. The total population of the organization is 1455. 144 employees were selected based on a random sampling method and questionnaires were distributed accordingly.

### **Determination of Sample Size**

The population taken is 1455 and the sample size is 144. The sample size is calculated using the Sample Size calculator.

### **Sampling Technique**

The sampling technique used in the research is simple random sampling. Simple random sampling is a type of probability sampling in which a selection of participants is chosen at random from a population. The data is then collected from as large a percentage of this random selection as possible.

### **Tools used for data collection**

Tool that is used in the data collection is Questionnaire, it is a Structured five-point Likert scale Questionnaire distributed to collect the Data.

### **Tools Used for analyzing Data**

The main tools used in this study for analyzing the data in SPSS Software are,

- One –way ANNOVA
- Correlation
- Multiple Regression

## **DATA ANALYSIS AND INTREPRETATION**

### **Anova for significant difference between experience of respondents and factors of inventory management techniques**

Category	N	Mean	Std. Deviation
Below 1	80	3.7565	.44283
1-5	39	3.9056	.44556
5-10	18	3.6778	.31360
10-20	4	4.2200	.35251
Above 20	3	4.4400	.58103

ANOVA					
Inventory management technique					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.761	4	.690	3.725	.007
Within Groups	25.756	139	.185		
<b>Total</b>	<b>28.517</b>	<b>143</b>			

### Interpretation

One-way ANOVA was carried out to understand the significant difference among experience with respect to inventory management technique. The above table shows that the p value is less than the cut off value 0.050. Therefore, the null hypothesis is rejected and can say that there is a significant difference on inventory management technique across their work experience. It means work experience affect the inventory management technique.

### Pearson Correlation Co-Efficient Between Inventory Management Techniques and Service Quality

H0: There is no significant relationship between inventory management techniques and service quality.

H1: There is significant relationship between inventory management techniques and service quality.

### Pearson correlation co-efficient between inventory management techniques and service quality

Factors	Inventory management technique	Service quality
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Inventory management technique	1	.715**
Service quality	.715**	1

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

**Interpretation**

The above table shows there is a linear positive correlation between inventory management and service quality. The correlation co-efficient is 0.01 and is statistically significant as the P-Value is less than the cut off value 0.050. Hence, null hypothesis is rejected. It shows that there is a significant positive association between inventory management technique service quality.

**Regression Analysis between Inventory Management Technique and Service Quality.**

H0: There is no impact of inventory management techniques on service quality.

H1: There is an impact of inventory management techniques on service quality.

**Variables in regression analysis**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.715 <sup>a</sup>	.511	.508	.46572
a. Predictors: (Constant), Inventory management technique				

**Interpretation**

The table shows the model summary, R indicated a value of .715 which represented the correlation between inventory management techniques on service quality. The value of R square is .511, which indicates that inventory management techniques increase the service quality of organization for a 5.11 percent.

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.043	.335		-.129	.897
	Inventory management technique	1.063	.087	.715	12.189	<.001

a. Dependent Variable: services quality
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### Interpretation

P-value of predictors is less than the cut-off value 0.050 with inventory management techniques. Therefore, the null hypothesis is rejected. Hence analysis revealed that inventory management techniques have a significance influence on service quality.

### FINDINGS

- In inferential analysis, ANOVA was carried out to determine if there is significant difference between work experience with respect to inventory management technique factors including Demand, Lead time, Storage space, Technology, Cost of inventory control.
- The Pearson correlation test was applied to examine the relationship between inventory management techniques and service quality. The results demonstrated a positive relationship, showing that these two elements are linked. It implies that organizations prioritize and foster inventory management techniques, which results in higher levels of organizational performance and organization effectiveness.
- A multiple regression test was performed to investigate the impact inventory management techniques and service quality, and the results were statistically significant. It indicates that has the potential to increase the service quality in the organization.

### CONCLUSION

In conclusion, this study aimed to investigate the impact of inventory management techniques on service quality measures at KIMS HEALTH Trivandrum, with the main objective of understanding the relationship between these variables. Through rigorous analysis and evaluation, the findings have established a clear connection between effective inventory management techniques and enhanced service quality. The implementation of proper inventory control systems has demonstrated significant improvements in various service quality indicators, including patient satisfaction, timely availability of medical supplies, enhanced operational efficiency and reduction in waiting times. These results highlight the importance of prioritizing efficient inventory management practices to ensure the delivery of high-quality healthcare services. By adopting advanced technology and automation, healthcare organizations can further optimize inventory management processes and drive continuous improvement in service quality outcomes.

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