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AN EMPIRICAL ANALYSIS OF THE RELATIONSHIP BETWEEN INVENTORY TURNOVER AND PROFITABILITY IN THE INDIAN AUTOMOBILE INDUSTRY

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ABSTRACT
In today's competitive automobile industry, managing inventory efficiently is essential for maintaining profitability and financial stability. Since inventory represents a large portion of working capital, poor management can lead to higher costs and reduced profits. This study explores the relationship between inventory management efficiency and financial performance with reference to Hyundai Motor India Limited (HMIL). The research uses both primary data collected from employees and secondary data from financial statements covering 2021–2024. Inventory turnover was used to measure efficiency, while profitability ratios reflected financial performance. The results show a clear positive relationship between better inventory management and improved profitability. The study emphasizes that inventory management is not just an operational task but a key strategic factor influencing financial success.

KEYWORDS: *Inventory Turnover, Inventory Management, Profitability, Financial Performance, Automobile Industry*

INTRODUCTION

The automobile industry is a highly competitive and capital-intensive sector that plays an important role in economic growth. In such an environment, efficient inventory management is essential for maintaining smooth production and financial stability. Since inventory requires significant investment, poor management can increase costs and reduce profitability. Financial performance, especially profit margins, is closely linked to how effectively a company manages its inventory. Hyundai Motor India Limited operates in a dynamic market with changing demand and supply chain challenges. Therefore, this study examines the relationship between inventory management efficiency and financial performance during the period 2021–2024

OBJECTIVES OF THE STUDY

1. To examine the level of inventory management efficiency at Hyundai Motor India Limited.
2. To analyze the trend in inventory turnover during the period 2021–2024.
3. To study the financial performance of HMIL using profitability ratios.
4. To evaluate the relationship between inventory management efficiency and financial performance.

REVIEW OF LITERATURE

The study by Hong Shen et al. (2016) analyzed inventory optimization in supply chain management. Through analytical models and performance evaluation, the research found that maintaining optimal inventory levels reduces holding costs and prevents production delays. The study concludes that balanced inventory control is essential for improving operational efficiency and profitability.

The study by Jose, Jayakumar, and Sijo (2013) examined the application of the Economic Order Quantity (EOQ) model in inventory management. The findings revealed that deviations from optimal ordering practices increase carrying costs and negatively affect financial performance. The study concludes that systematic inventory planning is critical for maximizing profitability.

The study by Gupta, Tewari, and Garg (2013) focused on selecting appropriate inventory policies in the automobile industry using a multi-criteria decision-making approach. The results showed that well-structured

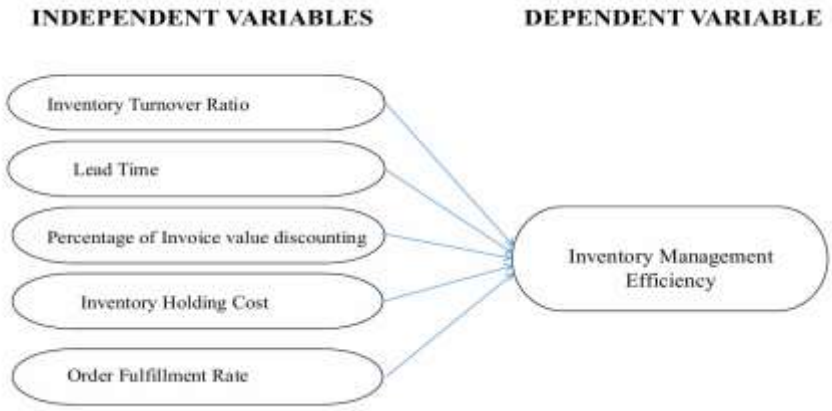
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inventory strategies significantly improve cost efficiency and operational performance. The study highlights the importance of strategic inventory policy selection in manufacturing firms.

The study by Sunitha K.V. (2012) explored inventory management practices and their influence on organizational efficiency. The findings indicated that maintaining proper inventory turnover enhances cash flow, reduces holding costs, and improves profit margins. The study concludes that effective inventory control directly contributes to better financial performance

THEORITICAL FRAMEWORK

THE CONCEPTUAL MODEL USED FOR THE STUDY



Interpretation

The independent variables inventory turnover ratio, lead time, invoice discounting, inventory holding cost, and order fulfillment rate—represent the key operational factors influencing inventory performance. These variables collectively determine the level of inventory management efficiency within the organization. Inventory management efficiency, as the dependent variable, reflects how effectively these operational factors are controlled to reduce costs, improve cash flow, and enhance overall financial performance.

RESEARCH DESIGN

This study adopts a descriptive and analytical research design to examine the relationship between inventory management efficiency and financial performance. The descriptive approach helps in understanding existing inventory practices and employee perceptions, while the analytical approach evaluates the statistical relationship between inventory turnover and profitability.

Both primary and secondary data were used in the study. Primary data were collected through a structured questionnaire administered to employees in finance, production, and supply chain departments. Secondary data were obtained from financial statements covering the period 2021–2024.

Statistical tools such as descriptive statistics and Pearson correlation analysis were applied to test the relationship between the variables and draw meaningful conclusions

ANALYSIS

Variable	Category	Frequency	Percentage (%)
Age	18–25	38	60.3
	26–35	14	22.2
	36–46	9	14.3
	46–60	1	1.6
	Above 60	1	1.6
	Total	**63**	**100**
Gender	Male	41	65.1
	Female	22	34.9
	Total	**63**	**100**
	Diploma	1	1.6

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Educational Qualification	Graduate	20	31.7
	Post Graduate	40	63.5
	Others	2	3.2
	Total	**63**	**100**
Occupation	Employee	31	49.2
	Manager	13	20.6
	Supervisor	11	17.5
	Logistics Staff	8	12.7
	Total	**63**	**100**
Monthly Income	Below ₹10,000	11	17.5
	₹10,001–20,000	5	7.9
	₹20,001–30,000	15	23.8
	₹30,001–40,000	12	19.0
	Above ₹40,000	20	31.7
	Total	**63**	**100**
Work Experience	Below 1 year	14	22.2
	1–3 years	18	28.6
	4–6 years	12	19.0
	Above 10 years	19	30.2
	Total	**63**	**100**

Interpretation

The majority of respondents (60.3%) are aged between 18 to 25 years, with males representing 65.1% of the sample. Most participants are postgraduates (63.5%), indicating a well-educated workforce. Nearly half of the respondents (49.2%) work as employees, followed by managers and supervisors. A significant proportion (31.7%) earn above ₹40,000 per month. Additionally, 30.2% have more than 10 years of work experience, reflecting valuable professional exposure

CORRELATION AND HYPOTHESIS ANALYSIS OF ALL VARIABLES

Correlations		**Inventory Turnover Ratio MEAN**	**Lead Time MEAN**	**Invoice Value Discounting MEAN**	**Inventory Holding Cost MEAN**	**Order Fulfillment Rate MEAN**
Inventory Turnover Ratio MEAN	Pearson Correlation	1	.636	.476	.188	.220
	Sig. (2tailed)		.000	.000	.140	.083
	N	63	63	63	63	63
Lead Time MEAN	Pearson Correlation	.636	1	.715	.398	.317
	Sig. (2tailed)	.000		.000	.001	.011
	N	63	63	63	63	63
Lead Time MEAN	Pearson Correlation	.476	.715	1	.557	.543
	Sig. (2tailed)	.000	.000		.000	.000
	N	63	63	63	63	63
Inventory Holding Cost MEAN	Pearson Correlation	.188	.398	.557	1	.467
	Sig. (2tailed)	.140	.001	.000		.000
	N	63	63	63	63	63
Order Fulfillment Rate MEAN	Pearson Correlation	.220	.317	.543	.467	1
	Sig. (2tailed)	.083	.011	.000	.000	
	N	63	63	63	63	63

MANAGERIAL IMPLICATION

1. Strengthen Inventory Monitoring: Regular evaluation of inventory turnover helps reduce excess stock and improve cost efficiency.
2. Reduce Lead Time through Supplier Coordination: Enhancing supplier relationships and adopting Just-in-Time practices can improve operational flow and minimize delays.
3. Optimize Holding Costs: Maintaining balanced inventory levels reduces storage expenses and prevents working capital blockage.
4. Improve Demand Forecasting: Using data-driven forecasting tools ensures better alignment between production and market demand.
5. Align Inventory with Financial Strategy: Integrating inventory management with working capital planning enhances liquidity and overall profitability.

FINDINGS

1. Inventory turnover ratio showed a consistent increase from 2021 to 2024.
2. Profitability ratios also exhibited a steady upward trend during the study period.
3. A strong positive correlation was found between inventory turnover and profitability.
4. Efficient inventory management reduced holding costs and improved liquidity.
5. Employees strongly agreed that inventory efficiency contributes to better financial performance.

CONCLUSION

The study establishes a significant and positive relationship between inventory management efficiency and financial performance at Hyundai Motor India Limited. Efficient inventory turnover enables better utilization of working capital, reduction in holding costs, and enhancement of profitability. The findings suggest that inventory management should be treated as a strategic financial function rather than a routine operational activity. By continuously optimizing inventory practices, automobile manufacturers can strengthen their competitive position and achieve sustainable financial growth.

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