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COST OPTIMIZATION USING ABC ANALYSIS IN TEXCOMS WORLDWIDE – COIMBATORE

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Keywords	***Abstract***
Inventory Management, ABC Analysis, Working Capital Optimization, Inventory Turnover, Cost Control, Obsolescence Management, Supply Chain Efficiency, Texcoms Worldwide, ERP Systems, Analytical Research.	Inventory management continues to be a strategic pillar of operational excellence and financial performance in the global supply chain environment.This study titled Enhancing Inventory Management Efficiency: An Analytical Study at Texcoms Worldwide‖ examines the current inventory control system of Texcoms Worldwide, a Coimbatore-based textile machinery trading firm. The primary aim is to assess the company's efficiency in managing spare parts, accessories, machinery components, and refurbished machines, identify areas of inefficiency, and recommend data-driven strategies for improvement. The research adopts a descriptive and analytical design, relying entirely on secondary data derived from the company's ERP system, financial reports, and industry benchmarks. Analytical tools such as ABC classification, inventory turnover ratio, cost structure analysis, and obsolescence review were applied to evaluate performance. The findings revealed a strong value concentration where 15% of SKUs represented 76% of total inventory value,

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	highlighting overstocking and weak differentiation in control mechanisms. The study also identified ₹6.95 lakhs worth of obsolete stock and excessive holding costs of 8% of total inventory value. Through systematic analysis and referencing of five recent 2025 studies, this paper integrates modern perspectives such as multi-criteria ABC analysis, digital automation, and working capital optimization. The study concludes that implementing differentiated control policies, supplier performance tracking, and ERP-based real-time monitoring tools will enable Texcoms Worldwide to reduce working capital blockage by ₹25–30 lakhs and improve overall financial efficiency. The results provide valuable insights for managers and researchers aiming to align inventory decisions with cost, sustainability, and technological readiness in the modern supply chain.

1. INTRODUCTION

In an increasingly competitive business environment, efficient inventory management has become essential for maintaining cost efficiency, liquidity, and operational continuity. Inventory represents a major portion of a company's working capital—especially in manufacturing and trading sectors—making its control a key determinant of profitability and sustainability.

Texcoms Worldwide ,a Coimbatore-based textilema chinerytrading firm,deal swith over 260 SKUs worth ₹1.91 crores. The company's inventory consists of spare parts, accessories, machinery components, and refurbished machines. Managing this broad product mix poses unique challenges, including high capital lock-in, long lead times, and obsolete stock accumulation.

This study focuses on analyzing the company's existing inventory management system, evalu atingits performance using ABC analysis and turn over ratios,and recommending strategies to improve cost efficiency and operational performance. The paper aligns with modern approaches in inventory management that emphasize data analytics, automation, and sustainability-driven decision-making.

2. OBJECTIVESOFTHESTUDY

PrimaryObjectives:

1. ToanalyzethecurrentinventorymanagementpracticesatTexcomsWorldwide.
2. To identify challenges in handling refurbished machinery stock and slow-moving items.
3. To apply analytical tools like ABC classification and inventory turnover ratio to identify inefficiencies.
4. To recommend strategies for optimizing inventory costs and improving working capital utilization.
5. To integrate modern digital and analytical methods for enhanced decision-making.

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3. REVIEW OF LITERATURE

1.Holloway (2025)–Inventory Management as a Key Driver of Sustainability

This study emphasizes the integration of environmental and financial goals in inventory management. It shows that sustainable practices, such as waste reduction and obsolete stockre cycling,contribute to long-term profitability. Relevance: Texcoms can implement sustainable inventory policies to minimize waste from obsolete machinery parts.

2.**Grützner, Voss & Breitner (2025)-**Mature Inventory Management for Supply Chain AutomationThe authors propose a multi-criteria ABC model combining consumption value, lead time,and obsolescence risk for modernized control. Relevance:Texcoms'analysisalignswiththisapproachbyintegratingABCclassification and turnover data for enhanced prioritization.

3.**To robaetal. (2025)–**Inventory Practices and Financial Performance

This study found a direct correlation between scientific inventory management and financial performance in trading sectors. Relevance: Texcoms' working capital issues can be addressed by applying systematic inventory control to improve liquidity.

4.**Alsoussi & Tahboub (2025)–**Inventory Challenge sin SMEs

The research highlights that small and medium-sized firms often lack digital tools forreal-time tracking and control. Relevance: Texcoms should adopt ERP-integrated dashboards for automated monitoring of stock levels and lead times.

5.**Katta & Swetha (2025)–**ModernMethodsinInventoryControl

This paper explores how techniques such as JIT, EOQ, and ABC help in achieving balance between cost and service efficiency. Relevance: Texcoms can adapt EOQ and reorder point calculations to optimize procurement cycles and prevent over stocking.

4. RESEARCHDESIGNANDMETHODOLOGY

Research Design:

A descriptive and analytical research design was adopted to examine the currentinventory system of Texcoms Worldwide. The study relies solely on secondary data, including ERP inventory reports, financial statements, and industry benchmarks.

Nature of Study:

Applied research focused on solving a real-world business problem—enhancinginventory management efficiency in a trading context.

Data Sources:

- Internal Sources: ERP data on stock value, SKU details, and consumption patterns.
- External Sources: Industry journals, research papers, and bench mark reports.

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Tools of Analysis:

- ABCClassification–Categorizinginventorybasedonannualconsumptionvalue.
- Inventory Turnover Ratio (ITR)–Measuring efficiency of inventory utilization.
- Cost Structure Analysis–Evaluating holding, ordering, and shortage costs.
- Obsolescence Review–Identifying non-moving stock and assessing impact.
- Financial Modeling–Estimating potential savings from optimization.

All data were analyzed using Microsoft Excel, pivot tables, and statistical validation. Ethical confidentiality was maintained.

5. DATAANALYSISANDINTERPRETATION

Inventory Summary

Category	Subcounty	Total Value(₹)	%ofTotalValue
Spares	120	56,25,000	29.5%
Accessories	85	24,00,000	12.6%
Machinery Parts	40	40,50,000	21.2%
RefurbishedMachines	15	70,00,000	36.7%
Total	260	1,90,75,000	100%

Interpretation:

Refurbishedmachinesrepresentonly5.8%oftotalSKUsbut36.7%oftotalvalue,revealing high capital lock-in and liquidity constraints.

ABC Classification

Class	%of SKUs	Value (₹)	%ofTotalValue
A	15%	1,45,00,000	76%
B	25%	35,00,000	18%
C	60%	10,75,000	6%

Interpretation:

A-class items, though limited in number, dominate inventory value, confirming Pareto's 80/20 rule. These items require continuous monitoring, precise demand forecasting, and supplier coordination.

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Inventory Turnover Ratio

Class	Turnover Ratio	Industry Benchmark	Performance Gap
A	4.0	6–8	-33%
B	2.0	4–6	-50%
C	0.5	2–3	-75%

Interpretation:

All classes how turn over belowbenchmarks, confirmingexcessinventoryandpoor rotation. C-class items show stagnation and high obsolescence risk.

Cost Structure Analysis

CostComponent	AnnualCost(₹)	%ofInventoryValue
HoldingCost	15,26,000	8.0%
OrderingCost	3,75,000	2.0%
ShortageCost	2,10,000	1.1%
Total	21,11,000	11.1%

Interpretation:

Holding costs formthe largest expense component, accounting for 72% oftotal inventory costs. A 20% reduction in average inventory could save approximately ₹3–4 lakhs annually.

Obsolete Inventory

ObsoleteInventory	Obsolete Inventory	Obsolete Inventory	Obsolete Inventory	Obsolete Inventory
ObsoleteInventory	Obsolete Inventory	Obsolete Inventory	Obsolete Inventory	Obsolete Inventory
ObsoleteInventory	Obsolete Inventory	Obsolete Inventory	Obsolete Inventory	Obsolete Inventory

Interpretation:

Obsolete stock (3.6% of total inventory value) leads to ₹1.39 lakhs in annual holding and opportunity losses, indicating lack of periodic disposal policies.

6. FINDINGS

1. High concentration of value within limited SKUs(A-class=76%ofvalue).
2. Lowturnoverratiosacrossallcategoriescomparedtoindustrystandards.
3. C-class inventory showing severe stag nation and slow movement.
4. Obsoletestockworth₹6.95lakhsremainsunrecovered.
5. Annualholdingcostof8%reducingprofitability.
6. Uniformcontrolmechanismsappliedacrossallitemswithoutclassification.

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7. Lack of ERP-based automation for continuous inventory monitoring.
8. Workingcapitalof₹25–30lakhsblockedinexcessiveinventory.

7. SUGGESTIONS

1. Implement ABC -Based Inventory Control: Apply strict monitoring for A-class items and simplified methods for C-class.
2. Introduce Obsolescence Policy: Review stagnant stock quarterly and liquidate obsolete items.
3. Adopt EOQ and ROP Models: Optimize reorder level sand procurement frequency.
4. Use Technology: Integrate Power Bior ERP dash boards for real- time visibility.
5. Supplier Evaluation System: Measure lead times and quality performance.
6. Cross-Functional Coordination: Align finance and operations to balance working capital goals.
7. Continuous Training: Conduct staff workshop son inventory analytics and cost management.

8. CONCLUSION

The study concludes that Tex coms World wide's inventory system suffers from overstocking, weak turnover, and high holding costs. By applying structured analytical tools such as ABC Analysis, EOQ, and turnover benchmarking, and by adopting digital automation and monitoring systems, the company can substantially improve its working capital efficiency and profitability. Efficient inventory management not only optimizes operational flow but also strengthens long-term financial performance, positioning Tex coms Worldwide as a competitive player in India's textile machinery market.

9. AUTHOR(S) CONTRIBUTION

The writers affirm that they have no connections to, or engagement with, any group or body that provides financial or non-financial assistance for the topics or resources covered in this manuscript.

11. CONFLICTS OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

12. PLAGIARISM POLICY

All authors declare that any kind of violation of plagiarism, copyright and ethical matters will take care by all authors. Journal and editors are not liable for aforesaid matters.

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