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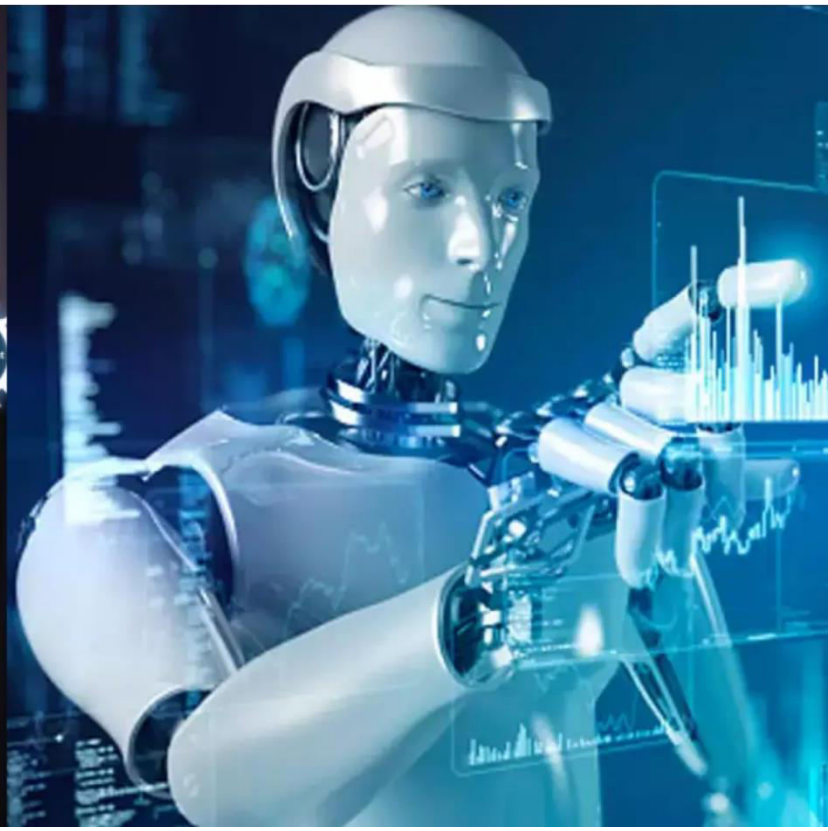
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A Study of Warehouse and Inventory Management Practices at CBG Logistics, Chennai

Ajeema M[1], Afra Sharjana M J[2]

II MBA, Department of Management Studies, Mohamed Sathak Engineering College, Kilakarai, Tamil Nadu, India[1]

Assistant Professor, Department of Management Studies, Mohamed Sathak Engineering College, Kilakarai, Tamil Nadu, India[2]

ABSTRACT: Warehouse and inventory management strategies are critical to logistics operations, influencing efficiency, cost control, and customer satisfaction levels. This research investigates warehouse and inventory management procedures at CBG Logistics in Chennai, evaluating how employees view warehouse operations and warehouse-inventory coordination. Primary data were collected from 105 employees and analysed using percentage analysis, the Chi-square test, and correlation analysis. Employees see warehouse operations as methodically planned, and they believe that warehouse-inventory coordination increases efficiency. There is no significant relationship between gender and perception of planning, or between work experience and perception of coordination.

KEYWORDS: warehouse management, inventory management, logistics operations, inventory control, operational efficiency.

I. INTRODUCTION

Effective supply chain management is essential to an organization's success in the cutthroat business world of today. Warehouse and inventory management are important operational tasks that influence productivity, cost containment, and customer satisfaction. Inventory management maintains ideal stock levels to satisfy demand, while warehouse management guarantees appropriate material movement and storage. This study examines the current inventory and warehouse management procedures at CBG Logistics in Chennai and assesses their efficacy.

II. STATEMENT OF THE PROBLEM

Due to inadequate storage methods, erroneous inventory records, a lack of departmental coordination, and a restricted use of contemporary technology, many businesses still struggle to efficiently handle warehouse and inventory activities. These inefficiencies result in poorer production, stock inconsistencies, delays, and increased expenses. This research looks at CBG Logistics, Chennai's current inventory and warehouse management procedures and evaluates how these problems impact overall operational performance.

III. OBJECTIVES OF THE STUDY

1. To examine Chennai's CBG Logistics' current warehouse management procedures.
2. To evaluate inventory management techniques and stock handling rules used by the company.
3. To ascertain how inventory control methods relate to warehouse management.
4. To identify CBG Logistics, Chennai's inventory and warehouse management issues.

IV. SCOPE OF THE STUDY

This research looks at current warehouse management methods and inventory practices, such as stock control and record keeping. It investigates the relationship between warehouse operations and inventory management, identifies major issues, examines employee perceptions of present systems, and proposes solutions to improve operational efficiency.

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V. LIMITATIONS OF THE STUDY

1. Because the study only looks at one company, its conclusions might not be applicable to other businesses or sectors.
2. The study is based on employee opinions, which might be biased.
3. Time constraints limited the breadth and depth of the study.

VI. REVIEW OF LITERATURE

- In "Technology Integration in Warehouse Operations" (International Journal of Warehouse Management), Fernandez and Roy (2022) discovered that integrating WMS, IoT, and automated tracking significantly reduces picking mistakes and increases throughput.
- In "Advanced Inventory Tracking Technologies in Third-Party Logistics" (Journal of Transportation and Logistics Innovations), Patel and Singh (2022) discovered that real-time tracking techniques including barcode scanning, RFID tagging, and ERP connections increase inventory accuracy and reduce inconsistencies.
- Strategic layout design and methodical material handling significantly improve storage utilisation and order fulfilment efficiency, according to Sharma and Rao (2023) in "Warehouse Layout Optimisation and Inventory Flow in Modern Logistics Firms" (International Journal of Logistics and Supply Chain Management).
- In "AI-Driven Warehouse Management Systems for Operational Efficiency" (International Journal of Advanced Logistics Systems), Kumar and Arora (2025) discovered that using AI in warehouse operations improves decision-making accuracy, storage allocation, and demand forecast.

COMPANY PROFILE

Leading logistics company CBG Logistics, located in Chennai, offers distribution, inventory control, and warehousing services for a variety of product categories. Its operations include a wide range of distribution and storage requirements, making it an ideal place to study operational effectiveness and warehouse and inventory management issues.

VII. RESEARCH METHODOLOGY

Research Design

To provide a thorough, accurate picture of CBG Logistics' inventory and warehouse management procedures as well as employee perceptions, a descriptive design was used.

Source of Data

A systematic questionnaire administered to CBG Logistics personnel in Chennai provided the primary data. Journals, websites, and other published sources were the sources of secondary data.

Example of a Plan

Convenience sampling was used to choose a sample of 105 respondents (n) from a total population (N) of 122 employees, which was thought to be sufficient to represent the population given the time and resource constraints.

Research Period

The study was conducted between January and April of 2026 for a total of four months.

Data Analysis Tools

The following statistical methods were used to analyse the collected data:
1. Percentage Analysis
2. The Chi-Square Test
3. Coefficient of Correlation

Percentage Analysis

Demographic information and general response trends were categorised and summarised using percentage analysis

$$Percentage = \frac{No.of\ Respondents}{Total\ No.of\ Respondents} \times 100.$$

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Chi-Square Test

The Chi-Square test was applied to compare observed and expected results and examine association between categorical variables.

$$\chi^2 = \frac{\sum (Oi - Ei)^2}{Ei}$$

Correlation Coefficient

The correlation coefficient was used to establish a relation between predicted and actual values, indicating the strength and direction of a relationship.

$$r = \frac{n\sum XY - \sum X \sum Y}{\sqrt{[n\sum X^2 - (\sum X)^2][n\sum Y^2 - (\sum Y)^2]}}$$

VIII. DATA ANALYSIS AND INTERPRETATION

Data analysis is organising and reviewing acquired data methodically in order to answer research questions. At CBG Logistics, employee impressions of warehouse and inventory management techniques are interpreted using percentage analysis, Chi-square, and correlation.

Table 1: Gender of Respondents

Particulars	No. of Respondents	%
Male	67	63.8
Female	38	36.2
Total	**105**	**100**

Source: Primary Data

Interpretation: Male employees predominate in the workforce, as evidenced by the majority of respondents (63.8%).

Table 2: Work Experience

Particulars	No. of Respondents	%
Below 1 year	11	10.5
1–3 years	33	31.4
3–5 years	40	38.1
Above 5 years	21	20.0
Total	**105**	**100**

Source: Primary Data

Interpretation: The workforce has a strong degree of experience, as seen by the majority of respondents (38.1%) having three to five years of work experience.

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Table 3: Warehouse Operations Systematically Planned

Particulars	No. of Respondents	%
Strongly Agree	30	28.6
Agree	39	37.1
Neutral	16	15.2
Disagree	13	12.4
Strongly Disagree	7	6.7
Total	**105**	**100**

Source: Primary Data

Interpretation: The majority of respondents (37.1%) and strongly agree (28.6%) that warehouse operations are planned and carried out methodically.

Table 4: Warehouse–Inventory Coordination Improves Efficiency

Particulars	No. of Respondents	%
Strongly Agree	29	27.6
Agree	34	32.4
Neutral	22	21.0
Disagree	11	10.5
Strongly Disagree	9	8.6
Total	**105**	**100**

Source: Primary Data

Interpretation: Warehouse-inventory coordination increases efficiency, according to the majority (32.4%) and strongly agree (27.6%).

IX. CHI-SQUARE TEST

Relationship Between Gender and Warehouse Operations Systematically Planned
Null Hypothesis: H0:
There is no significant relationship between gender and warehouse operations being systematically planned.

Alternative Hypothesis: H1:
There is a significant relationship between gender and warehouse operations being systematically planned.

Table 5: Observed Frequency – Gender × Warehouse Operations Systematically Planned

Gender	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Male	22	27	6	8	4	67
Female	8	12	10	5	3	38
Total	**30**	**39**	**16**	**13**	**7**	**105**

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Source: Primary Data

Table 6: Expected Frequency – Gender × Warehouse Operations Systematically Planned

Gender	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Male	19.1	24.9	10.2	8.3	4.5	67.0
Female	10.9	14.1	5.8	4.7	2.5	38.0
Total	**30**	**39**	**16**	**13**	**7**	**105**

Source: Primary Data

Formula:

$$\chi^2 = \frac{\sum (Oi - Ei)^2}{Ei}$$

Degrees of freedom = (R−1)(C−1) = (2−1)(5−1) = 4.
Calculated value (Pearson Chi-Square) = 6.634, p = 0.157.
Since p > 0.05, H0 is accepted.

Interpretation: Male and female employees have similar perceptions of warehouse operations, since there is no significant correlation between gender and the methodical planning of warehouse operations. The results should be viewed cautiously because 30% of cells had predicted counts less than 5.

X. CORRELATION COEFFICIENT

Relationship Between Work Experience and Warehouse–Inventory Coordination Improves Efficiency

Table 7: Work Experience × Warehouse–Inventory Coordination Improves Efficiency – Cross Tabulation

Work Experience	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Below 1 year	5	2	2	2	0	11
1–3 years	12	9	5	3	4	33
3–5 years	7	16	10	3	4	40
Above 5 years	5	7	5	3	1	21
Total	**29**	**34**	**22**	**11**	**9**	**105**

Source: Primary Data

Formula:

$$r = \frac{n\sum XY - \sum X \sum Y}{\sqrt{[n\sum X^2 - (\sum X)^2][n\sum Y^2 - (\sum Y)^2]}}$$

Pearson's R = 0.082 (p = 0.408); Spearman Correlation = 0.109 (p = 0.270).

Interpretation: Work experience and improved efficiency through warehouse-inventory coordination have a very modest positive link, according to the Pearson and Spearman correlation values. Both significance values are higher than 0.05, indicating that the variables do not have a statistically significant association.

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XI. FINDINGS

- Half of responders (63.8%) are male.
- One-third of respondents (38.1%) had 3-5 years of experience, indicating a reasonably experienced workforce.
- The majority of respondents (65.7%) believe that warehouse activities are planned and conducted methodically.
- Most responders (60%) believe that warehouse-inventory coordination improves operational efficiency.
- Gender has no significant impact on warehouse operations being systematically planned ($\chi^2 = 6.634$, df = 4, p = 0.157).
- Work experience has no significant link with increased warehouse-inventory coordination efficiency (r = 0.082, p = 0.408).

XII. SUGGESTIONS

1. To reduce congestion, CBG Logistics should increase warehouse capacity utilisation through vertical storage and enhanced layout planning.
2. The corporation can improve warehouse layouts using scientific approaches such as ABC analysis to speed up material transportation.
3. Barcode and RFID usage is critical for accurate, real-time inventory tracking and fewer mistakes.
4. A Warehouse Management System (WMS) helps reduce human mistakes while increasing inventory visibility.
5. Employees should get frequent training in handling, safety, and system operation.
6. ERP systems may promote strong interdepartmental cooperation, resulting in easy communication.
7. Effective scheduling and workflow planning may reduce material handling delays while increasing productivity.

XIII. CONCLUSION

The research of warehouse and inventory management procedures at CBG Logistics in Chennai reveals a rather organised, methodical operational approach, with employees agreeing that warehouse-inventory coordination increases efficiency. These impressions are not greatly influenced by gender or job experience. Advanced technology, greater coordination, optimised warehouse architecture, and stronger inventory management may all contribute to operational excellence and long-term success.

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