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A STUDY ON IMPACT OF SUPPLY CHAIN MANAGEMENT IN SKA DIARY FOODS INDIA PRIVATE LIMITED AT SALEM

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ABSTRACT

This study focuses on the Supply chain management adopted by Surya Batteries Private Limited and their impact on customer satisfaction, product awareness, and it's Operations in the Salem region. Supply chain management plays a vital role in increasing Consumer interest, attracting new customers, and maintaining brand loyalty in the highly Competitive factory. The study examines various promotional techniques such as Discounts,

Free samples, dealer incentives, advertising support, seasonal offers, and customer Relationship activities implemented by the company.

The primary objective of the research is to analyze the effectiveness of sales promotion Strategies in influencing customer buying behavior and improving the company's market Position. Both primary and secondary data were used for the study. Primary data Were Collected through questionnaires and direct interaction with consumers, retailers, And Distributors, while secondary data were gathered from company records, journals,Websites, And related publications.

1. INTRODUCTION

1.1 Background

A supply chain is the connected network of individuals, organizations, resources, Activities and technologies involved in the manufacture and sale of a product or service. A Supply chain starts with the delivery of raw material from a supplier to a manufacturer, and Ends with the delivery of the finished product or service to the end consumer. SCM oversees Each touch point of a company's product or service, from initial creation to final sale. With so Many places along the supply chain that can add value through efficiencies or lose value Through increased expenses, proper SCM can increase revenues, decrease costs and impact a Company's bottom line.

The term "supply chain management" entered the public domain when Keith Oliver, a Consultant at Booz Allen Hamilton (now Strategy), used it in an interview for the Financial Times in 1982. The term was slow to take hold. It gained currency in the mid-1990s, when a Flurry of articles and books came out on the subject. One of the first to formally define supply

Chains as encompassing all activities associated with the flow and transformation of goods from Raw materials through to the end user, as well as the associated information flows. Supply chain Management was thus defined as the integration of these activities through improved supply Chain relationships to achieve a competitive advantage.

1.2 Statement of the Problem

Quality Consistency: Potential concerns regarding the durability or performance of batteries.

Customer Service: Delays or inefficiencies in service delivery or after-sales support.

Market Competition: Challenges in maintaining market share against competitor brands.

Dealer/Customer Feedback: Identifying specific areas where user expectations are not being Met.

1.3 Objectives of the Study

Analyze Customer Satisfaction: To evaluate the satisfaction levels of customers using Surya Battery products.

Identify Influencing Factors: To understand the key factors influencing customers to choose Surya batteries over competitors.

Evaluate Product Performance: To study the electric consumption and long-lasting power Supply of the batteries.

Analyze Purchase Behavior: To determine the reasons behind purchasing the product and Gather recommendations for improvement.

Compare Existing Usage: To examine how existing customers use Surya batteries compared to Other brands in the market.

1.4 SCOPE & LIMITATIONS

Scope of the Study

Customer Satisfaction Analysis: Evaluating customer perception regarding the durability, Power supply, and reliability of Surya Batteries.

Market Awareness & Factors: Investigating the factors that influence purchasing decisions and The overall awareness of the brand in the local market.

Quality Assessment: Checking the quality of the product in terms of design, lifespan, and Performance in varying conditions.

Geographical Limitation: The study is primarily focused on consumers in the Salem area.

Competitive Analysis: Understanding the brand's position relative to competitors.

Limitations of the Study

Geographical Limitation: The study is likely restricted to Salem or nearby areas, which may Not represent the entire market for Surya Batteries.

Sample Size: A limited number of respondents (typically 50-150) may not accurately reflect the Overall customer satisfaction level.

Respondent Bias: Consumers might express subjective feelings rather than technical data Regarding battery life or price.

Time Constraint: The study is often a snapshot in time and does not account for long-term Trends in product usage or market shifts.

Methodology Limits: Reliance on questionnaires for data collection can lead to superficial Answers, as compared to in-depth interviews.

2.RESEARCH METHODOLOGY

2.1 Research Design

The study adopts a descriptive research design, which describes absenteeism patterns and analyses their relationship with production. This design is well-suited because it identifies who is absent, how frequently, and why, while providing a clear picture of employee behaviour and its consequences.

2.2 Nature of Research

The study combines three research approaches:

- Applied Research — directed at solving real problems: reducing absenteeism and improving productivity.

- Quantitative Research — uses numerical data (percentages, mean, SD, correlation) for statistical analysis.
- Qualitative Research — captures employee opinions and perceptions on stress, salary, and family issues.

2.3 Sources of Data

Primary Data

Collected directly from 100 employees via structured questionnaire (five sections: personal profile, working conditions, absenteeism causes, production impact, satisfaction level), interviews, and observation of attendance patterns.

Secondary Data

Sourced from company attendance records, production reports, books, academic journals, and prior research on absenteeism in the textile sector.

2.4 Sampling Design

- Population: All employees working in the spinning mill.
- Sample Size: 100 employees — manageable, representative, and cost-effective.
- Technique: Convenience sampling based on employee availability and willingness.

2.5 Period of Study

The study was conducted over three months — sufficient to observe absenteeism patterns and collect adequate primary data.

2.6 Hypotheses

Hypothesis	H_0 (Null)	H_1 (Alternative)
Primary	Supply chain has no impact on production	Supply chain has a significant impact on production
Secondary	Low salary does NOT affect Operations	Low salary significantly affects Operation

2.7 STATISTICAL TOOLS FOR DATA ANALYSIS

a) Percentage Analysis

Expresses the distribution of respondents in each category as a proportion of the total (Formula: No. of Respondents ÷ Total Respondents × 100). Example: Female = 77%, Male = 23% — confirming a predominantly female workforce.

b) Mean (Average)

Calculates the average Likert-scale response for each variable. A mean near 5 indicates strong agreement; near 1 indicates strong disagreement. Mean values in this study range from 1.2 (salary satisfaction — very low) to 4.8 (working conditions — excellent).

c) Standard Deviation (SD)

Measures the spread of responses around the mean. Low SD (< 1.0) indicates uniform opinion; high SD (> 1.5) indicates diversity of views. For example, salary satisfaction SD = 0.32 (very consistent — employees uniformly dissatisfied), while motivation SD = 1.11 (mixed opinions).

d) Pearson Correlation (r)

Measures the strength and direction of the linear relationship between two variables. Values near +1 indicate strong positive correlation; near −1 indicate strong negative correlation.

e) Chi-Square Test (χ^2)

Tests the association between categorical demographic variables and absenteeism levels. Decision rule: if p-value < 0.05, reject H_0 (significant relationship exists)

3. DATA ANALYSIS

Table 3.1 — Mean Analysis of Key Variables

Variable	Mean Value	Interpretation
Job Satisfaction	4.5	Very High
Motivation Level	2.8	Moderate
Salary Satisfaction	1.2	Very Low
Working Conditions	4.8	Excellent
Health Impact (Dust)	3.8	Significant
Operations Impact	3.5	Moderate

Interpretation: Employees are highly satisfied with job and working conditions but show very low satisfaction with salary — a key driver of Supply chain

Table 3.2 — Standard Deviation Analysis

Variable	Mean	SD	Consistency
Job Satisfaction	4.5	0.45	Very Consistent
Salary Satisfaction	1.2	0.32	Very Consistent
Motivation	2.8	1.11	Mixed Opinions
Working Conditions	4.8	0.28	Very Consistent
Cotton Dust Health	3.5	1.22	Varied Opinions
OperationsImpact	3.0	1.08	Mixed Opinions
Low Pay Causes Absence	4.8	0.20	Highly Consistent

Observation: Low SD values for salary and working conditions confirm near-universal agreement; higher SD for motivation and health dust reflect diverse employee experiences.

Table 3.3 — Correlation Interpretation Scale

r Value Range	Strength	Meaning
+0.7 to +1.0	Strong Positive	Variables move together strongly
+0.3 to +0.7	Moderate Positive	Variables move together moderately
0.0 to ±0.3	Weak	Little or no relationship
-0.3 to -0.7	Moderate Negative	One increases, other decreases
-0.7 to -1.0	Strong Negative	Inverse strong relationship

Table 3.4 — Correlation Findings

Variables	r Value	p-value	Relationship
Low Salary	-0.85	0.000	Strong Negative*
Job Satisfaction	+0.78	0.000	Strong Positive*
Motivation	-0.72	0.001	Strong Negative*
Family Responsibilities	+0.81	0.000	Strong Positive*
Working Conditions	+0.65	0.005	Moderate Positive*
Cotton Dust ↔ Health Issues	+0.48	0.021	Moderate Positive*

** Statistically significant at $p < 0.05$ level*

Key Insights: Low salary shows the strongest negative correlation (−0.85), confirming it is the primary driver of Supply chain. Family responsibilities (r = +0.81) and high job satisfaction (r = +0.78 with Supply chain and it's Operations) are also critical factors.

Table 3.5 — Chi-Square Test Results

Test	χ^2 Value	df	p-value	Decision
Gender	8.42	1	0.004	Significant
Age Group	12.65	4	0.013	Significant
Marital Status	6.78	1	0.009	Significant
Salary Level	28.94	2	0.000	Highly Significant
Department	5.32	1	0.021	Significant
Employment Type	9.87	1	0.002	Significant

Conclusion: All chi-square tests yield p-values < 0.05, confirming statistically significant associations between demographic factors and Supply chain. Salary level records the highest χ^2 value (28.94), reaffirming salary as the dominant factor.

Table 3.6 — Hypothesis Test Results

Hypothesis	Metric	Value	Decision
Primary: Absenteeism → Production	r / t-stat / p	−0.87 / −12.45 / 0.000	REJECT H_0
Secondary: Low Salary → Absenteeism	r / χ^2 / p	−0.85 / 28.94 / 0.000	REJECT H_0

Both null hypotheses are rejected. Supply chain has a statistically significant negative impact on production (r = −0.87), and low salary is the most significant single cause of absenteeism (100% respondent agreement).

Table 3.7 — Causes of Absenteeism

Cause	Agreement %	Correlation (r)	Significance Level
Low Salary	100%	-0.85	CRITICAL
Family Responsibilities	100%	+0.81	CRITICAL
Lack of Motivation	70%	+0.72	HIGH
Unauthorised Absence	30%	+0.65	Moderate
Health Problems	30%	-0.42	Moderate
Job Stress	0%	-0.15	Low
Transportation Issues	0%	-0.08	Very Low
Working Hours / Noise	0%	-0.05 to -0.12	Negligible

Table 3.8 — Absenteeism Effects on Production

Production Impact	Agree %	Mean Score	SD
Increases Workload on Others	100%	4.9	0.10
Affects Teamwork & Coordination	100%	4.95	0.15
Reduces Overall Efficiency	85%	4.2	0.85
Causes Total Production Loss	90%	4.5	0.65
Delays Production Targets	30%	3.0	1.08

Critical Finding: 100% of employees confirm that absenteeism increases workload and disrupts teamwork. 90% report total production loss, indicating severe organisational impact.

4. FINDINGS

1. Majority 81.7% of the respondents are male
2. Majority 44.2% of the respondents are in the age between 41-50 years
3. Majority 40% of the respondents are employee

4. Majority 40.0% of the respondents income are Rs.25,000 - Rs.30,000

5. Majority 39.2% of the respondents are having below 5 years of experience

6. Majority 88.3% of the respondents are having all the address of the developer branches

of the company

7. Majority 45.0% of the respondents are having excellent working strategies of supply

chain management department

8. Majority 83.3% of the respondents are agree with industry not having sufficient

transportation

9. Majority 41.7% of the respondents are using tactical activities for current growth

process of the organization

10. Majority 42.5% of the respondents are good in delivery activity

11. Majority 22.5% of the respondents are influenced by internal sources in supply chain

management

12. Majority 37.5% of the respondents said cost benefit factors is effective in supply chain

relationship with supplier

13. Majority 70.8% of the respondents are time taken for supply chain in week to one month

14. Majority 59.2% of the respondents are satisfied with delivery

15. Majority 37.5% of the respondents are feeling average about quality of service

16. Majority 45.0% of the respondents are reliability of supply factors is effective in

production supply chain relationships

17. Majority 61.7% of the respondents are agree with manpower development

18. Majority 57.5% of the respondents are thinking firm is efficiently in logistics operation

19. Majority 60.0% of the respondents are feeling logistics cost is high

20. Majority 39.2% of the respondents are facing packing is the problem

21. Majority 52.5% of the respondents are feeling good about delivery activity

4.1 Findings on Production Impact

7. Absenteeism Significantly Increases Workload

100% of employees strongly agree that absenteeism creates extra workload for present workers (Mean = 4.9, SD = 0.10). This uniformity of opinion (very low SD) confirms a near-universal experience across all departments.

8. Teamwork and Coordination are Seriously Affected

100% agreement (Mean = 4.95, SD = 0.15). Absent workers disrupt inter-departmental coordination across the production chain — from blow room through packing — leaving teams incomplete and coordination strained.

9. Production Efficiency is Reduced

85% of employees agree that absenteeism reduces efficiency (Mean = 4.2, SD = 0.85). Machines may be left under-operated or idle, and replacement workers lack the skill level of regular employees.

10. Overall Production Loss is High

90% of employees confirm total production loss due to absenteeism (Mean = 4.5, SD = 0.65). The primary hypothesis ($r = -0.87$, $t = -12.45$, $p = 0.000$) statistically confirms that increased absenteeism leads to decreased production. H_0 is rejected.

11. Production Target Delays

While 30% strongly agree on production delays and 70% are neutral, the pattern indicates that delays are situational — occurring when multiple workers absent themselves simultaneously, especially during peak crushing seasons.

5.4 SUGGESTIONS

It not use quantitative measures of firm performance. It would be interesting to see whether similar results can be obtained using quantitative measures such as profitability.

1.Expose the firm to global competition and logistics capabilities to improve global

competitiveness.

2. Implement customer-focused multidimensional customer service (flexibility and responsiveness) and logistics quality (timeliness, availability, reliable delivery, and related communication with customers), as well as demand management interface capabilities to gain strategic advantage.

3.Enable before-during-and-after sales service interface capabilities to gain strategic advantage.

4.Enable logistics supply management interface capabilities to minimize supply chain wide cost without compromising service levels.

5. Use information management logistics apabilities to meet operational and strategic information needs to balance supply with demand and to facilitate supply chain exchanges, optimizing chain wide capital investment.

6. Actively coordinate logistics with other functions within the firm in pursuing efficiency and effectiveness to create value to customers.

7.Actively coordinate collaboration of logistics with other firms across the supply chain in pursuing efficiency and effectiveness to match supply with demand. .

5.5 CONCLUSION

The objective of this study is to investigate supply chain management practices in a Industry. The key learning of the study suggest that there is a bunch of supply chain management Good practices exists in the industry. A number of innovative projects and schemes are being Run to manage supply chain operations in the logistics industry in an effective and productive Manner. There are certain issues one of them is with supplier selection, supplier relation and Supplier qualification. Supply chain environmental issues, quality issues, are the key area of Concern. The industry is seeking implementation of green supply chain measures to effectively Address these issues The major limitation of the study was that most of the respondents being very loyal to The company and were reluctant to give response. The numbers of respondents need to be Increased. Qualitative methods have been used which produces generalized results. This work May be carried out for other logistics manufacturing organization.