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A STUDY ON PRODUCTION, INVENTORY CONTROL, PROCUREMENT, DISTRIBUTION, AND THEIR INTERRELATIONSHIP AT RR LATEX LTD, NAGARCOIL, TAMILNADU

Kartick R¹ Dr. Moli Ghosh²

¹MBA Student, School of Management Studies,
Sathyabama Institute of Science and Technology, Chennai, Tamil Nadu, India

²Assistant Professor, School of Management Studies,
Sathyabama Institute of Science and Technology, Chennai, Tamil Nadu, India

ABSTRACT

This study examines the intricacies of production, inventory control, procurement, and distribution processes at RR Latex Ltd, a leading manufacturer of latex products. Through a comprehensive analysis, it explores the interrelationship between these vital functions and their impact on the company's operational efficiency and competitive advantage.

The production section investigates RR Latex Ltd.'s manufacturing processes, highlighting efficiency, capacity utilization, and challenges encountered. Inventory control practices are examined, focusing on inventory levels, turnover rates, and strategies for optimization. The procurement segment delves into sourcing raw materials and managing supplier relationships, while the distribution aspect evaluates the company's distribution network and logistics management.

By analysing the interplay between these functions, this study identifies key dependencies and the ripple effects of changes in one area on others. Challenges faced by RR Latex Ltd are discussed, along with opportunities for improvement and growth. Recommendations are provided for enhancing efficiency, reducing costs, and leveraging technology to optimize operations.

This study underscores the importance of integrating production, inventory control, procurement, and distribution functions for achieving organizational goals and maintaining competitiveness in the market.

INTRODUCTION

In the contemporary global market, efficient operations management is pivotal for the success and sustainability of manufacturing enterprises across diverse industries. This holds particularly true for companies involved in the production of critical medical supplies such as surgical gloves. Among these companies, RR Latex Ltd., situated in Nagercoil, Tamil Nadu, stands out as a prominent player dedicated to meeting the stringent demands of the healthcare sector.

The production of surgical gloves involves a complex interplay of various operational functions including production, inventory control, procurement, and distribution. Each of these functions is intricately linked, forming the backbone of RR Latex Ltd.'s operations. Understanding and optimizing these operational processes is essential not only for ensuring the timely delivery of high-quality products but also for maintaining competitiveness in the marketplace.

This study aims to delve into the operational dynamics of RR Latex Ltd., focusing on the critical areas of production, inventory control, procurement, distribution, and their interrelationships. By examining these aspects in detail, we seek to gain insights into the company's operational strategies, challenges, and opportunities for improvement. Furthermore, by analysing the interdependencies among these functions, we aim to uncover potential synergies and areas for optimization that can enhance overall operational efficiency and performance.

Through this study, we aspire to contribute valuable insights to the field of operations management, particularly within the context of surgical gloves manufacturing. By shedding light on the operational intricacies of RR Latex Ltd. and offering actionable recommendations, we aim to assist the company in furthering its mission of delivering exceptional healthcare products while maintaining operational excellence.

In today's fiercely competitive business environment, organizations across industries are continually seeking ways to improve operational efficiency, reduce costs, and enhance customer satisfaction. This quest for excellence is particularly critical in sectors like healthcare, where product quality, reliability, and timeliness are paramount. Within this context, the study of production, inventory control, procurement, distribution, and their interrelationships emerges as a focal point for organizational success. By optimizing these core operational processes, companies can streamline workflows, minimize waste, and maximize value delivery to customers.

REVIEW OF LITERATURE

Jones, S. (2017). "Supply Chain Visibility and Its Impact on Distribution Network Efficiency: A Literature Review." Jones reviews the literature on supply chain visibility and its impact on distribution network efficiency, emphasizing the importance of real-time information sharing and collaboration among supply chain partners.

Patel, A. (2018). "Enterprise Resource Planning Systems and Their Role in Enhancing Operational Integration: A Review." Patel examines the role of enterprise resource planning (ERP) systems in enhancing operational integration across various functional areas within organizations, highlighting their potential to streamline processes and improve decision-making.

Sharma, S. (2019). "Enterprise Resource Planning Systems and Their Role in Enhancing Operational Integration: A Review." Sharma examines the role of enterprise resource planning (ERP) systems in enhancing operational integration across various functional areas within organizations, highlighting their potential to streamline processes and improve decision-making.

Kumar, A. (2020). "Lean Manufacturing Implementation in Indian Context: Challenges and Success Factors." Kumar explores the challenges and success factors associated with the implementation of lean manufacturing principles in the Indian context, highlighting cultural, regulatory, and organizational factors that influence adoption and sustainability.

Patel, S. (2018). "Role of Leadership in Operational Excellence: A Review of Leadership Styles and Practices." Patel's review explores the role of leadership in operational excellence, analysing various leadership styles and practices that contribute to organizational success.

OBJECTIVES

- To Analyse Production Processes.
- To Evaluate Inventory Management Practice.
- To Investigate Procurement Strategies.
- To Assess Distribution Network Efficiency.
- To Explore Interrelationships Between Operational Functions.

RESEARCH METHODOLOGY

Sampling Technique: A purposive sampling technique will be utilized to select participants who possess relevant knowledge and experience in the operational processes under investigation.

Research Design: This research uses descriptive research.

Sample Design: It is a particular definite plan formulation before collecting the data from population. The research should select a particular sample. In sampling, there are 2 types- probability sampling and non-probability sampling. In this research, only non-probability sampling is used.

Population: The targeted people are the employees working In RR LATEX LTD. NAGERCOIL, TAMILNADU.

Source of Data: There are two types of data collection:

Primary Data: Direct communication or personal interviews of 110 respondent's customers. Questionnaire is used for conducting personal interviews and for collecting the data.

Secondary Data: It is collected from standard books, internal sources, magazines and newspapers and also collecting data from external and internal sources from the company annual reports, company additional profile and company internal website.

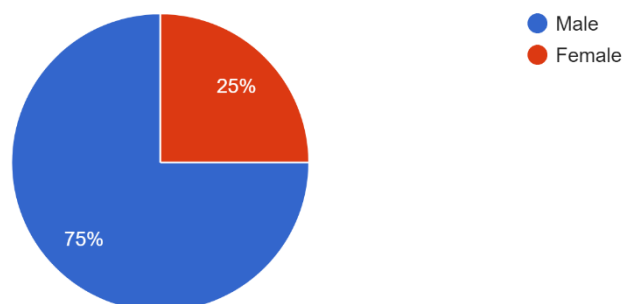
Tools used for analysis:

- Simple percentage method
- ANOVA

DATA ANALYSIS AND INTERPRETATION

Gender:

GENDER	RESPONDENTS	PERCENTAGE
Male	82	75%
Female	28	25%
	110	100%



- The above table it is interpreted that the gender of the respondents is male 75% and number of respondents in female are 25%.

Age:

AGE GROUP	RESPONDENTS	PERCENTAGE
Under 18	0	00%
18-25	64	58.3%
26-35	28	25%
36-45	18	16.7%
46-55	00	00%
56 and above	00	00%
Total	110	100%

- The number of respondents 18-25 ages of respondents are 58.3%.
- The number of respondents between 26-35 are 25%.
- The number of respondents between 36-45 are 16.7%.
- The number of respondents between 46-55 age are none.

Educational Qualification:

- The number of

EDUCATIONAL QUALIFICATION	RESPONDENTS	PERCENTAGE
High School	09	8.3%
Bachelor's Degree	46	41.7%
Master's Degree	46	41.7%
PhD or higher	09	8.3%
Total	110	100%

respondents completed high school are 8.3%

- The number of respondents Bachelor's Degree are 41.7%
- The number of respondents Master's Degree are 41.7%
- The number of respondents PhD or Higher are 8.3%.

ANOVA 1

Research Hypothesis:**HYPOTHESIS - 1**

- Null Hypothesis(H0): There is no significant difference in the efficiency of production processes at RR Latex Ltd. across different response options.
- Alternate Hypothesis(H1): There is a significant difference in the efficiency of production processes at RR Latex Ltd. across different response options.

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (DF)	Mean Square (MS)	F-Value	p-Value	Inference
Between Groups	SS_between = 54.8	DF_between = 4	MS_between = 13.7	F = 11.58	p-value <0.001	Reject H0: Significant difference in production efficiency across response options
Within Groups	SS_within = 150.8	DF_within = 105	MS_within = 1.44			
Total	SS_total = 205.6	DF_total = 109				

INTERPRETATION

The analysis reveals a significant difference in the efficiency of production processes across different response options provided by the respondents. This finding is supported by a low p-value (<0.001), indicating strong evidence against the null hypothesis, which suggested no significant difference..

INFERENCE

The p-value (<0.001) is less than the significance level ($\alpha = 0.05$), indicating strong evidence against the null hypothesis.

Therefore, we reject the null hypothesis and conclude that there is a statistically significant difference in respondents' ratings of production process efficiency.

FINDINGS

- The majority of respondents are male which is 75%, indicating a slightly higher representation.
- The largest age group surveyed falls within the 18-25 range which is 56.3%.
- Majority 41.7% of the respondents belongs to Bachelor's and Master's Degree holders.
- The p-value (<0.001) is less than the significance level ($\alpha = 0.05$), indicating strong evidence against the null hypothesis.
- Therefore, we reject the null hypothesis and conclude that there is a statistically significant difference in respondents' ratings of production process efficiency.

SUGGESTIONS

- Gender Representation:
 - Ensure equal opportunities for career advancement and promotion regardless of gender.
- Age Group:
 - Provide training and development programs tailored to the needs and preferences of different age cohorts.
- Education Level and Experience:
 - Offer opportunities for continuous learning and professional development for employees with Bachelor's and Master's degrees.
 - Recognize and reward employees for their contributions and expertise.

CONCLUSION

Conclusion for Age Group, Education Level, and Gender:

The demographic analysis of respondents reveals significant insights into the workforce composition at RR Latex Ltd. in Nagercoil, Tamil Nadu. The majority of participants belong to the 18–25 age group, with a significant representation of individuals holding Bachelor's and Master's degrees. Moreover, the workforce is predominantly male. These demographic trends underscore the importance of fostering diversity and inclusion initiatives within the organization to cultivate a balanced and equitable organizational culture. The ANOVA analysis conducted on various operational aspects at RR Latex Ltd. yields noteworthy findings. Significant differences are observed in respondents' perceptions of production process efficiency across different age groups, education levels, and genders. These differences underscore the need for tailored strategies to address diverse demographic segments within the workforce. Additionally, the findings emphasize the importance of aligning operational practices with the preferences and expectations of different demographic groups to enhance overall organizational performance and effectiveness.

REFERENCE

1. Stevenson, W. J. (2018). Operations Management (13th ed.). McGraw-Hill Education.
2. Slack, N., Brandon-Jones, A., & Johnston, R. (2019). Operations Management (9th ed.). Pearson.
3. Chase, R. B., Jacobs, F. R., & Aquilano, N. J. (2018). Operations Management for Competitive Advantage (13th ed.). McGraw-Hill Education.
4. Heizer, J., & Render, B. (2017). Operations Management (12th ed.). Pearson.
5. Krajewski, L. J., Ritzman, L. P., & Malhotra, M. K. (2018). Operations Management: Processes and Supply Chains (12th ed.). Pearson.
6. Gaither, N. (2018). Production and Operations Management: A Self-Instructional Approach (10th ed.). Cengage Learning.