

Dissertation Title:

Impact of Supply Chain Management Strategies on Operational Efficiency at Apollo Medics Super Speciality Hospital, Lucknow

1. INTRODUCTION

1.1 Background

Effective Supply Chain Management (SCM) plays a vital role in today's healthcare landscape, helping hospitals acquire resources on time, reduce delays, and improve service quality. Hospitals now rely more than ever on streamlined SCM systems to efficiently handle pharmaceuticals, surgical items, medical tools, and logistics. (Christopher, 2016). Since the COVID-19 pandemic, SCM has become even more important, with healthcare institutions focusing on building resilience and optimizing their use of resources. (WHO, 2020).

At Apollo Medics Super Speciality Hospital, Lucknow, challenges in managing procurement timelines, inventory control, and logistics have posed concerns regarding cost-efficiency and service quality. Addressing these challenges through evidence-based evaluation of current SCM strategies is essential for enhancing operational efficiency and patient care outcomes.

1.2 Research Gap

Despite SCM's recognized importance in healthcare, there's a lack of real-world studies examining how SCM strategies impact operations in Indian tertiary hospitals. Most existing studies focus on industrial or retail sectors or offer generalized recommendations for healthcare (Chopra & Meindl, 2020). This study addresses this gap by focusing on a case-specific analysis of a super-speciality hospital.

1.3 Rationale of the Study

Gaining insight into how SCM influences hospital outcomes can help leaders at Apollo Medics make better, data-informed decisions. This research will help identify bottlenecks in current practices, evaluate the effectiveness of SCM strategies, and offer customized solutions to enhance efficiency and reduce operational costs (Singh & Pandey, 2019; Sharma & Goyal, 2021).

2. PURPOSE OF THE STUDY

To evaluate the impact of supply chain management strategies on operational efficiency at Apollo Medics Super Speciality Hospital, Lucknow, and provide data-driven recommendations for improvement.

3. RESEARCH QUESTION

How do supply chain management strategies influence operational efficiency at Apollo Medics Super Speciality Hospital, Lucknow?

4. OBJECTIVES

- To evaluate the effectiveness of inventory management, procurement, and logistics in improving hospital operations.
- To assess how SCM strategies contribute to cost reduction and service delivery improvements.
- To identify key bottlenecks and inefficiencies in the current supply chain system.
- To provide evidence-based recommendations to optimize SCM strategies for enhanced operational performance.

5. HYPOTHESIS

Null Hypothesis (H_0): There is no significant relationship between supply chain management strategies and operational efficiency.

Alternative Hypothesis (H_1): Effective supply chain management strategies significantly influence operational efficiency.

6. METHODOLOGY

6.1 Study Design

The research will follow a cross-sectional observational approach.

6.2 Study Setting

Apollo Medics Super Speciality Hospital, Lucknow.

6.3 Study Population

Employees involved in the hospital's SCM processes, including:

- Procurement department
- Inventory and logistics team
- Pharmacy and surgical units reliant on SCM

6.4 Inclusion Criteria

- Staff members who have been involved in procurement, logistics, or inventory roles for at least six months.
- Departmental heads or operational managers directly interacting with SCM systems.

6.5 Exclusion Criteria

- Employees not directly involved in supply chain processes.

- External vendors and suppliers not employed by the hospital.

6.6 Sample Size and Sampling Technique

A purposive sampling method will be used to select approximately 40–50 key personnel from the hospital SCM system. Sample size justification is based on organizational size and departmental roles (Sharma & Goyal, 2021).

6.7 Data Collection Methods

- Quantitative data: Analysis of procurement records, stock logs, supply delay reports, and operational cost reports.
- Qualitative data: Semi-structured interviews and open-ended questionnaires with SCM managers and department heads.

6.8 Tools/Instruments

- Pre-tested interview guides and structured checklists.
- Microsoft Excel or SPSS for quantitative data analysis.
- Thematic analysis for qualitative responses using coding techniques (Singh & Pandey, 2019).

7. OPERATIONAL DEFINITIONS

- Supply Chain Management (SCM): The coordination of procurement, inventory storage, and distribution of medical supplies and equipment to ensure uninterrupted service delivery (Chopra & Meindl, 2020).
- Operational Efficiency: The hospital's ability to optimize resources, minimize waste, and improve service timelines through effective SCM strategies (Christopher, 2016).

8. DATA ANALYSIS PLAN

- Quantitative findings will be interpreted using basic statistics such as averages, percentages, and trends.
- Comparative analysis will be used to identify the relationship between SCM practices and metrics such as stockout frequency, turnaround time, and operational cost reduction.
- Qualitative responses will undergo thematic coding, and patterns will be interpreted to identify challenges and improvement areas.
- Tools like SPSS or Excel will assist in evaluating numerical data effectively. (Singh & Pandey, 2019).

9. ETHICAL CONSIDERATIONS

- Informed Consent: Participants will be asked to give written consent before any data is collected.
- Confidentiality: Responses and data will be anonymized. Only aggregate data will be reported.
- Data Security: Collected data will be securely stored and used strictly for academic purposes.
- Ethical Approval: Institutional ethical clearance will be obtained from the hospital's ethics committee prior to study initiation.

10. IMPLICATIONS OF THE STUDY

- Identify strengths and inefficiencies in the current SCM framework.
- Inform decision-makers about actionable strategies to improve procurement timelines and reduce costs.
- Provide recommendations that enhance overall hospital performance, which may be generalized to other tertiary care hospitals in similar contexts (WHO, 2020).

11. REFERENCES

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5. Singh, R., & Pandey, R. (2019). "Improving supply chain performance in healthcare through lean strategies," Operations and Supply Chain Management, 12(1), 15–24.