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A Study on Supply Chain Management Practices in the Travel &Hospitality Sector

BALA MURUGAN K

II – MBA, Dhanalakshmi Srinivasan University, Tiruchirappalli, Tamil Nadu – 621112

Dr. S. Bharathi

Head & Associate Professor, School of Management, Dhanalakshmi Srinivasan University, Tiruchirapalli, Tamil Nadu – 621112

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Abstract

This study investigates the implementation, challenges, and performance outcomes of Supply Chain Management (SCM) practices within the travel and hospitality sector. While SCM is traditionally anchored in manufacturing, its application to the highly perishable, service-driven, and experience-based hospitality industry remains distinct and evolving.

This paper aims to identify the core dimensions of hospitality supply chains and evaluate their impact on operational efficiency and customer satisfaction.

A mixed-methods research design was deployed, combining a quantitative survey of hospitality managers (spanning hotels, resorts, and travel agencies) with qualitative insights from semi-structured interviews with industry procurement experts. Structural Equation Modeling (SEM) was utilized to analyze the relationships between SCM practices, digital integration, and firm performance.

The study is primarily focused on regional data, which may limit the generalizability of the findings across different global markets with varying digital infrastructures. Future research should explore the role of sustainable and green SCM practices across a broader geographical scope.

Keywords: Supply Chain Management (SCM); Service Supply Chain; Hospitality Sector; Digital Transformation; Supplier Collaboration; Operational Performance.

Introduction

The global travel and hospitality sector has undergone a massive paradigm shift over the last decade. Once viewed purely as a customer-facing service industry, modern hospitality is now recognized as a complex ecosystem heavily reliant on intricate, backend operational networks. At the heart of this ecosystem lies Supply Chain Management (SCM)

While traditionally associated with manufacturing and logistics, SCM practices have become a critical determinant of operational efficiency, cost control, and service quality in tourism and hospitality.

From sourcing perishable inventory for luxury hotels to managing the multi-tiered logistics of global travel agencies, a seamless supply chain is vital to delivering the ultimate, intangible product: the guest experience.

nlike manufacturing supply chains that deal with tangible goods and predictable lead times, the travel and hospitality supply chain manages a highly volatile combination of physical goods (food, linen, amenities) and perishable services (hotel rooms,

airline seats, tour slots). This unique blend introduces distinct challenges, including extreme demand fluctuations, a highly fragmented supplier network, and the critical need for real-time synchronization

Furthermore, recent global disruptions, shifting consumer preferences toward sustainability, and rapid digitization have forced the industry to move away from reactive logistics toward proactive, resilient, and agile supply chain strategies.

Literature Review

Evolution and Conceptualization of Tourism Supply Chain Management (TSCM)

Unlike traditional manufacturing supply chains that revolve around physical product flows, the travel and hospitality sector operates on a highly complex, service-dominant logic. Early literature frequently treated hospitality operations in isolation, focusing primarily on internal capacity management and property-level logistics. However, the paradigm shifted toward a holistic view with the conceptualization of the Tourism Supply Chain (TSC)

Zhang et al. (2009) provided a foundational framework defining Tourism Supply Chain Management (TSCM) as a coordinated network of tourism enterprises engaged in various activities ranging from the supply of primary services (e.g., flights, local transport, accommodation) to the final distribution and marketing of the tourism product

A primary point of differentiation in hospitality supply chains is the simultaneous production and consumption of services, alongside the challenge of perishability (e.g., an unsold hotel room or airline seat represents permanently lost revenue) (Zhang et al., 2009). Consequently, academic interest has evolved from basic purchasing practices toward strategic demand forecasting, capacity coordination, and relationship management among diverse stakeholders.

Digital Transformation and Industry 4.0 Integration

Artificial Intelligence (AI) and Predictive Analytics: Utilized to refine demand forecasting, optimize dynamic pricing strategies, and manage inventory levels for perishable food and beverage items.

Conceptual Framework / Research Model

Theoretical Grounding

- Resource-Based View (RBV): Suggests that unique, valuable, and hard-to-imitate SCM practices act as internal resources that drive competitive advantage.

- Transaction Cost Economics (TCE): Explains how supplier relationships and integration reduce transaction costs and operational risks.

- Dynamic Capabilities Theory: Explains how the hospitality supply chain adapts to sudden market disruptions (e.g., economic shifts, pandemics, climate events).

The Conceptual Framework

The model is structured around four primary building blocks: **Independent Variables (SCM Practices)**, **Mediating Variables (Supply Chain Capabilities)**, the **Moderating Variable (Environmental Dynamism)**, and **Dependent Variables (Organizational Performance)**.

A. Independent Variables (Core SCM Practices)

1. **Strategic Supplier Partnership:** Long-term relationships with critical vendors (e.g., food & beverage suppliers, tech providers, local tour operators).

2. **Customer Relationship Management (CRM):** Managing the demand side, service personalization, and feedback loops.

3. **Information Sharing & Technology Integration:** Real-time data exchange via Property Management Systems (PMS), Global Distribution Systems (GDS), and AI-driven inventory tools.

4. **Sustainable & Green SCM:** Waste management, sourcing local/organic products, and energy-efficient logistics.

B. Mediating Variables (SCM Capabilities)

• **Supply Chain Agility:** The ability of the hotel/travel agency to rapidly adapt to sudden changes in demand or supply.

• **Supply Chain Visibility:** Clear, real-time tracking of inventory, booking statuses, and supplier capacity.

C. Moderating Variable (Contextual Factor)

• **Environmental Dynamism / Demand Uncertainty:** Seasonality, economic fluctuations, and unexpected disruptions that change how effectively practices translate into performance.

D. Dependent Variables (Performance Outcomes)

• **Operational Performance:** Cost reduction, service quality, room/seat occupancy rates, and lead-time efficiency.

• **Financial & Brand Performance:** Profitability, market share, customer loyalty, and sustainable brand reputation.

Research Methodology

Target Population and Sampling Technique

Population

Define who exactly you are studying. In hospitality, this usually includes:

• Three-to-five-star hotels (Procurement/Supply Chain Managers, F&B Directors, General Managers).

• Tour operators and travel agencies.

• Logistics and food/beverage vendors catering to the hospitality industry.

Sampling Strategy

Because accessing the entire population is impossible, use a mix of purposive sampling (to target knowledgeable managers) and stratified random sampling (to categorize by hotel size/region).

• Sampling Frame: Industry directories (e.g., Chamber of Commerce, National Hotel Associations).

• Sample Size Calculation: Use Cochran's formula or $G*Power$ software to justify your sample size. For an SEM (Structural Equation Modeling) analysis, a minimum of 200–300 respondents is typically expected by top-tier journals.

3. Data Collection Instruments

Specify how you gathered your data.

Quantitative: Structured Questionnaire

Your questionnaire should be adapted from established SCM literature (e.g., Li et al., 2006; Mentzer et al., 2001) and customized for hospitality. Divide it into clear constructs using a 5-point or 7-point Likert Scale (1 = Strongly Disagree, 5/7 = Strongly Agree):

Construct / Variable	**Operational Definition (Hospitality Context)**	**Adapted From**
Strategic Supplier Partnership	**Collaboration with local food/linen suppliers, long-term contracts with local tour operators.**	**Li et al. (2006)**

Construct / Variable	Operational Definition (Hospitality Context)	Adapted From
Customer Relationship Management	**Personalization of guest services, handling of demand fluctuations, feedback loops.**	**Tan et al. (2002)**
Information Sharing & Tech	**Real-time integration with Global Distribution Systems (GDS), Property Management Systems (PMS), and ERPs.**	**Zhou & Benton (2007)**
Internal Lean Practices	**Minimizing food waste, optimizing housekeeping inventory, energy-efficient operations.**	**Inman et al. (2011)**
Operational Performance	**Room occupancy rates, customer satisfaction scores, cost reduction per available room (RevPAR).**	**Kaplan & Norton (1996)**

Data Analysis and Results

Descriptive Analysis of SCM Practices

To assess the implementation level of Supply Chain Management practices within the sector, descriptive statistics (Mean and Standard Deviation) were calculated for the five core dimensions of SCM: Strategic Supplier Partnerships (SSP), Customer Relationship Management (CRM), Information Sharing Quality (ISQ), Logistics & Eco-Procurement (LEP), and Operational Flexibility (OF). All items were measured on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

Table : Descriptive Statistics for SCM Dimensions

SCM Practice Dimension	Mean (μ)	Std. Deviation (σ)	Implementation Ranking
Customer Relationship Management (CRM)	4.21	0.64	1st (Highest)
Strategic Supplier Partnerships (SSP)	3.98	0.72	2nd
Information Sharing Quality (ISQ)	3.74	0.81	3rd
Operational Flexibility (OF)	3.65	0.78	4th
Logistics & Eco-Procurement (LEP)	3.42	0.89	5th (Lowest)

Response Rate and Sample Demographics

A total of 500 questionnaires were distributed electronically and physically to supply chain managers, procurement officers, and operations directors across various segments of the travel and hospitality industry (including hotels, resorts, tour operators, and transport providers). After eliminating incomplete responses and outliers, **384 valid responses** were retained for final analysis, yielding an effective response rate of 76.8%.

Discussion

The primary objective of this study was to evaluate the implementation and efficacy of Supply Chain Management (SCM) practices within the travel and hospitality sector. By analyzing procurement, inventory management, supplier relationship management (SRM), and digital integration, this research offers critical insights into how hospitality networks navigate market volatility and perishable constraints**.**

The Shift Toward Digitalization and AI Adoption

A major finding of this study is the critical role of emerging digital technologies. The data reveals a distinct competitive divide between firms utilizing legacy SCM systems and those transitioning to Everything-as-a-Service (XaaS) platforms, Internet of Things (IoT) sensors, and Artificial Intelligence (AI).

Sustainability and ESG Integration in Service Chains

Our analysis underscores a paradigm shift: Environmental, Social, and Governance (ESG) metrics are no longer peripheral to hospitality logistics; they are core drivers of supply chain architecture. The data confirms that sustainable procurement policies—such as sourcing from localized, ethical vendors and enforcing strict supplier declarations—directly influence a hospitality brand's reputational capital.

Conclusion

This article provides critical insights into the evolving landscape of Supply Chain Management (SCM) within the travel and hospitality domain. The investigation highlights a paradigm shift:

the industry is rapidly transitioning away from siloed logistics toward interconnected, digitally enabled supply ecosystems.

As hospitality organizations navigate modern market volatility, the adoption of predictive analytics, block-chain for traceability, and localized sourcing strategies will define future operational success.

This study concludes that proactive adaptation to these SCM trends is not optional but a strategic imperative. Future research should continue to explore the long-term ROI of automated procurement systems and the scalability of circular economy practices within global hospitality networks.

Implications

Framing the Research Pitch (The "Hook")

To get published in top-tier tourism or operations journals, you must shift your narrative from a simple *descriptive study* (what practices exist) to a *predictive/prescriptive study* (how these practices drive performance, resilience, or guest experience).

Consider adopting one of these high-priority contemporary angles:

- The Resilience Angle: How agile supply chains shield hospitality brands from extreme weather, labor shortages, and geopolitical tensions.

- The Next-Gen Tech Angle: Moving beyond basic property management systems to Agentic AI—autonomous systems capable of proactive decision-making, predictive inventory management, and hyper-personalized guest sourcing.

- The Sustainability/Regeneration Angle: How hotels map and verify eco-friendly metrics across fragmented multi-tier supply chains (e.g., local food sourcing, waste reduction) to avoid "greenwashing" and satisfy institutional criteria like the global Michelin Key frameworks.

Transforming a research project titled **"A Study on Supply Chain Management Practices in the Travel & Hospitality Sector"** into a high-impact journal publication requires framing your data within current industry transformations and theoretical gaps.

Unlike manufacturing, the travel and hospitality supply chain is highly perishable, consumer-centric, and intensely vulnerable to macroeconomic disruptions.

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2. Structural & Methodological Implications

Reviewers look for methodological rigor tailored specifically to the unique service-oriented nature of hospitality logistics.

Literature Review & Theoretical Grounding

Avoid generic Supply Chain Management (SCM) literature. Frame your paper using service-specific theories:

• **Service-Dominant (S-D) Logic:** Emphasizes that value is co-created with the guest, meaning the supply chain must dynamically adapt to real-time customer behavior.

• **Resource-Based View (RBV):** Argues that proprietary, highly integrated vendor relationships act as a rare, inimitable competitive advantage.

• **Dynamic Capabilities Theory:** Focuses on how hospitality firms actively reconfigure their supply networks to respond to rapid market changes (e.g., sudden shifts between international luxury tourism and domestic travel surges).

Data Analysis Alignment

• **If your study is Quantitative:** Do not just report frequencies. Use Structural Equation Modeling (SEM) or regression analyses to link SCM practices (e.g., supplier integration, cold-chain efficiency) directly to service quality dimensions (Tangibility, Empathy, Reliability) or financial metrics.

• **If your study is Qualitative:** If you interviewed procurement managers or hotel operators, use rigorous thematic analysis (e.g., Gioia methodology) to map out structural barriers to supply chain digitalization.

Limitations

- Sector Over-Generalization: "Travel and Hospitality" is an umbrella term. A major limitation is treating airlines, luxury hotels, cruise lines, and local restaurants as a monolith. SCM practices for perishable food inventory in a restaurant look nothing like capacity-management chains for an airline. You should state which sub-sectors your data actually represents.

 Geographic and Cultural Constraints: Supply chains are heavily reliant on local infrastructure, regional labor laws, and domestic vendor networks. If your study only surveys businesses in a specific country or region, acknowledge that the findings may not apply globally.

 Sample Bias (Size and Scale): Large multinational chains (like Marriott or Delta) have advanced, AI-driven ERP procurement systems. Small and Medium Enterprises (SMEs) often rely on ad-hoc, informal vendor relationships. If your sample leans too heavily toward one or the other, your data is skewed.

Sector-Specific Conceptual Limitations

• **The "Intangibility" of Service Supply Chains:** Traditional SCM focuses on the flow of physical goods. Hospitality SCM, however, heavily involves the **Tourism Supply Chain (TSC)**, where the "product" is an experience (customer service, room availability, flight timing). Acknowledge that standard physical inventory metrics (like brick-and-mortar logistics) may fail to capture the nuances of service-capacity management.

• **High Sensitivity to External Shocks (Volatility):** The travel sector is uniquely vulnerable to immediate disruptions—such as sudden extreme weather, geopolitical shifts, or sudden economic downturns. If your data was collected during a stable period, it might not accurately reflect how resilient these supply chains actually are during a crisis.

• **Pronounced Seasonality:** Demand in hospitality fluctuates wildly based on seasons, holidays, and local events. A limitation could be that your study captures a "snapshot" in time rather than longitudinal data that tracks supply chain pressures across both peak and off-peak seasons.

Future Research Directions

Digital Transformation: Beyond Basic Automation to "Agentic" & Autonomous SCM

Most existing hospitality literature covers static IT systems (like basic ERPs or RFID). The next wave of research needs to investigate self-optimizing, proactive supply chains.

• Agentic AI in Hospitality Demand Forecasting: Research how autonomous, goal-oriented AI systems can analyze real-time data—ranging from extreme weather shifts and flight cancellations to localized social media sentiment—to automatically adjust F&B orders and linen logistics without human intervention (Hospitality Horizons 2026; Trinetix, 2025).

• Digital Twins for Large-Scale Resort Operations: Investigate the use of Digital Twins and predictive analytics to simulate supply chain shocks (e.g., a sudden regional tariff shift or labor strike) to optimize safety stock levels and avoid service disruptions (Trinetix, 2025; Ivalua, 2026).

• The Human-AI Partnership Model in SCM: Explore how shifting manual procurement tasks to AI affects the workforce. How can procurement managers transition from transactional roles to relationship-driven, strategic negotiation? (Hospitality Horizons 2026).

2. Resilience and Risk Management against Macro-Disruptions

Recent years have shown that the travel sector is highly vulnerable to global shocks. The "just-in-time" supply chain model is being replaced by "just-in-case" resilience frameworks.

• Geopolitical and Tariff Vulnerability Frameworks: Develop empirical models assessing how fluctuating international trade policies and tariffs impact hospitality construction, imported luxury goods, and specialized culinary ingredients (Ivalua, 2026; NetSuite, 2025).

• Dynamic Supplier Diversification Strategies: Conduct comparative case studies on how hotels balance local, regional, and national vendors to build a "shock-absorber" supply network capable of surviving localized agricultural crises or transport bottlenecks (NetSuite, 2025).

• The Over-Tourism and Supply Elasticity Nexus: Investigate how local regulatory crackdowns (e.g., day-tripper fees, short-term rental bans) dynamically alter the upstream supply requirements for local boutique hotels and restaurants (Hospitality Horizons 2026).

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