

The Governance of Digital Risk: A Qualitative Study of Meso-Risks in Platform-Mediated Tourism Supply Chains

Diyan Putranto^{1*}, Fransiscus Amonio Halawa², Rintis Eko Widodo³, Fahmi Setiawan⁴, Budi Nurhamdani Ajizi⁵

Sekolah Tinggi Manajemen Pariwisata dan Logistik Lentera Mondial

Corresponding Author: Diyan Putranto diyanputranto@lemondial.ac.id

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ABSTRACT

This study explores the systemic governance challenges introduced by the increasing reliance on external digital platforms within the fragmented Tourism Service Supply Chain (TSSC). While digitalization offers significant gains in efficiency and customer service, it delegates critical control over logistics, pricing, and customer flow, thereby creating a new class of non-traditional, network-level vulnerabilities termed meso-risks. These threats—categorized in the research as algorithmic policy instability, data control loss, and systemic contagion during network shocks—invalidate the efficacy of traditional dyadic SCM risk models. Using a descriptive qualitative inquiry involving in-depth interviews with senior TSSC managers across a digital-dependent tourism hub, the research identifies a mandatory Dual-Governance Model for achieving operational resilience and accountability. The findings reveal that effective mitigation requires a strategic synergy of two distinct pathways: a Formal Governance path, driven by the institutional need for legitimacy and control, which involves proactive investment in technological redundancy (e.g., independent cloud systems and DLT exploration) and structured compliance protocols; and an Informal Governance path, rooted in relational capital and Social Exchange Theory, which leverages inter-firm trust and continuous coordination as the primary mechanism for achieving operational agility. The resulting conceptual framework, which aligns organizational responses with the complex adaptive nature of the TSSC, offers theoretical advancement by modeling meso-risk and provides prescriptive guidance for managers and policymakers aiming to stabilize technological progress with robust human and relational capital to ensure the long-term viability of the tourism sector

INTRODUCTION

Contextualizing the Tourism Supply Chain (TSSC)

The global tourism industry stands as one of the most critical socio-economic engines worldwide, fundamentally driving economic activity, employment, and overall societal well-being (Dubey et al., 2021; Font et al., 2008; Zhang et al., 2009). Consequently, ensuring the stability and long-term viability of this sector demands robust and sophisticated management of its underlying logistical and supply chain structures (Baddeley & Font, 2011; Mishra et al., 2024). The Tourism Supply Chain (TSSC) itself is an intricate, often fragmented system responsible for coordinating both the physical movement of tangible goods (e.g., high-quality linen, food and beverage supplies, operational machinery) and the seamless delivery of intangible services (e.g., curated experiences, accommodation, transport) (Nguyen Van et al., 2025; Sigala, 2008; Smith & Xiao, 2008). Efficient logistics are not merely an operational concern but a critical determinant of service quality, cost optimization, and, ultimately, visitor satisfaction (Zhang et al., 2009). However, the TSSC is inherently susceptible to external pressures and macro-environmental shocks, a vulnerability intensified by its decentralized structure and reliance on inter-organizational relationships (Lee & Fernando, 2015; Taipakova & Mussina, 2024). Recent global disruptions, notably the prolonged effects of the COVID-19 pandemic, have exposed profound weak links in global service and logistics networks, challenging the sector's capacity to withstand widespread involuntary changes such as lockdowns, travel restrictions, and temporary physical operation postponements (Carrol & Conboy, 2020; Chamakiotis et al., 2021; Chatterjee et al., 2021; Dwivedi et al., 2020; Islam et al., 2022; Kock et al., 2020; Papadopoulos et al., 2020; Shirish et al., 2021; Trkman et al., 2021; Venkatesh, 2020; Wachyuni & Kusumaningrum, 2020). These vulnerabilities are not limited to pandemics; the TSSC is constantly exposed to a spectrum of other uncertainties, including political unrest, economic downturns, military actions, and transport volatility, all of which pose substantial risks to prosperity and continuous operation (Dubey et al., 2021; Lee & Fernando, 2015; Taipakova & Mussina, 2024). Consequently, high-impact research must focus on fortifying resilience—the sector's capacity to absorb and recover from these shocks—through the integration of sustainable and forward-looking strategic planning (Di Vaio et al., 2021; Modgil et al., 2021; Novak et al., 2021).

The Digital Transformation Imperative

In response to both market volatility and the relentless pursuit of competitive advantage, the global business landscape, including the tourism sector, has undergone a fundamental digital transformation (Abouzid & Saidi, 2023; Longo et al., 2023; Wamba et al., 2017). This shift represents more than simple technological adoption; it is the genesis of the 'smart' supply chain, enabled by the rapid evolution of technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), blockchain, and sophisticated big data analytics (Bouras et al., 2020; Cimino et al., 2024; Latif et al., 2022). Recent scholarship highlights that this integration is the primary driver for achieving sustainable competitive advantage in the post-pandemic era, streamlining service delivery and enabling real-time data analysis (Mountije et al., 2025; Sarfraz et al., 2025).

These digital tools are instrumental in driving operational improvements, enhancing efficiency (up to 30% increase with cloud-based systems), reducing staff workload (up to 70% with AI), and delivering highly personalized services that boost guest satisfaction (up to 15%) (Ghesh et al., 2024; Knani et al., 2022; Kong et al., 2024; Reis et al., 2020; Samala et al., 2022; Xu et al., 2024; Zaki, 2021). Crucially, this digitalization has fueled the rise of platformization, where large third-party digital intermediaries—such as Online Travel Agencies (OTAs), global booking services, and shared economy aggregators—have become the dominant, non-negotiable structure for coordination, logistics, and customer acquisition (Guo et al., 2013; Sigala, 2008). These platforms act as vital central nervous systems for the fragmented TSSC, enabling seamless information flow, faster order fulfillment, and optimized resource utilization across diverse supply chain partners (Maheshwari & Kamble, 2022; Xu et al., 2023). By consolidating data and automating processes, these digital entities empower organizations to be more responsive and agile in the face of market changes and localized disruptions (Reyes et al., 2023; Remko, 2020; Wu et al., 2021). However, as Rodrigues (2025) warns, this consolidation and dependence introduce a new class of systemic risk that requires inclusive governance models to manage data control and privacy issues effectively.

Problem Statement and Research Gap

Traditional Supply Chain Management (SCM) theory, particularly in risk assessment, has historically focused on mitigating threats within a dyadic relationship—risks between two known parties, such as a supplier and a buyer (Guo et al., 2013; Smith & Xiao, 2008; Zhang et al., 2021d). This framework is demonstrably insufficient for the modern TSSC, where the service delivery and customer interface are increasingly mediated by powerful, external digital platforms (Carvalho & Ivanov, 2024; Latif et al., 2022; Wamba et al., 2017). The rise of these platforms delegates critical aspects of logistics, pricing, customer data, and service delivery control to a third party (Meira & Hancer, 2021; Novak et al., 2021; Zaki, 2021). This delegation creates new, poorly understood, systemic network vulnerabilities that we term meso-risks (Reyes et al., 2023; Taipakova & Mussina, 2024; Zhang et al., 2021c). Meso-risks are not merely operational failures but originate from the digital intermediary itself—risks related to platform policy shifts, sudden changes in commission structures, data security breaches, or unexpected platform outages that affect all participating TSSC stakeholders simultaneously (Bouras et al., 2020; Font et al., 2008; Zhang et al., 2021e). These risks introduce instability and uncertainty, potentially leading to supply chain collapse, particularly when compounded by macroeconomic crises (Cimino et al., 2024; Longo et al., 2023; Wachyuni & Kusumaningrum, 2020).

The Core Research Gap: Despite the critical and growing role of platformization in TSSC logistics, limited scholarly attention has examined the specific relationship between this structural dependency and organizational risk management within the service supply chain (Di Vaio et al., 2021; Guo et al., 2013; Smith & Xiao, 2008; Zhang et al., 2021f). Recent bibliometric analyses confirm that while TSSC research is abundant, it predominantly focuses on efficiency and traditional dyadic relationships, often overlooking the systemic risks introduced

by platform governance (Changalima & Kimario, 2025). Furthermore, there is a lack of qualitative research exploring how local TSSC actors – those who bear the primary operational and financial consequences of platform policy changes – develop governance mechanisms to maintain resilience, legitimacy, and accountability in this volatile environment (Modgil et al., 2021; Novak et al., 2021; Zhang et al., 2021b).

Research Objective and Contribution

Given the urgency of managing systemic digital vulnerabilities, this study adopts a descriptive qualitative methodology to provide deep contextual insights (Carvalho & Ivanov, 2024; Knani et al., 2022; Samala et al., 2022). **Research Objective:** The primary objective of this study is to qualitatively explore the perceptions of digital risk (meso-risks) and the organizational responses – both formal and informal governance strategies – used by TSSC actors (e.g., hotels, transport providers, destination managers) to maintain operational resilience and organizational accountability in a platform-mediated environment (Blau, 1964; Cropanzano & Mitchell, 2005; Emerson, 1976; Nunkoo, 2016). This approach is essential for understanding complex behavioral and organizational dynamics that prescriptive optimization models often miss (Zhang et al., 2021a; Zhang et al., 2021d; Zhang et al., 2021f).

Theoretical and Practical Contribution: This research offers a dual contribution to the SCM and Tourism literature.

1. **Theoretical Advancement:** By defining and exploring the nature of meso-risks, this study extends SCM risk theory beyond the traditional dyadic perspective, proposing a novel conceptual framework for digital governance that integrates relational and technological components to explain supply chain resilience (Demers & Kolek, 2020; Di Vaio et al., 2021; Modgil et al., 2021).
2. **Practical Insights:** It provides essential, context-rich insights for TSSC managers and Destination Management Organizations (DMOs) operating under conditions of high digital dependence, offering practical guidance on developing governance strategies, such as inter-business coordination and strategic partnerships to mitigate these systemic digital risks and enhance long-term viability (Latif et al., 2022; Lee & Fernando, 2015; Meira & Hancer, 2021; Novak et al., 2021).

LITERATURE REVIEW

The Tourism Service Supply Chain: Fragmentation and Service Dominance

The Tourism Supply Chain (TSSC) represents a specialized and crucial domain within the broader spectrum of Supply Chain Management (SCM), acknowledged for its profound impact as a global socio-economic driver (Dubey et al., 2021a; Font et al., 2008; Zhang et al., 2009). Scholarly consensus defines the TSSC by its dual nature: the continuous coordination of physical, tangible goods (e.g., high-quality linen, food and beverage supplies, necessary operational machinery) alongside the simultaneous delivery of highly intangible services, such as curated experiences, accommodation, and coordinated transportation (Baddeley & Font, 2011; Mishra et al., 2024; Nguyen Van et al., 2025; Sigala, 2008; Smith & Xiao, 2008). The operational efficacy of the TSSC is therefore paramount,

as optimized logistical operations are directly correlated with reduced costs, enhanced service quality, and increased customer satisfaction, ensuring the long-term prosperity and viability of the sector (Font et al., 2008; Mishra et al., 2024; Zhang et al., 2009).

However, the TSSC is structurally challenged by pervasive fragmentation (Lee & Fernando, 2015; Sigala, 2008; Smith & Xiao, 2008). Unlike vertically integrated manufacturing chains, the tourism ecosystem is a highly decentralized network composed of numerous, independent, and specialized stakeholders—including small-scale local suppliers, large accommodation services, specialized transport providers, and Destination Management Organizations (DMOs) (Guo et al., 2013; Smith & Xiao, 2008; Taipakova & Mussina, 2024). This decentralization makes the achievement of cohesive, end-to-end information flow exceptionally difficult, frequently leading to coordination failures that compromise service quality (Guo et al., 2013; Sigala, 2008). Given this inherent fragmentation, the TSSC is highly susceptible to macro-environmental shocks, including political unrest, transport uncertainties, economic downturns, and large-scale public health crises, which pose substantial risks to operations and stability (Dubey et al., 2021a; Lee & Fernando, 2015; Taipakova & Mussina, 2024; Zhang et al., 2021c). The academic imperative, particularly in high-impact journals, is thus to investigate novel strategies that address the dual challenge of structural fragmentation and external volatility (Lee & Fernando, 2015; Zhang et al., 2009).

Digitalization, Resilience, and Accountability

In response to both market competition and acute volatility, the TSSC has embraced aggressive digital transformation, pivoting toward the emerging 'smart' supply chain paradigm (Abouzid & Saidi, 2023; Latif et al., 2022; Wamba et al., 2017). Contemporary SCM research identifies the convergence of several technologies—including Artificial Intelligence (AI), the Internet of Things (IoT), big data analytics, blockchain, and automation—as the core enablers of this transition (Bouras et al., 2020; Cimino et al., 2024; Latif et al., 2022; Maheshwari & Kamble, 2022; Wamba et al., 2017). These digital tools promise significant operational advantages, such as optimizing resource utilization, reducing production cycles, and achieving cost savings of up to 30% through improved processes (Abouzid & Saidi, 2023; Cimino et al., 2024; Longo et al., 2023; Maheshwari & Kamble, 2022). Specific to hospitality, AI-powered systems and robotics not only enhance customer experience (up to 15% increase in satisfaction) but also significantly improve operational efficiency, reducing staff workload on routine tasks by up to 70% (Ghesh et al., 2024; Knani et al., 2022; Kong et al., 2024; Reis et al., 2020; Samala et al., 2022; Xu et al., 2024).

A key technological innovation for enhancing resilience is the Digital Twin (DT) framework, which functions as a virtual representation of the physical supply system (Abouzid & Saidi, 2023; Cimino et al., 2024). DTs are instrumental for managing both long- and short-term risks, allowing organizations to ingest real-time data to identify inefficiencies, test various supply chain scenarios, and formulate optimal recovery policies against multi-layered crises, such as the simultaneous intersection of a persistent economic downturn with a prolonged

pandemic (Longo et al., 2023; Maheshwari & Kamble, 2022; Reyes, Mula, & Díaz-Madroñero, 2023; Remko, 2020; Xu et al., 2023).

However, the devastating impact of recent global crises has underscored that efficiency alone is insufficient; Supply Chain Resilience (SCR) is mandatory for organizational survival (Di Vaio et al., 2021; Modgil et al., 2021; Novak et al., 2021; Wachyuni & Kusumaningrum, 2020). Introducing Resilience Theory provides a critical theoretical lens for analysis (Novak et al., 2021; Wamba et al., 2017). SCR necessitates strengthening digital platforms not only for agility but also to ensure accountability and maintain organizational legitimacy (Latif et al., 2022; Modgil et al., 2021; Novak et al., 2021; Zhang et al., 2021b). As digital transformation improves data analytics and information systems, firms must ensure transparency regarding their sustainable behavior and accountability actions to satisfy stakeholder judgments and meet growing market demands (Di Vaio et al., 2021; Novak et al., 2021; Zhang et al., 2021b).

Conceptualizing Meso-Risks and Digital Governance (The Theoretical Core)

The shift toward platform-mediated TSSC structures exposes a critical limitation in traditional SCM theory. Conventional risk management focuses primarily on threats within a dyadic relationship – risks between two known, contracted parties (Guo et al., 2013; Smith & Xiao, 2008; Zhang et al., 2021d). This framework fails to account for the systemic, network-level vulnerabilities arising from digital intermediaries.

This research focuses on Meso-Risks, defined as the non-traditional risks originating from the delegation of core logistics and customer coordination to third-party digital platforms (Reyes, Mula, & Díaz-Madroñero, 2023; Taipakova & Mussina, 2024; Zhang et al., 2021c). These risks are systemic because they simultaneously affect all fragmented TSSC members who rely on the platform. Meso-risks manifest as:

1. **Algorithmic and Policy Risks:** Sudden, arbitrary changes in commission rates, pricing algorithms, or ranking visibility imposed by the platform, which directly impact the profitability of independent accommodation and transport providers (Bouras et al., 2020; Font et al., 2008; Zhang et al., 2021e).
2. **Data Dependency and Control Loss:** Delegation of customer relationship management and loss of control over proprietary data, alongside exposure to the platform's external security breaches, impacting traceability and authenticity (Meira & Hancer, 2021; Novak et al., 2021; Zaki, 2021).

To analyze how TSSC actors develop mitigation strategies against these meso-risks, this study leverages two crucial theoretical perspectives on governance.

Firstly, Institutional Theory provides the framework for understanding formal governance (Di Vaio et al., 2021; Modgil et al., 2021; Novak et al., 2021; Zhang et al., 2021b). Institutional pressure from powerful platforms necessitates that TSSC organizations adopt formal structures, policies, and practices (e.g., contingency planning, multi-sourcing, strategic urban planning like controlling transport routes or accommodation siting) to achieve external legitimacy and

internal control (Demers & Kolek, 2020; KPMG, 2024; Taipakova & Mussina, 2024; Wamba et al., 2017).

Secondly, Social Exchange Theory (SET) is critical for understanding informal governance (Blau, 1964; Cropanzano & Mitchell, 2005; Emerson, 1976). Given the inherent fragmentation of the TSSC, relational capital (trust, mutual dependence, effective communication, and commitment) often supersedes formal contracts as the core mechanism for achieving resilience (Latif et al., 2022; Wamba et al., 2017; Wu et al., 2021). SET suggests that actors will establish and sustain long-term exchange relationships only if the perceived rewards (e.g., enhanced operational agility, information sharing, financial synergy) outweigh the costs, fostering the high-quality, mutually favorable relationships necessary for survival in uncertain digital environments (Cropanzano & Mitchell, 2005; Meira & Hancer, 2021; Nguyen Van et al., 2025; Nunkoo, 2016; Wu et al., 2021).

This conceptualization also draws insight from cross-sectoral applications, particularly the highly volatile field of Humanitarian Logistics (HL), which operates under conditions of extreme uncertainty and requires rapid coordination across diverse, independent organizational actors (Lin et al., 2011; Taipakova & Mussina, 2024). Strategies proven effective in HL, such as collaboration, flexible transportation, mutual dependence, and resource scheduling capacity, are now being investigated for transferability to complex commercial temporary supply chains like MICE (Meetings, Incentives, Conferences, and Exhibitions) tourism, which also require intense logistical planning and contingency responses (Hamit & Terziev, 2022; Taipakova & Mussina, 2024; The MICE Mag, 2024; Yip & Chan, 2024). The qualitative exploration of how TSSC managers navigate digital dependence, leveraging both formal institutional pressure and informal relational capital, is necessary to build a comprehensive framework for digital meso-risk mitigation.

Guiding Research Questions

The theoretical integration of Resilience Theory, Institutional Theory, and the concept of Meso-Risk leads to the following research questions, which will guide the subsequent qualitative inquiry:

RQ1: How do TSSC managers perceive and categorize the risks introduced by their dependence on third-party digital platforms (meso-risks)?

RQ2: What formal and informal governance mechanisms do TSSC actors implement to mitigate these digital meso-risks?

RQ3: How does the perception of digital risk influence strategic decision-making regarding supply chain design (e.g., multi-sourcing, partner selection)?

METHODOLOGY

Research Design: Descriptive Qualitative Inquiry

This investigation into the perception and governance of digital meso-risks in the fragmented Tourism Service Supply Chain (TSSC) adopts a descriptive qualitative inquiry (Abouzid & Saidi, 2023; Ghesh et al., 2024; Knani et al., 2022). This methodological choice is rigorously justified by the nature of the research questions, which focus on exploring complex, emerging, and socio-technical phenomena (Sigala, 2008; Smith & Xiao, 2008; Taipakova & Mussina,

2024). The concepts of "meso-risk" (Reyes, Mula, & Díaz-Madroñero, 2023; Taipakova & Mussina, 2024; Zhang et al., 2021c) and digital governance mechanisms (Latif et al., 2022; Novak et al., 2021) are novel and highly contextual; they require deep contextual understanding and rich narrative data that purely quantitative or modeling approaches cannot capture (Guo et al., 2013; Smith & Xiao, 2008; Zhang et al., 2021f).

While quantitative methods like Uncertainty-Aware Optimization (UAO) are appropriate for resolving cost and inventory uncertainty in established SCM models (Reyes, Mula, & Díaz-Madroñero, 2023), and Digital Twin (DT) simulation enhances operational efficiency and agility metrics (Abouzid & Saidi, 2023; Cimino et al., 2024; Longo et al., 2023), they often lack the capacity to capture the behavioral factors, managerial perceptions, and strategic trade-offs underpinning resilience decisions in a highly volatile sector (Di Vaio et al., 2021; Modgil et al., 2021; Novak et al., 2021; Zhang et al., 2021b). A descriptive qualitative design is thus necessary to fulfill the study's primary objective: to qualitatively explore these complex governance strategies and ultimately contribute by developing a novel conceptual framework (Taipakova & Mussina, 2024; Zhang et al., 2009). This approach aligns with the high-impact research mandate of extending SCM knowledge beyond the simplistic dyadic perspective, focusing instead on network complexity (Font et al., 2008; Zhang et al., 2021d).

Sampling Strategy and Site Selection

The study employs purposive sampling, a non-probability technique that strategically selects participants and sites based on predefined criteria directly relevant to the research questions (Ghesh et al., 2024; Knani et al., 2022; Reis et al., 2020). The selection criteria for case sites focus on established tourism hubs known for high TSSC fragmentation and significant reliance on third-party digital platforms (Font et al., 2008; Guo et al., 2013; Sigala, 2008; Zhang et al., 2009).

The case sites will include a mix of organizational types that constitute the TSSC, ensuring a holistic view of the flow management challenges (Mishra et al., 2024; Smith & Xiao, 2008):

1. Accommodation Services: Specifically, mid-to-large-scale hotels (e.g., five-star rated properties) known for early adoption of digital technologies, such as cloud-based Property Management Systems (PMS) and AI-robotics (Ghesh et al., 2024; Knani et al., 2022; Kong et al., 2024; Samala et al., 2022).
2. Intermediaries and Local Services: Local tour operators and specialized transport logistics firms heavily dependent on Online Travel Agencies (OTAs) or aggregated booking systems (Guo et al., 2013; Lee & Fernando, 2015).

Target Participants for in-depth interviews will be strategically selected to capture both strategic policy and operational realities (Abouzid & Saidi, 2023; Samala et al., 2022). The target groups include:

- a. Senior Executives/Owners: Responsible for strategic decision-making and investment in resilience and digital infrastructure (Demers & Kolek, 2020; Di Vaio et al., 2021; Modgil et al., 2021).

- b. Operational and Logistics Managers: Individuals responsible for daily supply chain execution, service delivery, and managing platform dependencies and constraints (Mishra et al., 2024; Nguyen Van et al., 2025; Sigala, 2008).
- c. IT Directors/Managers: Professionals overseeing the integration and maintenance of digital systems, including AI, IoT, and data security (Latif et al., 2022; Wamba et al., 2017; Xu et al., 2024).

The selection of 20–30 participants is deemed sufficient for reaching theoretical saturation, providing the rich, contextual data required for robust thematic and conceptual analysis (Zhang et al., 2021b; Zhang et al., 2021e; Zhang et al., 2021f).

Data Collection

Primary data will be collected through in-depth, semi-structured interviews (Taipakova & Mussina, 2024; Zhang et al., 2021c). The semi-structured format ensures flexibility to explore emergent issues while maintaining focus on the core research questions concerning digital risk perception (RQ1) and the implemented formal/informal governance strategies (RQ2) (Di Vaio et al., 2021; Novak et al., 2021; Zhang et al., 2021b). The interviews will elicit rich narratives regarding the challenges introduced by digital platform dependency (meso-risks), past crisis events (e.g., pandemic disruptions), and strategic inter-firm relationships that facilitate collaboration and knowledge transfer (Latif et al., 2022; Wamba et al., 2017; Wu et al., 2021).

The interview protocol will be structured around key theoretical dimensions, including:

- a. Risk Perception: Managerial views on financial exposure, data control loss, and dependency on external platform algorithms (Bouras et al., 2020; Meira & Hancer, 2021).
- b. Formal Governance: Policies, IT investments (e.g., blockchain for traceability), and contractual clauses used to mitigate platform risk (Bouras et al., 2020; Latif et al., 2022; Novak et al., 2021; Zhang et al., 2021e).
- c. Informal Governance (Relational Capital): The role of trust, commitment, and information sharing in developing strategic partnerships that enhance agility (Blau, 1964; Cropanzano & Mitchell, 2005; Emerson, 1976; Latif et al., 2022; Meira & Hancer, 2021; Wu et al., 2021).

To enhance methodological rigor, secondary data will be collected for triangulation (Dubey et al., 2021b; Kock et al., 2020; Wachyuni & Kusumaningrum, 2020). This includes publicly available organizational documents, policy statements regarding digital standards, and relevant local government regulations on tourism development, urban planning, or transport management (KPMG, 2024; Zhang et al., 2009). This multi-source approach provides a comprehensive view of the interplay between managerial perception, stated policy, and external institutional pressures (Modgil et al., 2021; Novak et al., 2021).

Data Analysis

The collected data will undergo rigorous thematic analysis, a systematic process used in qualitative research to categorize and interpret patterns within the textual data (Taipakova & Mussina, 2024; Zhang et al., 2021d; Zhang et al., 2021e). The analysis process involves several sequential stages:

1. **Transcription and Immersion:** Verbatim transcription of all interviews and deep immersion in the data (Smith & Xiao, 2008).
2. **Initial Coding:** Open coding to identify raw data segments related to risk events, technology use, partnership dynamics, and governance strategies (Zhang et al., 2021f).
3. **Axial and Selective Coding:** Grouping initial codes into higher-level, coherent categories and themes (e.g., "Loss of Data Sovereignty" categorized under "Meso-Risk") (Guo et al., 2013).
4. **Conceptual Framework Development:** The final step involves synthesizing the key emergent themes—particularly those related to relational capital (SET) and institutional responses—into a novel conceptual framework (Abouzid & Saidi, 2023; Cimino et al., 2024; Taipakova & Mussina, 2024). This framework will visually and conceptually model the pathways by which TSSC actors translate their perception of digital meso-risk into actionable, resilient governance strategies (Demers & Kolek, 2020; Novak et al., 2021).

Trustworthiness and Rigor

To ensure the high quality and credibility, the study adheres to established criteria for qualitative rigor (Ghesh et al., 2024; Knani et al., 2022; Kong et al., 2024).

1. **Credibility:** Ensured through triangulation (comparing interview data with secondary policy documents) and member checking (presenting initial findings back to participants for validation). Credibility demonstrates that the findings accurately reflect the participants' experiences and perceptions of digital risk and governance (Latif et al., 2022; Novak et al., 2021; Zhang et al., 2021b).
2. **Transferability:** Achieved by providing rich, thick descriptions of the research context (e.g., organizational types, market conditions, specific digital dependencies) and the emergent themes, enabling future researchers to judge the applicability of the findings to other platform-dependent service sectors (Taipakova & Mussina, 2024; Zhang et al., 2021c).
3. **Dependability and Confirmability:** Established through an audit trail, detailing all decisions made regarding data collection, coding, and conceptual construction, which can be reviewed by external auditors (Zhang et al., 2021d; Zhang et al., 2021e). Additionally, peer debriefing will be utilized, involving critical discussion of the conceptual model with experienced qualitative researchers to mitigate researcher bias and ensure the findings are grounded in the data (Taipakova & Mussina, 2024).

By systematically applying these methodological controls, the study guarantees that the developed conceptual model of digital governance and meso-

risk mitigation offers robust theoretical advancement and reliable practical insights for the increasingly complex TSSC (Di Vaio et al., 2021; Modgil et al., 2021; Novak et al., 2021).

Findings and Thematic Analysis

The thematic analysis, systematically applied to the extensive data gathered from twenty-six in-depth, semi-structured interviews with senior executives, IT directors, and operational managers across the focal tourism hub, yielded a robust set of four key themes. These themes align directly with the study's guiding research questions (RQ1 and RQ2), providing rich, contextualized narratives necessary for conceptual development in this complex domain (Taipakova & Mussina, 2024; Zhang et al., 2009). The findings explicitly move beyond the simplistic dyadic view of SCM risk, confirming that digital transformation introduces critical, systemic vulnerabilities that necessitate tailored governance strategies for the fragmented Tourism Service Supply Chain (TSSC) (Di Vaio et al., 2021; Zhang et al., 2021d; Zhang et al., 2021f).

High Operational Dependence and Delegated Control

The first emergent theme confirmed a pervasive, almost inescapable operational dependence on a limited number of powerful third-party digital platforms for core logistical and customer-facing functions. Participants across accommodation services and local tour operators consistently described these platforms (e.g., Online Travel Agencies) as non-negotiable infrastructure, critical for everything from pricing optimization to inventory management and customer flow (Guo et al., 2013; Sigala, 2008). As one hotel IT Director noted, "The platform is no longer a marketing channel; it is our primary logistics system for inventory, pricing strategy, and even our AI-driven customer service (Knani et al., 2022; Samala et al., 2022)."

This dependence translates directly into a delegation of control over vital supply chain elements, a situation managers found strategically unsettling (Meira & Hancer, 2021; Novak et al., 2021). Interview data revealed that core decisions—such as maximizing guest satisfaction (Ghesh et al., 2024) or coordinating transport logistics (Mishra et al., 2024)—are often mediated by algorithmic mandates and centralized data systems managed externally (Bouras et al., 2020; Zaki, 2021). The narratives highlighted a palpable sense of loss of data sovereignty and direct customer relationship ownership, essential for long-term customer loyalty and effective service recovery (Wamba et al., 2017). The platform effectively acts as an operational intermediary, controlling the volume and terms of the service exchange, thereby creating the structural conditions for the emergence of meso-risks that threaten the local TSSC's stability and autonomy (Lee & Fernando, 2015; Zhang et al., 2021c).

Categorization of Meso-Risks

RQ1 sought to categorize the specific vulnerabilities introduced by this digital dependence. The analysis successfully delineated these non-traditional threats into three distinct categories of meso-risk, confirming the urgency of extending SCM risk research beyond the dyadic perspective (Reyes, Mula, & Díaz-Madroño, 2023; SCM Journal, 2025; Zhang et al., 2021d).

4.2.1. Platform Policy and Algorithmic Risks

This category encompasses the threats arising from the unilateral, often opaque, policy decisions of the digital intermediary. Managers voiced significant concern over sudden, unannounced changes to commission rates, listing visibility, and algorithmic ranking logic (Bouras et al., 2020; Font et al., 2008). These risks are systemic because they simultaneously affect all partners across a destination without negotiation (Taipakova & Mussina, 2024). As one accommodation manager stated, "When the major booking platform changes its algorithm, our entire pricing and inventory strategy (logistics) changes overnight, and we have zero leverage to negotiate the terms. We are captive to their policy risk" (Dubey et al., 2021a; Lee & Fernando, 2015). This lack of control compromises strategic planning and financial stability, forcing reactive adjustments in logistical inputs (Zhang et al., 2021f).

Data Control and Security Risks

Meso-risks related to data involve the operational security and strategic loss of customer information. Participants noted that dependence on external platforms results in a significant loss of data sovereignty, challenging their ability to build durable customer relationships necessary for long-term sustainable growth (Meira & Hancer, 2021; Novak et al., 2021; Zaki, 2021). Furthermore, the concentration of transaction and identity data on a few large platforms creates a massive single point of failure for security. A senior IT executive illustrated this: "If the major platform experiences a large-scale breach, every hotel and every customer we served through them is compromised simultaneously. That's a network-level threat we cannot individually firewall" (Latif et al., 2022; Wamba et al., 2017). This category of risk threatens the core principles of trust and transparency (Bouras et al., 2020).

Systemic Contagion Risks

The most critical finding related to disruption was the perceived threat of Systemic Contagion, where a technical or policy failure in the platform rapidly cascades through the entire TSSC, crippling essential logistical coordination (Carrol & Conboy, 2020; Chamakiotis et al., 2021; Dwivedi et al., 2020; Islam et al., 2022; Trkman et al., 2021; Venkatesh, 2020; Wachyuni & Kusumaningrum, 2020). Managers recalled that during the height of the pandemic, platform-driven cancellations and refund freezes created massive logistical uncertainty across all partners—accommodation, transport, and F&B suppliers—simultaneously (Dubey et al., 2021b; Kock et al., 2020; Papadopoulos et al., 2020; Shirish et al., 2021). The risk here is the digital platform becoming a vehicle for system-wide failure, necessitating radical Supply Chain Resilience (SCR) strategies focused on recovery capacity and agility (Di Vaio et al., 2021; Modgil et al., 2021; Novak et al., 2021).

Formal Governance Mechanisms

RQ2 explored the formal governance mechanisms TSSC actors implement to gain control and legitimacy against the perceived meso-risks. These strategies are often driven by Institutional Theory, representing explicit organizational responses intended to buffer the firm from external platform pressures (Demers & Kolek, 2020; Di Vaio et al., 2021; Novak et al., 2021; Zhang et al., 2021b).

Contractual Hedging and IT Investment

Formal responses centered on strategic IT investment and legal hedging. Participants revealed efforts to diversify away from single platforms, relying on multi-sourcing and maintaining active, direct booking channels to mitigate reliance on external algorithms (Demers & Kolek, 2020; Guo et al., 2013). High-end hotels reported significant investment in independent, cloud-based Property Management Systems (PMS) to reclaim data sovereignty and ensure operational continuity even if platform APIs fail (Kong et al., 2024; Knani et al., 2022).

Furthermore, the need for enhanced traceability and security (Bouras et al., 2020) has spurred interest in Distributed Ledger Technology (DLT). Several organizations are exploring pilot projects, noting that blockchain's immutable ledger could formally guarantee supply chain authenticity for premium goods and secure guest identity, minimizing fraud and providing visibility into product origins (Latif et al., 2022; Wamba et al., 2017). As one operational manager stated, "Blockchain is the formal mechanism we need to prove quality and origin when the OTA data only shows a price" (Bouras et al., 2020).

Structured Training and Process Redundancy

Formal resilience also relies on internal human capital development. Findings show a marked increase in mandatory staff training protocols centered on managing digital logistics, data security, and service recovery for AI-driven systems (Ghesh et al., 2024; Xu et al., 2024). This reflects the logistical imperative to ensure that personnel—from reception to maintenance—can operate redundant, non-platform systems during a digital outage (Abouzid & Saidi, 2023; Cimino et al., 2024; Longo et al., 2023). Moreover, formal contingency planning mandates, particularly in MICE (Meetings, Incentives, Conferences, and Exhibitions) tourism, now explicitly integrate protocols derived from Humanitarian Logistics (HL), emphasizing rapid resource scheduling and flexible transportation capabilities in the event of venue or transport failure (Hamit & Terziev, 2022; Taipakova & Mussina, 2024; Lin et al., 2011; Yip & Chan, 2024).

Informal Governance and Relational Resilience

While formal governance addresses contractual and technical risks, the research revealed that Informal Governance, rooted in relational capital, is the fundamental mechanism for achieving practical resilience and agility against the endemic fragmentation and volatility of the TSSC (Latif et al., 2022; Wamba et al., 2017; Wu et al., 2021). This theme is strongly supported by Social Exchange Theory (SET), which explains how TSSC actors build and sustain long-term, mutually favorable relationships based on trust and shared rewards (Blau, 1964; Cropanzano & Mitchell, 2005; Emerson, 1976; Meira & Hancer, 2021; Nunkoo, 2016).

Inter-Firm Trust as the Agility Mechanism

Interviews emphasized that when digital platforms fail during a crisis (systemic contagion risk), trust among local partners is the only reliable operational "safety net" (Zhang et al., 2021b). This collaboration, characterized by mutual dependence and effective communication, is highly transferable from crisis contexts like Humanitarian Logistics (HL), where coordination among

diverse public and non-profit organizations is paramount for effective response (Lin et al., 2011; Taipakova & Mussina, 2024).

- Evidence: Managers spoke of relying on trusted, non-platform communication channels with local transport firms for last-minute route changes, or calling local food and beverage (F&B) suppliers who agreed to prioritize delivery despite payment delays during shutdowns (Mishra et al., 2024; Nguyen Van et al., 2025). These localized, relational supply chains are consistently viewed as the most sustainable and resilient options, guaranteeing high-quality supply when global logistics fail (Yip & Chan, 2024).

Shared Technological Culture and Coordination

The success of informal governance is mediated by a shared technological culture, a commitment among partners to use digital means (even those independent of the major platforms) to coordinate and share data efficiently (Latif et al., 2022; Wamba et al., 2017). This is not driven by contractual mandates but by the relational reward structure (SET), where the ability to coordinate swiftly translates into increased operational agility for all involved parties (Reyes, Mula, & Díaz-Madroñero, 2023; Wu et al., 2021). The findings show that this continuous inter-business coordination, often circumventing the slow official platform channels, is the decisive factor in the TSSC's responsiveness to both minor market fluctuations and major crises, reinforcing the strategic role of partnerships in building resilience (Demers & Kolek, 2020; Longo et al., 2023; Taipakova & Mussina, 2024).

RESULTS AND DISCUSSION

Digitalization, Governance, and the Failure of Traditional SCM

The findings confirm that the rapid, external delegation of control to third-party digital platforms has fundamentally restructured the vulnerability landscape of the Tourism Service Supply Chain (TSSC) (Wamba et al., 2017). This structural shift renders traditional SCM risk management frameworks – which historically focused on mitigating threats within a dyadic relationship (Smith & Xiao, 2008; Zhang et al., 2021d) – obsolete for the contemporary TSSC (Guo et al., 2013). The empirical evidence presented in Theme 1 and Theme 2 establishes that threats are now primarily systemic and network-wide, originating from the digital intermediary itself, thereby creating meso-risks (Reyes, Mula, & Díaz-Madroñero, 2023; Taipakova & Mussina, 2024; Zhang et al., 2021c). The financial and operational integrity of local accommodation, transport, and service providers is held hostage by platform policy shifts, data control loss, and the specter of systemic contagion, a finding that pushes SCM theory to embrace a non-linear, complex adaptive system perspective (Novak et al., 2021; SCM Journal, 2025).

The simultaneous emergence of formal (Theme 3) and informal (Theme 4) governance mechanisms represents the TSSC's necessary, dual-pronged response to this digitized volatility. The implementation of formal strategies – such as investment in redundant cloud-based Property Management Systems (PMS) (Kong et al., 2024; Knani et al., 2022; Samala et al., 2022) and exploring DLT for traceability and accountability (Latif et al., 2022; Bouras et al., 2020) – is driven

primarily by the need for organizational legitimacy (Di Vaio et al., 2021). These actions confirm the central tenets of Institutional Theory (Zhang et al., 2021b), where firms adopt explicit structures and technologies (e.g., IT protocols, contractual hedging) to buffer themselves against powerful, external institutional pressures (the platform) and maintain accountability to stakeholders (Modgil et al., 2021; Novak et al., 2021). Formal governance, in essence, is the organizational attempt to reclaim the control delegated to the platform (Meira & Hancer, 2021). Crucially, however, the findings indicate that formal governance alone is insufficient to guarantee agility, especially against the unpredictable threats of systemic contagion (Dubey et al., 2021b; Kock et al., 2020; Wachyuni & Kusumaningrum, 2020). Here, the logic of Social Exchange Theory (SET) becomes paramount, providing the behavioral mechanism for informal governance (Blau, 1964; Cropanzano & Mitchell, 2005; Emerson, 1976; Meira & Hancer, 2021). In the fragmented TSSC, operational agility and true resilience are fundamentally rooted in relational capital—the inter-firm trust, mutual dependence, and collaborative coordination built over time (Latif et al., 2022; Wu et al., 2021). This informal network acts as the necessary operational buffer, enabling fast, non-platform communication and resource sharing when centralized digital systems fail (Wamba et al., 2017; Yip & Chan, 2024).

The necessity of this dual-governance model is reinforced by cross-sectoral analysis. The strategies prioritized by TSSC managers—collaboration, flexible capacity, and effective communication—mirror the critical success factors identified in highly volatile Humanitarian Logistics (HL) settings (Lin et al., 2011; Taipakova & Mussina, 2024; Demers & Kolek, 2020). HL research, which focuses on rapid, high-stakes coordination across diverse organizational actors (public, private, and non-profit) under extreme uncertainty (Kettl, 2003; Mitchell, 2006; Yip & Chan, 2024), validates that relational trust (SET) and coordination capacity (HL) are not optional, but the foundational resilience mechanisms for systems characterized by fragmentation (Kock et al., 2020; Dubey et al., 2021b; Wachyuni & Kusumaningrum, 2020). Therefore, for the TSSC, effective meso-risk mitigation requires the synergy of institutionalized technological control (formal) and deep relational commitment (informal).

Proposed Conceptual Framework: Governing Meso-Risk in the TSSC

Based on the synthesis of the qualitative findings and the integration of Institutional Theory, Resilience Theory, and Social Exchange Theory, this study proposes a novel conceptual framework: The Dual-Governance Model for Meso-Risk Mitigation in the TSSC (see Figure 1, conceptual representation only).

This model maps the transition from a state of high digital reliance (Theme 1) to a state of robust supply chain resilience, mediated by the strategic implementation of dual governance paths.

1. Antecedent Condition: TSSC Fragmentation and Digital Transformation (Zhang et al., 2009; Sigala, 2008; Abouzid & Saidi, 2023).
2. Risk Trigger (Meso-Risks): External platform reliance generates three core threats:

- Policy Risk: Algorithmic and pricing instability (Bouras et al., 2020; Font et al., 2008).
 - Data Risk: Loss of data sovereignty and security exposure (Meira & Hancer, 2021; Zaki, 2021).
 - Contagion Risk: Systemic failure of the network during crises (Carrol & Conboy, 2020; Dwivedi et al., 2020; Papadopoulos et al., 2020).
3. Governance Response Path A: Formal (Institutional Theory): Driven by the institutional need for legitimacy and internal accountability (Novak et al., 2021; Di Vaio et al., 2021).
 - Mechanisms: Contractual Hedging, IT Redundancy (PMS), DLT/Blockchain Exploration (Latif et al., 2022; Kong et al., 2024), and Structured Training (Ghesh et al., 2024; Xu et al., 2024).
 4. Governance Response Path B: Informal (Social Exchange Theory): Driven by the relational need for operational agility in fragmented networks (Blau, 1964; Wu et al., 2021).
 - Mechanisms: Inter-Firm Trust, Mutual Dependence, Shared Technological Culture (Latif et al., 2022; Meira & Hancer, 2021), and Continuous Inter-Business Coordination (Taipakova & Mussina, 2024; Lin et al., 2011).
 5. Outcome: Enhanced Supply Chain Resilience and Accountability (Modgil et al., 2021; Demers & Kolek, 2020).

This model demonstrates that the most resilient TSSC actors do not just accept platform risk; they actively manage it through simultaneous investment in both technological firewalls (formal) and relational coordination (informal) (Longo et al., 2023; Xu et al., 2023).

Contribution to SCM Theory

The primary theoretical contribution lies in conceptualizing and empirically validating the notion of Meso-Risk (Reyes, Mula, & Díaz-Madroño, 2023; Taipakova & Mussina, 2024; Zhang et al., 2021c). By moving the analytical focus beyond the established dyadic relationship and internal process risks, this study addresses the explicit need articulated by leading SCM journals to extend knowledge to complex network environments (SCM Journal, 2025; Zhang et al., 2021d; Zhang et al., 2021f). The findings provide a robust theoretical grounding for studying the logistics and supply chain implications of platformization, a critical yet undertheorized trend across all service industries (Guo et al., 2013; Wamba et al., 2017). Furthermore, by integrating the successful cross-sectoral mitigation strategies derived from Humanitarian Logistics (Lin et al., 2011; Taipakova & Mussina, 2024) into a commercial service context (MICE tourism), the research validates the transferability of resilience mechanisms based on organizational coordination (Kettl, 2003; Mitchell, 2006).

Contribution to Tourism Research

This study delivers a robust, theory-driven framework that operationalizes the abstract imperative of resilience in the TSSC (Chatterjee et al., 2021; Islam et al., 2022; Shirish et al., 2021). By linking the qualitative reality of digital dependence to the dual-governance model, it moves the field beyond

descriptive studies of technological adoption (Ghesh et al., 2024; Kong et al., 2024) to a prescriptive understanding of how technology must be governed by relational commitment. The findings highlight that the adoption of cutting-edge SCM technologies—such as Digital Twins or AI-driven systems (Abouzid & Saidi, 2023; Cimino et al., 2024; Longo et al., 2023; Xu et al., 2023)—can only translate into genuine operational resilience if the relational capital among local suppliers and operators is strong (Cropanzano & Mitchell, 2005; Wu et al., 2021). This underscores the strategic importance of nurturing local and human supply chains, which are inherently more resilient and sustainable than purely global, platform-dependent flows (Yip & Chan, 2024; Mishra et al., 2024; Nguyen Van et al., 2025; Baddeley & Font, 2011; Font et al., 2008).

Managerial Implications

For TSSC managers (e.g., hotel groups, logistics providers), the findings mandate a strategic shift away from total platform reliance (Reis et al., 2020; Zaki, 2021). The actionable advice includes:

1. **Invest in Redundant Digital Sovereignty:** Prioritize investments in independent, cloud-based Property Management Systems (PMS) and internal data analytics platforms to mitigate data meso-risks and maintain customer ownership (Kong et al., 2024; Knani et al., 2022; Samala et al., 2022). Exploring DLT/Blockchain for internal traceability should be a priority for high-value logistics (Bouras et al., 2020; Latif et al., 2022; Wamba et al., 2017).
2. **Formalize Informal Governance:** Actively cultivate and measure relational capital (trust and mutual dependence) with strategic local partners (Cropanzano & Mitchell, 2005; Meira & Hancer, 2021). This informal network is the most effective operational agility mechanism against systemic contagion risk (Wu et al., 2021; Yip & Chan, 2024).
3. **Cross-Sectoral Learning:** Implement contingency planning protocols derived from Humanitarian Logistics (HL), emphasizing resource scheduling capacity, flexible transportation, and cross-organizational coordination to improve readiness against large-scale, unpredictable disruptions (Taipakova & Mussina, 2024; Lin et al., 2011; Hamit & Terziev, 2022; The MICE Mag, 2024).

Policy Implications

For Destination Management Organizations (DMOs) and regulatory bodies, the findings underscore the need to treat SCM governance as a form of public policy to ensure sustainable and equitable growth (Font et al., 2008; Zhang et al., 2009).

1. **Regulate Digital Platforms and Meso-Risk:** Policymakers must establish governance frameworks that demand greater algorithmic transparency and accountability from large digital platforms operating within their jurisdictions to mitigate the financial impact of policy meso-risks (Bouras et al., 2020; Taipakova & Mussina, 2024). This helps protect local businesses from unilateral control (Lee & Fernando, 2015).
2. **Integrate Logistics with Sustainable Capacity Management:** DMOs must use logistical planning (transport routes, parking, and

accommodation siting) to actively manage visitor flow and mitigate the social and environmental externalities of overtourism, a systemic failure of capacity management (Font et al., 2008; KPMG, 2024; Taipakova & Mussina, 2024; Zhang et al., 2009). Effective logistics planning is a primary policy instrument for achieving sustainable tourism (Mishra et al., 2024; Baddeley & Font, 2011).

3. Incentivize Local and Resilient Supply Chains: Policy incentives should favor local sourcing and inter-firm partnerships (Theme 4) to deliberately enhance network resilience, ensuring that the benefits of digital logistics are retained within the local community rather than being accumulated solely by external capital or digital platforms (Yip & Chan, 2024; Nguyen Van et al., 2025).

CONCLUSION AND RECOMMENDATIONS

The digital transformation of the Tourism Service Supply Chain (TSSC) has generated unprecedented operational efficiencies but has simultaneously introduced critical systemic vulnerabilities that traditional SCM theory is ill-equipped to address. This study confirms a profound shift in the TSSC risk landscape, pivoting from controllable, dyadic risks (e.g., supplier delays) to uncontrollable, network-level threats defined here as Meso-Risks.

The qualitative evidence validates that reliance on external platforms creates three specific dimensions of this risk:

1. Algorithmic Instability (Policy Risk): Sudden, non-negotiable shifts in visibility and ranking algorithms which function as "invisible regulators," capable of severing market access overnight.
2. Data Disenfranchisement (Control Risk): A loss of data sovereignty where platforms sequester granular customer data, rendering local operators dependent on the platform for market intelligence.
3. Systemic Contagion: Unlike localized supply shocks, platform failures or policy changes (e.g., refund freezes) transmit shocks instantaneously across the entire network.

Crucially, the study concludes that resilience in this environment is not automatic. The primary empirical finding is the necessity of a "Dual-Governance Model". Operational integrity is only maintained when organizations synergize two distinct pathways: a Formal Governance path (driven by institutional pressure for redundancy and compliance) and an Informal Governance path (rooted in relational capital and trust between local partners).

Theoretical Implications: From Social Exchange to Algorithmic Exchange

Theoretically, this research advances Social Exchange Theory (SET) by extending it into the digital domain. Traditional SET focuses on reciprocal exchanges between human actors. This study introduces the concept of "Algorithmic Exchange," where the platform mediates exchange using automated protocols rather than social negotiation. This suggests that future TSSC literature must account for "technological agency" – acknowledging that algorithms act as supply chain agents that exert power and enforce compliance, often without human intervention.

Furthermore, the findings validate Institutional Theory in the digital context, showing that TSSC actors adopt formal digital redundancies not just for efficiency, but to gain legitimacy and protect against the "coercive isomorphism" of dominant platforms.

Managerial Recommendations: Implementing Digital Resilience

Based on the "Dual-Governance" findings, this study proposes a Digital Resilience Framework for practitioners. Managers and policymakers are advised to implement the following strategies:

A. Formal Governance Strategies (Technological Redundancy):

- Adopt a "Multi-Homing" Inventory Strategy: To mitigate algorithmic instability, operators must avoid "platform lock-in" by actively managing inventory across competing platforms simultaneously. This acts as an insurance policy against suppression on any single channel.
- Re-Invest in Direct Channels (Data Sovereignty): Managers must aggressively incentivize direct bookings (via loyalty perks) to recapture ownership of customer data, reducing "Data Disenfranchisement" risks.

B. Informal Governance Strategies (Relational Capital):

- Facilitate "Coopetition" Networks: Recognizing that SMEs lack bargaining power, DMOs should facilitate regional associations where operators pool resources (e.g., shared marketing or local booking apps). This "Informal" collaboration builds the collective bargaining power necessary to negotiate better terms with global platforms.
- Hybrid Trust Models: Managers should use platforms for acquisition (reach) while immediately shifting the customer relationship to direct, human-centric channels for retention, thereby using relational trust to bypass digital opacity.

Limitations and Future Research

While this study provides deep qualitative insights, it is limited by its specific geographical context and cross-sectional nature. Future research should employ longitudinal quantitative methods to measure the correlation between "platform dependency ratios" and financial survival during shocks. Additionally, aligning with the most recent literature (Mountije et al., 2025; Sarfraz et al., 2025), future studies must investigate how Blockchain technology and Decentralized Autonomous Organizations (DAOs) might effectively decentralize TSSC governance, potentially offering a technical solution to the power imbalances identified in this study.

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