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# The Association Between Smart Tourism Logistics, Supply Chain Resilience, and Attendee Behavioral Intentions in Bangkok's MICE Industry

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**ABSTRACT**

Smart Tourism Logistics (STL) including AI-enabled mobility tools, biometric entry systems, and event mobile applications has become increasingly embedded in Bangkok's MICE ecosystem. However, empirical evidence remains limited regarding whether attendee engagement with these technologies is associated with perceived supply chain resilience (SCR) and loyalty-related outcomes. This study investigates STL adoption and examines group-level associations between STL usage, perceived SCR, and attendee behavioral intentions (revisit intention and word-of-mouth intention) in Bangkok's primary MICE cluster (QSNCC, BITEC, and IMPACT Muang Thong Thani). Using a quantitative, descriptive-associational design, data were collected from 400 domestic and international delegates attending MICE events during 2025–2026. Variables were operationalized categorically and analyzed using Pearson's Chi-Square Test of Independence, with effect sizes reported using Phi (φ). Results indicate high baseline STL engagement (77.5% biometric check-in; 70% event app use). Significant associations were found between STL usage and revisit intention, $\chi^2(1, N = 400) = 45.21$, $p < 0.005$, $\varphi = 0.34$, and between STL usage and word-of-mouth intention, $\chi^2(1, N = 400) = 38.47$, $p < 0.005$, $\varphi = 0.31$. Perceived SCR demonstrated stronger associations with revisit intention, $\chi^2(1, N = 400) = 72.63$, $p < .005$, $\varphi = 0.43$, and word-of-mouth intention, $\chi^2(1, N = 400) = 65.18$, $p < 0.005$, $\varphi = 0.40$. STL usage was also significantly associated with perceived SCR, $\chi^2(1, N = 400) = 29.76$, $p < .001$, $\varphi = 0.27$. Collectively, the findings suggest that perceived resilience is more strongly associated with loyalty outcomes than STL engagement alone, highlighting the strategic importance of integration quality and operational continuity across the attendee journey. The study contributes applied evidence for Smart MICE policy and provides a practical categorical framework for assessing technology-enabled logistics in disruption-prone urban environments.

**Keywords:** Smart Tourism Logistics, Supply chain resilience, Behavioral intentions, Revisit intention, MICE.

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## Introduction

### Background of the Study

The Meetings, Incentives, Conventions, and Exhibitions (MICE) industry represents a high-value segment of Thailand's tourism economy, commonly associated with higher per-capita expenditure than leisure travel. In 2026, Thailand positions MICE not only as a revenue generator but also as a mechanism for long-term urban development and the strengthening of "Meaningful Trust" in destination capability (TCEB, 2026). As the country's primary gateway, Bangkok has reinforced its role as a regional MICE hub, hosting major international events at leading venues such as the Queen Sirikit National Convention Center (QSNCC) and the Bangkok International Trade and Exhibition Centre (BITEC) (The Nation, 2026).

Despite this status, Bangkok's urban environment presents persistent logistical constraints. Peak-hour congestion and seasonal weather variability can disrupt exhibition "move-in" and "move-out" operations and affect the daily mobility of large delegate volumes. In response, Thailand's "Smart MICE City" roadmap increasingly emphasizes Smart Tourism Logistics (STL), defined as the integration of artificial intelligence (AI), the Internet of Things (IoT), and data-driven systems to coordinate the flow of delegates, goods, and event information (Somanas, 2026). In Bangkok, STL initiatives have expanded to include AI-supported route optimization, biometric-enabled entry processes, and fast-track services designed to reduce friction across airport-to-venue touchpoints. These innovations are frequently framed as mechanisms that can strengthen supply chain resilience by maintaining service continuity and supporting rapid recovery during disruptions (Du & Wang, 2025).

### Problem Statement

Although the Thailand Convention and Exhibition Bureau (TCEB) and private stakeholders have invested substantially in digital infrastructure, the human–technology interface remains insufficiently examined. The MICE supply chain in Bangkok involves multiple interdependent stakeholders—Professional Convention Organizers (PCOs), venue operators, transport providers, and specialized logistics firms—who may operate with limited interoperability and persistent "data silos," contributing to inconsistent service delivery (Yoon & Wang, 2023).

In parallel, empirical evidence remains limited regarding how smart logistics interventions translate into attendee-level outcomes. Contemporary delegates increasingly expect a seamless end-to-end journey, particularly across time-sensitive mobility and entry processes (Radic et al., 2024). However, if smart systems are perceived as difficult to use, fragmented, or unable to mitigate real-world delays, the intended benefits may not be realized and could instead diminish perceived reliability. To date, research has not sufficiently established whether higher engagement with STL tools is statistically associated with attendees' behavioral intentions specifically revisit intention and word-of-mouth (WOM) advocacy within Bangkok's MICE context. Without such evidence, the return on investment (ROI) of "Smart MICE" initiatives remains difficult to assess beyond operational or promotional claims. Despite Thailand's strategic investment in Smart MICE infrastructure, empirical evidence remains limited regarding whether engagement with Smart Tourism Logistics corresponds with attendee perceptions of supply chain resilience and behavioral intentions within Bangkok's MICE ecosystem. As a result, the effectiveness and return on investment (ROI) of Smart MICE initiatives remain difficult to evaluate beyond operational or promotional claims.

### Research Objectives

This study investigates the association between engagement with smart logistics technologies and attendee-level outcomes in Bangkok's MICE industry. Specifically, it aims to (1) identify the adoption level of key Smart Tourism Logistics features (e.g., AI-based transport applications, biometric entry systems, and event apps) among MICE attendees; (2) examine perceived supply chain resilience from the attendee

perspective; and (3) determine whether statistically significant associations exist between STL usage, perceived resilience, and attendee behavioral intentions (revisit intention and WOM intention).

### Research Questions

This study is guided by the following research questions:

(1) What smart logistics technologies are most utilized by attendees within Bangkok's MICE ecosystem?
(2) Is STL usage significantly associated with attendee behavioral intentions (revisit intention and WOM intention)?
(3) Is perceived supply chain resilience significantly associated with attendee behavioral intentions, particularly revisit intention?

Note: If "satisfaction" is retained as an outcome, it should be explicitly operationalized and tested; otherwise, it should be omitted to maintain alignment with the Chi-square hypotheses.

### Significance of the Study

Practically, the study provides evidence that can support TCEB, venue operators, and urban planners in prioritizing smart logistics investments that correspond with stronger attendee loyalty indicators. For organizers and logistics providers, it identifies high-impact touchpoints across the attendee journey where integration and reliability may be most consequential. Academically, the study contributes to the intersection of logistics management and tourism behavior by applying categorical association analysis (Chi-Square testing) to examine whether measurable differences in behavioral intentions exist across STL engagement and resilience-perception groups in a high-density urban setting.

### Scope and Limitations

The study focuses on Bangkok's primary MICE cluster QSNCC, BITEC, and IMPACT Muang Thong Thani and includes domestic and international delegates attending events during 2025–2026. The analysis emphasizes attendee perceptions and self-reported engagement with smart logistics tools rather than technical system performance indicators or backend operational data. As a cross-sectional study using categorical group comparisons, the findings identify associations and group-level differences but do not establish causal direction. The use of purposive sampling may limit the generalizability of findings beyond Bangkok's primary MICE venues.

### Definition of Key Terms

Smart Tourism Logistics (STL) refers to the application of smart technologies (AI, IoT, and ICT) to coordinate the physical and informational flows that support tourism and event activities (Yoon & Wang, 2023). Supply Chain Resilience (SCR) refers to the perceived ability of the event ecosystem to maintain service continuity and recover quickly from disruptions within an urban context (Du & Wang, 2025). Behavioral intentions refer to an attendee's stated likelihood of revisiting a destination and recommending it to others (Ghaderi et al., 2025).

## Literature Review

### Transformation of MICE Logistics in Smart Urban Contexts

Historically, MICE destination competitiveness has been evaluated through static attributes such as venue capacity, hotel inventory, and airport proximity (Sriraksa, 2020; Chompupor, 2019). Within this lens, logistics was treated primarily as a supporting operational function. However, smart city development and increased digital integration have shifted the role of logistics from a backstage process

to an experiential determinant that can shape attendee evaluation and destination competitiveness (Marchesani & Masciarelli, 2025).

High-density urban environments amplify the importance of integrated logistics. The Smart City paradigm emphasizes coordinated mobility, data-enabled decision-making, and real-time responsiveness through technologies such as AI, IoT, and intelligent transport systems (Chen et al., 2023). In this setting, logistics extends beyond physical movement and increasingly involves the synchronization of information flows, access systems, and transport networks across multiple stakeholders. For Bangkok's MICE ecosystem, where congestion and environmental disruptions are persistent considerations, logistics performance becomes closely linked to perceived reliability and professional event quality.

**Smart Tourism Logistics (STL)**

Smart Tourism Logistics (STL) refers to the use of digital and information technologies to coordinate physical and informational flows within tourism and event environments (Yoon & Wang, 2023). In MICE contexts, STL commonly includes AI-enabled route optimization, biometric identity verification, real-time shuttle tracking, event mobile applications, and integrated digital ticketing systems, collectively intended to create a seamless attendee journey.

Previous studies indicate that digital logistics systems can improve efficiency by reducing congestion-related delays and supporting stakeholder coordination (Tan et al., 2023). IoT enabled tracking and visibility tools have also been linked to reduced bottlenecks in the movement of delegates and materials, particularly in large exhibition settings (Du & Wang, 2025). However, much of the existing research prioritizes technical performance and operational metrics rather than attendee-level evaluation. Given that the attendee experience is a critical component of MICE destination competitiveness, understanding whether engagement with STL corresponds with loyalty-related outcomes remains a meaningful gap.

**Technology Acceptance and Engagement in Event Contexts**

The Technology Acceptance Model (TAM) provides a foundational explanation for why individuals adopt digital systems, proposing that perceived usefulness and perceived ease of use influence intention to use technology (Davis, 1989). In tourism and event settings, perceived usefulness often reflects time savings, convenience, and stress reduction, while perceived ease of use relates to system clarity, reliability, and the absence of friction (Borges-Tiago & Avelar, 2025). When systems are complex or unreliable, techno-stress may emerge, potentially undermining satisfaction and future behavioral intention (Suanmali, 2021).

In MICE environments, digital logistics tools are embedded within time-sensitive mobility and entry processes. As a result, actual engagement with STL tools may shape destination-level judgments beyond technology attitudes alone. Yet, relatively few studies have examined whether higher engagement with such tools corresponds with behavioral intentions such as revisit intention and WOM advocacy in a specific urban MICE context.

**Supply Chain Resilience in Urban Event Ecosystems**

Supply Chain Resilience (SCR) refers to a system's capacity to maintain functionality and adapt during disruptions (Du & Wang, 2025). Contemporary resilience perspectives emphasize agility, rapid recovery, and adaptive reconfiguration rather than resistance alone. Urban event ecosystems are especially disruption-prone due to traffic variability, infrastructure maintenance, weather-related disturbances, and demand surges.

STL can contribute to resilience by increasing system visibility and enabling real-time coordination. AI-driven routing, digital queue management, and synchronized communication platforms allow stakeholders to adjust quickly to evolving conditions (Chen et al., 2023). Importantly,

resilience is also experienced perceptually: when disruptions occur but are managed effectively, attendees may perceive the system as reliable and professionally organized. Such perceptions may influence trust and subsequent behavioral intentions toward the destination (Lee & Joo, 2022). However, empirical evidence linking perceived SCR to attendee behavioral intentions in MICE settings remains comparatively limited, particularly in Bangkok.

**Behavioral Intentions in MICE Tourism**

Behavioral intention is commonly used as an indicator of future loyalty behavior in tourism research (Ghaderi et al., 2025). In MICE settings, revisit intention and WOM intention represent key outcomes that reflect future participation decisions and professional advocacy. Prior research highlights satisfaction, trust, and perceived service quality as important antecedents of loyalty (Lee & Joo, 2022), but the MICE context introduces a distinct emphasis on operational reliability and time efficiency.

Because MICE delegates often operate under strict schedules and professional expectations, logistical performance may exert a stronger influence on loyalty outcomes than leisure-oriented attributes. Consequently, STL engagement and perceived SCR may represent salient correlates of revisit intention and WOM intention within high-density urban environments.

**Theoretical Integration of Smart Tourism Logistics, Supply Chain Resilience, and Behavioral Intention**

The theoretical foundation of this study integrates the Technology Acceptance Model (TAM), Supply Chain Resilience (SCR), and Behavioral Intention Theory to explain how engagement with Smart Tourism Logistics (STL) may influence attendee outcomes in the MICE context. Although these theoretical perspectives are individually well-established in tourism and technology research, their integration within smart MICE logistics remains comparatively limited.

The Technology Acceptance Model (TAM) proposes that individuals are more likely to adopt technological systems when they perceive them as useful and easy to use (Davis, 1989). In tourism and event environments, perceived usefulness is often reflected in improved convenience, time efficiency, stress reduction, and seamless access to services throughout the attendee journey (Borges-Tiago & Avelar, 2025). Within the MICE context, technologies such as AI-enabled mobility systems, biometric identity verification, and event mobile applications may enhance attendee experiences by reducing friction in transportation, registration, and venue navigation (Radic et al., 2024).

However, technology adoption alone may not fully explain attendee loyalty-related outcomes, particularly in high-density urban MICE environments where operational disruptions frequently occur. Bangkok's MICE ecosystem is characterized by challenges such as traffic congestion, weather-related disruptions, and multi-stakeholder coordination complexity, all of which may affect the attendee experience (Suanmali, 2021). Consequently, the effectiveness of Smart Tourism Logistics may depend not only on technology adoption itself but also on the extent to which these technologies contribute to perceived supply chain resilience.

Supply Chain Resilience (SCR) refers to the capability of interconnected systems to maintain service continuity, adapt to disruptions, and recover efficiently while preserving operational effectiveness (Du & Wang, 2025). In MICE settings, resilience may be reflected through attendees' perceptions of seamless coordination, rapid problem resolution, and uninterrupted event experiences despite external disruptions (Chen et al., 2023). Previous studies suggest that perceptions of operational reliability and service continuity are strongly associated with attendee trust, satisfaction, and destination evaluation (Lee & Joo, 2022).

Drawing upon these theoretical perspectives, the present study proposes that the relationship between STL usage and behavioral intention may operate through attendees' perceptions of efficiency, convenience, and resilience. Specifically, engagement with Smart Tourism Logistics may improve perceived operational effectiveness, which subsequently strengthens perceptions of supply chain resilience and ultimately contributes to favorable behavioral outcomes, including revisit intention and

word-of-mouth intention (Ghaderi et al., 2025; Lee & Joo, 2022). This perspective provides a more comprehensive theoretical explanation for understanding how technology-enabled logistics systems influence attendee loyalty within urban MICE ecosystems.

Accordingly, this study adopts an integrated conceptual logic in which Smart Tourism Logistics usage enhances perceived efficiency and supply chain resilience, thereby influencing attendee behavioral intentions in Bangkok's MICE industry.

**Conceptual Logic of the Study**

STL Usage
↓
Perceived Efficiency / Convenience
↓
Perceived Supply Chain Resilience (SCR)
↓
Behavioral Intention (Revisit Intention & WOM Intention)

**Figure 1.** Conceptual Logic of the Study

**Research Gap and Analytical Approach**

Despite the growing body of literature on smart tourism technologies and behavioral intention, several important gaps remain insufficiently addressed within the existing research landscape. First, a contextual gap exists, as much of the prior research concerning smart tourism systems, technology adoption, and loyalty-related outcomes has predominantly focused on leisure tourism settings, including smart destinations, hotels, and urban travel experiences (Chen et al., 2023; Ghaderi et al., 2025). Comparatively limited attention has been given to the MICE industry, where attendee expectations, time sensitivity, mobility coordination, and operational complexity differ substantially from leisure tourism contexts. MICE delegates often navigate tightly scheduled environments in which logistical efficiency and seamless coordination may play a more significant role in shaping destination evaluations and future behavioral intentions.

Second, a geographic gap remains evident within the literature. Although Bangkok has increasingly positioned itself as a leading regional MICE hub and a strategic "Smart MICE City" within Southeast Asia, empirical studies specifically examining the role of Smart Tourism Logistics (STL) in Bangkok's MICE ecosystem remain relatively limited. Existing studies on Thailand's MICE industry have tended to emphasize infrastructure development, destination competitiveness, or post-pandemic recovery, while comparatively less attention has been directed toward attendee-level perceptions of smart logistics and supply chain resilience in Bangkok's high-density urban environment (TCEB, 2026; Buathong & Sripan, 2022). Consequently, there remains insufficient empirical understanding of how smart logistics systems are associated with attendee behavioral outcomes in this specific destination context.

Third, a methodological gap is observed in the dominant analytical approaches used in prior studies. Existing research examining smart tourism adoption and behavioral intention has relied heavily on causal and predictive techniques, particularly Structural Equation Modeling (SEM), regression analysis, and path modeling (Chen et al., 2023; Hassan et al., 2023). While these approaches are valuable for examining causal pathways and latent constructs, relatively limited research has employed categorical association approaches, such as the Pearson Chi-Square Test of Independence, to examine group-level differences in attendee behavior within MICE logistics settings. Given the practical importance of distinguishing behavioral patterns between different categories of technology users and resilience perceptions, categorical analysis offers an alternative and practically relevant perspective for policy and operational decision-making.

Finally, a conceptual gap exists in the limited integration between Smart Tourism Logistics (STL) and perceived Supply Chain Resilience (SCR) in explaining attendee behavioral intentions. Although prior studies have separately examined technology adoption, logistics performance, and tourism loyalty, relatively few studies have explored how engagement with smart logistics systems may correspond with attendees' perceptions of resilience and, subsequently, loyalty-related outcomes within urban MICE ecosystems. Therefore, the present study seeks to address these gaps by examining the associations between STL usage, perceived supply chain resilience, and attendee behavioral intentions within Bangkok's MICE industry using a categorical analytical framework.

### Conceptual Framework and Hypotheses Development

Drawing from the reviewed literature, this study proposes that engagement with Smart Tourism Logistics is associated with perceived Supply Chain Resilience and that both are associated with Attendee Behavioral Intentions. The conceptual logic suggests that higher STL engagement may correspond with more favorable resilience perceptions, and that stronger resilience perceptions may correspond with stronger revisit intention and WOM intention. In addition, a direct association between STL usage and behavioral intentions is examined to assess whether technology engagement corresponds with loyalty outcomes independent of resilience perception.
Accordingly, five hypotheses are formulated:

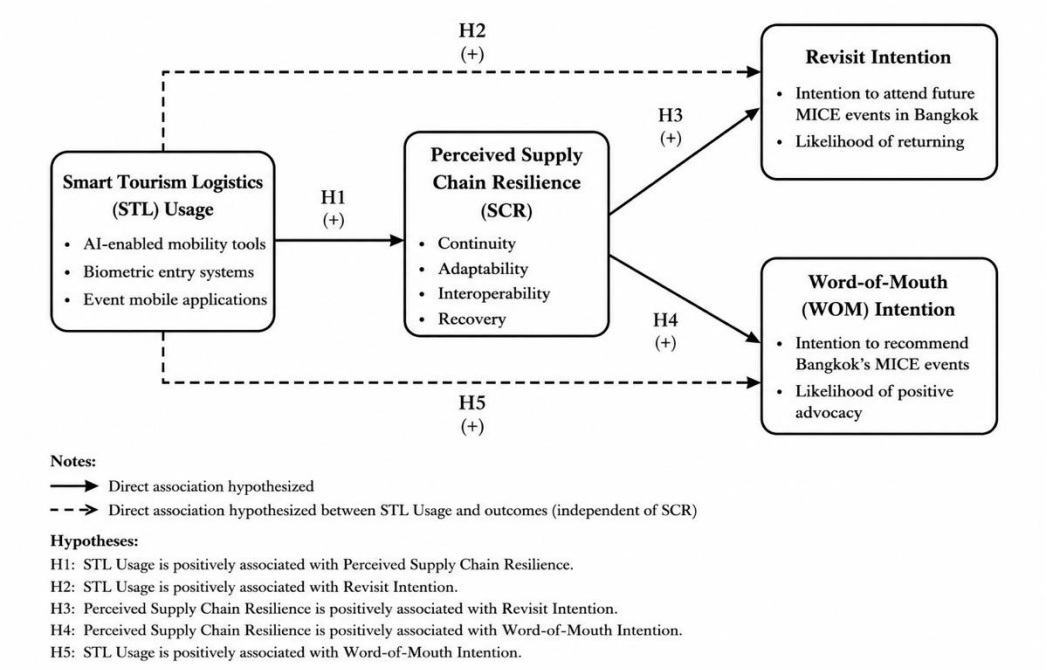



**Figure 2.** Conceptual Framework and Hypotheses Development

## Method

### Research Design and Justification

This study employs a Quantitative, Descriptive-Associational Research Design. The selection of this design is necessitated by the requirement to measure the "strength of association" between categorical variables in a high-density urban environment. While many logistics studies utilize linear modeling, the unpredictable nature of Bangkok's urban disruptions (e.g., traffic, flash floods, and sudden infrastructure maintenance) makes Categorical Analysis highly effective for practical industry application (Creswell & Creswell, 2023).

The use of the Chi-Square Test of Independence allows the researcher to move beyond mere averages and instead identify if specific groups (e.g., "Frequent Users of AI Apps") behave differently than others (e.g., "Non-Users") regarding their loyalty to Bangkok. This method is theoretically supported by Hair et al. (2024), who argue that in emerging technology markets, identifying "categorical clusters" of users is more vital for policy-making and strategic investment than identifying general linear trends.

**Population and Sampling Framework**

*Target Population*

The population comprises international and domestic delegates attending MICE events in Bangkok between 2025 and 2026. This population is estimated to be in the hundreds of thousands annually, as Bangkok serves as the primary hub for the ASEAN MICE corridor (TCEB, 2026).

*Sample Size Determination*

Using Yamane's (1967) formula with a 95% confidence level and a 5% margin of error (e=0.05): n=1+N(e)2N For a large or unknown population, this results in a minimum requirement of 385 to 400 respondents. To account for potential "incomplete" surveys or outliers, the researcher will aim to collect a total of 400 responses.

*Sampling Technique*

1. A Multi-stage Purposive Sampling technique will be utilized:
2. Venue Selection: The three primary hubs (QSNCC, BITEC, and IMPACT) are chosen to represent Central, East, and North Bangkok logistical zones.
3. Respondent Selection: Participants must have attended at least one full day of an event and interacted with at least one form of Bangkok's transit or venue technology (e.g., MICE apps, biometric check-in, or AI-integrated shuttles).

**Research Instrument: Categorical Construction**

The survey is structured using Nominal and Ordinal scales specifically designed for Cross-Tabulation. By grouping continuous data into categories, the researcher can perform the Chi-Square test effectively. To facilitate Chi-Square analysis, composite Likert-scale responses were transformed into categorical groups using median split classification. Respondents scoring above the median were categorized as High STL Users, while those below the median were categorized as Low STL Users. Similar categorization procedures were applied to perceived resilience and behavioral intention variables to enable cross-tabulation analysis.

**Data Analysis: The Chi-Square ($\chi 2$) Framework**

The primary statistical tool is the Pearson Chi-Square Test of Independence. This test evaluates whether the Observed Frequencies (O) in each category differ significantly from the Expected Frequencies (E) that would occur by chance.

*Hypothesis Testing Procedures*

For each research objective, a Null Hypothesis (H0) and Alternative Hypothesis (H1) are set:

***$H_0$:*** *There is no significant association between the use of Smart Tourism Logistics and an attendee's intention to revisit Bangkok.*
***$H_1$:*** *There is a statistically significant association between the use of Smart Tourism Logistics and an attendee's intention to revisit Bangkok.*

*Assumptions of The Chi-Square Test*

To ensure the validity of the results, the study will strictly adhere to the following statistical assumptions (McHugh, 2023):

1. Independence: Each respondent contributes to only one cell in the cross-tabulation table.
2. Sample Size: No more than 20% of the cells in the resulting contingency table should have an expected frequency of less than 5.
3. Measurement: Both the independent and dependent variables must be categorical (nominal or ordinal).

**Validity and Reliability**

*Content Validity (IOC)*

The questionnaire will be validated using the Index of Item-Objective Congruence (IOC). Three experts (one from TCEB, one logistics manager, and one academic) will score each survey item from -1 to +1. Only items with a mean score >0.5 will be retained.

*Reliability and Pilot Study*

A pilot test of 30 delegates at QSNCC will be conducted. While Chi-Square primarily utilizes categorical data, the researcher will check for Internal Consistency using Cronbach's Alpha (target > 0.70) for the underlying Likert-scale constructs before they are collapsed into categories.

**Results**

**Sample Profile and Descriptive Findings**

A total of 400 valid responses were retained for analysis following data screening and eligibility verification. The sample reflects the internationalized nature of Bangkok's MICE industry. International delegates comprised 60% (n = 240) of respondents, while domestic participants accounted for 40% (n = 160). Descriptive analysis revealed substantial engagement with Smart Tourism Logistics (STL). Approximately 77.5% of respondents reported using biometric check-in systems during their event participation, and 70% indicated reliance on event-specific mobile applications for scheduling and transport coordination. These adoption rates suggest that smart logistics tools are widely embedded within the delegate experience rather than serving as optional enhancements.

For inferential analysis, composite indices were categorized into binary groupings as described in Chapter 3. Respondents were classified as High or Low STL Users, Perceiving the System as Resilient or Disrupted, and expressing either Positive or Negative Behavioral Intentions.

**Smart Tourism Logistics Usage and Revisit Intention**

To examine whether engagement with Smart Tourism Logistics was associated with delegates 'intention to revisit Bangkok for future MICE events, a Pearson Chi-Square Test of Independence was conducted. The analysis indicated a statistically significant association between STL usage level and revisit intention, $\chi^2(1, N = 400) = 45.21$, $p < 0.05$. Assumptions for the test were satisfied, as all expected cell frequencies exceeded the minimum threshold of five.

The effect size, measured using Phi ($\varphi = 0.34$), indicates a medium-to-large practical association according to Cohen's (1988) benchmarks. This suggests that the relationship is not only statistically significant but also meaningful in magnitude. Substantively, 86.0% of delegates categorized as High STL Users expressed clear intention to revisit Bangkok for future events. In contrast, only 40.0% of Low STL Users reported similar intention. The distribution pattern demonstrates a marked divergence in loyalty-related outcomes between engagement groups. While the Chi-Square test does not establish causality,

the observed differences indicate that higher engagement with smart logistics systems is strongly associated with increased revisit intention.

**Smart Tourism Logistics Usage and Word-of-Mouth Intention**

The association between STL usage and word-of-mouth (WOM) intention was similarly examined using Pearson's Chi-Square Test. The results were statistically significant, $\chi^2(1, N = 400) = 38.47$, $p < 0.005$, with a Phi coefficient of 0.31, representing a medium effect size.

High STL Users were considerably more likely to report strong willingness to recommend Bangkok as a MICE destination to colleagues and professional networks. This finding reinforces the pattern observed in revisit intention and suggests that digital logistics engagement is associated with broader attitudinal endorsement of the destination. The strength of association observed in both behavioral indicators indicates that engagement with smart systems corresponds not only to personal return intention but also to advocacy behavior, which holds strategic importance for destination marketing.

**Perceived Supply Chain Resilience and Revisit Intention**

The relationship between perceived Supply Chain Resilience (SCR) and revisit intention demonstrated the strongest association among the tested hypotheses. The Chi-Square analysis yielded a statistically significant result, $\chi^2(1, N = 400) = 72.63$, $p < 0.005$, with a Phi coefficient of 0.43. This effect size falls within the large range, indicating substantial practical significance. Delegates who perceived the logistics system as resilient and frictionless demonstrated higher revisit intention than those perceiving logistical disruption.

Specifically, 87.3 % of those categorizing the system as resilient indicated revisit intention. Conversely, only 25.0% of delegates who experienced logistical disruption expressed similar intention. This pronounced divergence suggests that resilience perception is strongly associated with loyalty-related outcomes. From an interpretive standpoint, delegates 'experiential evaluation of logistical continuity appears closely tied to their overall destination evaluation.

**Perceived Supply Chain Resilience and Word-of-Mouth Intention**

The association between perceived resilience and word-of-mouth intention was also statistically significant, $\chi^2(1, N = 400) = 65.18$, $p < 0.005$, with a Phi coefficient of 0.40, representing a large effect size. Delegates who categorized the system as resilient demonstrated significantly higher likelihood of recommending Bangkok to professional peers.

In contrast, those who experienced disruption reported substantially lower advocacy intention. The magnitude of this association further reinforces the importance of perceived system reliability in shaping attitudinal loyalty. Together, the findings from Sections 4.4 and 4.5 indicate that perceived resilience is consistently associated with both dimensions of behavioral intention and exhibits stronger association than STL usage alone.

**Smart Tourism Logistics Usage and Perceived Supply Chain Resilience**

To evaluate whether engagement with Smart Tourism Logistics was associated with resilience perception, a Chi-Square Test of Independence was conducted. The analysis revealed a statistically significant relationship, $\chi^2(1, N = 400) = 29.76$, $p < 0.005$, with a Phi coefficient of 0.27, indicating a moderate association.

High STL Users were more likely to categorize the system as resilient compared to Low STL Users. Although the effect size was smaller than those observed in loyalty outcomes, the association suggests that digital engagement corresponds with more favorable evaluations of logistical continuity. This

finding supports the structural logic of the conceptual framework, indicating that engagement with smart logistics tools and perceptions of system resilience are interrelated.

**Discussion**

Investigating the pivotal role of Smart Tourism Logistics (STL) and Supply Chain Resilience (SCR) in shaping the behavioral intentions of MICE attendees in Bangkok is by using a sample of 400 delegates and employing Chi-Square Tests of Independence, this research bridged the gap between operational logistics and consumer psychology. The primary focus was to determine if digital infrastructure—AI-driven transit, biometric check-ins, and integrated event apps—functions as a catalyst for destination loyalty in a high-density, disruption-prone urban environment like Bangkok in 2026.

All five hypothesized associations were supported. The results demonstrate statistically significant relationships between Smart Tourism Logistics usage, perceived Supply Chain Resilience, and Attendee Behavioral Intentions. Effect sizes ranged from moderate ($\varphi = 0.27$) to large ($\varphi = 0.43$), indicating meaningful practical associations. Notably, perceived resilience exhibited the strongest association with both revisit and word-of-mouth intentions. While Smart Tourism Logistics usage was also significantly associated with loyalty outcomes, resilience perception appears to represent a more substantial differentiating factor between high- and low-loyalty groups.

It is important to emphasize that the Chi-Square Test of Independence identifies associations rather than causal relationships. Therefore, while higher engagement and resilience perception are strongly related to positive behavioral intentions, the directionality of these relationships cannot be conclusively established within the present analytical framework. This research provides preliminary empirical support suggesting that, within MICE settings, perceived usefulness of Smart Tourism Logistics may be closely associated with perceptions of supply chain resilience. The findings contribute to the growing literature on technology-enabled logistics and attendee behavioral intention by highlighting the potential relevance of resilience perceptions within smart MICE ecosystems.

For TCEB and event organizers, the findings suggest that "digital silos" are the greatest threat to loyalty. A fragmented experience—where an app works but the airport shuttle is delayed—breaks the perception of resilience. Stakeholders must move toward a "Total Experience Management" model where every logistical touchpoint is synchronized.

Although all hypothesized relationships in this study were statistically supported, the findings should be interpreted with appropriate caution. While statistically significant associations were observed across all hypotheses ($p < 0.05$), the consistently favorable results and moderate-to-large effect sizes may reflect certain methodological limitations inherent in the research design. For instance, the relatively high proportion of revisit intention among delegates perceiving the logistics system as resilient (87.3%) suggests a meaningful relationship between resilience perception and attendee loyalty; however, such favorable outcomes may also be influenced by contextual and perceptual factors.

First, the study may be subject to common method bias, as all variables were measured through self-reported survey responses collected from the same participants at a single point in time, potentially inflating observed associations (Podsakoff et al., 2003). Second, the categorization of variables into binary groupings (e.g., High vs. Low STL Usage; Resilient vs. Disrupted) may introduce a degree of oversimplification, thereby reducing variability and potentially amplifying group differences. Third, constructs such as resilience perception and behavioral intention are inherently subjective and may be influenced by temporary event experiences, respondent mood, or situational satisfaction, raising the possibility of measurement bias. Therefore, while the findings provide meaningful insights into the relationship between Smart Tourism Logistics, perceived Supply Chain Resilience, and attendee behavioral intentions, they should be interpreted as indicative associations rather than conclusive evidence of causal relationships. Future studies may benefit from employing longitudinal designs, mixed-method approaches, or more advanced analytical techniques, such as Structural Equation Modeling (SEM), to examine these relationships with greater precision and robustness.

## Conclusion

Technology as a Loyalty-Associated Factor: Higher engagement with Smart Tourism Logistics (STL) tools was statistically associated with stronger revisit intention and word-of-mouth intention among attendees. Delegates reporting higher levels of smart technology engagement were more likely to express positive behavioral intentions toward Bangkok as a MICE destination. These findings suggest that technology-enabled logistics may function as an important factor associated with attendee loyalty, particularly in time-sensitive and service-intensive MICE environments where convenience and operational efficiency influence attendee experiences (Davis, 1989; Borges-Tiago & Avelar, 2025; Ghaderi et al., 2025). However, due to the categorical and cross-sectional nature of the present study, causal relationships cannot be conclusively established, and the findings should therefore be interpreted as associations rather than direct effects (Creswell & Creswell, 2023).

Resilience as a Factor Associated with Trust and Loyalty: Perceived Supply Chain Resilience (SCR) demonstrated the strongest associations with attendee behavioral intentions. Delegates perceiving the logistics system as resilient and frictionless were more likely to report favorable destination evaluations, revisit intention, and advocacy behavior. This finding suggests that resilience perception may represent an important factor associated with attendee trust, confidence, and destination evaluation, particularly in disruption-prone urban MICE environments (Du & Wang, 2025; Lee & Joo, 2022). Previous studies have similarly suggested that perceived operational reliability and service continuity may positively shape attendee perceptions and loyalty-related outcomes (Chen et al., 2023; Ghaderi et al., 2025).

## Recommendations

Based on the findings, the following action plan is recommended for Bangkok's MICE stakeholders: Implement "Unified Biometrics": Standardize facial recognition across QSNCC, BITEC, and IMPACT so that a single "Digital Delegate ID" allows for seamless transit and venue entry without repeated check-ins.

AI-Rerouting Transparency: When urban disruptions occur, event apps should not only reroute attendees but also communicate the "Resilience Logic" (e.g., "We have rerouted you to avoid a 20-minute delay"). This reinforces the perception of a resilient system. Incentivize Tech-Engagement: Since high-usage groups show higher loyalty, organizers should use digital incentives (e.g., fast-track lanes or premium lounge access) to encourage "Low-Usage" groups to adopt smart logistical tools. Strengthen the "MICE Lane" Continuity: Expand the Suvarnabhumi Airport MICE Lane to include real-time IoT luggage synchronization to hotels, ensuring the delegate's first and last impression of Bangkok is entirely frictionless.

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