AFRICAN JOURNAL OF HOSPITALITY, TOURISM AND LEISURE
2026, Vol. 15, No. 3, pp. 821-831
https://doi.org/10.46222/ajhtl.19770720.786

AJHTL
OPEN ACCESS

Research article

Integrated leadership behavior and elderly tourist satisfaction: A cross-national structural equation modeling analysis of service quality and innovation

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ABSTRACT

The ageing population is driving demand for tourism services that are reliable, emotionally reassuring, personalised and innovative. This study examines the impact of Integrated Leadership Behaviour (ILB) on tourist satisfaction of elderly tourists thru service quality and service innovation, and if there are differences in relationships between China and Thailand. Integrated Leadership Behaviour is a higher-order construct integrating servant and transformational leadership based on Social Exchange Theory and Service-Dominant Logic. 498 elderly tourists aged between 60 and 79 years old were surveyed and data were analysed using structural equation modelling and multi-group analysis. The results indicate that Integrated Leadership Behaviour has a positive impact on service quality, service innovation and elderly tourist satisfaction. Leadership behaviour affects satisfaction thru both service quality and service innovation, which mediate the relationship. Also, cross-national differences were observed: the leadership-service quality path was more prominent in Thailand whereas innovation orientated paths were more pronounced in China. This study adds to the literature of tourism leadership in the following ways: (i) reveals leadership as an upstream organisational antecedent to elderly tourist satisfaction and (ii) identifies dual service mechanisms with varying effects across cultural contexts.

KEYWORDS

Integrated leadership behavior; elderly tourist satisfaction; service quality; service innovation; structural equation modelling

Introduction

Population ageing is changing the demand for tourism and creating new expectations for service organisations. Elderly tourists are a growing market segment, whose travel experiences are influenced not only by the traditional factors of service performance but also by higher expectations in terms of safety, reliability, accessibility, personalised attention and emotional reassurance (Chen & Shoemaker, 2014). To meet these expectations, tourism organisations need to move from standardised service delivery, to service systems that integrate relational care with the capacity to adapt and innovate. Thus, it has become more relevant to understand the organisational conditions which facilitate age-responsive tourism experiences. Much attention has been given in the tourism and hospitality literature to the topic of customer satisfaction, especially the role of service attributes and customers' evaluations of their consumption experiences. Previous studies have found that service quality, physical environment, responsiveness, reliability, empathy, assurance, food quality and related service characteristics significantly contribute to satisfaction. For example, Agbenyegah et al. (2022) found that restaurant ambiance, including interior design, tableware, spatial layout, room temperature and lighting, had a significant effect on customer satisfaction. Similarly, Abdullah et al. (2022) found that restaurant attributes, such as service quality, food and beverage quality and ambiance, played a role in customer satisfaction and behavioural intention. Hamadziripi & Daniels (2023) found that SERVQUAL dimensions; responsiveness, reliability, tangibility, empathy and assurance were significant predictors of guest satisfaction in hospitality training facilities.

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HOW TO CITE: Chollathanrattanapong, J. Jinz, L., Anyanwu, C.C. & Zhong, J. (2026). Integrated leadership behavior and elderly tourist satisfaction: A cross-national structural equation modeling analysis of service quality and innovation. African Journal of Hospitality, Tourism and Leisure, 15(3), 821-831 https://doi.org/10.46222/ajhtl.19770720.786

ISSN: 2223-814X (Online) | © 2026 AJHTL

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However, these studies mostly adopt a customer-facing perspective on satisfaction, although they have substantially advanced understanding of the immediate drivers of customer satisfaction. There has been less attention to the organisational antecedents that enable employes and service systems to produce these outcomes. Specifically, leadership is a possible important antecedent because leaders influence employe attitudes, service climates, discretionary behaviours, innovation, and ultimately the quality of customer experiences (Liao & Chuang, 2007). The literature on the relationship between leadership behaviour and tourist satisfaction is, however, less developed than the vast literature on the service attributes themselves. This distinction is important because improving individual service characteristics can address the visible manifestations of service performance without explaining the organisational mechanisms thru which those characteristics are created and sustained. A second void is the understanding of leadership in tourism service settings. Transformational leadership deals with vision, motivation, intellectual stimulation and organisational change (Bass & Riggio, 2006). Servant leadership deals with empathy, ethical behaviour, employe development and responsiveness to followers' needs (Greenleaf, 1977). These approaches are especially relevant to elderly tourism as good service provision needs to be at the same time innovative and relationally sensitive. Rather than viewing these leadership styles as competing or discrete approaches, their complementarity suggests the usefulness of conceptualising them as dimensions of a larger, Integrated Leadership Behaviour construct. Such an integration could capture better the reality of tourism organisations where leaders have to motivate for innovation while at the same time sustaining service environments characterised by care, trust and responsiveness. Also, there is a need for theoretical explanations of how leadership ultimately influences tourist satisfaction among the elderly. Existing hospitality studies have pointed out the significance of service quality, but service innovation offers another means by which organisations react to changing customer needs by offering new or enhanced services, delivery processes, personalisation and adaptive solutions (Hjalager, 2010). For elderly tourists, these two mechanisms can be particularly complementary. Service quality offers dependable, prompt, and confident and empathetic interactions. Service innovation allows organization to create more accessible, customised, and age-responsive experiences. However, little has been offered in the literature about how leadership effects are jointly transmitted to elderly tourist satisfaction thru service quality and service innovation. Hence, by investigating both mechanisms, the literature moves beyond a direct service attribute-satisfaction relationship to an organisational process that explains how leadership is translated into customer outcomes. Theoretical Integration is provided by Social Exchange Theory (Blau, 1964) and Service-Dominant Logic (Vargo & Lusch, 2008). Social Exchange Theory serves as the theoretical lens for understanding how supportive and empowering leadership may motivate employes to reciprocate with enhanced commitment, responsiveness, and service-oriented behaviours. This view is complemented by the Service-Dominant Logic that explains how such organisational capabilities contribute to value creation thru interactions, personalisation and service adaptation. These perspectives jointly provide a basis to explain how integrated leadership behaviour can influence elderly tourists' satisfaction thru relational service quality and innovation-oriented value creation.

Finally, the existing evidence is often geographically limited and based on general restaurant/hospitality consumers rather than elderly tourists. Agbenyegah et al. (2022) examined rural restaurant customers in South Africa, Hamadziripi & Daniels (2023) examined customers at South African hospitality training facilities, and Abdullah et al. (2022) examined five-star hotel restaurant customers in Delhi-NCR, India. Such settings provide useful evidence about customer satisfaction, but little insight into whether the organisational pathways connecting leadership, service processes and satisfaction work in the same way across national and cultural contexts. This problem is particularly relevant in China and Thailand, where differences in cultural expectations, institutional environments, technological development and patterns of interpersonal service may alter the relative importance of relational and innovation-oriented service mechanisms. Addressing these gaps, the study investigates the impact of integrated leadership behaviour, a higher-order construct combining servant and transformational leadership, on elderly tourist satisfaction directly and indirectly through the dual mediation of service quality and service innovation. The study analyses cross-national data from China and Thailand to see if the structural relationships differ between the two contexts. Therefore, the present study seeks to answer the following research questions: How does Integrated Leadership Behavior influence service quality, service innovation, and elderly tourist satisfaction? To what extent do service quality and service innovation mediate the relationship between Integrated Leadership Behavior and elderly tourist satisfaction? How do these structural relationships differ between elderly tourists in China and Thailand? The study begins with related review of literature and theoretical framework, followed by discussion of the methods adopted, results, and discussion and then conclusion.

Literature review

Traditionally, leadership behavior in organizations has been known to be a key contributor toward superior organizational performance and even more importantly it propelled the importance of the interaction between employee and customer for service-oriented industries. Leadership in the tourism and hospitality sector affects not only things that occur within the organization but also what happens on the outside, contributing to service outcomes for customers. Transformational and servant leadership have been of great interest among the existing leadership paradigms because of their strong relevance in service contexts. Transformational leadership focuses on inspiring employees to achieve success by instilling a vision in them, intellectually challenging them, and personalizing consideration towards their needs (Bass & Riggio, 2006). These leaders said they invite their employees to stretch beyond expectations, take risks and innovate. Transformational leadership has also been associated with different outcomes in tourism contexts such as improving employee engagement, innovation, and service performance (Buil et al., 2019). Transformational leadership emphasizes a proactive mindset and promotes flexibility, which allows organizations to respond effectively to changing customers' needs (including the elderly tourists who increasingly demand personal and innovative service). In contrast, servant leadership focuses on meeting employees' needs, acting ethically and creating an inclusive organizational environment (Greenleaf, 1977). This leadership/read more... In the context of service industries, servant leadership has been linked to higher trust and collaboration among workers as well as an orientation towards service (Eva et al., 2019). Relational qualities such as emotional connection, patience and attentiveness to the customers are especially crucial in elderly tourism.

While these two styles of leadership may differ in their focuses, recent research indicates they are actually complementary rather than mutually exclusive. The transformational leadership gives strategic navigation and innovation while the servant facilitative ensures for relational assurance and employee welfare (Hoch et al., 2018). In complex service ecosystems like tourism requiring innovation and empathy, integrating these two approaches to leadership provides further insights into the overall effectiveness of this multidimensional construct. This leads to conceptualizing leadership behavior as a higher-order construct consisting of transformational and servant dimensions. As stated by Parasuraman et al. (1988), Service quality is still one of the core concepts in tourism research, and it is also considered a key factor that influences customer satisfaction. For elderly tourists it is especially much dimensional which includes reliability, responsiveness, assurance and empathy. Liao & Chuang, 2007) Leadership behavior is created through the initial shaping of service quality by impacting staff attitudes, establishing performance requirements and nurturing a culture in order to fulfill excellence. Supportive and empowering leadership environments drive employees to consistently perform high-quality services that meet or even exceed the needs of customers. Besides service quality, service innovation plays a significant role in improving customer experiences, as well as being competitive in the tourism industry. Service innovation is defined as the development and implementation of new or improved services, processes and delivery methods that add value to customers (Hjalager, 2010). Service innovation in elderly tourism, for instance, might involve age-friendly technologies that help older people travel more easily and pleasantly, or perhaps Customized tour package accommodating the preferences and needs of senior's traveler as well as Health-oriented services to enhance the safety and wellness of travelling (Ashikuzzaman & Islam, 2026).

Thus, it is the role of leadership to drive this remaining innovation process: they need to encourage creativity, support experimenting and shift towards a change-supporting culture. Transformational leadership encourage innovation through vision and intellectual stimulation whereas servant leadership enables innovation by developing trust and collaboration among employees. Interestingly, both service quality and service innovation affect tourist satisfaction, however they use different pathways to do so. The quality of service is a major contributor to ensuring reliability, consistency, and trust, resulting in reducing uncertainties that provide comfort to elderly tourists. In contrast, service innovation provides more personalized and value-generative alternative services (Chen et al., 2016). When combined, these two forces give a better picture of how services experiences are constructed and framed within elderly tourism. Rooted in this literature, this study posits that leadership behavior affects the satisfaction of elderly tourists through service quality and service innovation. These mediating mechanisms encompass both the relational and operational (Service-related) excellence, as well as their adaptability and innovation. Moreover, considering the cultural and institutional dissimilarities between China and Thailand, these associations are anticipated to differ across contexts; consequently, drawing on a cross-national analysis is significant.

Theoretical framework

Situating this study within the dualistic lens of these theories, namely Social Exchange Theory and Service-Dominant Logic aids in delivering an extensive clarification on how leadership behavior can have implications for service outcomes causing elderly tourists to be pleased with the interaction. Social Exchange Theory, introduced by Blau (1964), describes the way that relationships formed within organizations are influenced (and often dictated) by reciprocal exchanges between leaders and employees. When leaders are supportive, fair, and empower employees, workers view these leader behaviors as valuable organizational resources and reciprocate with positive work attitudes and increased performance. In other words, during the service-quality era represented by tourism and equivalent industries, this reciprocity is expressed through increased service commitment, responsiveness and discretionary effort—variables that impact customer experiences. Such employee behaviors are especially crucial with elderly tourists who typically require more attention and empathy, as well as higher reliability. Thus, leadership serves as an important factor that grounds social exchange processes and informs employees with respect to service delivery.

Service-Dominant Logic (Vargo & Lusch, 2008) builds on this idea and argues that value cannot be embedded in products or services but is always co-created (or nothing at all) by provider-customer interactions. From a tourism perspective, value is derived from the experience process, which includes contact with service staff, services tailored specifically to him, and the ability to satisfy his personal needs. Elderly travelers depend on co-created experiences that truly take their physical, cognitive, and emotional needs into account. Leadership is crucial to enabling co-creation of value in this process by instilling a service orientation, stimulating innovation and empowering employees to customize service deliverance processes to cater for different customer conditions. Combining these two theoretical perspectives offers a holistic view of how the leadership behavior impacts relational and functional attributes in service delivery. Theoretical Perspectives Social Exchange Theory describes this reciprocal relationship between leaders and employees illuminating how leadership impacts employee behavior, while Service-Dominant Logic illustrates how these behaviors translate to value for customers. Collectively, they re-enforce conceptualizing leadership behavior as a higher-order construct that leads service quality and serves innovation responsible for driving elderly tourist satisfaction.

Hypotheses development

Theoretical Background we expect the leadership behavior of CCTs will positively affect both service quality and service innovation, as supportive and visionary leadership promotes employee engagement, service orientation, and creativity. Consequently, service quality and service innovation are expected to improve the satisfaction of elderly tourists by enhancing reliability and adaptability in their service experiences. Also, leadership behavior can directly impact satisfaction through its effect on organizational climate and the practice of service delivery. The mediating effects of both service quality and service innovation embody the mechanisms whereby the leadership transforms into customer outcomes. Finally, structural relationships between these variables are expected to differ given moving different cultural valuing systems and service system (China vs. Thailand).

H1: Integrated leadership behavior positively influences service quality.

H2: Integrated leadership behavior positively influences service innovation.

H3: Integrated leadership behavior positively influences elderly tourist satisfaction.

H4: Service quality positively influences elderly tourist satisfaction.

H5: Service innovation positively influences elderly tourist satisfaction.

H6: Service quality mediates the relationship between integrated leadership behavior and elderly tourist satisfaction.

H7: Service innovation mediates the relationship between integrated leadership behavior and elderly tourist satisfaction.

H8: The structural relationships among integrated leadership behavior, service quality, service innovation, and elderly tourist satisfaction differ significantly between China and Thailand.

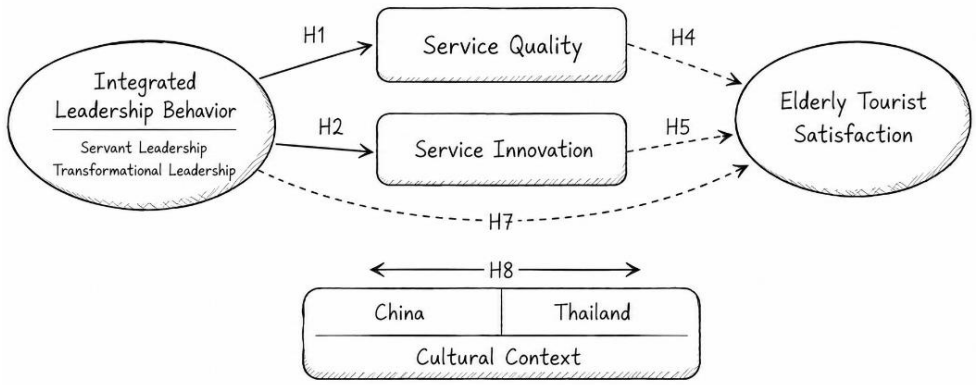

Figure 1: **Conceptual model**

Interpretation of the conceptual model

Conceptual model describing the structural linkages between integrated leadership behavior, service quality, service innovation and elderly tourist satisfaction with cultural context as a boundary condition influencing these relationships. It offers a process-based explanation of the mechanism by which leadership behavior transforms into service outcomes and ultimately influences customer satisfaction in elderly tourism. Integral leadership behavior is seen as a higher-order construct that integrates both service and transformational leadership at the heart of the model. This integration illustrates leadership's dual role in service environments through relational care and strategic direction. Servant leadership enhances a service-oriented climate by promoting empathy, ethical behavior, and employee support. On the flip side, transformational leadership delivers vision, motivation and innovation that sparks employees to go above and beyond expected service. Emphasizing these leadership aspects creates a synergistic effect that expands operational and adaptive competence of tourism enterprises. Leadership behavior is said to shape two critical mediating mechanisms: service quality and service innovation (the proposed model). The journey from leader to service quality is a relational-process oriented mechanism. By offering supportive and empowering leadership, employees are more likely to provide reliable as well as responsive and empathetic services — qualities that concern elderly tourists in particular who often prioritize safety, trust, and personalized attention to each customer. This pathway is consistent with Social Exchange Theory that suggests strong leader–employee relationships contribute to improved service performance.

Likewise, the paper also embodies a flexible and evolutionary method in linking leadership behavior to service innovation. Success in Leadership builds an environment that encourages creativity and innovation, driving relentless service delivery evolution. On the other hand, transformational leadership should be exhibiting behaviors that suggest new ideas and change-agenda behaviors while servant leadership serves to create a psychological safe climate for employees to propose innovations to solve problems. This pathway is in line with the Service-Dominant Logic, emphasizing value co-creation through tailored service-oriented processual features. Also, service quality and service innovation are both suggested as mediators between leadership behavior and elderly tourist satisfaction. Service quality plays a role in satisfaction through providing consistent, reliable and emotionally reassuring experiences which are vital aspects for elder travelers. In summary, service innovation leads to enhancements in servicing experiences by creating new, flexible and customized service solutions that meet different and changing needs. The finding may suggest that instead of just services being expected to provide superior, standardized service quality, both mediators coexist – for elderly tourists it means innovative and personalized offerings. In addition to the above relationships, the model also incorporates a direct link from leadership behavior to elderly tourist satisfaction and highlights that leadership may affect customers' impression beyond operational mechanisms. The direct impact on service climate means that leadership guides the holistic organizational culture, which customers interpret via interactions with service providers (i.e., employees). Lastly, cultural context in the shape of the juxtaposition of China and Thailand acts as a contextual moderator impacting on the strength of structural relationships. The model indicates that there may exist cultural and institutional differences with respect to the importance of service quality versus service innovation. In contexts where relational values and interpersonal interactions are more central, for instance in Thailand, we may see the service quality pathway prevail. Meanwhile, it might be that for faster-modernized spaces with more technological development (i.e., China), the service innovation path becomes stronger. Ultimately, the conceptual model reflects a holistic approach that combines leadership theory with principles of service management and cross-cultural consideration. It exposes the fact that tourism leadership behavior affects elderly tourist satisfaction via both stationary and dynamic escorting modules, showing how context-dependent factors continue to shape their connections.

Methods

This study utilizes a quantitative approach to investigate the linkages between leadership behavior, service quality, service innovation and elderly tourist satisfaction in emerging aging tourism markets. A cross-sectional survey design was utilized to gather primary data from older tourists, which allowed for the empirical assessment of a hypothesized structural model. The study was carried out in two representative tourism destinations: Bama County (Guangxi Province, China) and Chiang Mai (Thailand). These site selections were made purposefully because of their significance for older tourism market and their different socio-cultural and institutional contexts. One is internationally known for longevity tourism and health-focused travel overall (Bama, Yogyakarta), while the other is a well-established cultural and retirement tourism niche destination in Southeast Asia (Chiang Mai). In our choice of these two sites, we were able to make meaningful cross-national comparisons and increase the external validity of the results. The target population included elderly tourists (60 years and above) with direct experience of tourism services in the selected destinations. A purposeful stratified sampling strategy was used to collect data from different tourism contexts, including wellness resorts, cultural attractions, health centers and travel communities for seniors. Data were collected and spanned a period from April to June 2025. Trained research assistants approached potential respondents at these locations, and assisted as necessary, particularly with participants who had reading or mobility limitations. The number of valid responses achieved from 515 distributed questionnaires was 498 (96.7%) after data screening. As a result, 258 people from China and270 from Thailand responded. In order to ensure the content validity and comparability with previous work, the survey instrument was developed using widely referenced scales. Leadership behavior was treated as a second-order variable containing two first-order indicators of servant leadership and transformational leadership. We measured servanthood leadership with items adapted from Liden et al. (2008), are compassion, ethics and people development as components of the definition. Inspirational motivation, intellectual stimulation, and individualized consideration were assessed with items adapted from Bass (1985) and his later refinements to the construct of transformational leadership. Quality of service was examined through modified SERVQUAL dimensions of reliability, responsiveness, assurance and empathy to capture tourism-specific contexts. The service innovation measure was based on scales from Hertog et al. and closely related research at the doctor's (2010) capturing novelty perception, adaptability, and delivery improvement. To measure satisfaction, elderly tourist satisfaction was examined based on Oliver (1997) and Yoon and Uysal (2005), including both overall satisfaction, perceived value, repurchase intention and recommendation intention.

All measurement items were measured on a five-point Likert scale from 1 (not at all agree) to 5 (strongly agree). The questionnaires were created in English and then translated into Chinese and Thai following a back-translation process to make sure they were linguistically and culturally appropriate. Pilot tests were performed on a small group of elderly tourists to evaluate clarity, readability and relevance. Minor modifications based on feedback were made before full-scale data collection. For data analysis, which is appropriate for estimates of complex relationships among latent constructs and mediation effects testing, a structrual equation modeling (SEM) was conducted. The data interpretation process adopted a two-step procedure (the assessment of measurement model first, and then the structural model). Reliability was evaluated by using Cronbach’s alpha and composite reliability all values above threshold of 0.70 demonstrated high internal consistency. Divergent validity was assessed through factor loadings and average variance extracted (AVE), which revealed that all factor loadings were greater than 0.60 and AVE values higher than 0.50. According to the Fornell–Larcker criterion, we confirmed discriminant validity because the square root value of AVE for each construct was larger than its correlations with other constructs. The structural model was examined through several goodness of fit indices including the chi-square statistic, comparative fit index (CFI), Tucker–Lewis index (TLI), goodness-of-fit index (GFI) and root mean square error of approximation (RMSEA). All indices were equal to or exceeded the recommended thresholds, demonstrating an acceptable fit for the model. Standardized path coefficients and significance levels were used to test hypotheses. Mediation effects were tested with a bootstrapping procedure (5,000 resamples) which provides more powerful estimates of indirect effects and confidence intervals. Compared to earlier methods, this approach allows a more accurate assessment of mediation. The direct and indirect effects were evaluated through bias-corrected confidence intervals. In order to analyse differences between countries, a multi-group SEM analysis was performed. Measurement invariance was initially established to verify that constructs were understood in similar ways across the two groups. First, configural, then metric and scalar invariance were examined sequentially. After verifying measurement invariance, structural path comparisons were conducted to reveal the differences in relationships between Chinese and Thai samples. Differences between constrained and unconstrained models were tested by evaluating the change in chi-square values and in comparative fit indices.Common method bias was controlled on the basis of several

procedural and statistical remedies. These were, including respondent anonymity, changing scale anchors and Harman's single-factor test. The analysis did not show common method bias as a concern. Practical limitations were also taken into account, though ethical considerations were observed when conducting research. Participation was voluntary, and informed consent was obtained from all participants. Participants were informed about confidentiality and anonymity, and no personal identifiable information was collected. Ethical considerations: This research was carried out in accordance with standard ethical guidelines for social science research. The methods used in this study are rigorous by ensuring that reliable and valid steps can be taken to test the proposed relationships, thus providing a strong basis for empirically testing the framework of theory put forth and answering its research questions.

Results

Model fit evaluation

The structural model was evaluated with several goodness-of-fit indices. As shown in Table 1, all indices were above the recommended threshold and confirmed an excellent fit of the proposed model with the data.

Table 1 Model fit indices

Fit Index	Value	Recommended Threshold	Interpretation
χ^2/df	1.042	< 3.00	Excellent
p-value	.274	> .05	Good fit
GFI	.949	> .90	Good
AGFI	.940	> .90	Good
CFI	.999	> .95	Excellent
TLI	.999	> .95	Excellent
IFI	.999	> .95	Excellent
NFI	.986	> .90	Excellent
RMSEA	.018	< .05	Excellent
RMR	.018	< .05	Excellent

Interpretation

The model fit was also found to be very strong, which means that the hypothesized relationships are sufficiently capturing the structure of the data. The extremely low RMSEA and high CFI/TLI values indicate little model misspecification. This, therefore, supports theoretical consistency with regard to linking the leadership behavior model along with service quality, service innovation and satisfaction.

Direct effects analysis

Structural equation modeling was used to test the hypothesized direct associations. The findings are presented in Table 2.

Table 2. Direct effects

Hypothesis	Path	β	S.E.	C.R.	p-value	Result
H1	Leadership → Service Quality	.658	.024	26.911	***	Supported
H2	Leadership → Service Innovation	.533	.035	15.182	***	Supported
H3	Leadership → Satisfaction	.437	.019	23.409	***	Supported
H4	Service Quality → Satisfaction	.080	.018	4.321	***	Supported
H5	Service Innovation → Satisfaction	.057	.020	2.900	.004	Supported

(Note: ***p < .001)

Interpretation of direct effects

The results reveal a strong and statistically significant effect of leadership behavior on both service quality (β =. 658) and service innovation (β =. 533). This implies that leadership acts as a key catalyst for both operational excellence and adaptive service processes. The effect of leadership practice on older tourist satisfaction (β =. 437) is also large, suggesting a much broader premise that leadership shapes customer outcomes not merely through service processes but through imagination in the organizational climate and service culture. On the other hand, the impact of service quality (β =. 080) and innovation in service (β =. 057) on satisfaction, while statistically significant, are of relatively small practical significance. Hence, although these elements are deemed important as to how satisfied elderly tourists are with their experiences, other sets of experiential and relational dimensions (rather than service attributes alone) influence elderly tourists' overall evaluations.

Mediation analysis

Indirect effects were tested by means of a bootstrapping procedure with 5,000 resamples. The findings are shown in Table 3.

Table 3. Mediation effects

Hypothesis	Indirect Path	β	95% CI	p-value	Result
H6	Leadership → SQ → Satisfaction	.072	(.031, .121)	.001	Supported
H7	Leadership → SI → Satisfaction	.048	(.017, .086)	.004	Supported

Interpretation of mediation effects

The tests on mediation also indicate that service quality and service innovation both significantly mediate the relationship between leadership behavior and satisfaction. Its indirect effect through service quality (β =. 072) (through service innovation (β =. 048), suggesting that both relational and reliability-based mechanisms become more salient for translating leadership into meaningful satisfaction outcomes. But the convergence of both mediators suggests a dual-path mechanism whereby leadership fosters satisfaction through stability in service delivery and adaptive innovation. This result gives substantiation for the relational pathway of Social Exchange Theory and innovation pathway of Service-Dominant Logic.

Total effects

Total effects (direct + indirect) were calculated, in order to get a better understanding of the overall impact of leadership.

Table 4. Total effects

Path	Direct Effect	Indirect Effect	Total Effect
Leadership → Satisfaction	.437	.120	.557

Interpretation of total effects

Total effect of leadership behavior on satisfaction (β =. 557) suggests an overall moderate impact, reinforcing the conclusion that leadership is a key driver of experiences of older tourists. The relatively larger direct compared to indirect effect implies that leadership affects satisfaction both through processes operating at the level of service and at a wider context (e.g., organizational climate, perceived care). Multi-Group Analysis (China vs Thailand). Multi-group SEM analysis was performed to assess cross-cultural differences. The outcomes are shown in Table 5.

Table 5. Multi-group comparison

Path	$\Delta\chi^2$	ΔCFI	Difference	Interpretation
Leadership → Service Quality	12.41*	.015	Significant	Stronger in Thailand
Leadership → Service Innovation	10.56*	.013	Significant	Stronger in China
Service Quality → Satisfaction	0.82	.001	Not significant	Similar
Service Innovation → Satisfaction	9.34*	.012	Significant	Stronger in China

(*p <.05)

Interpretation of multi-group results

The findings show significant cross-cultural differences. In Thailand, however, the relationship is significantly more pronounced (β = 0.580), indicating that relational and interpersonal constructs of leadership are much important in this unique context to enhance service quality. On the other hand, and in line with a greater importance attached to modernization, efficiency and innovation-oriented service systems, the impact of leadership on service innovation is more assertive in China. Moreover, whereas the effect of service quality is stable across both countries, the impact of service innovation on satisfaction is greater in China than in Western contexts. These findings indicate that cultural and institutional factors shape the relative importance of relational versus innovation-based service mechanisms.

Interpretation of multi-group results

Collectively, the findings indicate a key role of leadership behavior in driving elderly tourist satisfaction through direct and indirect pathways. Tritonic mediation mechanisms emphasize that service-based satisfaction is affected by not only stable service quality but also dynamic processes, such as the service innovation process (SIP), which illustrates the impact of intermediate variables on customer value. However, the comparison of effect sizes (the relative strength of the effects) between service quality and service innovation versus leadership suggests that elderly tourist satisfaction is multidimensional in nature and affected by more than just services — including a range of experience- and relationship-based factors. If we then look at the cross-national differences, this only serves to further highlight that leadership effectiveness is context-dependent—it doesn't transfer across tensions and needs adaptation to cultural as well as institutional environments.

Discussion

Integrated leadership behavior as a strategic driver of elderly tourist satisfaction

The results show that integrated leadership behavior has a positive and high impact on service quality (β =. 658), degree of service innovation (β =. 533), satisfaction of seniors Tourists (β =. 437). These findings validate that leadership is more than an internal management function but a strategic leaver crafting customer interaction and experiences in the context of elderly tourism. The findings also align with previous studies stating that transformational leadership articulates an inspirational vision for the future, fosters motivation

and greater levels of intellectual stimulation which leads to innovation and service performance (Bass & Riggio, 2006; Buil et al., 2019), while servant leadership enhances relational trust, empathy and service-orientation (Eva et al., 2019). The results also indicate that transformational and servant leadership should be conceptualized together in a higher-order construct, which is more reflective of the nature of effective tourism service. Elderly tourism involves both pragmatic adjustment (that deals with trust, safety, reliability, reassurance and interaction) as well as emotional reflexivity (ancillary to vulnerability awareness), since elderly tourists tend to desire such characteristics in their older peers (Chen & Shoemaker, 2014). As a result, the integrated leadership construct presents itself as solution of simultaneous management by both innovation and relational care in aging tourism markets. Theoretically, the results support Social Exchange Theory, and Service-Dominant Logic. Abstract: Social Exchange Theory accounts for the reciprocal employee behaviors that lead to improved service delivery generated by supportive leadership (Blau, 1964), whereas Service-Dominant Logic describes how adaptive and customer-oriented service processes are a key outcome of supportive leadership which leads to value co-creation (Vargo & Lusch, 2008). On the ground, tourism agencies need to provide some leadership training programs combining innovation capability with emotions and customer empathy into a single whole in relation to elderly-oriented tourism services.

The mediating role of service quality

The results of the study revealed that service quality has a positive impact on elderly tourist satisfaction (β =. 080) and is a significant mediator between leadership behavior and satisfaction (β =. 072, p =. 001). The effect size is at best medium and these results affirm that service quality is still an important mediating mechanism whereby leadership behavior influences customer outcomes.This finding is in accordance with the SERVQUAL framework proposed by Parasuraman et al. (1988), which identifies reliability, responsiveness, assurance and empathy as key dimensions of customer evaluation. Considering the elderly tourism context, those dimensions are significant as seniors are more sensitive to service consistency, emotional assurance and safety-related issues. The Results also support the argument put forward by Liao and Chuang (2007) that leadership causes employee attitudes and service climates which then lead to customer perceptions. However, the smaller effect size shows that older tourist satisfaction cannot be confined to operational service quality alone but must also be explained by more extensive experiential and relational factors. Modern elder tourists look for experiences, relevance and emotional connection as opposed to standardized functional service performance. This implies that older service-quality models may not directly account for new forms of satisfaction from evolving tourism higher education contexts. The practical implication is for tourism operators too look beyond procedural service standards and instead design emotionally responsive, personalized service systems. This should focus on interpersonal communication, empathy training, and customer-focused service culture thus creating leadership development.

Service innovation as a mechanism for adaptive and personalized tourism experiences

The results show that beliefs on service innovation has a large influence on elderly tourist satisfaction (β =. 057, p =. 004) and serves as a mediator between leadership behavior and satisfaction (β =. 048). Results are in line with previous research on tourism innovation, indicating that adaptive and personalized service processes increase customer value as well as competitive advantage (Hjalager, 2010; Neuhofer et al., 2015). Service innovation is especially relevant in aging tourism markets, as the link between elderly travelers and systemic approaches to digitalised tourist systems, customized travel service products and health-oriented tourisms become the new normal. Organizational frameworks, mechanisms and processes as well as leadership behaviour within organizations provides the climate to support innovation in terms of experimenting, being creative, figuring out a problem or cross-functionally. While transformational leadership contributes through vision and intellectual stimulation, servant leadership contributes by creating psychological safety and a collaborative environment; each mechanism is unique to the respective domain. Curiously, service innovation was found to have a lower impact compared to leadership being directly associated with satisfaction. This indicates that innovation only will not enhance the experiences available to elder visitors unless innovation is accessible, emotionally supportive, and simple to use. Innovative habitats may have a different meaning for elderly tourists if these complex technologies are associated with uncertainty or discomfort than they do for younger tourists. This means that tourism organizations have to apply “age-friendly innovation” procedures based on usability, accessibility/being comfortable/partner/human-centred technology. So, innovation strategies need to strike a balance between modernizing with simplicity and continuity to provide emotional comfort.

Cross-cultural differences between China and Thailand

The multi-group SEM analysis showed significant cross-nation differences between China and Thailand. In particular, while leadership behavior and service quality has a stronger relationship in Thailand, the relationships of leadership behavior and service innovation as well as–the impact of service innovation on satisfaction are greater in China. These results show that the effectiveness of leaders is less an absolute thing than something that can be influenced by cultural and institutional contexts. In the context of Thailand, interpersonal relationships and sensitivity to feelings and social norms that help hospitality behavior enhances the linkage between leadership pathway and service quality. These results corroborate with leadership research across cultures where it is noted that collectivist and relationship-oriented aspects of culture play an important role in service expectations (House et al., 2004). In contrast, the more innovation-based path taken in China reflects its rapid modernization, technology and efficiency-driven service environment. Domestic elderly tourists are more likely to equate service quality with technological efficiency, digitalisation and flexible means of meeting customer needs in China. This finding supports recent tourism research indicating that in emerging economies fast moving development is increasingly relying on smart tourism technologies and innovation led customer experience (Neuhoferet al., 2015). Consequently, the results show that leadership strategies cannot be standardized across tourism markets. We recommend that international tourism organizations should customize leadership development and service efforts according to localized cultural expectations and institutional settings. The relational leadership capabilities may get powerful in interpersonal-oriented contexts like Thailand while the innovation-oriented leadership should work effectively in technologically dynamic contexts like China.

Theoretical and practical implications

Theoretically, this study integrates servant leadership and transformational leadership into one higher-order construct to enrich reading in a tourism service domain of research. The research also contributes to tourism literature by showing that the impact of leadership on customer satisfaction is partly driven by relational mechanisms (service quality) but rather partly adaptive mechanisms (service innovation). Also, the application of Social Exchange Theory and Service-Dominant Logic constitutes a multi-faceted explication of how leadership behavior molds tourism experiences. In practice, the results indicate that travel organizations serving elderly travelers should formulate leadership systems to meet the need for emotional care with innovation capacity. The types of leadership training should comprise emotional intelligence, adaptive service management, innovation capability and communication skills with customers. The Age-Friendly Innovation Systems: Tourism organizations must establish innovation systems that are age-friendly because these factors can change the way they provide access, timely service and personalized experiences.

Conclusion

This research aimed to investigate the effects of integrated leadership behavior on senior tourist satisfaction through the mediating role of service quality and service innovation in China and Thailand. The current study enhances our understanding of efficacy in the context of elderly tourism service environments by incorporating servant leadership and transformational leadership into a higher-order construct. The results verify that integrated leadership behavior has a direct and indirect impact on service quality, service innovation, and elderly tourist satisfaction. Results: The findings indicate that service quality and service innovation operated as complementary mediating mechanisms, where both relational reliability and adaptive service experiences play a significant role in aging tourist satisfaction. The direct effect of leadership behavior is more prominent than the indirect effect; which means that, quite importantly, this implies that given all possible service delivery mechanisms and sophistication levels associated with operational functions in place (which many firms could be enjoying given their larger size), still leadership behavior could leverage customer satisfaction by contributing through a wider organizational climate, emotional reassurance and support and well-structured customer-centric turned service culture. The cross-national analysis also showed that leadership effectiveness is contingent on context. Findings, relational pathways related to service quality were more pronounced in Thailand while innovation-oriented paths were more prominent in China. Implications: The current findings exemplify how institutional and cultural settings facilitate the effects leadership behaviors have on tourism service outcomes. Its theoretical contribution lies in coalescing these frameworks into a further revised model of how tourism experiences are facilitated by relational and other value co-creation mechanisms resulting from leadership behavior by combining Social Exchange Theory (SET) and Service-Dominant Logic (SDL). In practice, the results highlight the need for age-friendly tourism organizations to design leadership systems that effectively combine empathy, ethics of service orientation, innovation planning and adaptive management behaviors. In summary, the findings of

this research underscore that adequate leadership is a vital strategic asset through which elderly tourist encounters are improved in aging societies. With global tourism markets tending to be both ageing and increasingly service-oriented, this implies that tourism organizations should adopt context-sensitive leaderships that can provide support for the quality of care by humans and service transformation towards innovation. Several limitations should be acknowledged. The study had several limitations; firstly, it was cross-sectional and did not allow to establish a cause-effect relationship between the factors. Second, the study was limited to older tourists in China and Thailand, which raises the question of whether findings are applicable to other cultural contexts. Third, this study used self-reported surveys for data collection that might lead to response bias and common method variance. Last, the model highlighted service quality and service innovation as key mediators, leaving important alternative mechanisms (such as trust, emotional labor, perceived safety and service climate) out of models. Longitudinal research designs need to be employed in future studies to further explore the causal nature of the findings and how leadership and tourism experiences evolve through time. Researchers could also further validate research by extending it to different countries and cultural contexts for broader generalizability and cross-cultural comparisons. In addition, future studies may include other mediated and moderated variables such as trust [68], digital literacy (DL) [22], emotional attachment [69], perceived health security (PHS) [70] and technology acceptance model (TAM) for further enhancement of research work. Mixed-methods with a combination of quantitative and qualitative data may also furnish richer perspectives on the emotional and experiential expectations of elderly tourists in age-friendly tourism environments.

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