

INTERNATIONAL MARKETING JOURNAL OF CULTURE AND TOURISM

IMJCT | ISSN: 2790-9220 (Print) | ISSN: 2790-9239 (Online)

*Published by Katara Publishing House • In Cooperation with ARIU & University of Derby***Issue No: 10 | August, 2026**

Beyond Infrastructure: Mapping the Gap Between Digital Capability and Consumer Trust in Travel Intermediaries (2016-2025)

Doğuş Kılıçarslan

Adana Alparslan Türkeş Science and Technology University, Department of Tourism Management, Türkiye

Email: doguskilicarslan@gmail.com<https://doi.org/10.33001/18355/imjct1033>**Received Date :** 14/07/2026 **I Accepted Date:** 18/08/2026

Abstract

This study maps the thematic structure of the literature on digitalization in travel businesses and traces how that structure changed over a ten-year period. The aim is not only to summarize publication activity but to read the meaning patterns in study abstracts and to describe the field at the level of content. A corpus of 391 studies published between 2016 and 2025 was drawn from the Web of Science and Scopus databases. The corpus was examined with a mixed design that combines a descriptive performance analysis with a text-mining thematic analysis of abstracts. Term frequency and inverse document frequency weighting was applied to the abstracts, and the resulting matrix was decomposed into six components with nonnegative matrix factorization. The analysis shows that the field is organized around six themes: adoption of information and communication technologies,

acceptance and trust, destination image and tour operators, online reviews and online travel agency ratings, social media and digital marketing, and digital transformation and artificial intelligence. The adoption theme declined over time, while the artificial intelligence and consumer trust themes rose. A co-occurrence analysis shows that firm-centered transformation and consumer-centered trust remain largely separate at the level of abstract language, since only 4.3 percent of the abstracts address both at once. The study proposes an integrative agenda that connects firm digital capability with consumer trust, and argues that travel agencies and tour operators are the natural setting in which to test this connection. For practice, the findings indicate that investment in digital and artificial intelligence tools creates value only when it is positioned to strengthen consumer trust.

Keywords

Digitalization, Travel businesses, Consumer trust, Competitive advantage

1. Introduction

Travel services are among the areas most affected by digital technologies in recent years (Pencarelli, 2020). Travel agencies and tour operators have redefined how they present products, reach customers, and create value, largely through digital channels (Pencarelli et al., 2021). The spread of online platforms has weakened the position of traditional intermediaries and pushed these firms to build new capabilities (Raguseo et al., 2017). This rapid change has produced a broad but scattered body of knowledge (Gutierriz et al., 2025).

As digital technologies spread through the travel sector, the related literature grew quickly over the past decade. Early work focused on whether firms adopted the internet and information and communication technologies (Pencarelli et al., 2021). Over time the literature spread into many sub-streams, including consumer behavior (Nguyen, 2024), online reviews (Lai et al., 2021), social media marketing

(Chang et al., 2018), and, more recently, artificial intelligence (Pillai & Sivathanu, 2020). This dispersion has made it hard to see the intellectual structure of the field as a whole. Most studies examine a single phenomenon, such as one technology acceptance model (Almunawar et al., 2022) or the online image of one destination (Li et al., 2023). The thematic structure of the field and the way it has evolved are rarely considered together.

Several recent reviews have begun to map parts of this literature. Gutierriz et al. (2025) reviewed digital transformation research in tourism at large and identified four broad thematic groups. Luu et al. (2025) traced digitalization themes in tourism supply chains with a bibliometric approach, and Çimen and Kutlu (2025) mapped the growth of artificial intelligence research in tourism. These reviews cover the tourism system as a whole and treat travel intermediaries as one element among many, and their thematic maps rest on author keywords, citation links, or researcher-defined categories rather than on the language of the abstracts themselves. The present study differs in three ways. First, it narrows the scope to travel agencies and tour operators, the commercial intermediaries whose market position online platforms have challenged most directly. Second, it models the abstract texts with nonnegative matrix factorization, so the themes reflect the wording of the studies rather than indexing choices. Third, it adds a co-occurrence analysis that measures how often firm-centered and consumer-centered language appear in the same abstract, which turns a suspected disconnect between two research streams into a measurable quantity. By integrating these three elements, the present study offers a distinct perspective on the evolving literature.

The aim of this study is to map the thematic structure of the digital transformation literature in travel businesses and its evolution over time, through a thematic analysis of study abstracts. The study does not aim only at a numerical account of

output. It reads the meaning patterns in abstracts and maps the field at the level of content. Although intermediaries such as travel agencies and tour operators are central to the topic, the literature treats them either as technology adopters or as platforms that generate reviews (Almunawar et al., 2022; Raguseo et al., 2017). How firm-level digital capability turns into competitive advantage through consumer trust has not been examined as a whole.

This gap becomes clearer at a time when artificial intelligence tools are entering the operations of travel firms (Seraj et al., 2025). On one side, firms are strengthening their digital skills and technological infrastructure (Carlisle et al., 2023). On the other, the success of these tools depends on the trust consumers place in them (Bhuiyan et al., 2024). These two processes are usually treated in separate studies, and the link between them is left unexamined.

This gap defines the contribution of the study. The analysis below shows that the firm-centered transformation stream and the consumer-centered acceptance and trust stream have developed largely in parallel and apart. A view that joins these two axes offers a productive research area, both conceptually and for practice. Within this frame, the study addresses four questions:

1. What is the descriptive profile of the digital transformation literature in travel businesses in terms of publication trend, journal distribution, and citation impact?
2. What thematic clusters emerge from study abstracts?
3. How does the weight of these themes change between 2016 and 2025?
4. Which link between themes points to the most productive area for future research?

2. Theoretical Framework

Understanding digitalization in travel businesses requires a view that covers both the firm side and the consumer side (Gretzel et al., 2015). Digital transformation is defined as a process in which digital technologies change how a firm creates value (Verhoef et al., 2021). In a review of 282 studies, Vial (2019) framed digital transformation as the set of strategic responses that firms give to the disruptions caused by technology, and pointed to dynamic capabilities and ethics as priorities for future work. This definition treats digitalization not as the simple purchase of a tool but as a reshaping of how value is created. For intermediaries such as travel agencies and tour operators, this reshaping covers both organizational capability and the relationship with the consumer.

On the firm side, two established approaches explain the source of competitive advantage. The resource-based view holds that valuable, rare, hard-to-imitate, and non-substitutable resources provide sustainable competitive advantage (Barney, 1991). The dynamic capabilities approach extends this view by focusing on the capacity of firms to reconfigure their competencies in fast-changing environments (Teece et al., 1997). In a digital context, this capacity covers technological infrastructure as well as digital skills and organizational culture. Carlisle et al. (2023) documented the digital skills gap in the European tourism sector and stressed the human-capital side of this capacity. Seraj et al. (2025) and Alhelal et al. (2025) examined how artificial intelligence and digital leadership turn into competitive advantage. These studies explain how digital capability, as a firm resource, becomes competitive advantage.

On the consumer side, models of technology adoption are central. The technology acceptance model holds that perceived usefulness and perceived ease of use are the

main drivers of adoption (Davis, 1989). The unified theory of acceptance and use of technology extends this model and defines performance expectancy, effort expectancy, social influence, and facilitating conditions as the main determinants, adding several moderators (Venkatesh et al., 2003). For artificial intelligence tools in particular, these models remain limited to functional factors (Alharbi et al., 2026). Trust becomes important at this point. Mayer et al. (1995) defined trust as the willingness of one party to be vulnerable to the actions of another. The concept was later placed at the center of the adoption of digital and artificial intelligence services (Cabiddu et al., 2022). Almunawar et al. (2022) and Pillai and Sivathanu (2020) showed the effect of trust and perceived usefulness on the intention to adopt.

A consumer's trust decision rests not only on the firm's message but also on the experiences of other consumers (Hennig-Thurau et al., 2004; Filieri et al., 2015). Electronic word of mouth and user-generated content therefore play an important part in the formation of trust (Akdim, 2021). Lai et al. (2021) examined the relationship between customer sentiment and online hotel ratings. Raguseo et al. (2017) showed the opportunity and the pressure that user reviews create for small firms. These studies point to the effect of organic feedback on consumer trust. At the same time, despite the potential benefits of artificial intelligence in tourism, privacy, data security, and ethical concerns carry real risks for consumers (Avcı et al., 2025). Alharbi et al. (2026) noted that trust and emotional factors are often overlooked in the adoption of artificial intelligence tools and argued that this dimension should be added to adoption models.

Resource-based approaches that explain firm capability and acceptance and trust models that focus on consumer perception have long developed apart. The resource-based view and the dynamic capabilities approach focus on the internal

competencies of the firm. Acceptance and trust models place consumer perception at the center. Yet in the context of travel intermediaries the two axes are inseparable. A digital or artificial intelligence investment by an intermediary turns into competitive advantage only when the consumer trusts that investment and adopts it. This study therefore adopts an integrative frame in which firm-level digital capability becomes competitive advantage through consumer trust and acceptance. The travel intermediary is the natural unit of analysis where the two traditions meet. The analysis that follows examines, with data, how far the literature builds this intersection, and reads the link between the firm and consumer axes through this frame. The discussion returns to this frame and develops it into an integrative model, in which digital capability is the firm-side antecedent, consumer trust and acceptance are the mediating mechanism, and competitive advantage is the outcome.

3. Method

3.1. Research Design

The study uses a mixed design that combines a descriptive bibliometric analysis with an interpretive thematic analysis. Studies that use only bibliometric methods summarize publication and citation patterns in numerical terms but reflect the meaning content of texts only to a limited degree (Snyder, 2019). The research therefore uses a two-layer structure. The first layer is a descriptive performance analysis that shows the publication trend, journal distribution, and citation impact of the dataset (Donthu et al., 2021). The second layer is a text-mining thematic analysis that extracts theme clusters from abstract texts. Topic modeling has been shown to be a valid approach in the tourism literature (Guo et al., 2017). The resulting clusters were interpreted by following the naming and interpretation stages of the thematic analysis framework proposed by Braun and Clarke (2006).

3.2. Data Source, Search, and Cleaning

To examine the digitalization literature in travel businesses, the search used a two-axis strategy based on business type and technology. On the business axis, the searches were limited to travel agencies and tour operators in order to keep the scope on commercial intermediaries. On the technology axis, digitalization was treated in all its dimensions rather than only as infrastructure. To avoid data loss in the early automation and ticketing studies of the period, information and communication technologies were searched together with core digitalization terms, and smart tourism concepts were added to capture the integration of firms into data ecosystems. Because consumer interaction is central to the study, social media and electronic word of mouth were also added to the technology axis. This choice was made to include studies on the effect of user-generated content and organic customer feedback on firm performance, rather than studies on paid advertising campaigns or official corporate websites.

On this basis, the keywords on the business axis were "travel agenc*" and "tour operat*". On the technology and interaction axis, the terms were "digital*", "smart tourism", "ICT", "social media", "e-wom", and "electronic word of mouth". The full search string was ("travel agenc*" OR "tour operat*") AND ("digital*" OR "smart tourism" OR "ICT" OR "social media" OR "e-wom" OR "electronic word of mouth"). In the Web of Science Core Collection the string was run in the Topic field, which covers title, abstract, author keywords, and Keywords Plus. In Scopus it was run in the TITLE-ABS-KEY field. An asterisk (*) was utilized as a truncation symbol to capture all variations of the root words, such as plural forms. The OR operator joined synonymous and alternative concepts within an axis and widened the pool, while the AND operator required terms from both axes to appear

in the same study and sharpened the search (Xiao & Watson, 2019). Both search queries were executed on February 20, 2026.

Four inclusion criteria were established for the analysis. In the initial database filtering phase, documents were required to be: (i) published between 2016 and 2025, (ii) classified as articles, reviews, or early access articles, and (iii) written in English. In the subsequent screening phase, studies were included only if they (iv) provided substantive attention to digitalization within the specific context of travel agencies or tour operators. Conversely, conference papers, book chapters, editorials, notes, and retracted publications were excluded.

The search was run in two citation databases. The Web of Science Core Collection returned 288 records and Scopus returned 313 records, for a combined pool of 601 records. The two exports were merged in a single table, and duplicate detection ran in two passes. Records were first matched on the digital object identifier. Records without a matching identifier were then compared on a normalized title, produced by lowercasing, removing punctuation, and collapsing repeated spaces, and exact matches were treated as duplicates. This step removed 197 duplicate records and left 404 unique records; a source field recorded the database of each record. Screening then removed three retracted publications, one editorial item, and nine records published outside the 2016-2025 window. The final corpus comprised 391 unique studies, of which 197 were indexed in both Web of Science and Scopus, 114 in Scopus only, and 80 in Web of Science only.

3.3. Analysis Procedure

In the descriptive layer, the dataset was summarized by year, most productive journals, document types, and citation indicators. In the thematic layer, the abstracts were preprocessed before modeling. All text was lowercased, and punctuation, numbers, and publisher boilerplate were removed. Standard English

stop words were dropped together with a custom list of corpus-specific terms with no discriminating value, such as study, paper, research, findings, and results. No stemming or lemmatization was applied, so that domain terms kept their conventional surface forms. The cleaned texts were converted into a document-term matrix with term frequency and inverse document frequency weighting. One-word and two-word patterns were included, so that multiword concepts such as social media and artificial intelligence stayed intact. Terms that appeared in fewer than 5 abstracts or in more than 40 percent of them were removed, which left a vocabulary of 428 terms. The resulting matrix, covering 391 abstracts, was decomposed into six themes through nonnegative matrix factorization.

To determine the optimal number of themes, candidate solutions ranging from four to ten components were systematically compared by inspecting their top-weighted terms and thematic distinctiveness. Solutions with fewer than six components produced overly broad clusters, blurring distinct concepts such as digital marketing and artificial intelligence into a single theme. Conversely, solutions with seven or more components led to over-fragmentation, where overlapping terms appeared across multiple themes, reducing conceptual clarity, and solutions with nine or more components produced degenerate clusters of only a handful of abstracts. The six-component solution was retained because it yielded the most distinct and interpretable separation of the literature, particularly isolating firm-centered technological capabilities from consumer-centered trust, without redundancy.

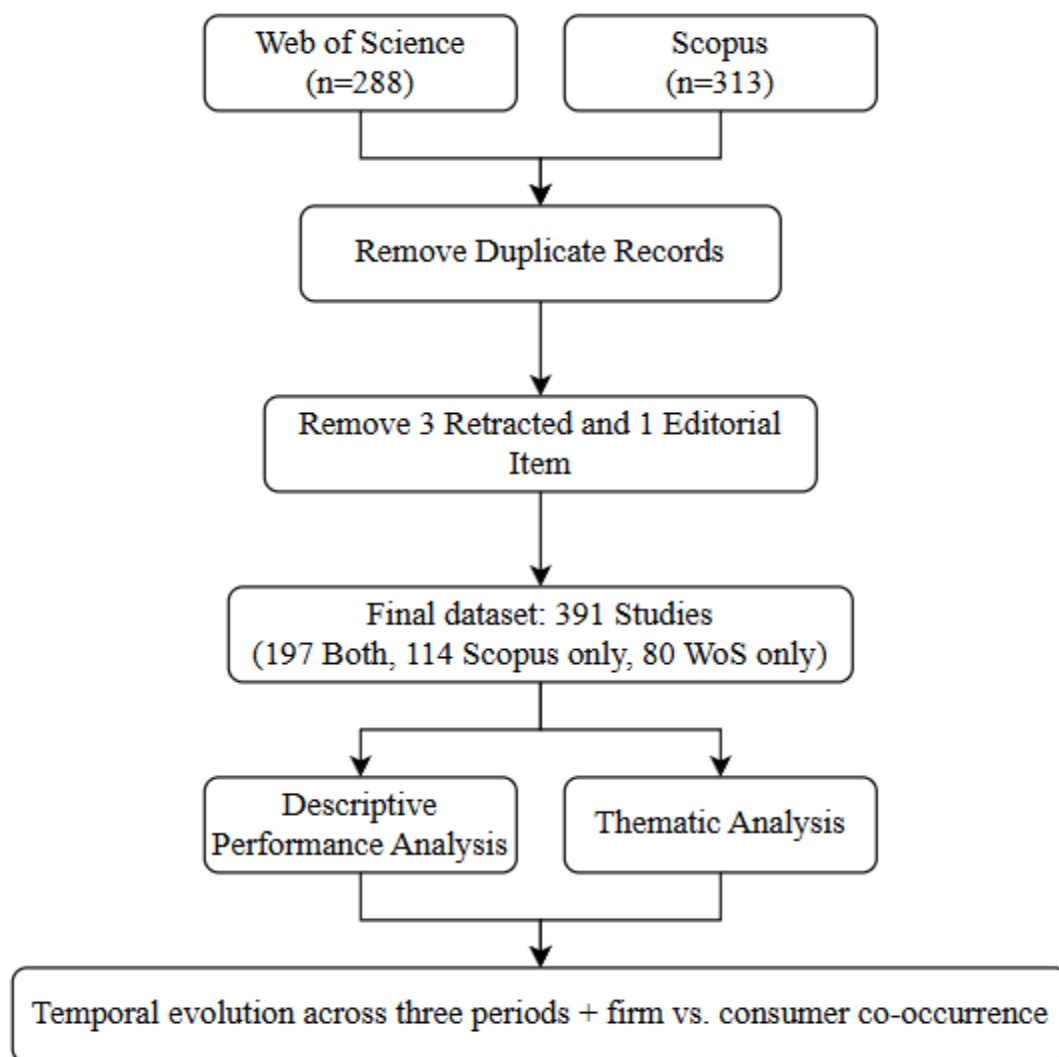


Figure 1. Research design and analysis flow.

Because the abstracts were written in English, the text analysis was conducted in English, and the themes are reported here with English labels. Each theme was named by reading its highest-weighted terms and a sample of its abstracts. To trace the change in theme weights over time, the dataset was split into three periods, and the within-period shares of each theme were compared. Finally, the extent to which firm-centered and consumer-centered language appears in the same abstract was examined by computing the co-occurrence of two term sets. The firm-centered set comprised the terms that load on the digital transformation and artificial

intelligence theme, such as artificial intelligence, digital transformation, innovation, competitive advantage, digital leadership, and digital skills. The consumer-centered set comprised the terms that load on the acceptance and trust theme, such as trust, acceptance, adoption intention, perceived usefulness, and behavioral intention. Figure 1 summarizes the full research design, from the database search to the analysis steps.

4. Findings

4.1. Descriptive Profile of the Dataset

The final dataset comprises 391 studies. Of these, 197 are indexed in both Web of Science and Scopus, 114 in Scopus only, and 80 in Web of Science only. The studies appeared in 242 different journals (Table 1). Most document types are original articles. The dataset has 6,940 total citations, a mean of 17.7 citations per study, and a median of 5. The most cited study, with 720 citations, examines the adoption of artificial intelligence chatbots in hospitality and tourism (Pillai & Sivathanu, 2020).

Table 1. Descriptive Profile of the Dataset

Indicator	Value
Total studies	391
Time span	2016-2025
Indexed in both databases	197
Scopus only	114
Web of Science only	80
Number of journals	242
Document types	Article 368, Early access 14, Review 9
Total citations	6,940
Mean citations per study	17.7
Median citations	5
Highest citation count	720

The annual number of publications rose from 21 in 2016 to 78 in 2024, and stood at 69 in 2025. About two-thirds of the publications appeared in the last five years (Table 2).

Table 2. Distribution of Publications by Year

Year	Publications	Share (%)
2016	21	5.4
2017	13	3.3
2018	19	4.9
2019	33	8.4
2020	36	9.2
2021	40	10.2
2022	35	9.0
2023	47	12.0
2024	78	19.9
2025	69	17.6

The journals show that the largest number of publications appeared in *Sustainability*, followed by *Current Issues in Tourism* and the *International Journal of Contemporary Hospitality Management*. Table 3 presents the ten most productive journals.

Table 3. Ten Most Productive Journals

Journal	n
Sustainability	20
Current Issues in Tourism	11
International Journal of Contemporary Hospitality Management	11
Geojournal of Tourism and Geosites	10
Tourism Management	7
African Journal of Hospitality, Tourism and Leisure	7
Journal of Hospitality and Tourism Technology	5
RISTI Revista Iberica de Sistemas e Tecnologias de Informacao	5

Journal	n
Journal of Travel Research	4
Journal of Hospitality and Tourism Insights	4

4.2. Thematic Structure

The analysis of abstract texts produced six themes. Table 4 presents these themes with their sizes, prominent terms, and mean citation values. The largest theme is the adoption of information and communication technologies, and the smallest is digital transformation, artificial intelligence, and competitive advantage. The theme with the highest mean citation count is acceptance, trust, and behavioral intention.

Table 4. Six Themes from the Abstracts

Theme	n	Prominent terms	Mean citations
Adoption of information and communication technologies	88	information and communication technologies (ICT), technology, internet, business, digitalization, transition from traditional	11.0
Destination image and tour operators	70	destination, image, tour operator, experience, cultural, emotion	16.4
Acceptance, trust, and behavioral intention	68	intention, trust, perceived, acceptance, online travel agency (OTA), adoption, eWOM	29.5
Online reviews and online travel agency ratings	65	review, online travel agency (OTA), rating, booking, sentiment analysis, website	20.8
Social media and digital marketing	61	social media, facebook, digital marketing, brand, strategy	14.3
Digital transformation, artificial intelligence, and competitive advantage	39	artificial intelligence, innovation, digital transformation, competitive advantage, skill, leadership	15.1

The adoption of information and communication technologies theme covers studies on how travel firms bring the internet and digital tools into their operations. This theme focuses mainly on measuring the sector's level of technology adoption

(Pencarelli et al., 2021; Barna et al., 2021). The acceptance, trust, and behavioral intention theme covers the factors that shape consumer decisions to use digital travel tools. Technology acceptance models, perceived usefulness, trust, and online travel agency use form the basis of this theme (Almunawar et al., 2022; Nguyen, 2024). The destination image and tour operators theme addresses how destinations are represented online and how that representation affects the tourist experience (Li et al., 2023; Liu et al., 2019). The online reviews and online travel agency ratings theme focuses on user-generated reviews, hotel ratings, and the sentiment analysis of this content (Lai et al., 2021; Raguseo et al., 2017). The social media and digital marketing theme covers the use of social media platforms for marketing and its effect on brand and customer interaction (Chang et al., 2018; Matikiti et al., 2018). The digital transformation, artificial intelligence, and competitive advantage theme brings together studies that link artificial intelligence, digital leadership, innovation, and digital skills to competitive advantage (Seraj et al., 2025; Alhelal et al., 2025; Carlisle et al., 2023; Pillai & Sivathanu, 2020).

4.3. Evolution of Themes over Time

The adoption of information and communication technologies theme fell from 33.7 percent of the dataset in 2016-2019 to 14.9 percent in 2023-2025. The acceptance, trust, and behavioral intention theme rose from 9.3 percent to 20.6 percent. The digital transformation, artificial intelligence, and competitive advantage theme rose from 2.3 percent to 16.5 percent. Figure 2 shows these trends across the three periods.

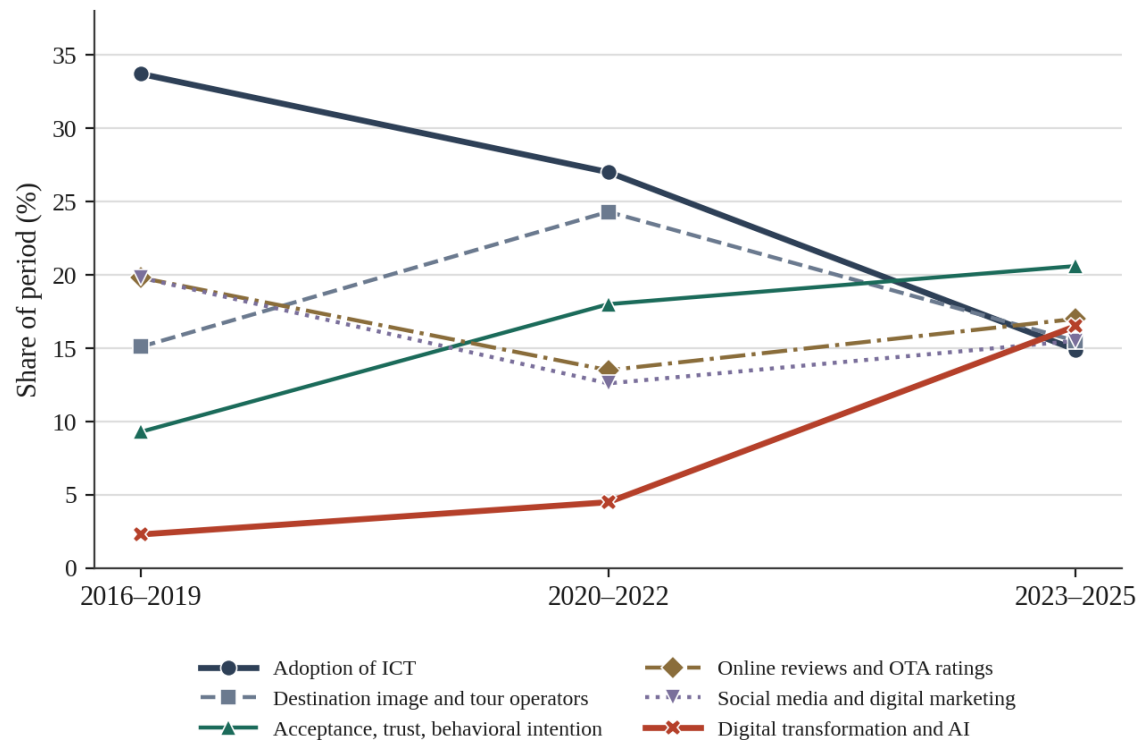
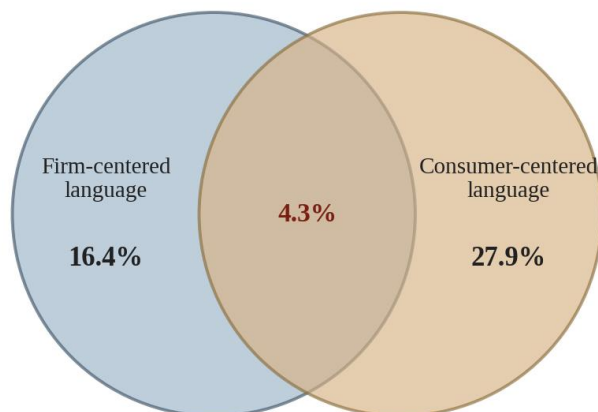


Figure 2. Evolution of the six themes across three periods (within-period share, %).

4.4. Co-occurrence of Firm-centered and Consumer-centered Language

The dataset was examined along two conceptual axes, firm-centered and consumer-centered. The first axis consists of studies that include firm-level artificial intelligence and digital transformation capability. The second axis consists of studies that include consumer-level trust, acceptance, and behavioral intention. To determine how far the two are addressed together, the co-occurrence of firm-centered and consumer-centered terms in the abstracts was computed. Firm-centered language appears in 16.4 percent of the abstracts and consumer-centered language in 27.9 percent. Both appear together in only 4.3 percent. Of the 64 abstracts with firm-centered language, 47 contain no consumer-side term. Figure 3 illustrates this limited overlap between the two axes. Because this measure reads the vocabulary of abstracts, it captures how studies present themselves rather than the full content of their texts. The overlap between the two axes may therefore be

somewhat wider in full texts, and the 4.3 percent figure is best read as a measure of separation in abstract language.



Overlap = abstracts that address both axes (4.3%)

Figure 3. Co-occurrence of firm-centered and consumer-centered language in the abstracts.

5. Discussion

This study mapped the digitalization literature in travel businesses around six themes and showed how the weight of these themes changed over a ten-year period. The rising annual publication trend indicates that digital transformation is not a passing interest in travel businesses but a continuing and widening research agenda. The shift of the literature from a descriptive core, such as the adoption of information and communication technologies, toward mechanism-focused questions, such as consumer acceptance and firm transformation, reflects the maturing of the field. In other words, the literature has moved away from the question of whether technology is used and toward the mechanisms through which these tools work. This picture is broadly in line with recent reviews. Gutierrez et al.

(2025), in a review covering 1997 to 2023, identified four thematic groups: digital marketing, digital economy, education and hospitality, and free digital. The six-theme structure found here shares common areas such as digital marketing and social media, but offers a finer classification, in that it separates consumer acceptance and firm transformation into distinct clusters. Read together, the six themes and their trajectories describe a field that has moved through a recognizable sequence. The early literature asked whether travel firms use digital tools, and the shrinking share of the adoption theme suggests that this question is close to exhausted. The middle layer of the field asks how consumers respond to these tools, which the acceptance and review themes cover. The most recent layer asks how firms convert these tools into position and advantage, which the transformation and artificial intelligence theme carries. What the sequence still lacks is a stage that connects the last two questions, and the co-occurrence finding shows that this stage has not yet formed.

The decline of the adoption theme over time and the rise of the digital transformation and artificial intelligence theme confirm the change in the field. Luu et al. (2025), in a study of digitalization in tourism supply chains, found that basic technologies dominated the early period and that competitive advantage emerged later as a niche theme. The findings here point the same way. The digital transformation, artificial intelligence, and competitive advantage theme rose from 2.3 percent in the first period to 16.5 percent in the last. Recent bibliometric work on the tourism literature also confirms this trend, showing that artificial intelligence research has gained pace in recent years and become a core area (Çimen & Kutlu, 2025). Recent studies such as Seraj et al. (2025) and Alhelal et al. (2025) provide empirical examples of this rise by linking artificial intelligence and digital leadership directly to competitive advantage.

The acceptance, trust, and behavioral intention theme carries the highest citation impact, which indicates that consumer-focused work is well established and visible in the field. Alharbi et al. (2026), in a review of artificial intelligence conversational agents in tourism and hospitality, stressed that trust, although often overlooked in adoption models, is a decisive factor. The findings here support this view by showing that trust is central not only in conceptual terms but also in bibliometric terms. Studies such as Almunawar et al. (2022) and Pillai and Sivathanu (2020) show the weight that trust and perceived usefulness carry in consumer adoption of digital tools.

The most distinctive contribution of the study is the quantitative evidence that firm-centered transformation and consumer-centered trust remain largely separate at the level of abstract language. Only 4.3 percent of the abstracts contain both term sets, which gives a concrete measure to this separation. Because abstracts compress a study into its most salient claims, this figure describes how the two streams present themselves rather than the full reach of their texts, and the separation in full texts may be less sharp. Even with this caution, the pattern is informative. Abstracts signal the conversation a study wants to join, so the near absence of joint language indicates that few studies frame the firm and consumer axes as one problem. Two features of the field help explain the pattern. The two streams draw on different theoretical homes, strategic management on one side and information systems and consumer behavior on the other, and they rely on different data, firm-level surveys and interviews on one side and consumer-level surveys and reviews on the other. Both features raise the cost of integrative work and keep the streams on separate tracks. This result matches the point raised by Alharbi et al. (2026) that studies concentrate on technical and functional dimensions while addressing consumer behavior only to a limited degree, and that an integrative frame is needed. The separation between studies that link firm digital capability to

competitive advantage and studies that examine consumer trust makes it hard to see the field as a whole. The study contributes by turning this gap from an interpretive claim into a measurable finding.

5.1 Theoretical Implications: An Integrative Framework

These findings have notable theoretical implications. The resource-based view and the dynamic capabilities approach, which focus on firm-level digital capability, developed apart from the technology acceptance and trust models, which focus on consumer-level acceptance. Travel intermediaries are the natural unit of analysis where the two traditions meet, because the value of an intermediary's digital investment is realized only when the consumer trusts and adopts it. Taken together, these arguments form an integrative framework. It links four elements in sequence: firm digital capability, the digital services and artificial intelligence tools that carry it to the consumer, consumer trust and acceptance, and competitive advantage. On the firm side, digital capability covers technological infrastructure, digital skills, and digital leadership, the resource base that the resource-based view and the dynamic capabilities approach treat as the source of advantage (Barney, 1991; Teece et al., 1997; Carlisle et al., 2023). This capability becomes visible to the consumer through digital services and artificial intelligence tools such as booking platforms, recommendation systems, and conversational agents. On the consumer side, trust and acceptance operate as the mechanism that converts these services into use. Perceived usefulness and ease of use open the path (Davis, 1989; Venkatesh et al., 2003), trust in the firm and in the technology carries it (Mayer et al., 1995; Cabiddu et al., 2022), and organic signals such as online reviews and user-generated content feed trust from outside the firm (Filieri et al., 2015; Akdim, 2021). Privacy and data-security concerns work in the opposite direction and can block the conversion (Avcı et al., 2025). Human support offered alongside automated tools works in the same direction as organic signals and reinforces trust

in them. Competitive advantage forms at the end of this chain, when trusted services translate into booking behavior, loyalty, and price tolerance.

The framework yields propositions that future studies can test in travel intermediaries. First, the effect of firm digital capability on competitive advantage runs through consumer trust and acceptance rather than acting directly. Second, organic consumer signals, such as credible online reviews, strengthen the conversion of digital services into trust. Third, privacy and data-security concerns weaken this conversion, in particular for services supported by artificial intelligence. Fourth, human support offered alongside automated tools raises trust in those tools rather than substituting for them. These propositions restate the co-occurrence gap as a research design: each one requires firm-level and consumer-level constructs in the same study.

5.2 Practical Implications

For practice, the findings offer direction for travel agencies, tour operators, and online travel agencies. Investment in artificial intelligence tools does not provide competitive advantage on its own; these tools need to be positioned to strengthen consumer trust. This positioning can be made concrete in five areas.

The first area is transparency and privacy. Firms should state clearly when a customer is interacting with an automated agent rather than a person, explain in plain language what a recommendation system does with customer data, collect no more data than a service needs, and make consent and deletion options easy to find. Trust in artificial intelligence tools rests on the perception that the firm is open about the tool and careful with the data behind it (Cabiddu et al., 2022; Avcı et al., 2025). The second area is human support alongside automation. Chatbots and self-service tools should carry a visible and fast route to a human agent, in particular for complaints, changes, and high-value bookings, because automation that blocks access to people erodes rather than builds trust. The third area is the

credibility of online reviews. Firms should display verified reviews, respond to negative reviews in public, and avoid any practice that filters or manufactures feedback, since user-generated content works as a trust signal only while consumers believe it is organic (Filieri et al., 2015; Raguseo et al., 2017). The fourth area is platform design and personalization. Clear pricing without hidden fees, visible security indicators at payment, and personalization that customers can inspect and adjust turn the platform itself into a trust cue. The last area is trust-based customer relationship management. Intermediaries should treat trust as a managed asset, track it alongside sales indicators, and design recovery routines for the moments when automated tools fail, because the handling of failures is where consumers test whether the firm deserves their trust. As Raguseo et al. (2017) showed, even small intermediaries can create value through the right positioning in a setting shaped by platforms.

6. Conclusion

This study examined the digitalization literature in travel businesses over the 2016-2025 period, through 391 studies drawn from two citation databases. The mixed approach, which combines a descriptive performance analysis with a thematic analysis of abstracts, set out both the numerical profile and the content structure of the field. In line with the research questions, the literature grows steadily, is organized around six consistent themes, and shifts from a descriptive level of technology adoption toward mechanism-focused questions. At the level of abstract language, a clear link gap was also found between the firm and consumer axes.

This gap offers an open agenda for future research. Integrative models in which firm-level digital capability turns into competitive advantage through consumer trust can close the conceptual gap and guide practice. The framework and propositions developed in Section 5.1 offer a concrete starting point for such models. Testing these models on travel agencies, tour operators, and online travel

agencies would be consistent with the empirical core of the literature. Longitudinal studies that examine the conditions under which trust in artificial intelligence tools translates into firm performance also carry strong potential. The integrative frameworks proposed by Alharbi et al. (2026) offer a suitable starting point for steps in this direction.

The study has some limitations. The thematic analysis was run on abstracts rather than full texts. Abstracts compress each study into its most salient claims, so the analysis may miss finer distinctions, and the co-occurrence results in particular describe separation in abstract language rather than in the full content of the studies. Because the data were limited to Web of Science and Scopus, studies not indexed in these databases fell outside the scope. Because the search was built on travel agencies and tour operators, some studies on adjacent areas such as accommodation or transport may not have entered the pool. Finally, because the number of themes rests on an interpretability criterion, different analytical choices could produce different theme structures.

Despite these limitations, the study offers a holistic thematic map of the digitalization literature in travel businesses. It grounds the bridge between firm capability and consumer trust on a measurable basis and explains why this bridge is a productive research area. This basis provides a starting point for studies that will shape the future development of the field.

References

- Akdim, K. (2021). The influence of eWOM. Analyzing its characteristics and consequences, and future research lines. *Spanish Journal of Marketing - ESIC*, 25(2), 239-259.
- Alharbi, A., Pandit, A., Wilk, V., Rosenberger, P. J., & Miah, S. (2026). Artificial intelligence-enabled conversational agents in tourism and hospitality: A systematic literature review and future research directions. *Asia Pacific Journal of Tourism Research*, 30(1), 21-52.
<https://doi.org/10.1080/10941665.2025.2555204>
- Alhelal, A. A., Alshiha, A. A., & Al-Romeedy, B. S. (2025). AI-driven sustainable competitive advantage in tourism and hospitality: Mediating roles of digital culture and skills. *Sustainability*, 17(19), 8903.
<https://doi.org/10.3390/su17198903>
- Almunawar, M. N., Anshari, M., & Lim, S. A. (2022). Customer acceptance of online travel agents in Indonesia. *Journal of Asia-Pacific Business*, 23(3), 254-272. <https://doi.org/10.1080/10599231.2022.2095588>
- Avcı, M., Sungur Avcı, S., & Darı, A. B. (2025). Turizm işletmelerinde ChatGPT ve diğer üretken yapay zekâ uygulamalarının kullanımı: Potansiyeller, riskler ve uygulama önerileri [The use of ChatGPT and other generative artificial intelligence applications in tourism businesses: Potentials, risks, and practical recommendations]. *Journal of Tourism and Gastronomy Studies*, 13(4), 4148-4176.
- Barna, M., Melnyk, I., & Baran, R. (2021). Factors of digitalization of the marketing activity of tourist enterprises of Ukraine in the conditions of

- global digitalization. *Baltic Journal of Economic Studies*, 7(3), 29-36.
<https://doi.org/10.30525/2256-0742/2021-7-3-29-36>
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120. <https://doi.org/10.1177/014920639101700108>
- Bhuiyan, K. H., Ahmed, S., & Jahan, I. (2024). Consumer attitude toward using artificial intelligence (AI) devices in hospitality services. *Journal of Hospitality and Tourism Insights*, 7(2), 968-985.
<https://doi.org/10.1108/JHTI-08-2023-0551>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
<https://doi.org/10.1191/1478088706qp063oa>
- Cabiddu, F., Moi, L., Patriotta, G., & Allen, D. G. (2022). Why do users trust algorithms? A review and conceptualization of initial trust and trust over time. *European Management Journal*, 40(5), 685-706.
<https://doi.org/10.1016/j.emj.2022.06.001>
- Carlisle, S., Ivanov, S., & Dijkmans, C. (2023). The digital skills divide: Evidence from the European tourism industry. *Journal of Tourism Futures*, 9(2), 240-266. <https://doi.org/10.1108/JTF-07-2020-0114>
- Chang, H.-L., Chou, Y.-C., Wu, D.-Y., & Wu, S.-C. (2018). Will firm's marketing efforts on owned social media payoff? A quasi-experimental analysis of tourism products. *Decision Support Systems*, 107, 13-25.
<https://doi.org/10.1016/j.dss.2017.12.011>
- Çimen, Z., & Kutlu, D. (2025). Bibliometric analysis of studies on artificial intelligence in tourism. *Journal of Tourism and Gastronomy Studies*, 13(2), 1129-1152. <https://doi.org/10.21325/jotags.2025.1601>

- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.
<https://doi.org/10.2307/249008>
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133, 285-296.
<https://doi.org/10.1016/j.jbusres.2021.04.070>
- Filieri, R., Alguezaui, S., & McLeay, F. (2015). Why do travelers trust TripAdvisor? Antecedents of trust towards consumer-generated media and its influence on recommendation adoption and word of mouth. *Tourism Management*, 51, 174-185. <https://doi.org/10.1016/j.tourman.2015.05.007>
- Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart tourism: Foundations and developments. *Electronic Markets*, 25(3), 179-188.
<https://doi.org/10.1007/s12525-015-0196-8>
- Guo, Y., Barnes, S. J., & Jia, Q. (2017). Mining meaning from online ratings and reviews: Tourist satisfaction analysis using latent dirichlet allocation. *Tourism Management*, 59, 467-483.
<https://doi.org/10.1016/j.tourman.2016.09.009>
- Gutierriz, I., Ferreira, J. J., & Fernandes, P. O. (2025). Digital transformation and the new combinations in tourism: A systematic literature review. *Tourism and Hospitality Research*, 25(2).
<https://doi.org/10.1177/14673584231198414>
- Hennig-Thurau, T., Gwinner, K. P., Walsh, G., & Gremler, D. D. (2004). Electronic word-of-mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the Internet? *Journal of Interactive Marketing*, 18(1), 38-52. <https://doi.org/10.1002/dir.10073>

- Lai, X., Wang, F., & Wang, X. (2021). Asymmetric relationship between customer sentiment and online hotel ratings: The moderating effects of review characteristics. *International Journal of Contemporary Hospitality Management*, 33(6), 2137-2156. <https://doi.org/10.1108/IJCHM-07-2020-0708>
- Li, Y., He, Z., Li, Y., Huang, T., & Liu, Z. (2023). Keep it real: Assessing destination image congruence and its impact on tourist experience evaluations. *Tourism Management*, 97, 104736. <https://doi.org/10.1016/j.tourman.2023.104736>
- Liu, Y., Huang, K., Bao, J., & Chen, K. (2019). Listen to the voices from home: An analysis of Chinese tourists' sentiments regarding Australian destinations. *Tourism Management*, 71, 337-347. <https://doi.org/10.1016/j.tourman.2018.10.004>
- Luu, N. T. M., Pham, T. H., Siriwardana, A., Nguyen, L. C., & Tran, D. L. A. (2025). A bibliometric review of digitalization in tourism supply chains in the context of Industry 4.0. *Strategic Change*, 34(4), 577-595. <https://doi.org/10.1002/jsc.2639>
- Matikiti, R., Mpinganjira, M., & Roberts-Lombard, M. (2018). Application of the Technology Acceptance Model and the Technology-Organisation-Environment Model to examine social media marketing use in the South African tourism industry. *South African Journal of Information Management*, 20(1), a790. <https://doi.org/10.4102/sajim.v20i1.790>
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, 20(3), 709-734. <https://doi.org/10.5465/amr.1995.9508080335>

- Nguyen, M. T. (2024). When do tourists prefer to continue using online travel agencies? An empirical study from Vietnam. *Innovative Marketing*, 20(4), 66-78. [https://doi.org/10.21511/im.20\(4\).2024.06](https://doi.org/10.21511/im.20(4).2024.06)
- Pencarelli, T. (2020). The digital revolution in the travel and tourism industry. *Information Technology & Tourism*, 22(3), 455-476. <https://doi.org/10.1007/s40558-019-00160-3>
- Pencarelli, T., Bravi, L., Dini, M., & Splendiani, S. (2021). Enhancing customer experience through technological innovation in traditional travel agencies: Evidences from Italy. *Current Issues in Tourism*, 24(5), 590-596. <https://doi.org/10.1080/13683500.2020.1734548>
- Pillai, R., & Sivathanu, B. (2020). Adoption of AI-based chatbots for hospitality and tourism. *International Journal of Contemporary Hospitality Management*, 32(10), 3199-3226. <https://doi.org/10.1108/IJCHM-04-2020-0259>
- Raguseo, E., Neirotti, P., & Paolucci, E. (2017). How small hotels can drive value their way in infomediation: The case of 'Italian hotels vs. OTAs and TripAdvisor'. *Information & Management*, 54(6), 745-756. <https://doi.org/10.1016/j.im.2016.12.002>
- Seraj, A. H. A., Hasanein, A. M., Al-Romeedy, B. S., & Elziny, M. N. (2025). Redefining the digital frontier: Digital leadership, AI, and innovation driving next-generation tourism and hospitality. *Administrative Sciences*, 15(9), 369. <https://doi.org/10.3390/admsci15090369>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333-339. <https://doi.org/10.1016/j.jbusres.2019.07.039>

- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.
[https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7<509::AID-SMJ882>3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z)
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478. <https://doi.org/10.2307/30036540>
- Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889-901.
<https://doi.org/10.1016/j.jbusres.2019.09.022>
- Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems*, 28(2), 118-144.
<https://doi.org/10.1016/j.jsis.2019.01.003>
- Xiao, Y., & Watson, M. (2019). Guidance on conducting a systematic literature review. *Journal of Planning Education and Research*, 39(1), 93-112.
<https://doi.org/10.1177/0739456X17723971>