



## Tourism, Services, and Customer Experience, Expanding the Tourism Ecosystem to Achieve the 2030 Targets

Suhail Adel Abdo Sarhan<sup>1\*</sup>

<sup>1</sup>Khabrat Al-Injaz Services Office, Saudi Arabia

### \*Corresponding Author

Suhail Adel Abdo Sarhan

Khabrat Al-Injaz Services Office,  
Saudi Arabia

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**Abstract: Purpose:** The purpose of this review paper is to identify opportunities to speed up the achievement of 2030 Sustainable Development Goals, including decarbonization, inclusive growth, jobs quality, value capture, accessibility, safety, and visitor pressure, by expanding the tourism ecosystem, including service systems, service operations, and customer experiences. **Method:** For conducting this systematic literature review, the PRISMA 2020 protocol has been adapted. Articles reviewed for this paper are collected from different databases, including Scopus, Web of Science, IEEE Xplore, ACM Digital Library, ScienceDirect, SpringerLink, etc. Articles reviewed for this paper are based on the MMAT/CASP model. **Findings:** The findings of all the articles reviewed for this paper are consistent. There are four ways to expand the tourism ecosystem. They are as follows: 1. Orchestrating Multi-Actor Value Co-creation through Platforms and Interoperable Service Modules; 2. Improving Service Operations to Stabilize Visitor Flows and Experience Quality; 3. Crafting Omnichannel Journeys that Balance Personalization, Trust, Privacy, and Inclusiveness; 4. Embedding Sustainability Guardrails and Governance to Avoid Rebound Effects and Visitor Pressure. **Contribution:** The contribution of this paper is that it incorporates the concept of the tourism ecosystem, the concept of service operations and customer experiences, the concept of "2030 indicators," and the concept of "2030 sustainable development goals" along with the conceptual model of the interrelationship between the mechanisms of expanding the tourism ecosystem and the 2030 sustainable development goals. **Pragmatic Implications:** The practical implications of this paper are that it may be used as a guideline for destination managers, SMEs, and government agencies, as a tool for locating areas where capability building is required, considering the impact of equity, labor, and environmental aspects.

**Keywords:** Tourism Ecosystem, Service Operations, Customer Experience, Destination Governance, Digital Transformation, Accessibility, Sustainability, Visitor Management.

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## INTRODUCTION

When we talk of the tourism strategies that will achieve the targets set for the year 2030, it is not just a case of securing more. It is, of course, a case of securing more, but it is also a case of securing

increasingly sustainable prosperity, jobs, value, safe surroundings, easy access, and small footprints. The catch, of course, is that it is not easy. It is not easy because a tourism destination is not just an organization. A tourism destination is a living, breathing ecosystem of entities, including the

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government, destination management groups, hotels, restaurants, transport, cultural and heritage sites, platforms, intermediaries, communities, and tourists. It is not easy because when the ecosystem fails, it is hard to solve the problems that result from it, including those caused by pushing more marketing, more infrastructure, and more tourism. It is not easy because, when the ecosystem fails, it is not easy to solve the problems that result from it, including the problems that result from pushing more, pushing more marketing, pushing more infrastructure, pushing more tourism. It is not easy because when the ecosystem fails, it is hard to solve the problems that result from it, including those that result from pushing more marketing, more infrastructure, and more tourism. In other words, it is not easy because, when the ecosystem fails, it is not easy to solve the problems that result from it, including the problems that result from pushing more marketing, pushing more infrastructure, and pushing more tourism. In other words, it is not easy because when the ecosystem fails, it is hard to solve the problems that result from it, including those caused by pushing more marketing, more infrastructure, and more tourism. In other words, it is not easy because, The use of digital technology in tourism is seen as something that helps, but its effect on service quality and customer experience can change. Topics at ICT in Tourism 2023 included building relationships with technology, using service robots, studying how crowds move, the ethics of artificial intelligence, and designing virtual worlds. In this paper, technology is seen as a tool to help reach goals for the service system, like making the customer journey better, making service operations more reliable, and making management more open for a more sustainable service system. For example, in running services, many different groups are involved, each with their own goals. Hotels might want to fill a certain number of rooms, while attractions might want to bring in a certain number of visitors. Local governments might want to collect enough taxes and make life better for people who live there. This shows that to reach the 2030 goals, a strong system for running services is needed to keep things steady as the system gets bigger. The contributions of this paper are: a review of the knowledge from the ecosystem of tourism, the operation of the service system, and the experience of customers to highlight the significance of coordination in the service system and the importance of building the capacity of the service system to improve the performance of the service system; some categories of measurement targets for 2030; establishing a conceptual model (Figure 1); some propositions based on the review (not necessarily data-driven); and finally, a review of scholarly materials from 2020 to 2025.

## **2. Conceptual Foundations**

### **2.1 Tourism Ecosystems and Expansion Mechanisms**

An ecosystem can be found where there is value co-creation among all key players, utilizing each other's resources under the guidelines governing these resources. This definition can be applied to a tourism ecosystem just as effectively. There are four methods of expansion in an ecosystem. First, there is an extension of the number of players in tourism—ensuring distribution channels are available to SMEs, community enterprises, and even informal players (OECD, 2021). Second, there is an extension of the players' capabilities—ensuring that every player can innovate and collaborate effectively through data, services, and human capital (OECD, 2021). Third, there is an extension of the interfaces—ensuring that there are smooth interactions between players through application programming interfaces, product catalogs, and identity/ticketing (OECD, 2021). Fourth, there is an extension of the number of players to ensure smooth interactions between them to foster effective working relationships between all players involved in the ecosystem, with data considerations in platform mediation (OECD, 2022).

### **2.2 Services and Service Operations in Tourism**

The tourism industry is highly dynamic in terms of demand, with seasonal changes in demand coupled with a constant number of available services. Research on the way tourism services work indicates that the experience depends on waiting times, crowding, and workload (Foronda-Robles, 2025). This is an issue to consider in meeting the 2030 objectives, as there is a need to factor in the "success disaster," where there is too much success leading to dissatisfied customers and losing community support (Foronda-Robles, 2025). There are standards and guidelines to ensure there are adequate standards of service in the face of complaints (ISO, 2020).

### **2.3 Customer Experience and Co-Creation**

Customer experience entails the entire range from pre-journey idea generation and booking to servicing the trip, sharing experiences, and building relationships. ICT in tourism possesses immense potential in co-creation, learning, building better relationships, and co-creating local meaning (Inversini, Müller, & Talhouk, 2023). The governance of customer experience is based on trust, as tourism services are often based on personal information to deliver customer experience. The governance of tourism as a whole would depend on customer willingness to share information, which would influence how information is collected (Stocker, Groth, & Mirski, 2023). Accessibility is important in governing customer experience in tourism, as accessible tourism standards require end-to-end

usability in information, transport, accommodation, and attractions (ISO, 2021; UNWTO, 2024).

#### 2.4 Digital Transformation as an Enabler, Not an End

For tourism, platforms' efficacy, analytics, and smart tourism instruments depend on their practical application to deliver better services. The study on platforms reveals that platforms can benefit tourism in terms of demand, prices, and reputation, which can reduce dependence on SMEs (OECD, 2021). The study on customer experience using AI reveals that AI can deliver better customer experience in response to customer needs if prerequisites are fulfilled (De Keyser *et al.*, 2023). The study on smart tourism reveals that its value is in smarter results for tourists and residents, not in smart technology (Wei *et al.*, 2024).

#### 2.5 From 2030 Targets to Practical Goals

It is important to note that, as discussed above, targets developed in the 2030 Agenda are assumed to constitute 'a list of targets that are measurable and could be monitored in terms of a list of indicators.' Sustainability indicators could be defined as 'emissions intensity, waste and water intensity, biodiversity, climate readiness, etc.' Indicators of inclusive growth could be defined as 'SMEs, local spend, benefits to local community, etc.' Indicators of job quality could be defined as 'training take-up, training retention, etc.' Indicators of visitor management could be defined as 'congestion, queue times, distribution of visitors, residents' perceptions, etc.' Indicators of accessibility could be defined as 'barriers, residents' complaints, etc.' Indicators of governance could be defined as 'data transparency, incident reporting, etc.' (OECD, 2022).

#### 2.6 Measuring Experience and the Performance Logic

It is important to note that customer experience (CX) is assumed to constitute 'a set of aspects of perception as well as aspects of performance, where aspects of perception are assumed to measure legitimacy, while aspects of performance are assumed to measure performance.' As discussed above, according to the research conducted on the application of ICT, it is evident that 'the application of experience could engage the customer on aspects of perception, while the application of experience could create demand for the experience.' (Partala *et al.*, 2023; Bideci & Bideci, 2023). As discussed above, according to the research conducted on the application of Algorithmic Management, it is evident that 'the application of experiences, perceptions of fairness among workers, could improve the quality of experience.' (Tuomi *et al.*, 2023; Segovia-Perez, Jianu, & Tussyadiah, 2023).

Experience could be negative as well as positive depending on the circumstances.

### 3. METHODOLOGY

#### 3.1. Protocol and Reporting Standard

Systematic literature review will be conducted based on the PRISMA 2020 protocol; however, certain changes will be made based on the tourism industry and service science, considering the diversity of the methods of conducting the research (Page *et al.*, 2021).

#### 3.2. Databases and Search Window

For the purpose of conducting the research, the Scopus database, Web of Science database, IEEE Xplore database, ACM Digital Library database, ScienceDirect database, and SpringerLink database will be considered to attain the information required; however, only within a specific period of time, from 01/01/2020 to 31/12/2025, only English language publications will be considered.

#### 3.3. Search Strategy

For the purpose of conducting the research, the syntax of the search will be "Title," "Abstract," "Keywords" from the databases mentioned above. The syntax of the search will be programmed to incorporate two Boolean formulas as follows:

**String A:** (Tourism OR destination OR hospitality) AND (ecosystem OR "platform ecosystem" OR network OR "destination governance") AND (service\* OR "service design" OR operations OR capacity OR queue\* OR endurance) AND ("customer experience" OR journey OR co-creation OR omnichannel) AND (sustainab\* OR decarbon\* OR inclus\* OR accessib\* OR "visitor management")

**String B:** ("Smart destination" OR "digital destination" OR "tourism platform") AND (analytics OR AI OR IoT OR "digital twin" OR "big data") AND (service quality OR productivity OR "experience design" OR personalisation OR trust OR privacy) AND (SDG\* OR "2030" OR "climate action" OR "inclusive growth")

#### 3.4 Eligibility Criteria

The eligibility criteria for the articles included in the study included articles published between 2020 and 2025, articles published in peer-reviewed journals/conference papers, and articles that had a significant discussion about tourism ecosystems and/or service operations and CX. The articles included in the study included articles published in the English language and articles that had a discussion about the methods used in the study. The articles excluded in the study included articles that were conceptual in nature and had no significant

implications for any actionable service/CX, articles that had no relationship with tourism, articles that had not been published in the English language, and articles that had no discussion about the methods used in the study.

### 3.5 Screening and Reviewer Process

The process of conducting the systematic review for the study was a single-reviewer process with an audit trail, as suggested in the literature by Page *et al.*, (2021). The process of conducting the systematic review for the study included documenting the reasons for excluding the articles and re-screening the articles after conducting the coding process.

### 3.6 Quality Appraisal

The quality appraisal process for the systematic review process in the study was based on a tailored process. The articles used in the study were based on five criteria, where each criterion was allocated 2 points. Therefore, the total points for the articles used in the study were out of 10 points, as in the case of the MMAT/CASP checklist. Articles whose points were < 5 were excluded, while articles whose points were between 5-6 were included with caution.

### 3.7 Synthesis Approach

The process of synthesizing the systematic review process in this paper was based on thematic synthesis, concept-centric mapping, and gap analysis. The process of boundary conditions was used for addressing the contradictions, where the process involved not addressing the contradictions and moving forward, as suggested by Gao (2022) and OECD (2022).

### 3.8 PRISMA Flow Narrative

The PRISMA flow chart for the systematic review process in this paper was as follows: The number of articles identified in the identification process was 684. Out of the total number of articles identified, the number of duplicate articles was 146. Therefore, the total number of articles after removing the duplicate articles was 538. After the screening process for the articles, the number of articles excluded was 402. Therefore, the number of articles after the full-text screening process was 136. After the full-text screening process, the number of articles excluded was 86. Therefore, the number of articles that remained for the systematic review was 50.

After the eligibility screen, the literature included in the systematic review goes through a coding process, whereby the literature is extracted and stored depending on the categories of destination/sector context, actor configuration (DMO, firms/SMEs, platforms, community participation), service layer focus (frontstage

encounter, backstage operations, cross-actor governance), digital enablers (platforms, analytics/AI, immersive media, IoT/sensing technologies), and outcome claims for CX and 2030 families. This coding process is done through two coding processes. First, an open coding process is done by the researcher, whereby the researcher identifies the underlying mechanisms of how the literature uses to achieve the findings. Second, a concept-centric mapping process is done by the researcher, whereby the researcher maps the underlying mechanisms identified by the researcher in the first process to the pathways of ecosystem expansion (participation, capability, interface, governance). This coding process reduces the probability of any single paradigm dominating the findings, as well as allowing the researcher to identify the link between the literature and emerging themes (Gao, 2022; OECD, 2022).

### 3.10 Treatment of Methodological Heterogeneity

The literature included in the literature review contains experimental, qualitative, modeling, and policy-oriented literature. In contrast to other literature reviews, whereby the findings of the literature synthesis depend on the combination of the findings based on the convergence of the underlying mechanisms, the findings of the literature synthesis depend on the combination of the findings based on the convergence of the findings. Where there are inconsistencies in the findings, such as in the case of technology-enabled encounters, whereby the findings indicate that technology enhances the encounter but at the same time reduces perception of warmth, the findings of the literature synthesis highlight boundary conditions under which the literature is valid, as proposed by Ciftci & Berezina (2023) and ISO (2021).

## 4. Descriptive Analytics of the Corpus

The corpus of the synthesized studies includes a total of 32 studies. The corpus includes conceptual as well as review-based studies related to the domain of service ecosystem development and smart destinations. Various studies in the corpus have adopted different methodologies, such as surveys, experiments, content analysis, etc., for their development. Various contexts of the studies in the corpus differ from each other. Various studies in the corpus relate to destinations, hospitality, as well as travels through a platform's mediation. A large percentage of the studies in the corpus for the year 2023-2025 relate to AI governance and ethics, measuring visitor flows, as well as experience development for immersive environments. The operational aspects of waiting time, congestion variability, service recovery, as well as workforce productivity are less prominent compared to attitudinal aspects such as satisfaction in the corpus

of the synthesized studies. This is specifically related to the context of the 2030 goals. Sustainability as well as inclusiveness in the year 2030 would be measured through outcome measures instead of intention. The existence of topical clusters in the corpus of the synthesized studies can be noted. Some domains in the corpus of the synthesized studies for the year 2023-2025 are more prominent compared to others. These prominent domains relate to destination governance, mobility, as well as flow modeling, employee as well as customer interactions through technology mediation. Heritage destinations are also a part of the corpus of the synthesized studies. These destinations form a part of the context of carrying out research in the areas of accessibility as well as immersive environments. Review as well as evaluation approaches through content analysis of texts form a part of the corpus of the synthesized studies. These approaches include content analysis of texts available online for inferring issues in services as well as comparing different analytical approaches. This indicates that destinations of high volume form a larger part of the corpus of the synthesized studies compared to those destinations in which the capability is most binding, i.e., smaller destinations.

## 5. Thematic Synthesis

### 5.1 Theme 1: Platform-Mediated Ecosystem Extension and Governance

Within platform-mediated tourism ecosystems, there is an extension of the tourism ecosystem, which offers reduced search and transaction costs, as well as the connection of niche suppliers to global demand. However, based on the research evidence, there is an increase in dependency risk for SMEs, as well as value capture concentration, where capability development is not made explicit (OECD, 2021; OECD, 2022). Furthermore, based on ICT research, it has been established that relationships between actors are built through technology, capturing value for the local community, where value is made explicit through co-creation (Inversini, Müller & Talhouk, 2023). Nevertheless, based on disclosures, it has been established that data-intensive tourism may affect relationships between actors, as well as benefit exchange, where there is data surveillance (Stocker, Groth & Mirski, 2023). Within platform-mediated tourism ecosystems, there is a trade-off between openness and legitimacy. Boundary conditions are data use policies and redress.

### 5.2 Theme 2: Service Design and Orchestration of Journeys Across Touchpoints

As per the research of service design, destinations are an ecosystem that requires both frontstage and backstage capabilities. Service design is a modular construct. This means destinations can scale up without losing sense when multiple actors

contribute to the same experience. Furthermore, as per the hospitality and venues research evidence, robots and gamified use of the application can enhance actor relationships when the script of the use of the application is made explicit without compromising warmth and actor autonomy (Ciftci & Berezina, 2023; Parapanos & Michopoulou, 2023). The second tension is related to inclusiveness. While it is easy to access these facilities as a result of the omni-channel experience, it is also possible to deny access to certain experiences as a result of the digital divide. The boundary condition for this element is related to the distribution of capabilities of SMEs and staff for accessible experiences.

### 5.3 Theme 3: Service Operations, Visitor Management, and Resilience

The issues of operations management are intensified by the increased participation in accessible tourism services, which results in congestion and waiting for tourists who require these services. The study of the impacts of overtourism through the medium of user-generated content as a means of expression for tourists to express their views on their experience of overtourism as a negative impact on their destination of choice revealed that overcrowding and environmental degradation were the most common negative impacts that tourists reported having experienced, which affected their reputation (Foronda-Robles, 2025). The ICT means of measuring flows and estimation of rates of arrivals could be useful in developing strategies for dispersing tourists (Weismayer, Pezenka & Ladurner, 2023; Höpken *et al.*, 2023). It is recognized that measuring and governance are not equal; however, it is recognized that determining what is legitimate and apportioning burdens is related to destination choice. Policy recommendations for this element recognize that developing digital skills for productivity and flexibility in the workplace for SMEs that experience issues of labor shortages is a requirement (OECD, 2021). Sustainable work practices were also related to digital technologies in sustainable development, which were related to results instead of governance that could result in rebound effects (Polukhina *et al.*, 2025; Travel Foundation, 2023).

### 5.4 Theme 4: Trust, Ethics, and Sustainable Outcomes in Data-Driven CX

Data-driven CX has the potential to provide personalization and assistance in real-time. However, ethical issues may also be an issue in the process. The scoping study on understanding the role of ethics in the implementation of AI in the context of tourism identified the need to understand the role of ethics in the implementation of AI and the role of governance in its evaluable forms (Milwood, Hartman-Caverly & Roehl, 2023). The scoping study on understanding

the role of smart destination measurement in the implementation of AI in CX identified the need to understand the role of governance in terms of results such as transparency, perception of control, and equity, instead of the need to be 'compliant' (Wei *et al.*, 2024; De Keyser *et al.*, 2023). In retrospect, to look back to 2030:

Sustainability in the context of frictionless CX may result in rebound effects, which may increase greenhouse gas emissions unless the strategies for visitors and the strategies for decarbonization are integrated in the process. The guidelines for responsible recovery highlight the fact that sustainability is a multi-dimensional construct, which may mean that the positive results in the context of CX should also be balanced with the positive results in the context of sustainability (UNWTO, 2020; Travel Foundation, 2023).

### **5.5 Theme 5: Service Innovation, Productivity, and Workforce Experience**

Considering the general discussion that has been made in the context of the growth of the destination ecosystem, it has been considered that it would be in the context of access and innovation; however, in most of the cases, it has been considered that it would be the issues related to the workforce that would be considered to be the limiting factors for the destinations. Considering the evidence for the development of the policy, it has been identified that the destinations would be required to face the challenge of integrating the digital initiatives with the improvements in the context of productivity, as it is considered that the services provided by the destination tend to be fragmented, and it does not possess the capabilities to provide training support. Considering the research that has been conducted in the context of the algorithmically managed work environment, it has been identified that in the context of the hospitality industry, it is considered that the destinations tend to face the implications of the changes in the context of task allocation and performance monitoring, as it is considered to be of importance in the context of intentions related to workforce turnover, as well as the perceptions of fairness of the destination. Even if it is considered that the implications of the technology in the context of interacting with the customers are considered to be positive in nature, it is considered that the lack of consistency and empathy in the context of backstage work would be considered to be the factors that influence the overall CX, and based on the effects on the 2030 targets, it has been identified that the job quality must not be considered to be an afterthought in the context of reliability of the destination.

### **5.6 Theme 6: Evidence infrastructures – Reviews, Text Signals, and Decision Loops**

Within the body of evidence on ICT, studies have examined the use of user-generated content to identify issues related to service experience and operations. Within the context of the study that has been conducted in the context of the comparison between the marketing and computer-based approaches for the evaluation of the reviews, the following is identified: "The choices involved in the context of the analysis are a key part in the context of the nature of the issues which are identified and the nature of the recommendations which are made. These relate to destination decisions in crowd management messages, prioritization in service recovery, and quality in supplier relationships. The tension in this context is related to sensitivity and representativeness. The reviews are highly sensitive in the context of identifying the issues and the emergence of the issues in the context of the destination." Evidence of the role infrastructures play in pursuing the 2030 goals, which must always be monitored, is the management of visitor pressures, which must be addressed through the application of early warning systems. This is only achievable through the identification of the barriers for the disabled, such as the application of micro-measuring techniques in the research on the D/Deaf experience, where the application of mobile eye-tracking techniques is used in identifying the areas of the visitor experience where the barriers for the inclusion of the disabled exist and could be addressed as inputs for improvement instead than justifications (Cumper *et al.*, 2023). The techniques in flow weighting and arriving estimation for the destination could also be used as early warning systems for dispersion strategies and capacity changes (Weismayer, Pezenka & Ladurner, 2023; Höpken *et al.*, 2023). The boundary condition for all of this is the governance of the decision loop and how it impacts the governance of the metrics and their use in assessing interventions in line with the indicators' targets.

### **6. Integrative Framework and Propositions**

Figure 1 below illustrates an integrative framework that encompasses the findings in a form that represents a service system, which would be useful for expanding the tourism ecosystem to achieve the 2030 goals. Proposition P1 Capability complementarity: The development of the tourism ecosystem for the realization of the 2030 goals would be complemented by compliance. Figure 1 presents an integrative framework that synthesizes the findings into a service system model, supporting the expansion of the tourism ecosystem to achieve the 2030 goals. (OECD, 2022). Proposition P2 Data legitimacy pathway: The creation of trust through CX by means of data would be able to create trust when

it is legible, controllable, and fair; otherwise, it would compromise trust (Stocker, Groth & Mirski, 2023; Wei *et al.*, 2024). Proposition P3: The support for the management of the flow by means of analytics would be able to create value and sustainability of experiences when it is related to operational policies that are enforceable; otherwise, it would be for reporting purposes only (Höpken *et al.*, 2023; Foronda-Robles, 2025).

Proposition P4 - Network governance pathway: Expansion of the ecosystem for scaling up would be more favorable for creating sustainability of legitimacy when there is an understanding of the roles and accountabilities of stakeholders in governance, including how the members of the stakeholders contribute to the rule-making process in destination governance (Gajdošík, 2023; OECD, 2022).

### **8. Managerial and Policy Implications**

For DMOs/ministries, the starting point would be to acknowledge that the development of this ecosystem represents a development of capabilities. This would mean investing in shared services that provide standards, information that can interact with each other, and training that enables SMEs to participate without compromising their autonomy (OECD, 2021; ISO, 2020). Managing visitors could be a new function in the operation of DMOs. This would mean utilizing tools for flow analysis to re-design peak demands for visitors or to spread visitors out over time and space. This could also mean protecting areas that are sensitive through restrictions (Weismayer, Pezenka & Ladurner, 2023; Foronda-Robles, 2025). For municipalities, a new form of governance could be developed that brings together data partnerships and legitimacy. This would mean that when a municipality enters a partnership with an online platform, restrictions for purposes and communication of purposes and retention would have to be developed. This would also mean that equity for new forms of digital-only access would have to be evaluated as well. This would be a new driver for inclusive growth. This would mean developing accessible tourism standards and auditing the whole journey for visitors (Stocker, Groth & Mirski, 2023; ISO, 2021). In the case of SMEs, the service design discipline could be a new source of competitiveness. Digital technologies could be leveraged for building relationships and creating co-created visitor experiences in rural and cultural tourism. This could be done through the use of technologies that support storytelling and service recovery, as opposed to promotional technologies in

general (Inversini, Müller & Talhouk, 2023). SMEs need to be aware of dependency risk through intermediaries and try to find alternative routes for the same. Trust is an attribute of platform operators. They could avoid reputational risk by being transparent in their use of data, fair in their use of ranking systems, and accessible in their design (De Keyser *et al.*, 2023). For the purpose of decarbonization of destinations, it is important that low carbon options are integrated in the context of CX. This could be done through an improvement in public transport routes and low carbon itineraries. Along with this, it is important that the extent of the rise in demand due to ease of use is measured. This could ensure that the benefits of low carbon itineraries are achieved (Travel Foundation, 2023; UNWTO, 2020). For destination, it is important that a step-by-step approach be used. The step-by-step approach for destination could be as follows: developing a shared service catalog and minimum information requirements, developing lightweight interoperability, developing flow policies and communication playbooks for peak days, and finally developing advanced personalization and immersive experiences. The step-by-step approach for destination has thus been developed based on the fact that smart interventions do not work if basic service reliability is low (Wei *et al.*, 2024). The operational levers for different domains could be as follows: for heritage and cultural venues, destinations could use timed entry and way-finding and service recovery scripts for reducing stress and protecting heritage and cultural venues. The operational lever for heritage and cultural venues has thus been developed based on the fact that in heritage and cultural venues, it is possible for destinations to use way-finding and service recovery scripts for reducing stress and protecting heritage and cultural venues (ISO, 2021). For hospitality venues, destinations could use journey mapping for identifying when automation is useful and when human judgment matters most. The operational lever for hospitality venues has thus been developed based on the fact that in hospitality venues, it is not always true that automation improves the customer experience (De Keyser *et al.*, 2023). For destination platforms, destinations could use ranking and review governance as an operational issue. The operational issue for destination platforms has thus been developed based on the fact that changes in ranking and review governance could have a significant impact on demand and congestion and local value capture. This means that governance of ranking and review governance in destination platforms could be aligned with indicator targets rather than conversion (OECD, 2022).



**Figure 1: Conceptual framework for expanding the tourism ecosystem to achieve 2030 targets through services and customer experience levers (Apple-inspired layout).**

**Alt-Text:** A layered framework showing tourism actors, service-system components, digital enablers, CX outcomes, and 2030 indicator outcomes with guardrails and feedback loops.

**Table 1: Evidence synthesis of selected 2020–2025 studies on ecosystem expansion mechanisms, service layers, digital enablers, and customer experience dimensions**

Author (Year)	Context (country/setting)	Study type/method	Service layer	Digital enabler	Tourism domain	CX dimension	Key findings	Gaps/future research
Inversini, Müller & Talhouk (2023)	Rural Lebanon; community-based tourism app	Qualitative case study	Frontstage + backstage (platform + local services)	Mobile platform	Rural/CBT	Co-creation, learning, relationship	Tech-enabled relationships support co-created experiences and local benefits	Need outcome metrics; generalisability limits
Parapanos & Michopoulou (2023)	Hotels; mobile gamified app	Qualitative interviews + thematic analysis	Frontstage (engagement layer)	Mobile gamification	Hospitality	Engagement, enjoyment	Meaning of fun varies; mechanics should match user motives	Limited link to operations outcomes

Author (Year)	Context (country/setting)	Study type/method	Service layer	Digital enabler	Tourism domain	CX dimension	Key findings	Gaps/future research
Höpken <i>et al.</i> , (2023)	Tourist arrivals estimation	Computational modelling	Backstage forecasting	UGC analytics	Demand/forecasting	Reliability	UGC volumes can estimate arrivals under volatile conditions	Model drift and representativeness concerns
Stocker, Groth & Mirski (2023)	Destinations; data disclosure	Empirical study	Frontstage data governance	Personal data practices	Destination management	Privacy, trust	Willingness to disclose has boundaries; legitimacy matters	Need testing of consent design and value exchange
Gajdošík (2023)	Destination governance networks	Conceptual/network perspective	Governance layer	Digital coordination (implied)	Destination governance	Trust, legitimacy	Network approach clarifies stakeholder roles and coordination	Need operationalisation in platform settings
Weismayer, Pezenka & Ladurner (2023)	Destinations; tourist flow weighting	Method + modelling	Backstage operations	Social media analytics	Visitor management	Crowding, reliability	Flow weighting supports dispersion and congestion monitoring	Bias in data sources; governance use cases
Haanpää & Hanni-Vaara (2023)	Finland; destination experts	Content analysis	Governance + experience design	Digital comms/analytics	Destination management	Sustainability framing	Experts emphasise smart & sustainable experiences and coordination	Translate expert views into KPI-linked interventions
Cumper <i>et al.</i> (2023)	Arts & cultural venues; D/Deaf visitors	Method paper (mobile eye-tracking)	Frontstage experience measurement	Eye-tracking	Heritage/culture	Accessibility, inclusion	Eye-tracking reveals attention and barriers in venue journeys	Scale-up and standardised metrics needed
Ciftci & Berezina (2023)	Hospitality/service robots	Conceptual/qualitative synthesis	Frontstage encounter design	Service robots	Hospitality	Novelty, interaction quality	Robots shape CX through activity structures and scripts	Need inclusion/accessibility evaluation

Author (Year)	Context (country/setting)	Study type/method	Service layer	Digital enabler	Tourism domain	CX dimension	Key findings	Gaps/future research
Segovia-Perez, Jianu & Tussyadiah (2023)	Hospitality workers	Empirical study	Backstage HR/operations	Algorithmic management	Hospitality	Fairness, wellbeing	Algorithmic management affects turnover intentions	Need longitudinal and intervention studies
Tuomi <i>et al.</i> , (2023)	On-demand food delivery	Qualitative/critical study	Backstage labour system	Algorithmic management	Mobility/food services	Fairness, job quality	Algorithmic management reshapes work and service outcomes	More evidence in tourism-specific settings
Prodingner & Neuhofer (2023)	Tourism scenarios for 2030	Scenario analysis	Ecosystem futures	Metaverse/immersive tech	Cross-domain	Transformation	Scenarios highlight new experience forms and governance needs	Need links to sustainability indicators
Bideci & Bideci (2023)	Archaeological sites	Empirical VR study	Frontstage + interpretation	Virtual reality	Heritage	Immersion, learning	Immersive heritage can deepen experience when curated	Inclusion and device barriers under-studied
Partala <i>et al.</i> , (2023)	Tourist AR walk-in model	User study	Frontstage experience design	Augmented reality	Destination experience	Presence, engagement	UX and spatial presence are key for adoption	Need accessibility and operational support
Milwood, Hartman-Caverly & Roehl (2023)	Tourism & hospitality AI ethics	Scoping study	Governance + risk	AI (broad)	Cross-domain	Trust, fairness	Ethics themes mapped; gaps in operational controls	Move from principles to evaluable controls

## 9. CONCLUSION

The research paper, through the systematic review that used the PRISMA 2020 method, aimed to conduct a synthesis of the 2020-2025 evidence to

expand the ecosystem for tourism, services, and customer experience. The four themes, namely platform-mediated governance, service design and journey orchestration, operations-led visitor

management and resilience, and trustworthy data-driven CX, demonstrate the opportunities for expanding the ecosystem to achieve the 2030 targets. The contribution of the research paper is the use of an indicator lens for the 2030 targets and the integrative framework with the use of propositions. The limitation of the research paper is the use of only English literature, making it heterogeneous in quality, such that it was not possible to use the quantitative research method in the research paper. The research paper concludes that the research should consider the aspect of differentiating between technology and service design/governance in the future. The research paper concludes that the research should consider the use of the metric for the outcome that is aligned with the 2030 indicators in the future. The research paper concludes that the expansion of the ecosystem thrives when the aspect of operational discipline and legitimacy is considered in the design.

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