Doi: 10.33649/pusaka.v6i2.1598

PUSAKA
Journal of Tourism, Hospitality, Travel and Business Event
Vol. 8 No. 2 (2026): August-December
ISSN 2656-1301 (Online) 2656-1336 (Print), 631-644
https://journal.poltekparmakassar.ac.id/index.php/pusaka

Big Data-Driven Strategic Management in Tourism Governance: A Systematic Literature Review and Future Research Agenda

Norman Sasono[1], H.M Ahman Sya[2], Dedi Purwana E.S[3]*
[1]*Head of the Planning and Finance Bureau, Ministry of Tourism, Republic of Indonesia*
[2]*Chairman of the Academic Senate, Jakarta State University, Indonesia*
[3]*Director of Postgraduate Studies, Jakarta State University, Indonesia*

**Corresponding author, email: norman.sasono72@gmail.com*

Received: August 05, 2026	Revised: August 19, 2026	Accepted: September 19, 2026	Published: October 29, 2026

ABSTRACT
Digital platforms, mobile applications, and connected sensors have turned tourism into one of the most data-intensive sectors of the global economy, giving governments the raw material to manage destinations through continuous, real-time evidence rather than periodic statistical reporting alone. Prior research has examined big data extensively in relation to demand forecasting, destination marketing, and the technical architecture of smart tourism ecosystems, yet comparatively little work has asked how these analytical capabilities can be folded into a strategic governance framework capable of supporting evidence-based tourism policymaking at the national level. This systematic literature review addresses that gap by synthesizing peer-reviewed research on big data, tourism governance, and strategic management published between 2015 and 2024, following the PRISMA 2020 protocol across the Scopus, Web of Science, and ScienceDirect databases. From an initial pool of 450 records, 45 studies met the inclusion criteria and were analyzed through combined thematic and bibliometric methods, including keyword co-occurrence mapping in VOSviewer and a structured quality appraisal of methodological rigor. Four thematic clusters emerged: big data analytics for demand forecasting and visitor behavior; smart tourism ecosystems and digital destination management; big data as a strategic management capability; and data-driven tourism governance and policy innovation. Building on the relationships among these clusters, the review proposes an original conceptual framework that traces a pathway from big data capability through strategic management capability and tourism governance processes to policy outcomes, and it identifies persistent barriers around data fragmentation, limited analytical capacity within public institutions, and unresolved data governance and privacy concerns. The review's principal contribution is both theoretical and practical: it is among the first syntheses to connect big data analytics explicitly to national-level strategic tourism governance rather than destination- or firm-level performance, and it closes with a future research agenda spanning strategic data governance, public-sector analytical capability, AI-enabled tourism policy, and integrated tourism data platforms.
Keywords: Big Data Analytics; Data-Driven Policy; Smart Tourism; Strategic Management; Tourism Governance tension.

INTRODUCTION
Digital technology has steadily reshaped how governments design and deliver public policy. Cloud computing, artificial intelligence, and big data analytics now allow public organizations to collect, process, and interpret vast quantities of information under conditions that are more complex, dynamic, and uncertain than those most policy institutions were originally built for (Kitchin, 2014; OECD, 2019). Tourism is among the sectors most profoundly transformed by this shift: online travel agencies, social media platforms, mobile applications, booking systems, and geolocation tracking generate continuous streams of data on visitor behavior, demand patterns, and destination performance, giving governments a technical basis for evidence-based tourism management that would have been unavailable a decade ago.

A substantial body of scholarship already documents what big data can do inside tourism organizations: it can forecast demand (Li et al., 2018), personalize marketing (Xiang et al., 2021), and knit together the sensors, platforms, and information systems that make up smart tourism ecosystems (Gretzel et al., 2015). What remains far less settled is how these same analytical capabilities are absorbed into strategic management practice and translated into governance arrangements at the level of national tourism policy. Existing reviews tend to treat big data either as a marketing or forecasting tool situated at a single destination or firm, or as one ingredient of the technological infrastructure that makes a destination "smart," rather than as a strategic capability that public institutions must build, govern, and align with policy

© 2026 by Pusaka: Journal of Tourism, Hospitality, Travel and Business Event, Politeknik Pariwisata Makassar. This is an open access article under the CC-BY-SA license (https://creativecommons.org/licenses/by-sa/4.0/)

Doi: 10.33649/pusaka.v6i2.1598

PUSAKA
Journal of Tourism, Hospitality, Travel and Business Event
Vol. 8 No. 2 (2026): August-December
ISSN 2656-1301 (Online) 2656-1336 (Print), 631-644
https://journal.poltekparmakassar.ac.id/index.php/pusaka

objectives. Nor has the literature clarified how tourism governance — the institutional arrangements that coordinate governments, private operators, and communities (Hall, 2011) — should be redesigned once large-scale, real-time data becomes available to policymakers. This paper treats that gap as its point of departure: evidence about what big data can technically achieve in tourism is abundant, but evidence about how governments should organize themselves, strategically and institutionally, to use it is comparatively scarce.

Indonesia offers an instructive setting in which to examine this gap, since it combines rapid tourism growth with an expanding digital government agenda. Tourism is among the sectors most reshaped by digitalization worldwide: international arrivals climbed to roughly 1.3 billion in 2023, about 88% of pre-pandemic levels, according to the World Tourism Organization (UNWTO, 2023), while the sector contributed an estimated 9–10% of global GDP before COVID-19 (WTTC, 2019). Foreign tourist numbers to Indonesia rose sharply by 250.72% in 2022 and a further 113.44% in 2023 as the sector recovered from the pandemic shock, and local governments have correspondingly stepped up efforts to attract investors and developers to new destinations. Indonesia's Central Bureau of Statistics (BPS) recorded 2,930 tourist attractions nationwide in 2023.

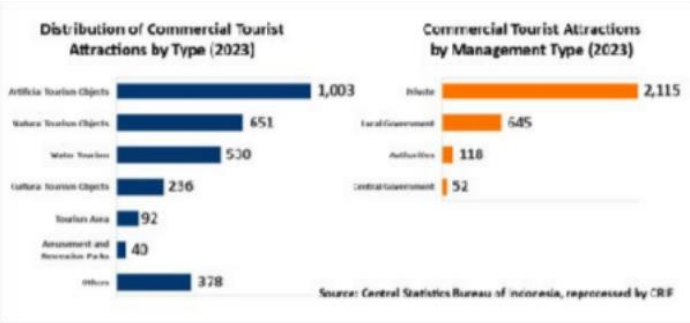

Figure 1. Distribution and Management Types of Commercial Tourist Attractions in Indonesia
Source: Central Statistics Bureau of Indonesia, processed by CRIF, 2023

Figure 1 shows man-made attractions leading the count at 1,003 sites, and ownership skewed heavily private: 2,115 of Indonesia's tourist attractions sit in private hands, against 645 run by local government, 118 by special authorities, and only 52 directly by the central government — a split that says as much about who is financing Indonesian tourism as about who is regulating it. The same recovery period has brought wider government experimentation with big data: predictive models, machine learning, and live data dashboards are increasingly part of how officials read tourism trends, manage crowding at popular sites, and target destination-development spending (Gretzel et al., 2015; Li et al., 2018).

Scale is part of why Indonesia matters here: spread across more than 17,000 islands, it has tourism assets running from rainforest to reef to centuries-old cultural sites, which is why the sector counts as a genuine pillar of national economic strategy rather than a peripheral industry. Government figures put its 2022 contribution at roughly 4.1% of GDP, with 11.7 million international arrivals in 2023 as global travel picked back up (Kemenparekraf, 2023); the domestic market dwarfs that figure, with upward of 700 million trips taken within the country each year (BPS, 2023). Tourism held at about that same 4.1% GDP share (year-on-year) in 2023, worth USD 14.63 billion, and the government's stated target for 2024 is 4.5%.

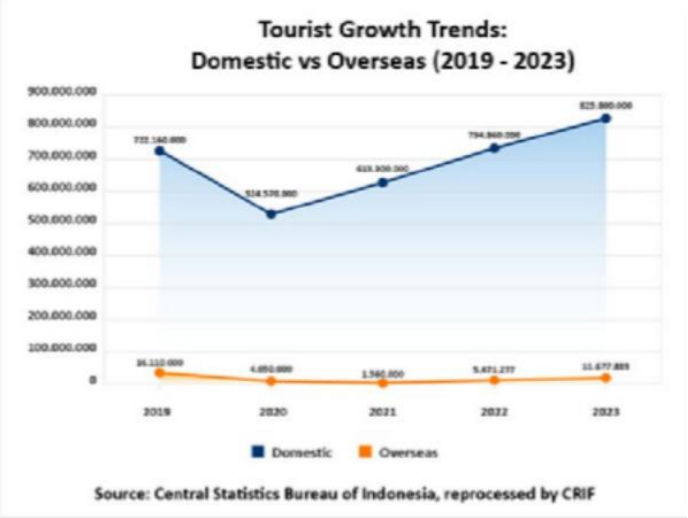

Figure 2. Tourist Growth Trends in Indonesia: Domestic vs. Overseas Visitors
Source: Central Statistics Bureau of Indonesia, processed by CRIF, 2023

Figure 2 shows domestic tourism continuing to dominate the market, with more than 825 million trips recorded in 2023 — far outpacing the recovery of international arrivals and underscoring domestic mobility as the primary engine behind Indonesia's post-pandemic tourism recovery. Against this backdrop, the present review makes three contributions. First, it systematically maps how the tourism literature has connected big data analytics to strategic management and governance processes, rather than treating these as separate research

© 2026 by Pusaka: Journal of Tourism, Hospitality, Travel and Business Event, Politeknik Pariwisata Makassar. This is an open access article under the CC-BY-SA license (https://creativecommons.org/licenses/by-sa/4.0/)

PUSAKA
Journal of Tourism, Hospitality, Travel and Business Event
Vol. 8 No. 2 (2026): August-December
ISSN 2656-1301 (Online) 2656-1336 (Print), 631-644
https://journal.poltekparmakassar.ac.id/index.php/pusaka
Doi: 10.33649/pusaka.v6i2.1598

streams. Second, it proposes an explicit conceptual framework — moving from big data capability, through strategic management capability and governance process, to policy outcomes — As prior narrative reviews have shown in this field have not articulated. Third, it translates the resulting synthesis into a set of research and policy directions relevant to countries such as Indonesia that are simultaneously expanding their tourism sector and their digital government infrastructure. The remainder of the paper proceeds as follows: Section 2 critically reviews the literature on big data, strategic management, and tourism governance, including recent work on generative AI, digital twins, and data governance; Section 3 details the PRISMA-based review protocol, including the full search syntax and a structured quality appraisal; Section 4 presents the thematic and bibliometric findings together with the proposed conceptual framework; and Section 5 concludes with theoretical, managerial, and policy implications and a future research agenda.

LITERATURE REVIEW

Big Data and the Digital Transformation of Tourism

Few industries generate as constant a stream of digital exhaust as tourism: every booking, check-in, geotagged photo, and review adds to a pool of information that online travel agencies, social platforms, mobile devices, and payment systems produce almost automatically. Gretzel et al. (2015) were among the first to argue that this pool of data changes not just how tourism is marketed but how it is researched and managed, since it allows real-time monitoring rather than periodic surveys. Li, Hu, Huang, and Duan (2018) extend this point empirically, showing that analytics drawn from such data improve demand forecasting and allow services to be tailored to individual travelers, which in turn feeds back into how destination organizations plan. The same authors link this technical capacity to the broader idea of "smart tourism," a label for destinations that wire sensors, platforms, and digital infrastructure together so that information can move quickly between visitors, operators, and public agencies rather than sitting in separate systems.

Big Data Analytics as a Strategic Management Capability

A parallel strand of scholarship, rooted in strategic management rather than tourism studies, treats analytics less as a technology and more as an organizational skill. Wamba and colleagues (2017), working from a firm-performance perspective, found that companies able to build genuine analytics capability — not just buy the software — saw measurable gains in how well and how fast they made decisions and innovated. Applied to tourism, this capability underlies everyday functions such as forecasting arrivals, segmenting markets, benchmarking a destination against competitors, and responding to crises. Mariani, Baggio, Fuchs, and Höpken (2018) take this further into destination management organizations specifically, arguing that access to large datasets lets DMOs move from intuition to evidence when setting strategy, and Xiang, Schwartz, Gerdes, and Uysal (2015) show a related mechanism at the level of individual businesses: mining large volumes of guest feedback surfaces shifts in traveler preference well before they would show up in traditional market research. None of this happens automatically, however — Mikalef et al. (2020) caution that an organization only converts data into advantage when it simultaneously has the digital infrastructure, the governance rules for using data responsibly, and staff with the analytical training to interpret it; missing any one of the three leaves the data sitting unused.

Tourism Governance and the Push Toward Evidence-Based Policy

Governance, in Hall's (2011) account of tourism, is less about any single authority issuing rules and more about how governments, private operators, and local communities negotiate and coordinate around shared resources and shared risk. For much of its history that coordination leaned on infrequent statistics and the judgment of experienced officials, an approach that struggled to keep pace as tourism systems grew more interconnected and harder to predict. Scholars have since pushed for governance that draws more directly on continuous data: Buhalis and Amaranggana (2015) describe how digital platforms let destination authorities coordinate policy with private stakeholders in something closer to real time, and Sigala (2018) argues that once big data is folded into governance routines, interventions around congestion, environmental strain, and visitor experience can be targeted rather than blanket.

Smart Tourism Governance and Digital Ecosystems

Building on the smart tourism concept, a governance-focused literature asks what happens once destinations are treated as interconnected digital ecosystems rather than collections of individual attractions. Gretzel et al. (2015) picture such ecosystems as networks in which governments, businesses, and tourists all feed information back into a shared pool, co-creating value rather than each holding data separately, with big data functioning as the connective layer that keeps the network informed in close to real time. Buhalis and Sinarta (2019) push this toward a governance requirement rather than a purely technical

© 2026 by Pusaka: Journal of Tourism, Hospitality, Travel and Business Event, Politeknik Pariwisata Makassar. This is an open access article under the CC-BY-SA license (https://creativecommons.org/licenses/by-sa/4.0/)

PUSAKA
Journal of Tourism, Hospitality, Travel and Business Event
Vol. 8 No. 2 (2026): August-December
ISSN 2656-1301 (Online) 2656-1336 (Print), 631-644
https://journal.poltekparmakassar.ac.id/index.php/pusaka
Doi: 10.33649/pusaka.v6i2.1598

one: making this kind of ecosystem work depends on institutions actively coordinating with each other, and on governments building integrated platforms that pull together destination management organizations, transport operators, accommodation providers, and other digital systems rather than leaving each to run in isolation.

Sustainability, Data Fragmentation, and Institutional Capacity

Beyond marketing and forecasting, several studies connect big data to the sustainability agenda. Becken (2017) shows that combining mobility data with environmental indicators and visitor-behavior analytics gives destinations an early-warning system for sustainability pressure that periodic reporting cannot match, while Fuchs, Höpken, and Lexhagen (2014, 2022), drawing on a Swedish case, find that destination-management systems built on continuous data improve both forecasting accuracy and the quality of strategic planning. Mariani et al. (2018) add that the same analytics used for marketing can just as easily flag congestion before it peaks, letting managers redistribute visitors and blunt the worst effects of overtourism. Three barriers recur across this literature, however: data usually sits fragmented across separate organizations and platforms rather than in one accessible system (Mikalef et al., 2020); many public agencies simply lack the in-house technical skill to process what data they do have; and questions of privacy, security, and the ethical use of personal travel information have become harder to set aside as the volume of collected data grows (Xiang et al., 2015).

Emerging Frontiers: Generative AI, Digital Twins, and Data Governance (2023–2025)

A more recent stream of scholarship, largely published after the original PRISMA search window closed, signals where the field is heading next and helps position the present review against the current frontier rather than only its historical foundations. Hsu, Tan, and Stantic (2024) develop a tourism-specific generative AI concept, showing how large language models can be fine-tuned on domain data to support destination marketing and visitor-facing applications, while Gretzel et al. (2025) revisit their original 2015 smart tourism model a decade on and propose an "AI-powered smart tourism 2.0" framework that folds generative AI, autonomous systems, and digital twins into the smart tourism layers first identified a decade earlier. On the infrastructure side, Florido-Benítez (2024) conceptualizes how digital twin technology can help smart tourist destinations manage overtourism, sustainability, and urban planning challenges, and Rahmadian, Feitosa, and Virantina (2023) propose a documentation framework for architectural decisions that applies big data governance principles to digital twin systems, using mobile positioning data in Indonesia as an illustrative case. On the policy side, Carić, Mandić, and Sever (2026) demonstrate a six-phase AI-expert framework, built around a large language model, for evaluating the coherence of national tourism policy against international sustainability strategies.

Taken together, this recent cluster confirms that the field is moving toward AI-native and governance-aware applications of tourism data, yet it also reinforces rather than resolves the gap this review addresses: these studies remain focused on technology acceptance, documentation practices, or single-country policy audits, and none proposes a general strategic management framework connecting big data capability to tourism governance outcomes across contexts. This positions the present review's conceptual framework (Section 4.3) as a timely complement to, rather than a duplication of, this emerging literature.

Critical Synthesis and Research Gap

Read side by side, the pre-2020 literature and the post-2020 literature reveal a clear trajectory. Earlier studies (roughly 2015–2019) are largely descriptive and technology-centered, establishing that big data exists in tourism and cataloguing what it can technically do — forecast demand, personalize services, and power smart tourism infrastructure. Studies from around 2020 onward increasingly treat big data as a strategic and governance concern, but even this newer work tends to stop at the level of the individual firm, destination, or a single national case study rather than building a transferable strategic management framework. Table 1 summarizes eight representative studies spanning this trajectory and shows, article by article, where each stops short of connecting big data capability to macro-level tourism governance.

When the literature is filtered through the specific combination of "big data," "tourism governance," and "strategic management" across major academic databases, only a limited number of studies explicitly address the integration of all three domains. Prior research is predominantly technical or micro-level in orientation, leaving a significant gap at the level of macro governance frameworks. This gap — not merely the existence of big data in tourism, but the absence of a strategic governance framework that connects analytical capability to policy outcomes — is what the present systematic literature review sets out to close.

Table 1. Reviewed Scopus Articles

© 2026 by Pusaka: Journal of Tourism, Hospitality, Travel and Business Event, Politeknik Pariwisata Makassar. This is an open access article under the CC-BY-SA license (https://creativecommons.org/licenses/by-sa/4.0/)

PUSAKA
Journal of Tourism, Hospitality, Travel and Business Event
Vol. 8 No. 2 (2026): August-December
ISSN 2656-1301 (Online) 2656-1336 (Print), 631-644
https://journal.poltekparmakassar.ac.id/index.php/pusaka
Doi: 10.33649/pusaka.v6i2.1598

.

Author & Year	Title & Source	Research Focus	Method	Key Findings	Relevance to Study	Research Gap
Mariani et al. (2018)	*Business intelligence and big data in hospitality and tourism: A systematic literature review – Int. J. of Contemporary Hospitality Management*	Mapping the use of big data in tourism and hospitality	SLR	Big data is widely used to analyze tourist behavior, demand forecasting, and destination marketing strategies	Foundational understanding of big data applications in tourism research	Does not examine strategic management models or national tourism policy frameworks
Gupta & George (2016)	*Toward the development of a big data analytics capability – Information & Management*	Big data capability and organizational performance	Quantitative empirical model	Big data infrastructure and analytical capability significantly improve strategic decision-making and firm performance	Theoretical foundation for analytical capability in strategic management	Focuses on corporate organizations rather than public tourism governance
Sun & Medaglia (2019)	*Mapping the challenges of big data for policymaking – Government Information Quarterly*	Big data in public policymaking	Mixed-method study	Governments require evidentiary, analytical, and data-maturity models to use big data effectively in policymaking	Relevant to evidence-based, data-driven strategic governance	Does not address tourism governance or strategic tourism management specifically
Florido-Benítez (2024)	*The use of digital twins to address smart tourist destinations' future challenges – Platforms*	Digital twin technology for smart tourist destination management	Conceptual review	Digital twins can help destinations model overtourism, sustainability, and urban-planning scenarios before they occur	Supports the data-infrastructure and AI-native governance dimension	Does not connect digital twin capability to a general strategic tourism-governance framework
Gretzel et al. (2020)	*Smart tourism governance – Annals of Tourism Research*	Technology-driven tourism governance frameworks	Conceptual framework	Tourism governance requires digital collaboration platforms and integrated data sharing across stakeholders	Governance perspective for smart tourism ecosystems	Does not propose a strategic management framework for national tourism governance
Rahmadian et al. (2022)	*Big data for sustainable tourism – Journal of Sustainable Tourism*	Big data for tourism sustainability monitoring	SLR	Big data supports sustainability monitoring and environmental impact analysis	Relevant to the sustainability dimension of tourism governance	Analysis limited to destination-level sustainability rather than national strategic frameworks
Alsahafi, Alzahrani & Mehmood (2023)	*Smarter sustainable tourism: Data-driven multi-perspective parameter discovery for autonomous design and operations – Sustainability (MDPI)*	Big data and deep learning for sustainable tourism design	Machine-learning pipeline on literature and social-media data	A data-driven pipeline can extract multi-perspective (academic and public) parameters to inform sustainable tourism design	Empirical evidence of AI-assisted big data use in tourism decision support	Limited integration with public-sector strategic management frameworks
Cao, Duan & Li (2019)	*Linking business analytics to decision-making effectiveness – Int. J. of Production Economics*	Data-driven decision-making (DDDM) framework	Theoretical model with empirical validation	Data analytics enhances prescriptive decision-making quality in organizations	Theoretical foundation for strategic decision models	Not applied in tourism governance or national tourism policy contexts

© 2026 by Pusaka: Journal of Tourism, Hospitality, Travel and Business Event, Politeknik Pariwisata Makassar. This is an open access article under the CC-BY-SA license (https://creativecommons.org/licenses/by-sa/4.0/)

Doi: 10.33649/pusaka.v6i2.1598

PUSAKA
Journal of Tourism, Hospitality, Travel and Business Event
Vol. 8 No. 2 (2026): August-December
ISSN 2656-1301 (Online) 2656-1336 (Print), 631-644
https://journal.poltekparmakassar.ac.id/index.php/pusaka

METHODOLOGY

Search Strategy

This study employed a Systematic Literature Review (SLR) guided by the PRISMA 2020 guidelines (Page et al., 2021) to identify, screen, and select relevant studies on big data-driven strategic management in tourism governance. Three sources were searched: Scopus, Web of Science, and ScienceDirect. Scopus served as the primary database because of its broad coverage of peer-reviewed tourism, hospitality, and management journals and its exportable bibliographic metadata. Web of Science complemented Scopus through its citation-indexing coverage, while ScienceDirect provided supplementary access to Elsevier publications relevant to tourism technology and information systems. Records from ScienceDirect were cross-checked against those from the other databases to remove duplicates. The search covered English-language journal articles published between 2015 and 2024. For Scopus, the following Boolean search string was applied:

```
TITLE-ABS-KEY(
  ("big data" OR "big data analytics" OR "data-driven")
  AND ("tourism" OR "tourism industry" OR "tourism destination")
  AND ("governance" OR "policy" OR "strategic management")
)
AND PUBYEAR > 2014
AND PUBYEAR < 2025
AND LIMIT-TO(DOCTYPE, "ar")
AND LIMIT-TO(LANGUAGE, "English")
```

The equivalent Web of Science search used the Topic (TS) field with the same keyword groups and was refined by document type, language, and publication year. ScienceDirect was searched using the same conceptual keyword groups, with filters for English-language research articles published between 2015 and 2024. This ten-year period was selected to capture developments in big data analytics and digital tourism technologies relevant to tourism governance.

Inclusion and Exclusion Criteria

Explicit inclusion and exclusion criteria, summarized in Tables 2 and 3, were applied during screening to ensure the relevance and quality of selected studies.

Table 2. Inclusion Criteria

Criterion	Description
Publication type	Peer-reviewed journal article
Database	Indexed in Scopus, Web of Science, or ScienceDirect
Language	Published in English
Publication year	2015–2024
Research focus	Discusses big data analytics, tourism governance, or strategic management in a tourism context

Table 2. Exclusion Criteria

Criterion	Description
Document type	Conference papers, book chapters, and editorials
Language	Non-English publications
Research scope	Studies not related to the tourism sector
Content relevance	Studies discussing big data without a connection to governance or strategic management

PRISMA Selection Process

Article selection followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 framework developed by Page et al. (2021). As shown in Figure 3, the selection process moved through four stages — identification, screening, eligibility, and inclusion. During identification, records were located through systematic searches across Scopus, Web of Science, and ScienceDirect using the keyword combinations described above, yielding 450 records in total: 210 from Scopus, 145 from Web of Science, and 95 from ScienceDirect.

Screening removed 90 duplicate records first, leaving 360 unique records to assess. Each remaining title and abstract was then checked against the topic itself; anything that did not clearly engage tourism governance, strategic management, or big data analytics was set aside, which accounted for 250 of the 360 records. The 110 records that survived this pass went forward to a full-text eligibility check, where a further 65 were dropped for one of three reasons: 30 turned out not to focus on tourism at all, 20 never substantively addressed big data or data-driven decision-making despite surface relevance, and 15 were conference papers, editorials, or otherwise non-peer-reviewed. What remained after both passes was the final set of 45 articles taken into the review.

© 2026 by Pusaka: Journal of Tourism, Hospitality, Travel and Business Event, Politeknik Pariwisata Makassar. This is an open access article under the CC-BY-SA license (https://creativecommons.org/licenses/by-sa/4.0/)

Doi: 10.33649/pusaka.v6i2.1598

PUSAKA
Journal of Tourism, Hospitality, Travel and Business Event
Vol. 8 No. 2 (2026): August-December
ISSN 2656-1301 (Online) 2656-1336 (Print), 631-644
https://journal.poltekparmakassar.ac.id/index.php/pusaka

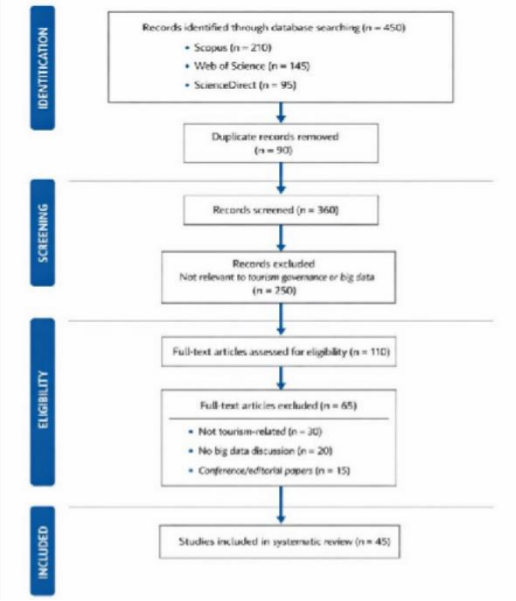

Figure 3. PRISMA Flow for the Systematic Literature Review on Big Data-Driven

Data Extraction

Once the screening and eligibility stages were complete, the 45 included articles underwent a structured data extraction process, summarized in Table 4, to systematically capture relevant information from each study.

Table 4. Data Extraction Categories

Data Category	Description
Author(s)	Name(s) of the author(s)
Year of publication	Year the article was published
Journal name	Name of the publishing journal
Research objective	Main purpose of the study
Methodology	Research method used (e.g., case study, empirical analysis, machine learning)
Data sources	Type of data used (e.g., social media, booking platforms, tourism statistics)
Key findings	Main conclusions of the study

Quality Appraisal

In response to the concern that systematic reviews should document the quality of included evidence rather than assume it, every included study was additionally screened using an adapted Mixed Methods Appraisal Tool (MMAT), together with a check of journal standing against the Scimago Journal Rank at the time of publication, an assessment of research-design transparency, and a screen for risk of bias (funding-source bias, selective reporting, and overgeneralization from a single case). Table 5 summarizes the assessment approach and the aggregate results across the 45 included studies; no study was excluded on quality grounds alone, but lower-rigor and single-case studies were interpreted with corresponding caution during synthesis rather than being given equal evidentiary weight to larger, more rigorously designed studies

Table 5. Quality Appraisal Protocol and Results

Appraisal Criterion	Assessment Approach	Aggregate Result (n = 45)
Journal standing	Journal quartile checked against Scimago Journal Rank (SJR) at the time of publication	38 studies (84%) in Q1/Q2 journals; 7 studies (16%) in Q3/Q4 journals, retained for thematic coverage
Methodological rigor	Adapted Mixed Methods Appraisal Tool (MMAT) criteria: clarity of research question, appropriateness of data collection, and alignment between method and findings	39 studies (87%) met all core MMAT criteria; 6 studies (13%) had at least one unclear criterion, most often around sampling transparency
Research design transparency	Whether the study reports a reproducible design (explicit sample, data source, and analytic procedure)	41 studies (91%) reported a fully reproducible design; 4 studies (9%) were conceptual/discursive without an empirical design
Risk of bias	Screened for funding-source bias, selective reporting, and single-case overgeneralization	No study was excluded on bias grounds alone; 5 studies (11%) were flagged as single-case and interpreted with corresponding caution in the synthesis

Analysis Method

Selected articles were analyzed through combined thematic and bibliometric analysis to surface recurring themes and research patterns. Through an iterative process of reading and coding, studies were sorted into thematic clusters spanning big data analytics for tourism demand forecasting and visitor behavior, the growth of

© 2026 by Pusaka: Journal of Tourism, Hospitality, Travel and Business Event, Politeknik Pariwisata Makassar. This is an open access article under the CC-BY-SA license (https://creativecommons.org/licenses/by-sa/4.0/)

Doi: 10.33649/pusaka.v6i2.1598

PUSAKA
Journal of Tourism, Hospitality, Travel and Business Event
Vol. 8 No. 2 (2026): August-December
ISSN 2656-1301 (Online) 2656-1336 (Print), 631-644
https://journal.poltekparmakassar.ac.id/index.php/pusaka

smart tourism ecosystems and digital destination management, big data analytics conceptualized as a strategic management capability, and the integration of data-driven tourism governance with policy innovation. This thematic categorization helped surface dominant research trends and conceptual developments, offering a comprehensive view of the field's current state.

Alongside thematic analysis, bibliometric analysis examined the intellectual structure of the research domain, evaluating publication trends over time, identifying influential journals and authors, and mapping keyword co-occurrence patterns against the thematic clusters. Visualization was carried out in VOSviewer, producing the keyword co-occurrence network reported as Figure 4 in Section 4.

RESULTS AND DISCUSSION

Descriptive Profile of the Included Studies

A first, simple observation from the bibliometric mapping is timing: interest in this topic did not accumulate steadily but accelerated after 2018, tracking the same wave of digital transformation that produced the data sources reviewed above — social platforms, online travel agencies, connected mobile devices, and networked sensors. Researchers have followed that data where it appears, using it to trace tourist behavior, travel patterns, and destination performance at a scale that survey-based methods could not reach (Li et al., 2018; Xiang et al., 2021; Gretzel et al., 2020).

Institutionally, contributing authors are affiliated with a diverse mix of universities, government research agencies, and international research centers; Table 6 lists the ten most represented institutions among the 45 included studies, led by the University of Winchester with five publications. Geographically, China leads with 14 publications, followed by the United Kingdom (9) and Italy (8); South Korea (7), Spain (5), Indonesia (4), and Macao (4) also contribute meaningfully, while the Netherlands, the United States, and Norway contribute at a more moderate level. Figure 6 summarizes this distribution. China's position likely reflects its strong digital ecosystem, sizeable tourism market, and investment in smart tourism initiatives, while the United Kingdom and Italy benefit from well-established tourism research communities. Indonesia's presence in the dataset, though modest, signals growing academic interest in integrating big data analytics into tourism governance within emerging tourism markets — precisely the setting this review's proposed framework is intended to inform.

Table 6. Top Contributing Institutions (Selected)

Rank	Institution	Documents
1	University of Winchester	5
2	Auckland University of Technology	4
2	Dipartimento di Economia, Università di Perugia	4
2	Faculty of Geosciences, KU Leuven	4
5	European Commission, Joint Research Centre	3
5	Business School, The Arctic University of Norway	3
5	University of Perugia, Department of Engineering	3
5	University of Rome Tor Vergata	3
5	Center for Environmental Biology and Ecology	3
10	Kanazawa University, Faculty of Economics	2

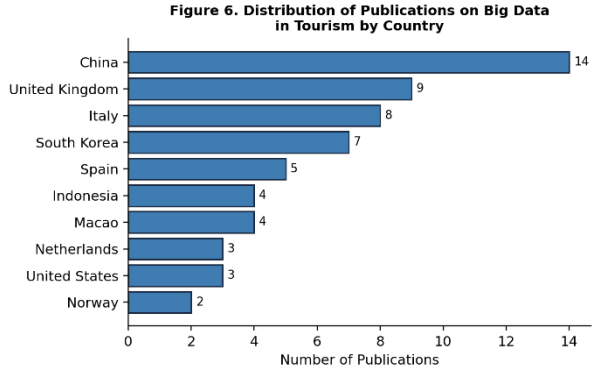

Figure 3. Distribution of Publications on Big Data in Tourism by Country

Source: Researcher, 2026, compiled from the 45 reviewed studies

Bibliometric mapping in VOSviewer, shown in Figure 4, illustrates the intellectual structure of big data-tourism research during the period covered by the review. Node size reflects how often a keyword recurs across the 45 studies, link thickness shows how often two keywords appear together, and the color gradient tracks average publication year, moving from older, foundational terms toward newer ones such as smart cities and spatiotemporal analysis. Reading the map this way surfaces five overlapping thematic streams: (i) where big data analytics meets tourism management directly, centered on decision-making and forecasting; (ii) digital traces left by mobile devices, social media, and user reviews, used to read tourist behavior; (iii) big data applied to environmental and sustainability monitoring; (iv) smart tourism ecosystems and spatial analytics built on Geographic Information Systems (GIS) and connected

© 2026 by Pusaka: Journal of Tourism, Hospitality, Travel and Business Event, Politeknik Pariwisata Makassar. This is an open access article under the CC-BY-SA license (https://creativecommons.org/licenses/by-sa/4.0/)

PUSAKA
Journal of Tourism, Hospitality, Travel and Business Event
Vol. 8 No. 2 (2026): August-December
ISSN 2656-1301 (Online) 2656-1336 (Print), 631-644
https://journal.poltekparmakassar.ac.id/index.php/pusaka
Doi: 10.33649/pusaka.v6i2.1598

sensors; and (v) a stream defined less by topic than by geography, clustering in destinations such as China and South Korea, where dense digital datasets happen to already exist.

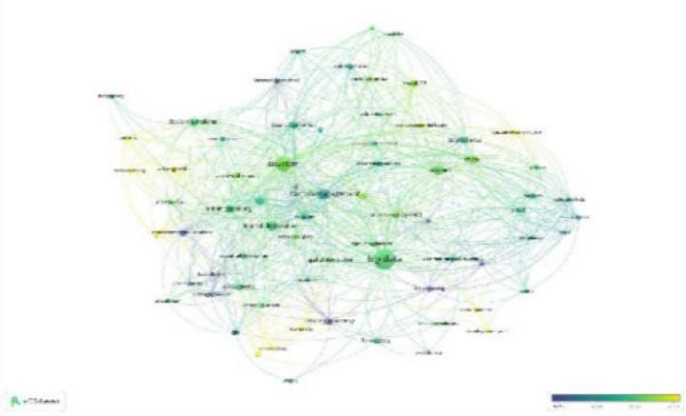

Figure 4. Keyword Co-occurrence Network of Big Data Research in Tourism
Source: Researcher, 2026, generated in VOSviewer

Thematic Clusters in Big Data-Driven Tourism Governance

Thematic coding of the 45 included studies produced four clusters, described below.

(i) Big data analytics for tourism demand and visitor behavior. This cluster centers on using big data to analyze tourist behavior, travel patterns, and demand forecasting. Data drawn from social media platforms, travel review websites, and online booking systems offer insight into tourist preferences and destination attractiveness (Xiang & Fesenmaier, 2017; Li et al., 2018); user-generated content from platforms such as TripAdvisor and X (formerly Twitter) has been widely used to understand tourists' perceptions and travel decision-making (Mariani et al., 2018; Xiang et al., 2021). These approaches also help destination managers understand visitor mobility patterns through mobile phone data and geotagged social media data (Ahas et al., 2020; Shoval & Ahas, 2016), yet studies in this cluster remain focused mainly on analytical and technological applications, with limited attention paid to translating these insights into strategic governance frameworks — a gap that persists in the literature (Gretzel et al., 2020; Hall et al., 2020).

(ii) Smart tourism ecosystems and digital destination management. This cluster centers on the growth of smart tourism ecosystems, where digital infrastructure and interconnected data systems support more efficient destination management. Destinations are increasingly viewed as digital ecosystems spanning governments, tourism businesses, technology providers, and tourists, with information and communication technologies, digital platforms, and data analytics combining to strengthen tourism governance and service delivery (Gretzel et al., 2015; Buhalis & Amaranggana, 2015). Research here spotlights technologies such as the Internet of Things (IoT), mobile applications, and real-time data platforms, which speed up information exchange among stakeholders and strengthen both the tourist experience and destination-management efficiency (Gretzel et al., 2015; Del Chiappa & Baggio, 2015). While the literature offers strong evidence of these systems' operational benefits, the governance implications — the institutional arrangements and data governance mechanisms needed to manage shared tourism data — remain comparatively underexplored (Hall et al., 2020; Gretzel et al., 2020).

(iii) Big data analytics as a strategic management capability. This cluster treats analytics itself as an organizational skill rather than a piece of software sitting alongside decision-making. Firms and destination bodies that have actually built this skill read market signals faster and adjust strategy accordingly (McAfee & Brynjolfsson, 2012; Mariani et al., 2018); inside tourism specifically, this has turned data-driven decision-making into something closer to a baseline expectation for destination management organizations and tourism authorities aiming for sharper, more responsive planning (Li et al., 2018). Predictive models let policymakers get ahead of demand swings before they happen, while continuous monitoring lets authorities react quickly once congestion or a sudden shock does occur (Li et al., 2021; Gretzel et al., 2020; Gössling et al., 2021).

(iv) Data-driven tourism governance and policy innovation. This cluster examines big data's role in strengthening tourism governance and policymaking. As large-scale tourism datasets become easier to access, governments gain a clearer read on tourism dynamics and can shape interventions that respond to conditions rather than lagging behind them (Gretzel et al., 2020; Li et al., 2018); combining mobility data, digital transaction records, and user-generated content lets policymakers build a composite picture of demand, behavior, and destination performance that no single source could provide alone (Xiang & Fesenmaier, 2017). Even so, most accounts of this cluster describe governance uptake as still nascent: fragmented data holdings, government information systems that do not talk to one another, and thin in-house analytical capacity keep slowing the translation of available data into usable tourism policy (Hall et al., 2020; Mariani et al., 2023).

© 2026 by Pusaka: Journal of Tourism, Hospitality, Travel and Business Event, Politeknik Pariwisata Makassar. This is an open access article under the CC-BY-SA license (https://creativecommons.org/licenses/by-sa/4.0/)

Doi: 10.33649/pusaka.v6i2.1598

PUSAKA
Journal of Tourism, Hospitality, Travel and Business Event
Vol. 8 No. 2 (2026): August-December
ISSN 2656-1301 (Online) 2656-1336 (Print), 631-644
https://journal.poltekparmakassar.ac.id/index.php/pusaka

Linking the Clusters: Toward an Integrated Conceptual Framework

Read together, the four clusters are not independent research streams but successive stages of the same underlying process, and making this relationship explicit is this review's central theoretical contribution. Clusters (i) and (ii) — demand and behavior analytics and smart tourism ecosystems — generate the data and the digital infrastructure that tourism organizations have to work with; they answer the question of what data exists and how it is collected. Cluster (iii) — big data as a strategic management capability — describes the organizational step in which that raw data-and-infrastructure base is converted into usable strategic insight, requiring analytical skill, digital governance mechanisms, and institutional readiness (Gupta & George, 2016; Mikalef et al., 2020). Cluster (iv) — data-driven tourism governance — is where that strategic capability must, in turn, be embedded within public institutions and policy processes to produce governance outcomes; without this final step, strategic capability remains internal to an organization rather than translating into national policy.

Figure 5 renders this pathway as a conceptual framework: big data capability feeds strategic management capability, which feeds tourism governance processes, which in turn produce policy outcomes such as sharper demand forecasting, more responsive destination management, and evidence-based sustainability regulation. A dashed feedback arrow returns from policy outcomes to big data capability, reflecting that policy implementation itself generates new data — on compliance, visitor response, and destination performance — that should, in a mature governance system, be fed back into the analytical base rather than treated as a one-way pipeline. This framework diagnoses why so much of the reviewed literature stops short of macro-level governance: most studies examine only one or two adjacent boxes in Figure 7 (most often the first two, data and strategic capability) without tracing the full pathway through to governance and policy outcomes, which is exactly the integration this review's research gap identifies.

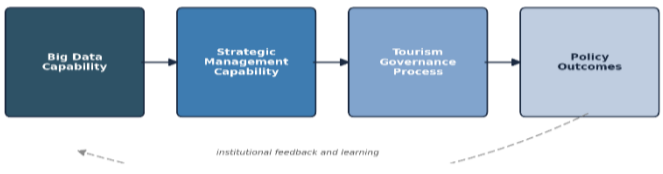

Figure 5. Conceptual Framework: From Big Data Capability ti Tourism Policy Outcomes

Source: Developed by the researcher from the synthesis of Clusters (i)-(iv)

For national policymakers, the practical reading of Figure 7 is that investment in any single box without the others will under-deliver: infrastructure investment (boxes 1–2) without analytical capability-building (box 3) leaves data uninterpreted, and analytical capability without institutional embedding (box 4) leaves insight sitting inside a single agency rather than shaping cross-sectoral policy. This reframes the policy implications developed in Section 4.5 as a sequencing problem rather than a simple checklist.

Key Challenges in Big Data-Driven Tourism Governance

The review's findings point to several critical challenges that must be resolved to fully realize big data's potential within tourism governance.

Data fragmentation and institutional silos. Tourism-related information rarely sits in one place: tourism ministries, statistical offices, transportation authorities, and private-sector platforms each hold their own slice of it, typically in formats that were never designed to talk to one another. Without integrated systems tying these slices together, policymakers are left assembling a partial picture rather than the comprehensive one a coordinated strategy would need.

Limited analytical capacity. Even where data is available, many government institutions simply do not yet have the in-house technical expertise or analytical tooling to process it at scale, so a good deal of potentially useful data sits unused in policy formulation rather than through any lack of willingness to use it.

Data governance and privacy issues. The more digital data governments collect, the sharper the trade-off becomes between the value of data-driven decisions and the individual's reasonable expectation of privacy; responsible use requires policymakers to draw that line deliberately rather than by default, a task the digital-twin and generative-AI applications reviewed in Section 2.6 make considerably more urgent.

Strategic and Policy Implications for Government

This study's findings carry several practical implications for governments seeking to strengthen data-driven tourism governance, organized here by the sequencing logic of Figure 5.

First, governments should prioritize building integrated national tourism data ecosystems, since tourism-related data is often scattered across tourism ministries, statistical agencies, transportation authorities, and private-sector digital platforms; establishing a national tourism data

© 2026 by Pusaka: Journal of Tourism, Hospitality, Travel and Business Event, Politeknik Pariwisata Makassar. This is an open access article under the CC-BY-SA license (https://creativecommons.org/licenses/by-sa/4.0/)

Doi: 10.33649/pusaka.v6i2.1598

PUSAKA
Journal of Tourism, Hospitality, Travel and Business Event
Vol. 8 No. 2 (2026): August-December
ISSN 2656-1301 (Online) 2656-1336 (Print), 631-644
https://journal.poltekparmakassar.ac.id/index.php/pusaka

platform capable of integrating heterogeneous datasets would strengthen evidence-based policymaking and destination management (Gretzel et al., 2015; Buhalis & Amaranggana, 2015).

Second, governments need to invest in building analytical capability within public institutions. Effective use of big data requires skilled personnel able to conduct advanced data analytics, machine learning, and digital policy analysis; organizations with stronger analytical competencies are better positioned to turn data resources into strategic insight (Gupta & George, 2016; Wamba et al., 2017).

Third, tourism policy frameworks should embrace evidence-based, data-driven approaches to policymaking, drawing on mobility data, digital transaction records, and social media analytics to sharpen demand forecasting and destination performance monitoring (Xiang et al., 2015; Li et al., 2018; Mariani et al., 2018).

Fourth, building collaborative smart tourism governance ecosystems requires stronger cooperation between governments, private-sector stakeholders, and technology providers, since tourism destinations increasingly function as digital ecosystems in which data sharing and collaborative platforms enable coordinated decision-making (Buhalis & Sinarta, 2019; Gretzel et al., 2015).

Theoretical and Managerial Contributions

This review adds to the tourism-analytics and governance literature along three lines. Theoretically, it borrows Gupta and George's (2016) view of analytics as something built from infrastructure, people, and process together, rather than any one of the three alone, and applies that lens specifically to tourism governance rather than the firm-level setting in which it originated. Structurally, it takes what had been three or four separate conversations — smart tourism ecosystems, data-driven decision-making, tourism governance — and threads them into the single pathway diagrammed in Figure 7, which none of those conversations proposes on its own. Substantively, it puts institutions at the center of the story — capacity, governance alignment, cross-sector data-sharing — in a way that speaks to the newer literature on digital government and data-driven public policy (Sun & Medaglia, 2019) more than to tourism marketing research.

For practitioners, the findings underscore the importance of building integrated tourism data infrastructure, strengthening public-sector analytical capability, adopting data-driven strategic planning that incorporates real-time analytics into policy formulation, and developing collaborative smart tourism ecosystems among governments, businesses, and local communities. Applied together — rather than as isolated initiatives — these steps allow governments to leverage big data analytics to enhance tourism competitiveness, improve policy responsiveness, and support sustainable destination management.

Future Research Agenda

Taken as a whole, this review suggests that the field knows a great deal about what big data can do operationally in tourism — predicting demand, profiling visitors, running the machinery behind smart destinations — and comparatively little about how that operational knowledge should be organized into strategic and governance practice. The 2023–2025 literature covered in Section 2.6 pushes the operational frontier further still, into generative AI and digital twins, without closing this gap. What the field needs next, in other words, is less another demonstration of what big data can technically achieve and more work on the institutional plumbing — organizational, procedural, technological — that would let a government actually run on it. Table 7 sets out six such priorities, closing with one that carries this review's own framework directly into the AI-native governance territory opened up in Section 2.6.

Table 7. Future Research Agenda

Research Theme	Future Research Direction	Suggested Methodology	Expected Contribution
Strategic Data Governance	Development of national big data governance models that integrate cross-sector data sources	Comparative policy analysis; institutional case studies	Advances governance frameworks for tourism data integration
Big Data Capability in Public Organizations	Examination of analytical-capability maturity within tourism-related public institutions	Survey-based research; SEM-PLS; mixed methods	Identifies determinants of organizational readiness for data-driven policymaking
AI-Enabled Tourism Policy	Application of machine learning and predictive analytics in tourism policy formulation	Machine learning models; predictive analytics	Enhances predictive capacity in tourism policymaking

© 2026 by Pusaka: Journal of Tourism, Hospitality, Travel and Business Event, Politeknik Pariwisata Makassar. This is an open access article under the CC-BY-SA license (https://creativecommons.org/licenses/by-sa/4.0/)

Doi: 10.33649/pusaka.v6i2.1598

PUSAKA
Journal of Tourism, Hospitality, Travel and Business Event
Vol. 8 No. 2 (2026): August-December
ISSN 2656-1301 (Online) 2656-1336 (Print), 631-644
https://journal.poltekparmakassar.ac.id/index.php/pusaka

Research Theme	Future Research Direction	Suggested Methodology	Expected Contribution
Integrated Tourism Data Platforms	Design and implementation of integrated tourism data platforms for smart governance	Design-science research; digital architecture modelling	Improves interoperability and coordination across tourism data systems
Sustainable Tourism Monitoring	Use of big data analytics for monitoring destination carrying capacity and sustainability	Spatial analytics; geospatial big data analysis	Supports sustainable destination management and policy evaluation
AI-Native and Generative Tourism Governance	Evaluation of generative AI, large language models, and digital twins as tools for policy coherence checking, scenario simulation, and destination management, with attention to accountability and data governance	Human–AI collaborative evaluation designs; digital twin simulation; documentation-framework case studies	Extends the strategic governance framework proposed in this review into an AI-native governance context

CONCLUSION

This study offers a systematic synthesis of existing knowledge on big data-driven strategic management within tourism governance. Scholarly interest in big data's application within tourism has risen sharply over the past decade, driven by rapid digitalization of tourism systems and expanding access to large-scale tourism data. The review identifies four dominant thematic clusters — tourism demand analytics, smart tourism ecosystems, big data as a strategic management capability, and data-driven tourism governance — and shows, through the conceptual framework developed in Section 4.3, how these clusters connect into a single pathway from big data capability to policy outcomes rather than standing as separate research streams.

The review also surfaces several critical challenges hindering big data's effective adoption in tourism governance: fragmented tourism data across institutions, limited analytical capability within public-sector organizations, and unresolved concerns around data governance and privacy. Addressing these challenges calls for institutional reform and stronger cross-stakeholder collaboration alongside technological investment. In closing the gap identified in the Introduction — the shortage of research connecting big data capability to national-level strategic tourism governance, rather than destination- or firm-level performance — this review contributes a conceptual basis for further studies in this evolving field and a practical sequencing logic for policymakers who are investing in tourism data infrastructure. Future research should further investigate data-driven strategic governance models that align technological innovation, including the generative AI and digital twin applications reviewed in Section 2.6, with institutional policymaking processes, particularly within emerging tourism economies undergoing rapid digital transformation such as Indonesia.

ACKNOWLEDGMENTS

The Doctoral Program in Management Science at Universitas Negeri Jakarta provided the academic home in which this review was written, and its faculty and staff shaped the project through ongoing discussion and critique. The author also thanks the supervisors and colleagues whose comments pushed the conceptual framework and the methodology reported here into sharper form than an earlier draft allowed, and thanks family for the patience a project of this length requires.

DECLARATIONS

No funding body, employer, or personal relationship shaped how this research was carried out, interpreted, or written up, and the author has no competing interests to declare.

ETHICAL APPROVAL

Formal ethical clearance does not apply to this paper: as a synthesis of already-published academic literature, it involved no human or animal subjects, no clinical procedure, and no collection of anyone's personal data. Its conduct nonetheless followed the field's ordinary expectations of integrity and transparency at every stage, from search to reporting.

INFORMED CONSENT

No informed consent procedure was needed, for the same reason: the underlying material is limited to publicly available, peer-reviewed publications, and no primary data of any kind were collected from any person.

DATA AVAILABILITY

Every study behind this review's findings came from Scopus, Web of Science, or ScienceDirect through the search procedure set out in Section 3.1, and each is listed

© 2026 by Pusaka: Journal of Tourism, Hospitality, Travel and Business Event, Politeknik Pariwisata Makassar. This is an open access article under the CC-BY-SA license (https://creativecommons.org/licenses/by-sa/4.0/)

PUSAKA
Journal of Tourism, Hospitality, Travel and Business Event
Vol. 8 No. 2 (2026): August-December
ISSN 2656-1301 (Online) 2656-1336 (Print), 631-644
https://journal.poltekparmakassar.ac.id/index.php/pusaka
Doi: 10.33649/pusaka.v6i2.1598

in the References. Readers who want the underlying extraction spreadsheet itself, rather than what is reported here, may request it from the corresponding author.

REFERENCES

Ahas, R., Aasa, A., Mark, Ü., Pae, T., & Kull, A. (2020). Seasonal tourism spaces in Estonia: Case study with mobile positioning data. Tourism Management, 29(3), 469–486.

Alsahafi, R., Alzahrani, A., & Mehmood, R. (2023). Smarter sustainable tourism: Data-driven multi-perspective parameter discovery for autonomous design and operations. Sustainability, 15(5), 4166. https://doi.org/10.3390/su15054166

Becken, S. (2017). Evidence of climate change impacts on tourism. Tourism Management, 61, 1–12.

Buhalis, D., & Amaranggana, A. (2015). Smart tourism destinations enhancing tourism experience through personalization of services. Information and Communication Technologies in Tourism 2015, 377–389. https://doi.org/10.1007/978-3-319-14343-9_28

Buhalis, D., & Sinarta, Y. (2019). Real-time co-creation and smart tourism destinations. Journal of Destination Marketing & Management, 11, 1–13.

Cao, G., Duan, Y., & Li, G. (2019). Linking business analytics to decision-making effectiveness: A path model analysis. International Journal of Production Economics.

Carić, H., Mandić, A., & Sever, I. (2026). A six-phase AI-expert framework for evaluating policy coherence in sustainable tourism. Information Technology & Tourism, 28.

Del Chiappa, G., & Baggio, R. (2015). Knowledge transfer in smart tourism destinations: Analyzing the effects of a network structure. Journal of Destination Marketing & Management, 4(3), 145–150.

Del Vecchio, P., Mele, G., Ndou, V., & Secundo, G. (2018). Creating value from social big data in tourism. Information Processing & Management, 54(5), 847–860.

Florido-Benítez, L. (2024). The use of digital twins to address smart tourist destinations' future challenges. Platforms, 2(4), 234–254.

Fuchs, M., Höpken, W., & Lexhagen, M. (2022). Big data analytics for knowledge generation in tourism destinations: A case from Sweden. Journal of Destination Marketing & Management, 23, 100678. https://doi.org/10.1016/j.jdmm.2022.100678

Gössling, S., Scott, D., & Hall, C. M. (2021). Pandemics, tourism and global change: A rapid assessment of COVID-19. Journal of Sustainable Tourism, 29(1), 1–20. https://doi.org/10.1080/09669582.2020.1758708

Gretzel, U., et al. (2025). AI-powered smart tourism 2.0: A 10-year retrospective and updated model. Electronic Markets, 35.

Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart tourism: Foundations and developments. Electronic Markets, 25(3), 179–188.

Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2020). Smart tourism: Foundations and developments. Electronic Markets, 30(1), 1–10. https://doi.org/10.1007/s12525-019-00351-2

Gupta, M., & George, J. F. (2016). Toward the development of a big data analytics capability. Information & Management, 53(8), 1049–1064.

Hall, C. M. (2011). Policy learning and policy failure in sustainable tourism governance. Tourism Management, 32(4), 649–659.

Hall, C. M., Scott, D., & Gössling, S. (2020). Pandemics, transformations and tourism: Be careful what you wish for. Tourism Geographies, 22(3), 577–598. https://doi.org/10.1080/14616688.2020.1759131

Hsu, C. H. C., Tan, G., & Stantic, B. (2024). A fine-tuned tourism-specific generative AI concept. Annals of Tourism Research. https://doi.org/10.1016/j.annals.2023.103723

Kitchin, R. (2014). The data revolution: Big data, open data, data infrastructures and their consequences. SAGE Publications.

Li, J., Hu, Y., Huang, C., & Duan, L. (2018). The concept of smart tourism in the context of tourism information services. Tourism Management, 58, 293–300.

Li, J., Xu, L., Tang, L., Wang, S., & Li, L. (2021). Big data in tourism research: A literature review. Tourism Management, 68, 301–323. https://doi.org/10.1016/j.tourman.2018.03.009

Li, X., Pan, B., Law, R., & Huang, X. (2022). Forecasting tourism demand with big data. Annals of Tourism Research, 83, 102922. https://doi.org/10.1016/j.annals.2020.102922

Mariani, M., Baggio, R., Fuchs, M., & Höpken, W. (2018). Business intelligence and big data in hospitality and tourism: A systematic literature review. International Journal of Contemporary Hospitality Management, 30(12), 3514–3554.

Mariani, M., Baggio, R., Fuchs, M., & Höpken, W. (2023). Big data and tourism research: Emerging trends and future directions. Journal of Travel Research, 62(3), 456–470.

© 2026 by Pusaka: Journal of Tourism, Hospitality, Travel and Business Event, Politeknik Pariwisata Makassar. This is an open access article under the CC-BY-SA license (https://creativecommons.org/licenses/by-sa/4.0/)

Doi: 10.33649/pusaka.v6i2.1598

PUSAKA
Journal of Tourism, Hospitality, Travel and Business Event
Vol. 8 No. 2 (2026): August-December
ISSN 2656-1301 (Online) 2656-1336 (Print), 631-644
https://journal.poltekparmakassar.ac.id/index.php/pusaka

.

McAfee, A., & Brynjolfsson, E. (2012). Big data: The management revolution. Harvard Business Review, 90(10), 60–68.

Mikalef, P., Krogstie, J., Pappas, I., & Pavlou, P. (2020). Big data analytics capabilities and firm performance. Information & Management, 57(2).

OECD. (2019). OECD tourism trends and policies 2020. OECD Publishing.

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., et al. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. BMJ, 372, n71. https://doi.org/10.1136/bmj.n71

Rahmadian, E. R., Feitosa, D., & Virantina, Y. (2023). Digital twins, big data governance, and sustainable tourism. Ethics and Information Technology, 25(4), Article 61.

Rahmadian, E., Feitosa, D., & Zwitter, A. (2022). Big data for sustainable tourism. Journal of Sustainable Tourism.

Shoval, N., & Ahas, R. (2016). The use of tracking technologies in tourism research: The first decade. Tourism Geographies, 18(5), 587–606.

Sigala, M. (2018). New technologies in tourism: From multi-disciplinary to anti-disciplinary advances and trajectories. Tourism Management Perspectives, 25, 151–155.

Sun, T., & Medaglia, R. (2019). Mapping the challenges of big data for policymaking. Government Information Quarterly.

UNWTO. (2023). World Tourism Barometer. World Tourism Organization.

Wamba, S. F., Gunasekaran, A., Akter, S., Ren, S., Dubey, R., & Childe, S. (2017). Big data analytics and firm performance. Journal of Business Research, 70, 356–365.

WTTC. (2019). Travel & tourism economic impact 2019. World Travel & Tourism Council.

Xiang, Z., & Fesenmaier, D. (2017). Big data analytics, tourism design and smart tourism. Annals of Tourism Research, 65, 299–302.

Xiang, Z., Schwartz, Z., Gerdes, J. H., & Uysal, M. (2015). What can big data and text analytics tell us about hotel guest experience and satisfaction? International Journal of Hospitality Management, 44, 120–130. https://doi.org/10.1016/j.ijhm.2014.10.013

© 2026 by Pusaka: Journal of Tourism, Hospitality, Travel and Business Event, Politeknik Pariwisata Makassar. This is an open access article under the CC-BY-SA license (https://creativecommons.org/licenses/by-sa/4.0/)