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AI-Enabled Smart Governance for Climate-Resilient Tourism: A Conceptual Framework for Data-Driven Policy Systems

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Abstract

The negative impacts of climate change have created an increasing vulnerability for tourism destinations and increased the need for governance systems that are adaptive, predictive and evidence-based. In this paper, artificial intelligence (AI) and data-driven policy systems are explored for enhancing smart governance for climate-resilient tourism. The study is based on a structured literature and policy review, which highlights the main gaps in the current tourism governance framework, such as a lack of institutional coordination, a lack of integration of climate intelligence, a lack of predictive capacity, and a lack of adequate monitoring mechanisms. To address this, the paper suggests the establishment of a Smart Tourism Governance Framework (STGF), which combines data infrastructure, AI-powered analytics, multi-level governance, and smart policy interventions and sustainability outcomes. The framework emphasises the role of predictive analytics, real-time monitoring, multi-stakeholder cooperation, and adaptive feedback cycles in helping to build more resilient tourism systems. The study has implications for the tourism governance literature in terms of the links it draws between adaptive governance, digital governance, and resilience theory and in terms of the operational implications it offers for policymakers, destination managers, and tourism stakeholders looking to create climate-resilient and future-proof tourist destinations

Keywords: Artificial Intelligence; Smart Governance; Climate-Resilient Tourism; Data-Driven Policy; Sustainable Tourism; Adaptive Governance.

1.0 Introduction

Tourism is one of the most dynamic sectors of the global economy that has helped in employment creation, foreign exchange generation, development and cultural exchange in the region. In parallel, environmental quality and climatic stability are major factors in tourism. Tourism is a victim and cause of climate change, given this dual nature. Tourism destinations are particularly vulnerable to climate change and climate disasters, including, but not limited to, heatwaves, sea-level rise, biodiversity loss, water stress, and changing seasonality patterns, as well as environmental pressures created by transport and accommodation and destination infrastructure (Scott, Gössling, & Hall, 2012; IPCC, 2022).

The ability of destinations to be competitive, safe and viable to operate is being impacted by climate-related disruptions. The impact on coastal destinations is erosion, flooding and storm surges; on mountain destinations, it is the loss of snow reliability; on nature-based destinations, it is the degradation of ecosystems; and on urban tourism systems, it is heat stress, congestion, and vulnerability of infrastructure. It also has a significant effect on local communities that rely on tourism activities. Climate resilience is thus no longer an afterthought but a core element of sustainable tourism governance concern but a core element of sustainable tourism governance (Becken, 2013; UN Tourism, 2021).

Although climate risks are more widely acknowledged, many tourism governance systems are not sufficiently ready to respond to and meet the challenges of the scale, complexity and uncertainty of climate change. Historically, policy approaches tend to have poorly integrated institutional structures, little inter-agency coordination, a lack of real-time use of data and inadequate monitoring and evaluation. These are often reactive strategies and don't provide the chances for policymakers and destination managers to detect potential risks in the future and mitigate the impact before it gets worse.

New opportunities to enhance tourism governance through digital transformation. AI, big data analytics, Internet of Things (IoT) systems, geospatial technologies, digital platforms and decision-support systems can process significant amounts of data, learn patterns, predict future situations and assist in real-time decision-making. In the tourism sector, these technologies can be employed to track tourism movements, measure environmental stress, predict demand, and manage resources and crisis response. Smart tourism research has proven the usefulness of digital technologies in destination management and service innovation and visitor experience (Buhalis & Amaranggana, 2014; Gretzel, Sigala, Xiang, & Koo, 2015). But the governance and policy implications of smart systems with AI are less developed.

This paper contributes to closing this gap by exploring the support of AI and data-based policy systems in smart governance for climate-resilient tourism. It creates a conceptual framework that links the data infrastructure, AI-driven analytics, institutional coordination, smart policy interventions, and resilience outcomes. The paper makes clear that smart governance is more than just a shift towards digital tools; it is a transformation of governance systems to be more adaptive, inclusive, transparent and responsive.

1.1 Research Objectives

•To analyse the role of AI and digital technologies in transforming tourism governance systems.

•To identify key gaps and challenges in existing tourism policy frameworks for addressing climate risks.

•To develop a conceptual Smart Tourism Governance Framework that integrates AI-enabled analytics, adaptive governance and climate-resilient tourism outcomes.

1.2 Research Questions

How can AI and data-driven systems support smart governance for climate-resilient tourism?

What governance gaps limit the integration of climate intelligence in tourism policy systems?

How can a Smart Tourism Governance Framework support adaptive, predictive and multi-level tourism governance?

2.0 Literature Review and Theoretical Foundation

2.1 Climate Change and Tourism Vulnerability

One of the most significant challenges effecting tourism systems is climate change. Due to the fact that tourist demand and the allure of a place are directly connected to natural resources, weather conditions, the quality of the scenery, and the perception of safety, the industry is extremely susceptible to the effects of climatic variability. Environmental degradation, water scarcity, public health hazards, and infrastructure stress are some of the indirect effects of climate change on tourism (UNEP & UNWTO, 2008; Scott et al., 2012). Some of the direct impacts of climate change on tourism include

extreme weather events, changes in operational seasons, and operational disruptions. Other indirect impacts include ecological degradation, water scarcity, and public health hazards.

Some of the most important factors that determine tourism vulnerability are exposure, sensitivity, and the capacity to adjust. Destinations that are very economically dependent on tourists, have ecosystems that are vulnerable, have little infrastructure, and have insufficient governance ability are likely to experience more severe climate impacts than other destinations. It is consequently vital to strengthen governance systems that assess risks, coordinate stakeholders, and provide the ability to respond promptly to policy demands. In addition, it is essential to develop adaptation measures to improve climate resilience.

2.2 Smart Tourism and Digital Transformation

In the tourist industry, the application of new technology to improve destination management, visitor experience, sustainability, and competitiveness is referred to as "smart tourism". Smart tourism ecosystems offer interconnected platforms that allow stakeholders to collect, analyse, and share information with one another. The utilisation of these technologies can facilitate the control of visitor flow, the optimisation of resources, the monitoring of the environment, and the customisation of the service that is provided to visitors (Buhalis & Amaranggana, 2014; Gretzel et al., 2015).

Despite the fact that they are rarely discussed in relation to smart tourism, competitiveness, and tourists, the governance aspects of smart tourism are not any less crucial than the management parts of smart tourism. The use of digital platforms and real-time data can improve the collaboration between different agencies, provide information for evidence-based planning, and increase openness. When paired with climate data and risk analytics, smart tourism systems have the potential to aid destinations in transitioning from policy responses that are disconnected to governance that is more integrated and adaptable.

2.3 Artificial Intelligence in Governance

Artificial intelligence has begun to transform governance by enabling pattern recognition, scenario modelling, forecasting and decision support. AI-enabled systems can analyse large volumes of data from diverse sources and generate insights that support anticipatory policymaking. In public governance, AI can improve efficiency, prediction and monitoring, but it also raises concerns related to algorithmic bias, privacy, accountability, explainability and public trust (Janssen & Kuk, 2016; Floridi et al., 2018; OECD, 2019). Recent policy developments further emphasise the need for responsible, transparent and risk-based AI governance (European Parliament & Council of the European Union, 2024; OECD, 2024).

In tourism governance, AI techniques can be applied to demand forecasting, climate-risk assessment, smart resource management, destination monitoring, crisis communication and policy simulation. These applications are especially relevant for climate-resilient tourism because they can strengthen the ability of destinations to anticipate disruptions, plan responses and coordinate timely interventions.

2.4 Data-Driven Policy Systems

Data-driven policy systems use structured, semi-structured and unstructured data to support decision-making, implementation and evaluation. In tourism, data may come from visitor statistics, hotel systems, transport infrastructure, IoT sensors, satellite images, mobile devices, social media, climate models and administrative records. When these data are integrated and responsibly used, they can improve destination planning, environmental monitoring and policy evaluation.

However, tourism data are often dispersed across public agencies, private firms and local institutions. Lack of interoperability, absence of standards, poor data quality and limited access reduce the value of analytics. Responsible data governance is therefore essential and should address ownership, access, privacy, security, interoperability, transparency and accountability.

2.5 Theoretical Integration

This study integrates three theoretical perspectives. Adaptive governance theory emphasises flexibility, learning, decentralised decision-making and stakeholder participation in complex systems (Folke, Hahn, Olsson, & Norberg, 2005). Digital governance explains how digital technologies reshape institutional processes, transparency, service delivery and public decision-making. Resilience theory focuses on the capacity of systems to absorb shocks, adapt to change and continue functioning under uncertainty (Holling, 1973). Together, these perspectives provide a foundation for understanding how AI-enabled systems can support climate-resilient tourism governance.

2.6 Research Gap

Previous studies on smart tourism have largely focused on destination competitiveness, tourist experience, digital service delivery and operational efficiency. Less attention has been given to how AI-supported systems can be integrated into tourism governance frameworks for climate-risk assessment, adaptive policymaking and real-time decision-making. In addition, most tourism policy frameworks have limited integration of predictive analytics, stakeholder data-sharing mechanisms and climate intelligence. This study addresses that gap by proposing a Smart Tourism Governance Framework that links AI-powered analytics, responsible data governance, adaptive policy systems and climate-resilient tourism outcomes.

3.0 Methodological Approach

The paper adopts a conceptual research design based on a structured review of literature and policy documents. This approach is appropriate because the study synthesises tourism research, climate resilience, AI governance and public policy literature to develop a conceptual framework rather than test statistical hypotheses. Following principles of systematised review and thematic synthesis (Braun & Clarke, 2006; Denyer & Tranfield, 2009), the search and synthesis process was structured and transparent while remaining suitable for theory-building and policy-oriented conceptual research.

3.1 Data Sources and Search Strategy

A structured search strategy was used to identify academic literature from major databases and academic search platforms, including Scopus, Web of Science and Google Scholar. The review focused mainly on literature published from 2010 to 2025 to reflect recent developments in smart tourism, AI applications, climate adaptation and digital governance. Older foundational works were retained where conceptually relevant. International policy documents from organisations such as UN Tourism/UNWTO, UNEP, IPCC, OECD and the United Nations Sustainable Development Goals were also reviewed to connect academic debates with policy and implementation issues. The search strategy is summarised in Table 1.

Table 1. Search Strategy and Data Sources

Source	Indicative Search Terms	Purpose
Scopus and Web of Science	"artificial intelligence" OR "AI" OR "machine learning" OR "big data" AND "tourism governance" OR "smart tourism" OR "climate resilient tourism"	To identify peer-reviewed literature on AI, smart tourism, governance and climate resilience.
Google Scholar	"smart tourism governance", "AI in tourism policy", "data-driven governance", "climate-resilient tourism"	To capture interdisciplinary and conceptual literature not fully indexed in a single database.
Policy sources	"tourism climate action", "climate resilient tourism", "AI governance", "data governance", "smart destination policy"	To review policy frameworks, climate-action documents and responsible AI guidance.

Source: Authors' own compilation.

3.2 Inclusion and Exclusion Criteria

The inclusion and exclusion criteria were designed to retain literature and policy documents that were directly relevant to tourism, governance, AI, climate resilience and data-driven policy systems. The criteria are shown in Table 2.

Table 2. Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Peer-reviewed journal articles, books, book chapters and credible conference papers related to tourism, climate resilience, AI, smart governance or digital policy.	Blogs, opinion pieces and non-verifiable web sources.
Official reports and policy documents from recognised national or international organisations.	Documents with no direct relevance to tourism, governance, AI, climate change or data-driven policy systems.
English-language sources published mainly between 2010 and 2025, with older foundational theory sources retained where necessary.	Duplicate, inaccessible or purely technical AI studies with no governance or tourism relevance.
Studies contributing to conceptual development, policy analysis, theoretical grounding or framework design.	Studies focused only on commercial technology adoption without governance, resilience or policy relevance.

Source: Authors' own compilation.

3.3 Review and Synthesis Procedure

The review was conducted in four steps. First, academic and policy sources were identified through keyword searches and backward reference checking. Second, titles, abstracts and executive summaries were screened for relevance to the research questions. Third, selected studies and policy documents were read in detail to extract concepts related to climate risk, smart tourism, data governance, AI-driven decision-making and adaptive policy systems. Finally, the extracted concepts were synthesised thematically to develop the Smart Tourism Governance Framework. The procedure is summarised in Table 3.

Table 3. Review and Synthesis Procedure

Review Stage	Procedure	Output
Identification	Search of academic databases, Google Scholar and policy repositories using defined keywords.	Initial pool of academic and policy sources.
Screening	Review of title, abstract, keywords and executive summary for relevance.	Removal of unrelated and duplicate sources.
Eligibility	Full-text reading of sources relevant to AI, tourism governance, climate resilience and data-driven policy.	Final conceptual evidence base.
Synthesis	Thematic coding and integration with adaptive governance, digital governance and resilience theory.	Development of the STGF and policy implications.

Source: Authors' own compilation.

3.4 Thematic Synthesis and Policy Analysis

Thematic synthesis was used to analyse the selected literature and policy documents. Open coding identified key concepts, which were then grouped into higher-order domains and integrated into framework-level constructs. Policy documents were analysed on the basis of four dimensions: policy objectives, implementation mechanisms, governance arrangements and monitoring and evaluation systems. This enabled the study to identify conceptual insights as well as implementation gaps. The coding domains are presented in Table 4.

Table 4. Thematic Synthesis Coding Framework

Coding Domain	Indicative Codes	Use in Framework Development
Climate vulnerability	Heatwaves, sea-level rise, floods, water stress, seasonality, biodiversity loss.	Identifies risk inputs for the data and application layers.
Governance gaps	Fragmentation, reactive planning, limited coordination, weak monitoring.	Defines the governance problems addressed by the STGF.
AI-enabled tools	Predictive analytics, machine learning, decision-support systems, early-warning systems, digital twins.	Informs the AI and analytics layer.
Data governance	Interoperability, privacy, quality, access, ethics, accountability.	Strengthens responsible data and AI governance mechanisms.
Resilience outcomes	Adaptation, recovery, sustainability, resource efficiency, institutional learning.	Defines the outcome layer and feedback loops.

Source: Authors' own compilation.

3.5 Reliability, Validity and Limitations of the Method

Reliability and validity were strengthened by using peer-reviewed and official sources, defining inclusion and exclusion criteria, triangulating academic and policy evidence and grounding the framework in recognised theoretical perspectives. However, the study remains conceptual and has not

been empirically validated. Future studies should test the proposed STGF through case studies, surveys, expert validation, Delphi analysis or comparative destination-level research.

4.0 Analysis and Findings

The review identifies four interrelated findings: governance gaps in tourism policy systems, the enabling role of AI, systemic data challenges and emerging opportunities for smart governance.

4.1 Governance Gaps in Tourism Policy Systems

Fragmented institutional structures: Tourism governance is often distributed across tourism, environment, transport, urban planning and disaster-management agencies, creating institutional silos and weak coordination.

Reactive policy orientation: Many governance systems rely on retrospective data and short-term planning, limiting their ability to anticipate climate-related risks.

Limited integration of climate intelligence: Sustainability is frequently mentioned in policy documents, but predictive climate analytics, scenario planning and real-time risk modelling are often weakly embedded.

Weak stakeholder coordination: Local communities, small enterprises and informal tourism actors are not always fully included in governance processes, reducing policy legitimacy and implementation capacity.

Inadequate monitoring and evaluation: Many systems lack real-time indicators and adaptive feedback mechanisms for evaluating policy performance.

4.2 Role of AI in Smart Tourism Governance

Predictive analytics can support climate-risk forecasting, visitor-flow prediction and early-warning systems.

Smart destination platforms can integrate data from IoT sensors, satellite imagery, mobility data and tourism databases to improve resource management.

Decision-support systems can help policymakers compare scenarios, assess policy alternatives and prioritise interventions.

Real-time analytics can strengthen crisis response by enabling faster communication and evidence-based action during extreme weather or infrastructure disruption.

4.3 Data Challenges and Systemic Limitations

Data silos limit integrated decision-making across institutions.

Limited digital infrastructure reduces access to high-quality, real-time data in many destinations.

Inconsistent standards and poor data quality affect the reliability of AI-enabled analytics.

Privacy, surveillance, algorithmic bias and accountability concerns may reduce public trust if not addressed through responsible data governance.

4.4 Emerging Opportunities for Smart Governance

AI enables anticipatory and adaptive governance by identifying risks before they become crises.

Digital platforms can improve stakeholder collaboration and transparency.

Climate intelligence can be embedded into destination planning, infrastructure development and crisis-management systems.

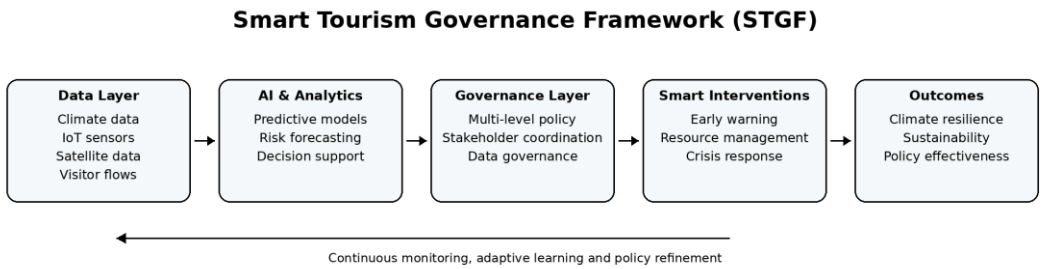
Smart resource management can support water conservation, energy efficiency, waste reduction and sustainable visitor-flow management.

Data-driven feedback loops can support continuous policy learning and institutional innovation.

5.0 Proposed Smart Tourism Governance Framework

To address the identified gaps, this study proposes a Smart Tourism Governance Framework (STGF). The framework integrates data infrastructure, AI-driven analytics, governance arrangements, smart interventions and resilience outcomes. Its purpose is to shift tourism governance from static and reactive approaches towards adaptive, predictive and learning-oriented systems. The proposed STGF is illustrated in Figure 1.

Figure 1. Smart Tourism Governance Framework (STGF)



Source: Authors' own compilation.

5.1 Core Components of the STGF

The core components of the framework are outlined in Table 5. Each layer contributes to the conversion of data into policy intelligence, institutional action and resilience outcomes.

Table 5. Core Components of the Smart Tourism Governance Framework

Layer	Key Elements	Expected Contribution
Data Layer	IoT sensors, climate data, satellite data, tourism databases, social media and mobility data.	Provides real-time evidence for decision-making.
AI and Analytics Layer	Predictive analytics, machine learning, risk forecasting and decision-support systems.	Transforms raw data into actionable policy intelligence.
Governance Layer	Multi-level governance, stakeholder coordination, regulatory frameworks and data governance protocols.	Converts AI insights into coordinated institutional action.
Application Layer	Early warning systems, smart destination management, resource optimisation and crisis-response systems.	Supports adaptive and climate-resilient interventions.
Outcomes Layer	Climate resilience, sustainability, economic stability, policy effectiveness and stakeholder trust.	Defines the desired impact of smart governance.

Source: Authors' own compilation.

5.2 Feedback Loops and Adaptive Learning

A defining characteristic of the STGF is the use of feedback loops. Data generated from outcomes and implementation processes are fed back into the system to improve AI models, refine policy interventions and strengthen institutional learning. This feedback mechanism allows tourism governance systems to adapt continuously as climate risks, visitor behaviour and destination conditions change.

5.3 Implementation Requirements

Investment in digital infrastructure, including sensors, interoperable databases and decision-support platforms.

Capacity building for policymakers, destination managers and local stakeholders in data literacy and AI-enabled decision-making.

Clear data governance protocols covering ownership, access, privacy, interoperability and accountability.

Inclusive stakeholder mechanisms to ensure community participation and policy legitimacy.

Ethical AI guidelines to minimise bias, protect privacy and promote transparency.

6.0 Discussion

In light of the findings, which consider the combined effects of climate change and digitalisation, it appears that in order for tourist governance to continue to be relevant, it is important for it to undergo a transition. The majority of traditional forms of governance are plagued by a number of issues, including the fragmentation of institutions, the delay in the flow of information, and the making of decisions in a reactionary manner. One such issue is that there are delays in the flow of information. To address these difficulties, it may be possible to find a solution through the adoption of smart governance that is powered by artificial intelligence. The dissemination of predictive analytics, real-time monitoring, scenario modelling, and adaptive policy feedback are all potential means by which this objective could be realised.

The planned STGF is built on the philosophy of adaptive governance, which acts as the foundation upon which it is created. Specifically, it emphasises the potential advantages that artificial intelligence and data systems could offer in terms of improving learning, adaptability, and coordinated decision-making. A contribution is made to the progress of the discussion on digital governance as a result of the inclusion of the role of technology as a facilitator rather than purely a technical solution within a wider institutional and policy context. This contribution is made possible by the inclusion of the role of technology. By virtue of its relationship with the monitoring of climate risk, adaptive therapies, and learning outcomes, the framework also encourages the development of solutions that improve resilience. This is because the framework is connected to these areas.

In addition, the results of the research indicate that the idea of smart governance needs to be understood in terms of a socio-technical system prior to its implementation. It is feasible to improve the effectiveness of data platforms, algorithms, and digital technologies by increasing the capacity of institutions, implementing ethical safeguards, gaining the trust of stakeholders, and encouraging participation from all relevant parties. It is possible to achieve this goal. Systems that are powered by artificial intelligence have the potential to perpetuate inequities, degrade transparency, and even give rise to new surveillance strategies if they are not sufficiently managed and exploited. This occurrence is possible if they are misused or uncontrolled. Therefore, the administration of smart tourism needs to identify a way to strike a balance between the innovation of technology, accountability, and fairness, as

well as the value that the general public places on tourism. Such an approach is necessary in order to ensure that smart tourism functions well.

The framework provides destination managers and policymakers with a concrete method to incorporate climate information into their tourism strategies. The intention behind this is to influence tourism. This strategy's objective is to exert an influence on tourists (tourism). In its purview, the obligation of facilitating interoperability across data systems, collaboration across a wide range of industries, collaborations between the public sector and the community, and evidence-based monitoring are all taken into consideration. In order for destinations to be resilient, sustainable, and prepared for the future, it is vital for these fundamental components to be present. These constituents are essential

7.0 Policy Implications

- Mainstream climate intelligence into tourism policy by integrating predictive analytics, climate-risk assessment and scenario planning into destination development strategies.
- Develop robust data governance frameworks that define data ownership, access, sharing, privacy, security and accountability standards.
- Invest in smart tourism infrastructure, including IoT systems, geospatial platforms, interoperable data portals and AI-enabled decision-support systems.
- Strengthen multi-level and cross-sectoral governance by linking tourism, environment, transport, urban planning, disaster management and community-development agencies.
- Promote public-private-community partnerships to improve innovation, inclusivity and local implementation capacity.
- Use AI for real-time monitoring and crisis management through early warning systems, environmental dashboards and communication platforms.
- Advance responsible AI governance through transparency, fairness, explainability, privacy protection and independent oversight mechanisms.

8.0 Conclusion

An examination into the role that artificial intelligence (AI) and policy systems that are founded on data play in the enhancement of smart governance for climate-resilient tourism has been carried out as part of this research. This inquiry was carried out to better understand climate-resilient tourism. Regarding the improvement of smart governance, this inquiry was carried out in order to gather information. An in-depth understanding of tourism that is climate-resilient was the goal of this inquiry, which was carried out with the intention of attaining such understanding. The collection of information concerning the improvement of smart governance was the objective of this inquiry, which was carried out with the intention of gathering information. This inquiry was carried out with the intention of gaining a thorough understanding of tourism that is climate-resilient, and the objective of this investigation was to achieve such an understanding. This study was carried out in order to get ready for the advancements that were anticipated, taking into consideration the fact that the outcomes of this research were anticipated ahead of time. This inquiry was carried out with the purpose of obtaining further information in order to acquire a more comprehensive understanding of the link that exists between the two aspects of the situation. Conducting this investigation in an efficient manner was the primary goal of the investigation. It has been recommended that it is of the utmost importance to accept the fact that the previous tourism governance systems have seemingly been presented with challenges as a result of climate change. This is something that should be acknowledged regardless of how important it may be. The acceptance of this is something that ought to be done. With that being said, this is something that

has been suggested as a possibility. Taking into account the material that was offered before, this is something that has been suggested as a potential outcome. It would appear that this is the present state of events when they take into consideration all of the material that has been obtained up until this point. A restricted ability to forecast, insufficient institutional integration, and policymaking approaches that are reactive are some of the problems that are presently being encountered. They are all examples of challenges that are currently being encountered. These are only some of the issues that are now being encountered by people. A few of the issues that are currently being experienced are included in the list that is presented below. Despite the fact that the list that is presented below contains a few of the challenges that are now being conquered, it is important to note that this is not an exhaustive list of all of the challenges that are currently being conquered. Following the completion of the study project, a Smart Tourism Governance Framework was proposed as a proposal for a potential solution to the issue that had been discovered earlier. There was a relatively short period of time that this proposition was made. This system is comprised of a number of components, some of which include the data infrastructure, analysis that is based on artificial intelligence, governance, intelligent interventions, and outcomes that are long-lasting. Every one of them is connected to the others. This system cannot be built without specific components, which are necessary for its operation and cannot be developed without them. Without these components, the system cannot be constructed. Components are the various parts that join together to make this system. These parts are referred to as "components". Different names are used to refer to these constituents in different contexts. This system cannot be constructed without certain components, which are essential to its operation and cannot be created without them.

9.0 Limitations and Future Research

The conceptual design of the study is problematic, but the utilisation of secondary literature and policy papers is also problematic. Both of these aspects combine to make the study problematic. Overall, the study had a number of shortcomings. It is troublesome that both of these aspects of the research are present in the context of the investigation. On the other hand, despite the fact that the framework has been built, it has not yet been put through empirical testing in a variety of different locales. One thing that has not been completed as of yet is this action. Some of the methods that are suggested to be employed in the future in order to validate the STGF are case studies, expert interviews, Delphi analyses, destination-level data modelling, and comparative regional studies. These are only some of the several ways that are suggested to be utilised.

Comparative studies of different regions are something else that is included on the list of methodologies. It is possible that extra research might be conducted in order to investigate the ethical, legal, and social ramifications that artificial intelligence might have in relation to the regulation of tourism rules. Extra research could be carried out to investigate these consequences. Data privacy, algorithmic transparency, stakeholder confidence, and digital inclusion concerns are just some of the topics that could be the subject of research. However, this list is not exhaustive. There are other considerations, such as the protection of data privacy and the incorporation of digital technology.

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