Spirituality, Technology and Sustainability Islamic Tourism Industry: A Systematic Review

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ABSTRACT

The growth of Sustainable Islamic Tourism is closely linked to the increased use of smart technologies in tourist destinations. This paper explores how Smart Tourism Technologies can be integrated with Islamic values within the scope of sustainable tourism by applying Systematic Literature Review (SLR) and TCCM (Theory, Context, Characteristics, Methodology) methods. The analysis reveals that while technologies like Artificial Intelligence (AI) and Big Data are crucial in enhancing the tourist experience, the application of Islamic governance principles in these technologies remains underdeveloped. Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB) are frequently employed to examine how technology is adopted within the realms of halal tourism and medical tourism, but issues such as data privacy and security, which are vital for tourist satisfaction, have not been sufficiently addressed. Most research has been focused on Muslim-majority countries, yet interest in halal tourism and the adoption of smart technologies is expanding in non-Muslim countries, including China and South Korea. Although Smart Tourism Technologies are essential for enhancing tourist satisfaction and promoting tourism sustainability, there remain significant gaps in incorporating the social, cultural, and ethical dimensions of these technologies. Future research should concentrate on further understanding the role of Islamic values in tourism technologies and consider exploring innovative business models that could facilitate the creation of sustainable tourist destinations.

1. Introduction

1.1 Background

Over the last few decades, Islamic tourism has experienced significant growth and has become a crucial segment of the global tourism sector. This growth is fueled by a rising awareness of the need for sustainability within the tourism industry, alongside the increasing interest in tourism that is rooted in religious values. Islamic tourism not only involves spiritual and cultural dimensions but also prioritizes sustainability in alignment with Islamic principles, including social justice, environmental conservation, and community empowerment [1,2]. On a global scale, Islamic tourism plays a vital role in fostering cross-cultural dialogue and driving economic development in nations with a predominantly Muslim population.

Research on Islamic tourism is increasingly proliferating over time. Initial research concentrated mostly on religious and cultural dimensions, exemplified by Taheri [3] study, which investigated emotional and spiritual experiences within Islamic tourism. The research conducted by Neumayer and Plümper [4] analyzed the influence of terrorism on tourism in Islamic countries, highlighting the intricate interaction between security and the tourism sector. Recent developments

imply a substantial transformation, including the incorporation of technology in Islamic tourism. Azis et al. [5] demonstrated that smart technology, including mobile applications and digital information systems, can augment destination loyalty by enhancing the quality of the visitor experience.

Technology has become a key element in enhancing the experiences of travelers in faith-based tourism. Research by Pai et al. [6] on smart tourism technology reveals that it serves as a bridge between destination managers and tourists, improving the overall experience and boosting tourist satisfaction. Zhang et al. [7] found that smart technology plays a significant role in shaping tourists' interactions with destinations by increasing comfort and providing relevant information.

As a result, the integration of technology in Islamic tourism has become a critical factor in influencing the visitor experience and supporting sustainability in the tourism sector. This development indicates that sustainable Islamic tourism is not only relevant to Muslim-majority countries but also offers a potential framework for fostering inclusive and sustainable global tourism.

Recently, scholars have placed greater emphasis on the importance of sustainability in Islamic tourism, particularly with regard to the socio-cultural and environmental impacts of religious tourism development. The advancement of technology has drastically changed how Islamic tourism is perceived, enriching the experience while enabling more sustainable and efficient management within the tourism industry.

1.2 Problem Statement

The integration of smart technology in the Islamic tourism sector presents several challenges that require attention in both research and practice. A primary issue is the insufficient understanding of how to effectively align technology with Islamic values in the realm of sustainable tourism. While numerous studies examine technology's role in tourism in general, there is a significant gap in literature specifically addressing the connection between Smart Tourism Technologies (STTs) and Islamic values and sustainability principles.

While existing research highlights progress in the use of technology in tourism, it often focuses on major cities or well-developed tourist destinations. The application of technology in rural areas or developing countries within the context of Islamic tourism remains largely underexplored. For instance, studies by Pai et al. [6] and Zhang et al. [7] predominantly focus on major urban destinations, overlooking the dynamics present in rural or developing regions.

Addressing this gap is crucial, given the significant potential of Islamic tourism in under-researched areas. Additionally, challenges in achieving sustainability persist. Although many studies explore the socio-cultural impacts of Islamic tourism, few investigate how technology can contribute to achieving sustainable development goals (SDGs). Moreover, research on the role of technology in mitigating negative tourism impacts, such as environmental degradation and economic inequality, remains limited.

Smart technology has the potential to optimize destination management, but its application within the framework of sustainability and the reinforcement of Islamic values in tourism has not received sufficient attention. There is also a methodological gap that needs to be addressed. Many studies still rely on qualitative approaches to analyze Islamic tourism and its sustainability, whereas a more rigorous quantitative approach is needed to measure the real impact of smart technology implementation. Existing studies, such as those conducted by Molaei [8] and Chien [9], although providing deep insights, lack the integration of quantitative data to validate these findings. Therefore, further research that combines qualitative and quantitative methodologies is needed to provide a more comprehensive picture of the application of technology in sustainable Islamic tourism.

1.3 Objectives and Scope

The primary aim of this study is to explore how Smart Tourism Technologies (STTs) can contribute to making Islamic tourism more eco-friendly. The study seeks to understand how these technologies can enhance the sustainability and appeal of Islamic tourism, as well as their impact on tourists' experiences and loyalty to destinations. Additionally, the research aims to investigate how Islamic principles might promote eco-conscious tourism practices and help achieve the Sustainable Development Goals (SDGs).

This project will focus on collecting and analyzing recent data regarding the use of smart technology in the Islamic tourism sector and its effects on social, cultural, and environmental sustainability. The study intends to uncover gaps in knowledge regarding the application of technology for making religious tourism more sustainable. It will review literature on the use of STTs in Islamic tourism, particularly in Muslim-majority countries, and compare these findings with non-Muslim countries that could benefit from halal tourism development.

Furthermore, this study will examine the methodologies used in previous research and offer a comprehensive framework to demonstrate how theory, context, criteria, and methodology (TCCM) work together in sustainable Islamic tourism research. It will also explore how technology can make travel more accessible and inclusive for people with disabilities, and how Virtual Reality (VR) can be integrated into religious tourism. However, the study will not focus extensively on the impact of technology and virtual reality in religious tourism.

Lastly, the research will address various challenges posed by the use of technology in Islamic tourism, such as ethical issues and data privacy concerns. It will also explore how Islamic values can contribute to solving these problems. Ultimately, the goal of this study is to provide practical recommendations for creating more inclusive, sustainable, and Islamic principles-based tourism.

2. Literature Review

Over the past two decades, the concept of Islamic tourism has experienced rapid growth due to significant changes in society, culture, economy, and technology. Initially, Islamic tourism was primarily associated with travel for religious purposes, such as pilgrimage to sacred locations like Mecca and Medina[10]. However, over time, this concept has evolved to encompass a broader range of travel experiences that adhere to Islamic principles. An example of this is halal tourism, which ensures that all aspects of travel, including food, accommodation, and entertainment, comply with Sharia law [11].

The incorporation of smart technology in tourism has greatly enhanced the experiences of Muslim travelers, making them more personalized, accessible, and sustainable[12]. Historically, the expansion of Islamic tourism has been fueled by its increasing economic significance, particularly in Muslim-majority countries such as Malaysia, Indonesia, and the UAE, which have utilized tourism as a means of diversifying their economies and preserving their cultural heritage [13].

In recent years, scholars have also explored how Islamic tourism influences other areas, such as workplace fairness and employee behavior within the tourism sector. They have examined how Islamic work ethics shape professional conduct [14]. Moreover, AI-based technologies and virtual reality (VR) are increasingly being implemented to improve the experience of religious tourism, both before and after the journey [15].

This progress shows that there is a dynamic interaction between tradition and innovation in Islamic tourism. It also opens up study opportunities in various cultural and technological settings. This transition has also had a big effect on the issues that researchers are looking into in Islamic

tourism. At first, research concentrated more on traditional topics like why people travel, how happy tourists are, and how tourism affects society and culture in Islamic countries like Malaysia and Saudi Arabia [10,16]. As halal tourism becomes more popular and people want more personalized experiences, research is now focusing on how to include Islamic values in the development of tourism products.

This phenomenon is observed in sharia-based tourism studies in countries like Maldives [13] and Tunisia [2]. The use of smart technology has also simplified the process for tourists to have more engaging and distinctive travel experiences. Recent research by Koo et al. [12] and Singh et al. [17] explores the impact of technologies such as artificial intelligence (AI) and gamification on tourists' experiences and their loyalty to destinations.

This research contributes to existing academic literature and offers valuable insights to the tourism industry on how to address contemporary challenges, including the demand for sustainability and personalization. Comparative analysis shows that tourism research has significantly evolved in terms of its focus, methodologies, and effectiveness when compared to traditional approaches. The classical approach mainly concentrates on fundamental aspects such as the reasons behind travel and the satisfaction levels of tourists, often relying on traditional methods like quantitative surveys and qualitative analysis [10,16].

This method works well for figuring out the basic dynamics of tourism, but it doesn't always generalize well and doesn't pay as much attention to new technologies that are coming out quickly. The new method emphasizes smart technology's role in tourism and personalizing travel. Koo et al. [12] and Singh et al. [17] did research that used more advanced methodologies, including structural equation modeling (SEM) and real-time data analysis, to learn more about how technology may improve the experience of tourists.

These methodologies bring in new ideas like gamification and AI ethics, which haven't been studied much in traditional ways. This change shows how tourism research has changed over time, with technology and new ideas at the center of making travel better and more sustainable. This new technical approach does present us more complete and contextual information, but it has several problems, like relying too much on self-reported data and only looking at particular sorts of technology.

For instance, gamification has proven to be effective in increasing tourist engagement, but challenges remain in scaling it, particularly in less developed regions [17]. Consequently, there is a need for further research to explore how technology can be utilized within Islamic tourism, particularly in areas that have not been extensively studied in the past. Additionally, recent studies on religion and culture-based tourism, especially those involving Islam, have yielded intriguing insights. Seyfi and Hall's [16] study on the impact of Islamic theocracy on tourism in Saudi Arabia and Iran reveals that tourism development challenges extend beyond just religious pilgrimages.

Their research highlights the influence of politics and religion on tourism policy and marketing. Raza et al. [14] also investigated how Islamic work ethics shape the relationship between organizational justice and employee behavior in Pakistan's tourism sector. They discovered that Islamic ethics significantly influence how organizational injustice impacts behavior. On a different note, studies on smart technology in tourism, such as the work by Inmor et al. [18] in Thailand, examine how green technology impacts tourists' decisions when visiting natural destinations.

This study shows that smart tourism technology can greatly increase tourists' desire to visit a place, whereas technological experiences in other areas are less advantageous. Molaei's [8] research also looks at how to develop pilgrimage tourism in Shia cities in Iran. It stresses the need for thorough planning that takes into account both cultural and infrastructure issues while building pilgrimage sites. Shakeela and Weaver's [19] study in the Maldives also demonstrates that people

there see tourism as a "managed evil" that has economic benefits but also social and cultural consequences. All of this research helps us understand how religion-based tourism and smart technology may work together to develop tourism experiences that are more sustainable and welcoming to everyone.

3. Methodology

This study utilizes a Systematic Literature Review (SLR) method, adhering to the PRISMA guidelines [20] to ensure high-quality research reporting and methodology, as illustrated in Figure 1. The identification process begins by searching for relevant articles using the keywords "Islamic Tourism" and "Smart Tourism Technology" from the Scopus database, chosen for its rigorous indexing system and the quality of the articles it provides [21,22].

The Scopus database was selected over Google Scholar due to its more reliable search outcomes and stringent filters, such as publication year and journal quartiles (Q1–Q4). Initially, the search retrieved 194 articles, which were then filtered for relevance. Articles that did not meet inclusion criteria—such as duplicates, irrelevant content, or the absence of abstracts—were excluded, leaving 150 articles for further analysis.

Following this, 45 articles were deemed suitable for inclusion in the review. A qualitative analysis was conducted using the Watase Uake System to identify patterns and themes within the data. A bibliometric analysis was then performed to examine trends in publication, citation, and influential authors. A comparative analysis was carried out to identify similarities, differences, and gaps in existing research. Data visualization was used to summarize trends, and areas for future research were proposed based on these gaps. This approach provides a comprehensive framework for examining trends in Islamic tourism and smart tourism technologies.
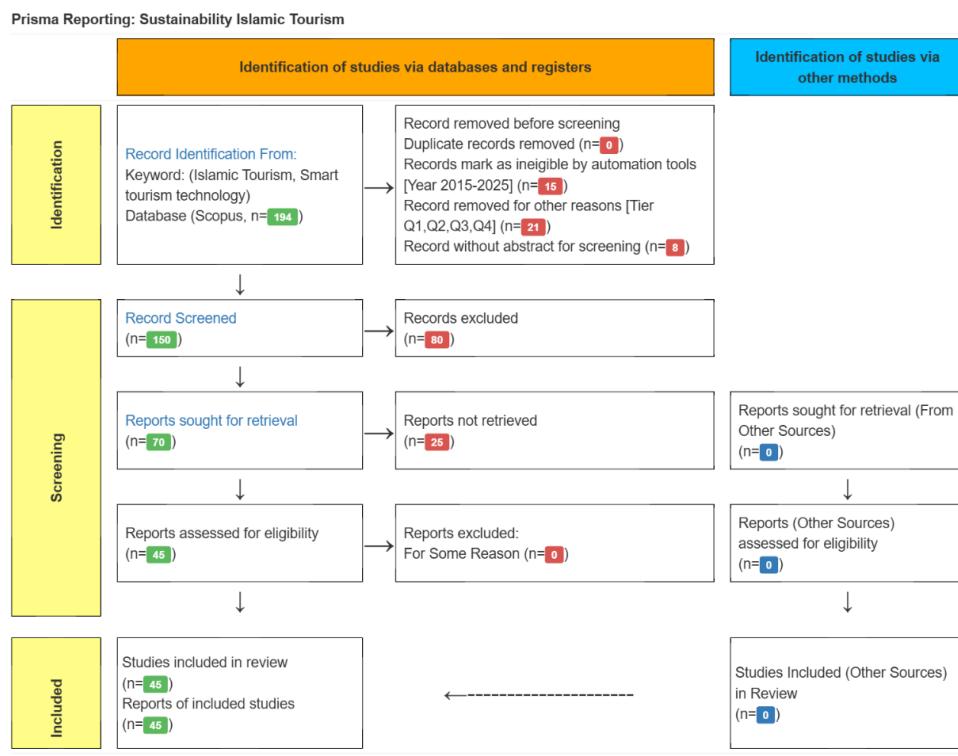

Figure 1. PRISMA Framework

4. Results and Discussion

4.1 Key Findings

An analysis of variables from previous research highlights several key factors driving the sustainability of Islamic tourism, including revisit intention, smart tourism technologies, memorable tourism experiences, and tourist satisfaction. These factors are extensively studied and frequently cited, indicating their significant impact in academic discussions. For example, revisit intention has been explored in three studies, accumulating 497 citations, while memorable tourism experiences have been covered in two studies, with a total of 480 citations (Table 1).

This suggests that the central focus of sustainable Islamic tourism is on creating memorable travel experiences that encourage repeat visits. Furthermore, smart tourism technologies have emerged as a prominent topic, with three studies and 473 citations, highlighting the growing interest in integrating technology within Islamic tourism. Specific sub-factors such as Perceived Smart Tourism Technology Experience and User Adoption of Smart Tourism Technology further emphasize the critical role of technology in enhancing tourist experiences and promoting sustainability (Table 1).

Geographically, research predominantly focuses on Asia (e.g., China, Indonesia, and Iran), with an emphasis on the integration of religious values and tourism. Studies on Islamic values and religiosity underscore the significant role of Islamic principles in shaping tourism experiences in these regions (Table 1). In contrast, European research (e.g., France and Serbia) primarily explores technological factors and tourist satisfaction, with a focus on aspects like Smart Tourism Technology Experience and Tourist Happiness (Table 1). This contrast reveals how cultural and economic influences shape the research focus: while Asian countries emphasize religious identity, European studies are more focused on technological innovation.

Furthermore, the analysis of research hypotheses from Table 2 reveals that smart tourism technologies are significantly linked with various other variables, both as independent and dependent factors. Smart tourism technologies show strong connections with memorable tourism experiences, marketing innovations, organizational innovations, and process innovations, underscoring the crucial role of technology in advancing sustainable tourism [5,23].

Table 1. Trend Variabel Penelitian

Variable	Country	Count	Citations
Revisit Intention	China; Iran	3	497
Smart Tourism Technologies	Egypt; Indonesia; China	3	473
Memorable Tourism Experiences	Indonesia; Taiwan	2	480
Tourist Happiness	China; France	2	341
Perceived Smart Tourism Technology Experience	China	2	313
Tourist Satisfaction	France; Indonesia	2	294
Accessibility	France; Iran	2	18
Informativeness	France; Iran	2	18
Interactivity	France; Iran	2	18
Personalization	France; Iran	2	18

Table 2. Suggestion Construction Model

Independent	Dependent	Count	Country	Citations
Smart Tourism Technologies	Memorable Tourism Experiences	3	Egypt,Indonesia, Taiwan	217
Memorable Tourism Experiences	Tourist Destination Loyalty	1	Indonesia	138
Memorable Tourism Experiences	Tourist Satisfaction	1	Indonesia	138
Perceived Halal Risk	Attitude Toward Non-Islamic Countries	1	Indonesia	70
Perceived Islamic Value	Attitude Toward Non-Islamic Countries	1	Indonesia	70
Smart Tourism Technologies	Marketing Innovations	1	Egypt	57
Smart Tourism Technologies	Organizational Innovations	1	Egypt	57
Smart Tourism Technologies	Process Innovations	1	Egypt	57
Smart Tourism Technologies	Service/Product Innovations	1	Egypt	57
Smart Tourism Technologies	Museum Tourists Memorable Experiences	1	China	50
Tourism Satisfaction	Behavioral Intentions	1	China	50
Perceived Smart Tourism Technology Experience	Travel Confidence Benefit	1	China	48
Perceived Smart Tourism Technology Experience	Travel Enjoyment	1	China	48
Memorable Tourism Experiences	Destination Image	1	Taiwan	22
Memorable Tourism Experiences	Destination Image	1	Taiwan	22
Islamic Financial Inclusion	Business Performance	1	Indonesia	9
Ethical AI Practices	Tourist Behavior In The Adoption Of AI Driven Smart Tourism Technologies	1	United Arab Emirates	1

Furthermore, memorable tourism experiences are also closely related to tourist satisfaction and destination image, which illustrate the importance of long-lasting tourism experiences [5,24]. In Indonesia, for example, perceived halal risk and perceived Islamic value are related to attitudes toward non-Islamic countries, which emphasizes the importance of religious factors in travel decisions [25]. In Egypt, smart tourism technologies are also related to innovation in organization and marketing, which demonstrates how technology can strengthen destination development [26].

On the other hand, Table 3 shows the geographical distribution of research related to Islamic tourism and smart technology. Countries such as Indonesia, Iran, Pakistan, and Malaysia dominate the research locations with more than three studies. For example, research in Indonesia, such as that conducted by Azis et al. [5] and Aji et al. [25], examines aspects of smart tourism technologies and halal tourism. In Iran, research conducted by Molaei [8] and Taheri [3] focuses on Islamic tourism and Shia pilgrimage cities.

The distribution of citations shows that research from developing countries, despite having lower citations compared to developed countries, still provides important insights. For example, the research by Azis et al. [5] with 138 citations and Pai et al. [6] with 169 citations demonstrates

that the quality of research significantly determines global academic recognition even when conducted in developing countries.The implication of this distribution is that although developing countries have become centers of research in Islamic tourism and smart tourism technologies, there are challenges in increasing the visibility of their research at the global level.

These studies often address relevant local issues, such as halal tourism in Indonesia [13] or the impact of smart technology in rural areas of Iran [27], which are very useful for practitioners and policymakers in those regions. However, to enhance global impact, it is important for this research to be published in high-reputation international journals and to build international collaborations.

Research also shows that although smart tourism technologies are receiving more attention, studies on Islamic tourism and the integration of Islamic values still need to be further explored. In the future, researchers should focus on how technology can help create more sustainable and inclusive Islamic tourism destinations, as well as balance technological innovation with the reinforcement of Islamic values. These efforts will help address global challenges such as climate change, diversification of tourism markets, and other social and cultural challenges faced in the context of Islamic tourism.

Table 3. Article Extraction Results

Authors	Journal	Country	Context	Future Recommendation	Cite	Q
Aji et al., [28]	Journal of Islamic Marketing	Indonesia	Halal Tourism Industry	Future studies should focus on assessing the cognitive evaluation of perceptions related to Islamic values and employ more suitable methodologies for evaluating mediation effects	70	Q2
Alkhalifah et al., [15]	Human Behavior and Emerging Technologies	United Kingdom	Islamic religious tourism, specifically focusing on the Umrah pilgrimage.	Future research should explore how VR can be used to enhance various forms of religious tourism beyond the Islamic context, including Christian, Hindu, Buddhist, and other faith-based travel experiences.	0	Q1
Aman et al., [1]	Sustainability	Pakistan	The research focuses on the northern regions of Pakistan, specifically Gilgit-Baltistan, and examines the influence of Islamic religiosity on the socio-cultural impacts of sustainable tourism development.	Future studies should explore the relationship between individual religiosity and the socio-cultural effects on sustainable tourism, using larger sample sizes in other regions of Pakistan and Muslim communities	111	Q1
Azis et al., [5]	Journal of Hospitality and Tourism Technology	Indonesia	Smart Tourism Technologies	Future research should expand to cover more regions and cities, use mixed methods, and explore multidimensional constructs of memorable tourism experiences.	138	Q1
Carboni et al., [2]	The Journal of North African Studies	Tunisia	Islamic Tourism Development	Future research should investigate the needs of Muslim tourists, the interaction between tourists of different religions, and local views on halal tourism in both Muslim and non-Muslim countries	20	Q2
Chang, [24]	Journal of Hospitality and Tourism Technology	Taiwan	The research context is the 2018 Taichung World Flora Exposition in Taichung, Taiwan.	Future research should address the generalizability of findings by examining other mega-events, explore the influence of technology acceptance on the relationships, and include underlying contingent variables in the proposed model.	22	Q1
Chien, [9]	Clinical Ethics	United Kingdom	Reproductive Ethics, Islamic Law	Future research should consider the ethical implications of reproductive tourism and the need for more diverse donor pools in the UK	7	Q2
Cimbaljevi et al., [29]	European Journal of Innovation Management	Serbia	Smart Tourism Development	Future research could explore ICT adoption among tourism employees in other developing nations, examine the influence of cultural factors, and analyze individual differences in technology adoption.	20	Q1
De, [30]	Religions	United Arab Emirates	Pre-Islamic Religious Heritage	More focus is needed on archaeological studies and the commodification of tourism	5	Q1
Elshaer and Marzouk, [26]	Tourism Recreation Research	Egypt	Smart Tourism Destinations	Include other destinations and broaden innovation categories.	57	Q1
Gani et al., [31]	Journal of Hospitality and Tourism Insights	Bangladesh	The research is conducted in Bangladesh, a developing country with a growing tourism sector and significant advancements in ICT.	Future studies should include larger sample sizes, explore other countries for generalizability, and investigate additional predictors of the relationship between STTs and perceived benefits.	13	Q3
Han et al., [32]	International Journal of Environmental Research and Public Health	South Korea	Muslim Tourism Experiences	Future research should include data from more non-Islamic countries to improve the explanatory power of the model. It can be strengthened by considering factors like destination image, attachment, and familiarity, while further empirical efforts are needed to refine the framework for predicting behavioral intentions of international Muslim tourists	19	Q1
Hassannia et al., [33]	Sustainability	Turkey	Smart Tourism Technology	Future work should focus on developing blockchain technology for secure data sharing and creating platforms within the smart tourism industry to enhance security and trust.	46	Q1

Authors	Journal	Country	Context	Future Recommendation	Cite	Q
Inmor et al., [18]	Environmental Challenges	Thailand	Natural Tourism Behavior	Future studies should adopt stratified sampling methods to ensure balanced representation and compare cross-country studies to identify consistent patterns across diverse cultural and technological contexts	0	Q3
Iranmanesh et al., [34]	Asia Pacific Journal of Tourism Research	Iran	Islamic Medical Tourism	Future studies should involve the perspectives of key stakeholders such as nurses, doctors, and healthcare administrators to deepen the understanding of the issue	42	Q1
Jia and Chaozhi, [11]	Asia Pacific Journal of Tourism Research	China	Halal Tourism In Non-Islamic Destinations	Future research should expand to include more diverse samples and local residents, develop scales for Muslim-friendly characteristics in non-Islamic contexts, and address the perceived risks Muslim tourists face in non-Islamic countries	68	Q1
Koo et al., [12]	Journal of Open Innovation: Technology, Market, and Complexity	United Arab Emirates	The study is conducted in the context of the United Arab Emirates, a global hub for tourism innovation, focusing on the adoption of AI-driven smart tourism technologies.	Future studies should include more tourist communities and locations for better generalizability. Longitudinal or experimental methods could clarify causal relationships, and future work could explore how cultural and environmental factors impact technology adoption in tourism. Research on VR, AR, blockchain, and AI solutions tailored to passenger needs, based on geography, travel motivations, and socio-demographic factors, is also suggested. Comparative studies across different destinations and cultural contexts can uncover cross-cultural influences on technology acceptance	1	Q1
Lari et al., [35]	Tourism Review	United Arab Emirates	Islamic Tourism Services	Future research should explore the moderating effects of nationality in different cultural contexts and consider other market segments within the tourism industry.	26	Q1
Lee et al., [36]	Asia Pacific Journal of Tourism Research	South Korea	Smart Tourism Technology	Future studies should expand the scope to include multiple destinations and consider the maturity of smart technology systems in different locations. Additionally, self-efficacy in using STT systems should be included as a variable.	142	Q1
Martin et al., [37]	Sustainability	Spain	Islamic Finance and Halal Tourism	Future research should build a theoretical framework and broaden the sample to include more stakeholders like hotel managers and restaurant owners	19	Q1
Matyusupov et al., [38]	Services Marketing Quarterly	Uzbekistan	The context of the study is the tourism industry, specifically focusing on the impact of STTs on tourist behavior and destination loyalty in Khiva, Uzbekistan.	Future studies should investigate variations in technological literacy across demographic groups, explore interactions between tourists and local cultures, and address negative aspects of STTs, such as privacy issues. Longitudinal studies would also be valuable to assess the long-term impacts of STTs	0	Q3
Mohezar et al., [39]	Journal of Islamic Marketing	Malaysia	Islamic Medical Tourism	Future research should incorporate quantitative evidence to supplement the qualitative findings and explore broader aspects of Islamic medical tourism.	20	Q2
Molaei, [8]	Contemporary Islam	Iran	Shiite Pilgrimage Cities	Future research should incorporate quantitative methods to verify qualitative findings and examine the economic effects of pilgrimage tourism	2	Q1
Mujiatun et al., [40]	Sustainability	Indonesia	Halal Tourism Ecosystem	Further research should include variables from traditional financial institutions for more thorough results. It should also sample from all ten provinces designated as halal-tourism destinations and increase the sample size	9	Q1
Muneeza et al., [13]	Journal of Islamic Marketing	Maldives	Islamic Tourism Development	Future studies should concentrate on the practical implementation of Islamic tourism, the establishment of Sharia-compliant standards, and the exploration of Islamic finance models	8	Q2
Neumayer and Plumper, [4]	Public Choice	Multiple countries (Western and Islamic countries)	Terrorism-tourism Relationship	Future research should investigate the long-term impact of terrorism on tourism and assess the effectiveness of regional collaboration in anti-terrorism policies	86	Q1
Pai et al.,	Sustainability	China	Smart Tourism Technology	Future research should explore older adults experiences with smart technologies and	169	Q1

Authors	Journal	Country	Context	Future Recommendation	Cite	Q
[41]				conduct comparative studies in multiple cities		
Pai et al., [6]	Sustainability	China	Smart Tourism Technology	Future research should develop multilingual questionnaires and diversify sample types to cover different regions. It should also analyze the demographic traits of interviewees and perform both horizontal and vertical comparisons. Further investigation into other aspects of the tourism experience is recommended	48	Q1
Pinke-Sziva et al., [42]	Journal of Heritage Tourism	Hungary	Small-scale Hungarian heritage town	Expand research to other regions and assess long-term impacts of smart technologies	5	Q1
Poan and Verin, [43]	Journal of Islamic Marketing	Indonesia	Islamic Tourism Satisfaction	Future research should explore additional variables such as price and affordability, and consider the impact of Muslim self-esteem and identity on tourism choices.	3	Q2
Pradhan et al., [44]	Sustainability	South Korea	The context of the research is the use of smart devices in tourism, focusing on the negative perceptions and risks associated with their use during travel.	Future research should gather data from different countries and explore other factors that may influence the intention to use smart devices for tourism	60	Q1
Preko et al., [45]	Journal of Islamic Marketing	Ghana	Ghana	Future studies should use larger sample sizes and test for the separate moderation effects of multi-groups (high and low Islamic practice) in similar geographical contexts to enhance comparison across specific countries	44	Q2
Raza et al., [14]	Public Organization Review	Pakistan	Tourism industry in Pakistan	Future research can replicate studies using longitudinal data, collect data from other cities, and explore additional sectors of the tourism industry	18	Q2
Raza et al., [28]	Journal of Transnational Management	Pakistan	Organizational Justice	Future research can replicate the study in different sectors, evaluate the four dimensions of organizational justice individually, and assess the impact of moderators on each dimension.	8	Q4
Rebat, [46]	Journal of Heritage Tourism	Iraq	Heritage Tourism, Islamic Values	Future research should include larger and more diverse samples and investigate regions affected by extremist iconoclasm	5	Q1
Seyfi and Hall, [16]	International Journal of Tourism Research	Saudi Arabia	Islamic Governance And Tourism	Future research should explore other theocratic countries and compare findings.	40	Q1
Shakeela and Weaver, [19]	Annals of Tourism Research	Maldives	The study is conducted in two island communities in the Maldives, one with high tourism affiliation and the other with low tourism affiliation.	Future research should explore the dynamics of the Islamic pleasure periphery in other Muslim-dominated destinations and investigate the rapidly growing Chinese and East Asian markets in the Maldives.	42	Q1
Singh et al., [17]	Journal of Destination Marketing & Management	USA	The study focuses on the use of smart tourism technologies (STT) in enhancing tourist experiences and place attachment, with a specific emphasis on gamification.	Future research should prioritize security/privacy as a key attribute of STTs, replicate the proposed model using one leading STT, and explore differences across other STTs such as AR, VR, travel websites, and tour guidebooks	1	Q1
Taheri, [3]	Journal of Travel & Tourism Marketing	Iran	Islamic Tourism Experiences	Future studies should investigate different socio-cultural and Islamic transcendent experiences, such as in the holy city of Mashhad, to cross-validate existing findings	36	Q1
Torabi et al., [27]	Sustainability	Iran	Smart rural destinations in Iran.	Include more diverse destinations and assess longitudinal impacts.	15	Q1
Yang and	Tourism	China	Smart Museum Tourism	Examine effects in other tourism sectors.	50	Q1

Authors	Journal	Country	Context	Future Recommendation	Cite	Q
Zhang, [23]	Review					
Yi et al., [47]	Journal of Quality Assurance in Hospitality & Tourism	China	The study focuses on the adoption of smart tourism technologies in the context of smart cities and smart tourism, using a mobile phone tour application in Yunnan, China.	Future research could apply the model to other smart tourism technologies and include a broader demographic, such as adults, to gain a more comprehensive understanding.	0	Q2
Yuksel et al., [48]	International Journal of Tourism Cities	France	Smart Tourism Experience	Future research should consider a broader range of elements beyond the current scales, include local residents in the study, and compare other smart tourism destinations like Valencia.	3	Q1
Zarandian et al., [49]	Tourism Management Perspectives	Iran	Islamic Volunteer Tourism	More comprehensive studies on Islamic volunteer tourism, larger sample sizes, and broader geographical focus	14	Q1
Zhang et al., [7]	Sustainability	China	Smart Tourism Technologies	Future research could explore additional constructs related to post-experience behavior and study similar topics in other tourist attractions and countries across Asia and Europe	84	Q1

Table 4. Research Context Category

Research Context	Count	Authors	Country	Theory
Smart Tourism Destinations	18	Lee et al., 2018; Pradhan et al., 2018; Hassannia et al., 2019; Azis et al., 2020; Pai et al., 2020; Pai et al., 2021; Yang and Zhang, 2022; Elshaer and Marzouk, 2022; Chang, 2022; Zhang et al., 2022; Gani et al., 2023; Cimbaljevi? et al., 2023; Yuksel et al., 2024; Matyusupov et al., 2024; Yi et al., 2025; Inmor et al., 2025; Koo et al., 2025; Singh et al., 2025	Bangladesh, China, Egypt, France, Indonesia, Serbia, South Korea, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Uzbekistan	Diffusion of Innovation (DOI); Engagement Theory; Expectancy-Disconfirmation Theory (EDT); Multiagent System (MAS) Theory; Perceived Value Theory; Service-Dominant Logic (SDL); Servicescape Model Theory; Smart tourism technology (STT); Subjective Well-Being (SWB); Technology Acceptance Model (TAM); Technology Readiness Index (TRI); Tourism 4.0; Trust Transfer Theory; Uses And Gratifications Theory
Countries With Muslim Majority	14	Taheri, 2015; Carboni et al., 2016; Zarandian et al., 2016; Mohezar et al., 2017; Shakeela and Weaver, 2018; Iranmanesh et al., 2018; Aman et al., 2019; Lari et al., 2019; Muneeza et al., 2019; Raza et al., 2020; Raza et al., 2021; Mujiatun et al., 2023; Poan and Verin, 2024; Alkhalifah et al., 2025	Indonesia, Iran, Malaysia, Maldives, Pakistan, Tunisia, United Arab Emirates, United Kingdom	Equity Theory; Islamic Finance Principles; Islamic Tourism Theory; Service Quality Theory; Social Exchange Theory; SWOT Analysis; Technology Acceptance Model (TAM); Theory of Communitas; Theory Of Financial Inclusion; Theory Of Planned Behavior (TPB); Transformative Learning Theory
Non-Muslim Countries With Halal Tourism Potential	7	Neumayer and Plümper, 2016; Jia and Chaozhi, 2019; Martín et al., 2020; Aji et al., 2020; Preko et al., 2020; Chien, 2020; Han et al., 2021	China, Ghana, Indonesia, Multiple countries (Western and Islamic countries), South Korea, Spain, United Kingdom	Cultural Sensitivity Hospitality Theory; Bioethical Theory; Clash of Civilizations Theory Push-pull motivational theory;Theory of Planned Behavior (TPB)
Cultural And Heritage Tourism Destinations	3	Rebat, 2020; De, 2022; Pinke-Sziva et al., 2023	Hungary, Iraq, United Arab Emirates	Commodification Of Heritage Cultural Heritage Theory Positioning Theory
Countries With Theocratic Systems	2	Seyfi and Hall, 2019; Molaei, 2023	Iran, Saudi Arabia	Durkheim's Theory Of Collective Consciousness Interpretivist Approach
Rural Tourism Destinations	1	Torabi et al., 2023	Iran	Technology Acceptance Model (TAM)

Table 5. Issues and Challenges Category

Issues and Challenges	Count	Authors	Country	Theory
Security And Privacy In Tourism Technology	20	Lee et al., 2018; Pradhan et al., 2018; Hassannia et al., 2019; Azis et al., 2020; Pai et al., 2020; Pai et al., 2021; Yang and Zhang, 2022; Chang, 2022; Elshaer and Marzouk, 2022; Zhang et al., 2022; Torabi et al., 2023; Gani et al., 2023; Cimbaljevi? et al., 2023; Matyusupov et al., 2024; Yuksel et al., 2024; Alkhalifah et al., 2025; Yi et al., 2025; Inmor et al., 2025; Singh et al., 2025; Koo et al., 2025	Bangladesh, China, Egypt, France, Indonesia, Iran, Serbia, South Korea, Taiwan, Thailand, Turkey, United Arab Emirates, United Kingdom, USA, Uzbekistan	Diffusion of Innovation (DOI); Engagement Theory; Expectancy-Disconfirmation Theory (EDT); Multiagent System (MAS) Theory; Perceived Value Theory; Service-Dominant Logic (SDL); Servicescape Model Theory; Smart tourism technology (STT); Subjective Well-Being (SWB); Technology Acceptance Model (TAM); Technology Readiness Index (TRI); Tourism 4.0; Trust Transfer Theory; Uses And Gratifications Theory
Conservation Vs. Commodification Of Cultural Herit	15	Taheri, 2015; Zarandian et al., 2016; Carboni et al., 2016; Iranmanesh et al., 2018; Aman et al., 2019; Jia and Chaozhi, 2019; Lari et al., 2019; Rebat, 2020; Aji et al., 2020; Preko et al., 2020; Han et al., 2021; De, 2022; Molaei, 2023; Pinke-Sziva et al., 2023; Poan and Verin, 2024	China, Ghana, Hungary, Indonesia, Iran, Iraq, Pakistan, South Korea, Tunisia, United Arab Emirates	Cultural Sensitivity Hospitality Theory; Commodification Of Heritage; Cultural Heritage Theory; Durkheim's Theory Of Collective Consciousness; Islamic Tourism Theory; Positioning Theory; Push-pull motivational theory; Service Quality Theory; Social Exchange Theory; Theory of Communitas; Theory Of Planned Behavior (TPB); Transformative Learning Theory
Regulatory And Financial Challenges	8	Mohezar et al., 2017; Shakeela and Weaver, 2018; Muneeza et al., 2019; Raza et al., 2020; Martín et al., 2020; Chien, 2020; Raza et al., 2021; Mujiatun et al., 2023	Indonesia, Malaysia, Maldives, Pakistan, Spain, United Kingdom	Bioethical Theory; Equity Theory; Islamic Finance Principles; Social Exchange Theory; SWOT Analysis; Theory Of Financial Inclusion; Theory Of Planned Behavior (TPB)
Impact Of Terrorism On Tourism	2	Neumayer and Plümper, 2016; Seyfi and Hall, 2019	Multiple countries (Western and Islamic countries), Saudi Arabia	Clash of Civilizations Theory; Interpretivist Approach

Table 6. Tourism Dimensions Category

Tourism Dimensions	Count	Authors	Country	Theory
Cultural And Heritage Tourism	22	Neumayer and Plümper, 2016; Pradhan et al., 2018; Lee et al., 2018; Hassannia et al., 2019; Aman et al., 2019; Pai et al., 2020; Rebat, 2020; Azis et al., 2020; Pai et al., 2021; Yang and Zhang, 2022; Zhang et al., 2022; De, 2022; Chang, 2022; Cimbaljevi? et al., 2023; Pinke-Sziva et al., 2023; Gani et al., 2023; Torabi et al., 2023; Yuksel et al., 2024; Matyusupov et al., 2024; Koo et al., 2025; Singh et al., 2025; Yi et al., 2025	Bangladesh, China, France, Hungary, Indonesia, Iran, Iraq, Multiple countries (Western and Islamic countries), Pakistan, Serbia, South Korea, Taiwan, Turkey, United Arab Emirates, USA, Uzbekistan	Clash of Civilizations Theory; Commodification Of Heritage; Cultural Heritage Theory; Diffusion of Innovation (DOI); Engagement Theory; Expectancy-Disconfirmation Theory (EDT); Multiagent System (MAS) Theory; Perceived Value Theory; Positioning Theory; Servicescape Model Theory; Smart tourism technology (STT); Social Exchange Theory; Subjective Well-Being (SWB); Technology Acceptance Model (TAM); Technology Readiness Index (TRI); Tourism 4.0; Trust Transfer Theory; Uses And Gratifications Theory
Halal Tourism	14	Carboni et al., 2016; Shakeela and Weaver, 2018; Jia and Chaozhi, 2019; Muneeza et al., 2019; Lari et al., 2019; Raza et al., 2020; Aji et al., 2020; Martín et al., 2020; Preko et al., 2020; Raza et al., 2021; Han et al., 2021; Elshaer and Marzouk, 2022; Mujiatun et al., 2023; Poan and Verin, 2024	China, Egypt, Ghana, Indonesia, Maldives, Pakistan, South Korea, Spain, Tunisia, United Arab Emirates	Cultural Sensitivity Hospitality Theory; Equity Theory; Islamic Finance Principles; Islamic Tourism Theory; Push-pull motivational theory; Service Quality Theory; Social Exchange Theory; Technology Acceptance Model (TAM); Theory Of Financial Inclusion; Theory Of Planned Behavior (TPB)
Religious Tourism (Umrah, Hajj, Pilgrimage)	5	Taheri, 2015; Zarandian et al., 2016; Seyfi and Hall, 2019; Molaei, 2023; Alkhalifah et al., 2025	Iran, Saudi Arabia, United Kingdom	Durkheim's Theory Of Collective Consciousness; Interpretivist Approach; Technology Acceptance Model (TAM); Theory of Communitas; Transformative Learning Theory
Islamic Medical Tourism	3	Mohezar et al., 2017; Iranmanesh et al., 2018; Chien, 2020	Iran, Malaysia, United Kingdom	Bioethical Theory; SWOT Analysis; Theory Of Planned Behavior (TPB)
Nature Tourism (Ecotourism, Agrotourism)	1	Inmor et al., 2025	Thailand	Service-Dominant Logic (SDL)

4.2 Research Context Category

The data presented in Table 4 indicates that "Smart Tourism Destinations" is the most frequently examined context, with a total of 18 studies. This context is followed by "Countries with Muslim Majority," which has 13 studies, and "Non-Muslim Countries with Halal Tourism Potential," comprising 6 studies. The category of Smart Tourism Destinations exhibits a notable citation distribution, with research by Pai et al. (2020) accumulating 169 citations and Azis et al. [5] garnering 138 citations. This group of papers reflects a considerable interest in the intersection of technology and Islamic tourism. In addition, countries with Muslim majorities are notable, as research such as Aman et al. [1] highlights the impact of Islamic religiosity on the sustainability of tourism.

This research emphasizes the integration of technology in Islamic tourism to improve the tourist experience, aligning with the findings of Lee et al. [36], which investigate the influence of technology on tourist well-being. This examination highlights the importance of synchronizing technological progress with cultural and religious values to enhance the experience for Muslim travelers in a significant and enriching manner. Prioritizing this integration allows stakeholders in the tourism industry to enhance engagement and satisfaction among tourists, which in turn supports the overall sustainability of Islamic tourism.

This method improves the travel experience for Muslim tourists while simultaneously promoting the preservation of cultural heritage and local traditions. By carefully integrating technology that honors these values, the tourism industry can effectively address the needs of diverse travelers while fostering inclusivity and respecting cultural identities. The classification of non-Muslim countries with halal tourism potential underscores the growing interest in the development of halal tourism, which encounters various regulatory and financial obstacles, as examined by Raza et al. [28]. Future research must concentrate on the ways in which technology can enhance halal and religious tourism while also tackling the challenges associated with security and privacy in tourism technology [26].

4.3 Issues and Challenges

Analysis of Table 5 reveals that the theme "Security and Privacy in Tourism Technology" is the most prominent category, encompassing 18 studies. This matter primarily concerns the deployment of intelligent technology in tourist destinations, including user data security and privacy. Research in technologically advanced countries such as China, South Korea, and the United Arab Emirates reveals considerable interest in this issue, as indicated by elevated citation rates, exemplified by Pai et al. [6], which recorded 169 citations. The theme "Conservation vs. Commodification of Cultural Heritage" is significant, encompassing 12 research studies from countries with Islamic cultural heritage, such as Iran, Pakistan, and Indonesia [1,8,13].

This issue highlights the challenges of maintaining a balance between cultural preservation and tourism commercialization, which remains pertinent despite the scarcity of research. The theme "Regulatory and Financial Challenges" is significant, comprising 8 papers that examine regulatory and financial impediments to the development of halal tourism, especially in Muslim-majority countries such as Pakistan and Indonesia [14,40]. This trend indicates that future research should emphasize the integration of technology with data security, cultural heritage management, and the resolution of legal issues to promote the development of Islamic tourism.

4.4 Tourism Dimensions

Analysis in Table 6 shows that cultural and heritage tourism is the most dominant category, with 22 studies covering research on cultural destinations, heritage, and museums, as well as the

integration of technology in tourism experiences [6,23]. Halal tourism follows with 14 studies focusing on Sharia aspects in tourism, including accommodation, halal food, and Muslim-friendly destinations [14,25]. Religious tourism, which includes Umrah, Hajj, and pilgrimage, occupies the third position, with five studies discussing the spiritual aspects of tourism [15,16].

The categories of Islamic medical tourism and nature tourism have a smaller share. This trend indicates that cultural and heritage tourism and halal tourism are becoming relevant research areas, with challenges related to technology security and regulations that need to be addressed to support the development of sustainable and inclusive tourism.

4.5 Tourist Sector

As depicted in Figure 2, the most dominant category within the tourism sector is "Amusement Parks and Tourist Attractions," appearing in 25 out of 45 studies (64.4%). This category primarily focuses on tourist destinations offering entertainment and attractions, often linked to technological advancements in smart tourism and cultural and heritage tourism [6,23]. While this category is widely researched, the distribution of citations varies significantly; for instance, Pai et al. [6] has garnered 169 citations, while others, such as Poan and Verin [43], have only accumulated 3 citations.Another important category is "Hotels and Accommodations" and "Museums and Cultural Sites," appearing in 5 and 6 studies, respectively. These topics are frequently connected with Halal Tourism and Cultural and Heritage Tourism [23,23].

Despite fewer studies, these categories hold substantial potential for sustainable tourism development. The implications of this trend indicate that, while amusement parks and tourist attractions remain a central focus, integrating environmental sustainability into these areas presents ongoing challenges. Conversely, categories such as Rural and Nature Destinations and Museums and Cultural Sites offer opportunities for more holistic and inclusive tourism development, fostering greater attention to sustainability and cultural preservation [1,27].
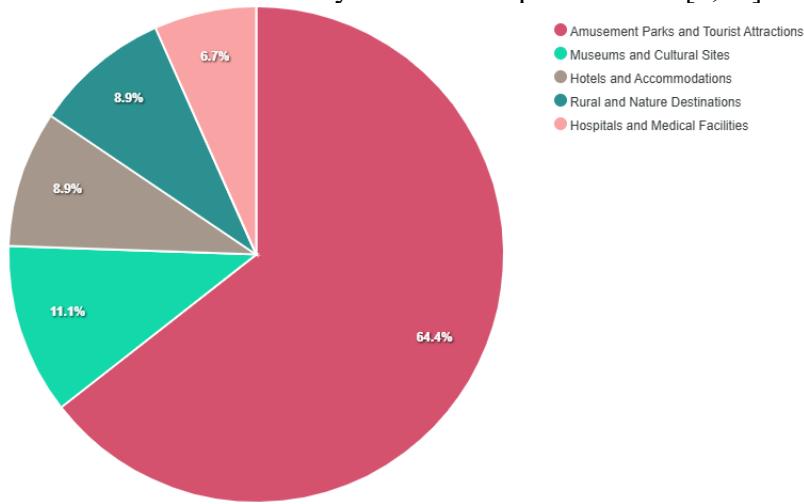

Figure 2. Tourism Sector

4.6 Tourist Segmentation

As shown in Figure 3, the most commonly used segmentation category is "Tourists by Motivation (Religion, Culture, Entertainment)," which appears in 36 out of 45 studies (80%). This highlights that motivations related to religion, culture, and entertainment are central in Islamic tourism research. Studies such as Pai et al. [6], with 169 citations, demonstrate significant

influence within the literature. Other studies, including Seyfi and Hall [16] and Aman et al. [1], with 40 and 111 citations respectively, further underline the relevance of this theme across different contexts, such as Islamic governance and the socio-cultural impact of sustainable tourism.

Jia and Chaozhi [11] and Han et al. [32] emphasize the importance of cultural sensitivity and the behavior of Muslim tourists in non-Muslim destinations, which calls for more inclusive marketing strategies. Furthermore, studies by Molaei [8] and Carboni et al. [2] emphasize that religious motivation, particularly in the context of pilgrimage, is an important factor that shapes the tourist experience. These findings suggest that understanding the motivations of tourists is vital for developing sustainable Islamic tourism, integrating smart technologies, and addressing environmental impacts [7,41].
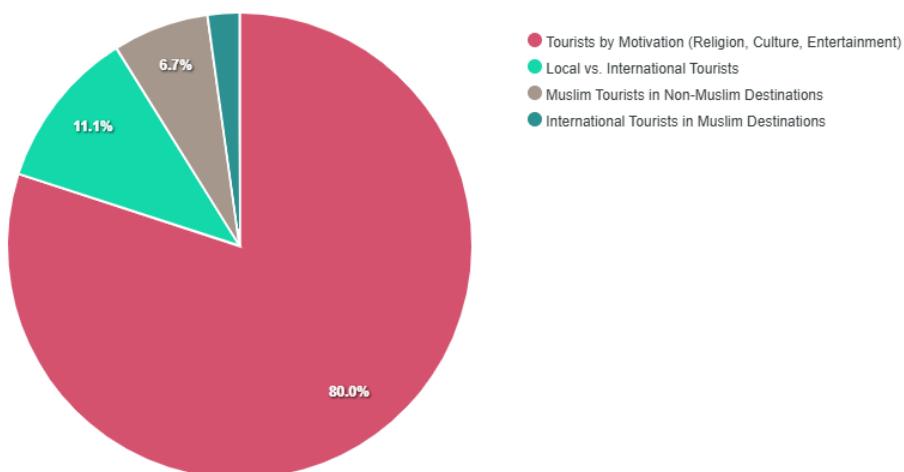
Figure 3. Tourism Segmentation

4.7 Smart Tourism Technologies

As illustrated in Figure 4, the theme "Smart Tourism Technologies in Heritage and Rural Destinations" emerges as the most prominent, with 15 studies, followed by the themes "Impact of Smart Tourism Technologies on Tourist Satisfaction" (13 studies), "Adoption of AI-Driven Smart Tourism Technologies" (8 studies), and "Smart Tourism Technologies and Memorable Tourism Experiences" (7 studies). The theme "Ethical Concerns in Smart Tourism Technologies" appears in only 2 studies, highlighting a limited focus on the ethical dimensions of tourism technology.

The research on the "Impact of Smart Tourism Technologies on Tourist Satisfaction" has the highest citation count, with Pai et al. [6] receiving 169 citations, underscoring the significant influence of technology on tourist satisfaction. Additionally, studies like Aman et al. [1] emphasize the role of smart technologies in enhancing experiences at heritage and rural destinations, with 111 citations. However, the limited attention to ethical concerns, particularly regarding privacy and data security, presents a critical challenge for the industry [9,16].

The implications of these findings suggest that while AI-based technologies are increasingly vital for improving the tourist experience, there is a pressing need for further research to examine the social, cultural, and environmental impacts of these technologies. Additionally, developing an ethical framework to ensure the sustainability of technology-driven tourism is essential for future advancements in this field [2,27].
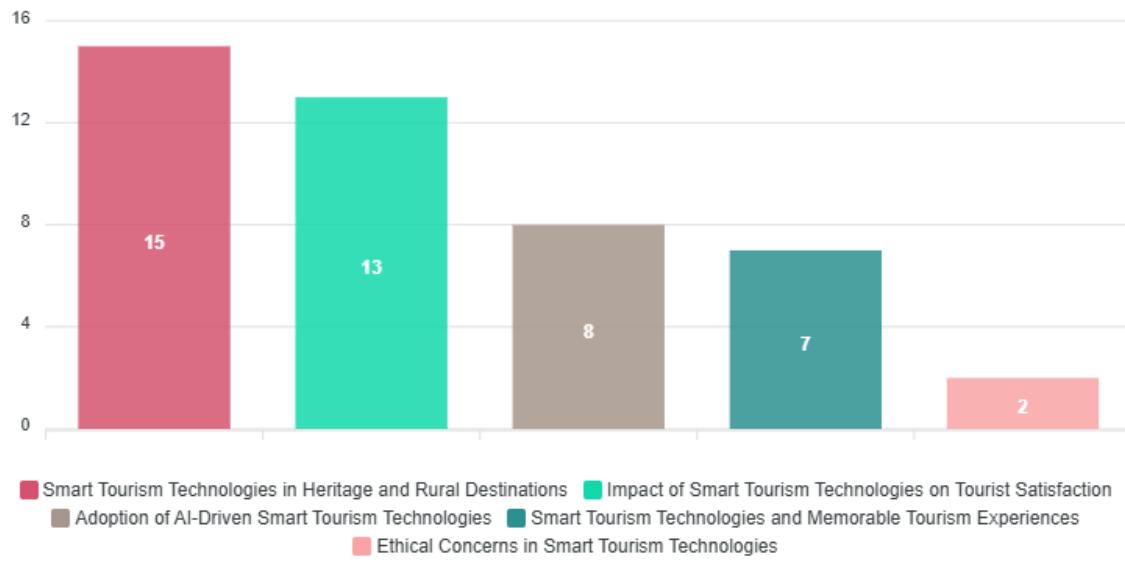
Figure 4. Smart Tourism Technologies

4.8 Theoretical Contributions

Theoretical Insights for Sustainability Islamic tourism research highlights several areas that warrant further exploration. First, there is a need for a deeper integration of smart tourism technologies with Islamic values in the context of sustainable tourism. Despite the dominance of these technologies in the literature, with studies such as Pai et al. [6] showing high citations, there remains a gap in applying Islamic principles, such as halal tourism and Islamic governance, to create inclusive and sustainable destinations [1,26].

Second, expanding the examination of sociocultural impacts in cultural and heritage tourism and religious tourism is critical. Utilizing Social Exchange Theory can provide a deeper understanding of the interactions between local communities, tourists, and destination managers, a perspective underexplored in current research [1,16].

Third, ethical considerations regarding the application of tourism technologies, particularly privacy and data security, need greater attention. Despite the prevalence of smart technologies, few studies address these concerns, highlighting an important gap [16].

Lastly, there is a significant opportunity to explore tourist motivations in Islamic tourism, particularly in non-Muslim destinations, using the Theory of Planned Behavior. This would provide important details about the preferences and behaviors of Muslim tourists outside Islamic countries, contributing to more inclusive and sustainable tourism development [11,25].

4.9 Practical Implications

The practical implications for the development of Islamic tourism and smart tourism technologies underscore the importance of integrating them to enhance the tourist experience and satisfaction. Research by Pai et al. [6] demonstrates that technologies like artificial intelligence (AI) and big data can significantly improve service personalization and operational efficiency, ultimately driving tourists' intention to return. It is recommended that practitioners adopt these technologies, particularly in cultural heritage and rural destinations, to improve competitiveness and sustainability [1].

Moreover, Islamic values should remain central in the development of Islamic tourism. Seyfi and Hall [16] point out the need for governance aligned with Islamic principles to ensure the

creation of authentic and sustainable destinations. This includes offering services like Sharia-compliant accommodation and halal food [14]. Additionally, the challenges related to security and privacy in tourism technology must be addressed with utmost attention, as noted by Elshaer and Marzouk [26].

Developing destinations requires a careful balance between commercialization and cultural preservation. Molaei [8] and Carboni et al. [2] suggest involving local communities in the management of these destinations to maintain cultural integrity. Lastly, cross-border collaboration and public-private partnerships can enhance the visibility and global reach of Islamic tourism, as discussed by Jia and Chaozhi [11].

5. Discussion

The TCCM (Theory, Context, Characteristics, Methodology) framework has been instrumental in identifying knowledge gaps and proposing future research directions [50]. It offers a comprehensive approach to understanding the evolution of theory, context, attributes, and methodology within sustainability in Islamic tourism.

Theoretical insights in this field reveal that the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB) are the most widely applied frameworks. TAM is particularly used to analyze the adoption of smart tourism technologies, as demonstrated by studies such as Pai et al. [6] and Elshaer & Marzouk [26].

Meanwhile, TPB is predominantly used to assess the behavior of Muslim tourists, especially in halal tourism and medical tourism contexts [28,34]. Emerging theories like Social Exchange Theory and Equity Theory are also employed to explore the social impacts and justice in tourism [1,28]. However, gaps in theoretical exploration persist, particularly in the application of Islamic Governance Theory and Ethical AI Theory.

These theories could provide valuable insights into how Islamic principles can be integrated with cutting-edge technology to foster inclusive and sustainable tourism. For instance, research on Islamic Governance Theory could reveal how Sharia-based governance frameworks can enhance the sustainability of tourism destinations [16]. Future studies should explore the integration of Islamic Governance Theory with TAM to understand how technologies can be ethically adopted in accordance with Islamic values.

In terms of context, the research on sustainability in Islamic tourism is predominantly focused on countries with a majority Muslim population, including Indonesia, Malaysia, Iran, and Pakistan. These studies primarily investigate the cultural, religious, and technological aspects of tourism [1,14]. However, research in non-Muslim countries such as China and South Korea is on the rise, particularly in exploring the potential for halal tourism and the integration of smart technologies [6,36].

Under-researched areas include Africa and Eastern Europe, which hold significant potential for developing Islamic tourism but have been largely overlooked. For example, research in African countries could examine how Islamic values can be integrated with sustainable tourism in resource-constrained environments. Future research should focus on exploring underrepresented geographical contexts, such as Sub-Saharan Africa, to better understand local dynamics and enhance the development of Islamic tourism in these regions [2].

In terms of characteristics, research frequently explores themes such as smart tourism technologies, halal tourism, and religious tourism, with variables like revisit intention, tourist satisfaction, and memorable tourism experiences being central to many studies [1,6]. However, less attention has been paid to gender roles, organizational size, and environmental impacts. For example, examining the role of gender in decision-making within Islamic tourism could provide new insights into inclusivity and sustainability. Future research should also consider characteristics

like SMEs' adoption of technology and the socio-cultural impact of Islamic tourism on local communities [8].

Methodologically, quantitative research methods, particularly Structural Equation Modeling (SEM) and Partial Least Squares SEM (PLS-SEM), dominate the literature due to their ability to test complex relationships between variables [6,26]. However, qualitative methods, such as document analysis and in-depth interviews, are also used, particularly to understand cultural and religious contexts [8,16]. While quantitative approaches offer robust testing of variable relationships, they lack depth in understanding the complex contexts of Islamic tourism, while qualitative approaches often face challenges in generalizability. Future studies should adopt mixed-methods approaches, combining the strengths of both quantitative and qualitative methods, as well as longitudinal studies to explore the evolving dynamics of Islamic tourism [19].

In conclusion, this TCCM mapping expands both the theoretical and practical dimensions of sustainability in Islamic tourism by identifying dominant and underexplored theories, contexts, characteristics, and methodologies. The integration of new theories such as Islamic Governance Theory and Ethical AI Theory, as well as exploring underrepresented geographical contexts and incorporating more inclusive characteristics and research methods, can contribute significantly to the development of sustainable and innovative Islamic tourism. Future research can help address global challenges such as digitalization and sustainability while preserving Islamic values.

6. Conclusion

The findings of the Systematic Literature Review (SLR) highlight the growing development of research in Sustainability Islamic Tourism, emphasizing the integration of technology, Islamic values, and sustainability. The Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB) are the dominant theoretical frameworks used to understand technology adoption and the behavior of Muslim tourists [6,26]. While research in this field is primarily concentrated in Muslim-majority countries, there is a noticeable increase in interest from non-Muslim countries such as China and South Korea, particularly in the context of halal tourism [11,36].

These findings underscore the significant role of smart tourism technologies in enhancing the tourist experience, though there remains a gap in addressing ethical issues, particularly in terms of privacy and data security [16]. To advance the field, future research should focus on the integration of Islamic Governance Theory and Ethical AI Theory to develop an inclusive and sustainable tourism model that aligns with Islamic principles. Additionally, employing mixed-methods and longitudinal studies will offer a more comprehensive understanding of the evolving dynamics within Islamic tourism [19].

7. Recommendation

This study investigates the sustainability of Islamic tourism through a systematic literature review (SLR) approach, utilizing the TCCM framework. The research primarily focuses on the integration of smart technologies with Islamic values and explores the sustainability challenges within the sector. The findings highlight the dominant use of the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB) in understanding the adoption of technology and the behavior of Muslim tourists. This research significantly contributes by identifying theoretical gaps and presenting new research opportunities, particularly in the areas of ethical AI and Islamic Governance Theory.

For future research, it is crucial to explore in greater depth the integration of technology with Islamic principles to develop a sustainable and inclusive tourism model. Further studies should focus on bridging the gap between Islamic governance and emerging technologies, ensuring that

ethical considerations are prioritized alongside technological advancements. Additionally, future research can benefit from adopting mixed-methods approaches to capture the complexities of integrating technology with Islamic values, thus fostering a deeper understanding of its impact on sustainable tourism practices.

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