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on Redefining Hospitality: Sustainability
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Resilient Future.

Volume 6

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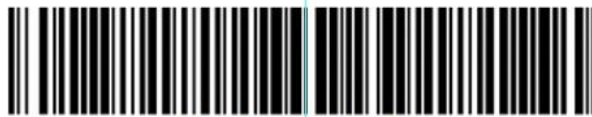
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Foreword

It is with immense pride and optimism that we present the proceedings of the *International Conference on Redefining Hospitality: Sustainability and Innovation for an Inclusive, Resilient Future*. This compilation of scholarly works represents a significant milestone in our collective pursuit of knowledge, innovation, and responsible growth within the hospitality sector.

The hospitality industry stands at a transformative crossroads. Rapid technological advancements, evolving guest expectations, and pressing global challenges such as climate change, resource scarcity, and social inequality demand a rethinking of traditional models. The research papers featured in this volume reflect a shared commitment to addressing these realities through sustainable practices, innovative solutions, and inclusive strategies that strengthen resilience across the sector.

This conference has brought together academicians, researchers, industry practitioners, and thought leaders from diverse backgrounds, fostering meaningful dialogue and interdisciplinary collaboration. The proceedings capture a wide spectrum of contemporary themes, including green operations, digital transformation, smart technologies, community engagement, ethical entrepreneurship, and sustainable supply chain practices. Each contribution offers valuable insights grounded in research, practical application, and visionary thinking.

What makes this collection particularly noteworthy is its emphasis on inclusivity and adaptability. In an era marked by uncertainty and rapid change, resilience has become a cornerstone of long-term success in hospitality. The studies presented here not only analyze current challenges but also propose forward-looking frameworks and strategies that empower organizations to remain agile, responsible, and guest-centered.

We extend our sincere appreciation to all authors for their rigorous research and dedication, to the reviewers for their meticulous evaluation and constructive feedback, and to the organizing committee for their tireless efforts in ensuring the success of this conference. Their collective contributions have elevated the academic quality and relevance of these proceedings.

It is our hope that this volume will serve as a valuable reference for scholars, students, policymakers, and industry professionals. May it inspire further research, encourage sustainable innovation, and contribute meaningfully to shaping a hospitality industry that is inclusive, environmentally responsible, and resilient for generations to come.

Editor – SAMVED 2025-2026

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Energy and Water Conservation Practices in Green Hotels: A Review-Based Study on Sustainable Operations

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Abstract

The hospitality sector uses a lot of water and energy, so implementing sustainable practices is becoming more crucial for ethical hotel operations. Many green hotels have implemented energy and water-saving strategies to lower resource consumption without sacrificing service quality in response to growing environmental concerns. This review-based study examines green hotels water and energy conservation strategies and looks at how they support environmental friendly practices from a perspective of their customers.

The study uses secondary data from published studies on green hotel practices, industry reports, sustainability guidelines, and academic journals. The review focuses on widely used conservation strategies, such as low-flow water fixtures, waste reduction programs, energy-efficient lighting and appliances, towel and linen reuse programs, and obvious efforts to lower energy and water consumption on hotel property.

According to the review's findings, guests typically react positively to energy and water conservation efforts and link them to environmentally conscious hotel management. In addition to improving customer satisfaction, these programs help hotels project a more sustainable image. However, the review also identifies problems, such as poor communication of sustainability initiatives and low customer awareness. The study comes to the conclusion that obtaining long-term environmental sustainability in the hospitality sector requires clear communication and awareness-raising strategies in addition to the successful application of conservation practices.

Keywords:

Green Hotel Practices, Energy Conservation, Water Conservation, Sustainable Operations, Customer Perception, Hospitality Industry

1. Introduction

The hospitality sector is crucial for both job creation and economic expansion. But it also necessitates the substantial use of natural resources, particularly energy and water. Due to hotels ongoing efforts to meet guest's expectations for comfort, convenience, and service quality, there is a high demand for electricity, heating, cooling, and water resources. As concerns about resource depletion, environmental degradation, and climate change continue to grow globally, sustainability has become a critical issue in hotel operations.

In response to these challenges, the concept of "green hotels" has gained popularity. By adopting eco-friendly practices and maintaining high standards of customer satisfaction and service, green hotels prioritize reducing their environmental impact. Since energy and water conservation directly affect operating costs, environmental performance, and long-term competitiveness, they are considered the most significant sustainability initiatives. This review-based study examines the literature on energy and water conservation techniques in green hotels and assesses how they promote sustainable operations from the perspective of the customer.

2. Review of Literature

Recent research indicates that hospitality studies are starting to view sustainability as a tool for strategic management rather than merely a means of cost reduction. Energy and water conservation, which are increasingly acknowledged as crucial elements of green hotel operations, have an impact on customer satisfaction, brand reputation, and competitive advantage.

Behavioural research indicates that guest's inclination for eco-friendly hotels and their willingness to support conservation initiatives are significantly impacted by their positive attitudes toward sustainability and environmental consciousness. [4]. Research grounded in

theories of consumer behaviour indicates that green operational practices affect visitors emotional and cognitive responses, resulting in higher levels of satisfaction, a desire to return, and favourable publicity. [3].

Other studies emphasize the importance of institutional and organizational factors in determining the success of sustainability initiatives. Successful implementation of energy and water conservation measures depends on management commitment, supportive regulatory frameworks, and organizational culture. [2]. According to recent research that also connects sustainability practices with innovation and operational resilience, investments in water management systems and renewable energy technologies increase long-term competitiveness in the hospitality sector. [1], [10]. The literature currently in publication generally supports the need for an inclusive and integrated approach to sustainable hotel operations.

3. Objectives of the Study

The objectives of the present study are:

- To explore how green hotels are conserving energy in their operations.
- To look into the water-saving measures that hotels are putting in place.
- To understand how guests perceive and respond to these energy and water conservation efforts.

4. Methodology

This study follows a descriptive, review-based approach and relies on previously published research articles, conference papers, academic journals, and related publications. The reviewed studies helped identify common energy and water conservation practices used in green hotels, understand how guests perceive these initiatives, and highlight the challenges hotels face when adopting sustainable hospitality practices.

5. Energy Conservation Practices in Green Hotels

Due to the constant use of lighting, air conditioning, kitchen appliances, and laundry services, energy consumption creates a significant operational challenge for hotels. Green hotels use a variety of energy-saving techniques to solve this problem while maintaining guest comfort and service standards. [1].

Using light-emitting diode (LED) technology in place of conventional lighting systems is one of the most popular energy-saving strategies in green hotels. LEDs have longer lifespans, use a lot less electricity, and produce less heat, which lowers the need for indoor cooling. Because of these characteristics, LED lighting works especially well in common areas, hallways, and guest rooms. [1].

In addition, hotels make investments in energy-efficient appliances for their kitchens, laundry rooms, and guest rooms. Energy-efficient washing machines, dishwashers, induction cooktops, and star-rated refrigerators all contribute to lower electricity usage without sacrificing operational effectiveness. By guaranteeing that power is only provided when rooms are occupied, automated energy control systems like key-card switches, occupancy sensors, and centralized energy management systems further reduce energy waste. [6].

As hotels look to cut greenhouse gas emissions and their reliance on fossil fuels, the use of renewable energy sources has become more crucial. The most popular renewable energy source in the hospitality industry is solar energy. Hotels install solar thermal systems to heat water and photovoltaic panels to generate electricity, which significantly lowers energy costs and their environmental impact. [8].

Adoption of renewable energy systems is promoted by long-term cost savings, government incentives, and growing consumer preference for eco-friendly hotels, given their high initial cost. Also, using renewable energy improves a hotel's environmental reputation and fulfills global sustainability goals. [8].

A significant portion of the energy used in hotels is consumed by heating, ventilation, and air conditioning systems. Green hotels use smart thermostats, energy-efficient HVAC systems, and building management systems that adjust interior temperatures according to occupancy trends and outside weather. Frequent HVAC equipment maintenance increases efficiency and lowers energy losses brought on by inefficient systems. [2].

6. Water Conservation Practices in Green Hotels

Due to its widespread use in guest rooms, kitchens, laundries, and landscaping, water management is an essential part of sustainable hotel operations. Green hotels take a number of steps to encourage responsible water use and lower freshwater consumption. [5].

Green hotels frequently install dual-flush toilets, low-flow showerheads, and aerated faucets to minimize water usage while preserving sufficient pressure and user comfort. According to research, these fixtures can cut water use by roughly 30–40% when compared to traditional plumbing systems [10]. Lower water use also results in lower energy use for water pumping and heating.

Initiatives for reusing towels and linens encourage visitors to do less laundry while visiting. Reuse programs greatly contribute to resource conservation because laundry operations use a lot of water, energy, and detergents. Research shows that most visitors react favourably to these efforts, particularly when hotels make their environmental advantages transparent [7].

Environmentally conscious hotels are increasingly adopting innovative water management techniques like rainwater collection and wastewater recycling. Rainwater collection and treated wastewater can be recycled for non-potable uses like cleaning, toilet flushing, and landscaping. These systems greatly reduce dependency on freshwater resources and encourage long-term water sustainability, while requiring an initial capital investment and expertise in technology [5].

7. Customer Perception of Conservation Practices

The success of energy and water conservation efforts in hotels is heavily influenced by customer perception. Visible conservation measures, like water-saving fixtures, energy-efficient lighting, and reuse initiatives, are frequently seen as evidence of corporate social responsibility and responsible management, which boosts customer satisfaction and trust [3].

According to behavioural research, visitors who have a favourable attitude toward the environment are more likely to support and take part in conservation efforts while visiting [4]. However, guests may view sustainability practices as cost-cutting measures rather than sincere environmental efforts if they are not clearly communicated. Therefore, improving guest awareness and engagement requires effective communication through digital platforms, advertising, and staff interaction [7].

8. Challenges in Implementing Conservation Practices

Considering the advantages of sustainable practices, hotels experience a number of difficulties when putting them into practice. Many hotels, especially small and independent establishments, face financial constraints due to high initial investment costs, especially for advanced water recycling technologies and renewable energy systems [6]. Effective implementation is made more difficult by a lack of staff training, resistance to operational change, and inadequate regulatory support.

Conservation results are also impacted by visitor-related issues. Guest participation may be lowered by misunderstandings, false beliefs about sustainability initiatives, and concerns about service quality. Integrated approaches including financial incentives, staff training, policy support, and open communication with visitors are needed to address these issues.

9. Conclusion

In order to achieve sustainability in the hospitality sector, energy and water conservation measures are essential. Green hotels may significantly decrease their environmental impact while improving customer satisfaction and brand reputation through the use of effective resource management techniques. This review-based study shows that management commitment, employee involvement, and good guest communication are just as important to the success of conservation efforts as technology adoption. Long-term sustainable hospitality requires hotels to actively involve all stakeholders in sustainability initiatives and bring environmental responsibility into their operational culture.

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Climate Change and Sustainable Tourism Adaptation Strategies in Kerala

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Abstract

Tourism is a major contributor to Kerala's economy, providing employment opportunities and supporting local livelihoods. However, the sector is increasingly affected by climate change impacts such as floods, landslides, erratic monsoon patterns, rising temperatures, and environmental degradation. These challenges pose serious risks to ecologically sensitive destinations and to communities that depend heavily on tourism activities. This paper presents a descriptive analysis of climate change adaptation strategies adopted within Kerala's tourism sector, focusing on sustainable tourism practices.

The study employs a descriptive mixed-method research design. Secondary data were collected from government policy documents, official reports, and relevant academic literature, while primary data were gathered from 150 stakeholders, including tourists, local residents, and tourism operators, through structured questionnaires and interviews. The analysis is presented in tabular form with descriptive interpretation to examine key adaptation dimensions such as community participation, responsible tourism initiatives, environmental conservation measures, green infrastructure adoption, and institutional support.

The findings indicate that community participation plays a significant role in tourism adaptation, particularly through responsible tourism initiatives that enhance local involvement and support income generation, especially among women-led self-help groups. Environmental improvements, including better water quality and enhanced biodiversity, were observed in destinations implementing conservation practices and eco-certification measures. Despite these positive outcomes, challenges such as inadequate waste management, pressure from high tourist inflows, income instability caused by climate variability, and limited access to green

technologies in rural areas continue to affect sustainability efforts. The study highlights the importance of strengthening destination-level planning, financial support mechanisms, and monitoring systems to enhance climate resilience in Kerala's tourism sector.

Keywords

Climate Change, Sustainable Tourism, Adaptation Strategies, Community Participation, Responsible tourism

1. Introduction

Tourism is a major driver of Kerala's economy, contributing significantly to employment generation, foreign exchange earnings, and regional development. The state's tourism appeal is closely linked to its fragile natural ecosystems, including the Western Ghats, wetlands, backwaters, beaches, and hill stations, along with its cultural heritage and Ayurveda-based wellness tourism. However, climate change has emerged as a serious threat to this balance, affecting both natural resources and tourism-dependent livelihoods.

Kerala has experienced increasing incidences of floods, landslides, coastal erosion, and erratic monsoon patterns over the past decade. Such extreme weather events disrupt tourism infrastructure, affect visitor flows, and create income uncertainty for communities dependent on tourism (Government of Kerala, 2023). Destinations such as Kumarakom and Munnar are particularly vulnerable due to ecological sensitivity and high tourist concentration.

In response, the Government of Kerala has integrated tourism development into broader climate policy frameworks such as the State Action Plan on Climate Change (SAPCC) and the Responsible Tourism Mission. These initiatives emphasise community participation, environmental conservation, green infrastructure, and governance support. This study descriptively examines how these strategies are implemented at the destination level and identifies gaps between policy intent and field-level realities.

Objectives of the Study

The study aims to:

- Describe the key pillars of sustainable tourism development in Kerala.
- Examine environmental, socio-cultural, and economic challenges arising from climate change.

- Analyse adaptation strategies such as responsible tourism and eco-certification practices.
- Identify opportunities for resilient and inclusive tourism development aligned with Kerala's sustainable tourism goals.

2. Review of Literature

Scott et al. (2019) examined the relationship between climate change and tourism vulnerability, highlighting tourism's strong dependence on environmental quality and climatic stability. The study emphasized that climate-induced hazards such as floods, landslides, sea-level rise, and biodiversity loss directly undermine destination attractiveness and disrupt tourism operations. In the context of Kerala, the State Action Plan on Climate Change (SAPCC, 2023) reported that recurring extreme rainfall events and associated disasters have frequently interrupted tourism activities, damaged infrastructure, and adversely affected the livelihoods of communities dependent on tourism.

UN Tourism (2025) conceptualized sustainable tourism as a development approach that seeks to balance economic growth with environmental protection and socio-cultural integrity. The study stressed that adaptation strategies focusing on resource efficiency, ecosystem conservation, and inclusive destination planning are critical for enhancing tourism resilience under changing climatic conditions. Supporting this perspective, the Kerala Tourism Department (2024) documented that the state has progressively integrated sustainability principles into its destination management frameworks, aligning tourism policies with climate adaptation goals and long-term environmental stewardship.

Tosun (2006) emphasized the significance of community participation in ensuring equity, local empowerment, and long-term sustainability in tourism development. The study argued that involving local communities enhances stewardship of natural and cultural resources while improving social acceptance of tourism initiatives. In line with this approach, the Centre for Public Policy Research (CPPR, 2025) highlighted Kerala's Responsible Tourism Mission, which promotes local sourcing, women's self-help groups, and community-based enterprises. Destinations such as Kumarakom were identified as successful examples, demonstrating improved household incomes alongside biodiversity conservation outcomes.

Burrai et al. (2019) explored the environmental and socio-cultural consequences of overtourism in ecologically sensitive destinations, noting that excessive visitor flows often result in waste accumulation, environmental degradation, and social stress. Complementing these findings, the

Tyndis Initiative (2024) reported that the adoption of green infrastructure such as renewable energy systems, water conservation technologies, and eco-certification practices can significantly reduce tourism's environmental footprint. However, the study also observed that rural destinations frequently face financial, technical, and institutional barriers that limit the widespread adoption of such sustainable practices.

3. Research Methodology

Population

The population of the study includes tourism stakeholders such as tourists, local residents, and tourism operators in the destinations of Kumarakom and Munnar, Kerala.

Sampling Technique

Convenience sampling technique was employed for the selection of respondents based on their availability and willingness to participate in the study. Data were collected using a structured questionnaire and supported by informal interviews.

Sample Size

The sample size for the study was 150 respondents, consisting of tourists, local residents, and tourism operators from Kumarakom and Munnar.

Sources of Data

- **Primary Data:** Collected through structured questionnaires and interviews.
- **Secondary Data:** Collected from government reports, policy documents, academic journals, and tourism-related publications.

Tools for Analysis

Descriptive statistical tools such as percentages and tabulation were used to analyse the data. The findings were interpreted using thematic analysis to describe patterns related to climate change impacts and sustainable tourism adaptation strategies.

Limitations of the Study

- The study is limited to two selected tourism destinations, and therefore the findings cannot be generalised to all tourism regions in Kerala.
 - Convenience sampling may involve respondent bias.
- As the study is descriptive in nature, causal relationships are not examined

4. Data Analysis and Interpretation

The data collected from 150 respondents were analysed using descriptive statistical tools such as percentages and tabulation. The analysis is presented objective-wise to understand sustainable tourism pillars, climate change challenges, and adaptation strategies in Kerala.

Table 1. Distribution of Respondents by Stakeholder Category (n = 150)

Stakeholder Category	Frequency	Percentage (%)
Tourists	60	40
Local Residents	50	33
Tourism Operators	40	27
Total	150	100

Table 1 indicates that tourists constituted the largest group of respondents (40%), followed by local residents (33%) and tourism operators (27%). This distribution ensures balanced representation of both demand-side and supply-side stakeholders, enhancing the reliability of the study findings

Table 2. Key Pillars of Sustainable Tourism Development

Pillar of Sustainable Tourism	Percentage of Respondents (%)
Community Participation	78
Environmental Conservation	72
Green Infrastructure	56
Policy and Institutional Support	64

As shown in Table 2, community participation emerged as the most significant pillar, with 78% of respondents acknowledging its role in sustainable tourism development. Environmental conservation was identified by 72% of respondents, highlighting the importance of ecosystem protection in tourism planning.

Table 3. Environmental, Socio-Cultural, and Economic Challenges

Type of Challenge	Specific Issue	Percentage (%)
Environmental	Waste management problems	47
Environmental	Flooding and climate risks	42
Socio-cultural	Cultural commercialization	28
Economic	Income instability	64

Table 3 reveals that income instability was the most reported challenge (64%), mainly due to climate-induced disruptions. Environmental concerns such as waste management (47%) and flooding (42%) were also significant, indicating increasing pressure on tourism destinations.

Table 4. Adaptation Strategies Adopted in Tourism

Adaptation Strategy	Percentage of Adoption (%)
Responsible Tourism Practices	74
Eco-certification	75
Community-based Tourism	68
Environmental Awareness Programs	61

Table 4 shows that eco-certification (75%) and responsible tourism practices (74%) were the most widely adopted adaptation strategies. Community-based tourism initiatives were adopted by 68% of respondents, reflecting growing local involvement in climate-resilient tourism development.

Table 5. Opportunities for Resilient and Inclusive Tourism Development

Opportunity Area	Percentage (%)
Community livelihood enhancement	70
Sustainable infrastructure development	62
Digital and smart tourism tools	58
Eco-tourism diversification	66

According to Table 5, enhancing community livelihoods was identified as the leading opportunity by 70% of respondents. Diversification of eco-tourism products (66%) and sustainable infrastructure development (62%) were also perceived as key pathways for resilient tourism growth in Kerala.

5. Findings

1. The study included tourists, local residents, and tourism operators, showing balanced participation from different tourism stakeholders.
2. Most respondents (78%) agreed that community participation plays a major role in sustainable tourism development.
3. Environmental conservation was considered important by 72% of respondents, showing awareness about protecting natural resources.
4. Green infrastructure practices were adopted by 56% of respondents, indicating moderate use of eco-friendly facilities.
5. Income instability was the most common problem faced by respondents (64%), mainly due to climate-related issues such as floods and irregular monsoons.
6. Waste management was identified as a major environmental challenge by 47% of respondents.

7. Climate-related risks such as flooding were reported as a challenge by 42% of respondents.
8. Cultural commercialization affected 28% of respondents, showing some impact on local traditions.
9. Eco-certification practices were followed by 75% of tourism stakeholders.
10. Responsible tourism practices were adopted by 74% of respondents.
11. Community-based tourism initiatives were adopted by 68% of respondents, showing good local involvement.
12. Most respondents (70%) felt that improving community livelihoods is an important opportunity for sustainable tourism development

6. Suggestions

1. Local community participation should be increased through training and financial support to strengthen sustainable tourism activities.
2. Better waste management and environmental protection measures should be implemented in major tourist destinations.
3. Eco-friendly infrastructure and green technologies should be promoted, especially in rural tourism areas.
4. Income diversification and off-season tourism activities should be encouraged to reduce income instability caused by climate change.
5. Awareness programs on responsible tourism and eco-certification should be strengthened for tourism stakeholders and visitors.

7. Conclusion

The study highlights the importance of sustainable tourism adaptation strategies in addressing the challenges posed by climate change in Kerala. Findings show that community participation, environmental conservation, and responsible tourism practices play a significant role in promoting sustainable tourism development. However, challenges such as income instability, waste management issues, and uneven adoption of green infrastructure continue to affect tourism destinations.

The adoption of eco-certification and responsible tourism practices indicates positive progress towards environmentally responsible tourism. At the same time, the need for improved infrastructure, better waste management, and increased awareness among stakeholders is evident. Strengthening community involvement and promoting eco-friendly practices can enhance resilience and inclusiveness in tourism development.

Overall, the study concludes that integrated efforts involving government authorities, tourism operators, and local communities are essential to ensure climate-resilient and sustainable tourism growth. The findings of this study provide useful insights for policymakers and tourism planners and offer a framework that can be applied to other climate-sensitive tourism destination

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Digital Menus, Smart Tables, and AI Sommeliers: Future Trends in Dining Technology.

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Abstract

The restaurant industry is undergoing a major technological revolution that is improving operational efficiency and changing traditional dining experiences. At the vanguard of this change are cutting-edge technologies like digital menus, smart tables, and artificial intelligence (AI)-powered sommeliers, which allow restaurants to provide more engaging, individualised, and effective services. The adoption and effects of these cutting-edge dining technologies in the food and beverage industry are examined in this study, with an emphasis on their advantages, difficulties, and long-term effects on hospitality operations.

The study uses secondary data gathered from industry reports, academic articles, case studies, and technology adoption trends in the hotel sector. It employs a descriptive research methodology. According to the report, digital menus increase customer engagement through interactive and visual content, lower menu update costs, and improve ordering accuracy. While AI-driven sommeliers help customers make customised food and beverage selections based on tastes, dietary requirements, and consumption habits, smart tables further enhance the dining experience by integrating ordering, entertainment, and payment systems.

The results show that the main advantages of these technologies are higher customer satisfaction, more personalised and effective service. The study also points out a number of difficulties, such as significant initial investment costs, the requirement for employee training and adaption, worries about data security, and differing degrees of customer cultural acceptance. It is anticipated that these developments will have a significant impact on future hospitality service patterns and customer expectations in the hospitality sector.

Keywords: Digital menus, Smart tables, AI sommeliers, Dining technology, Hospitality innovation, Customer experience.

Introduction

The restaurant business is going through a major technological revolution that is changing traditional dining experiences and increasing operational effectiveness. Restaurants are adopting sophisticated digital solutions due to growing competition and rising customer expectations for speed, convenience, accuracy, and personalization. In the food and beverage industry, technology has changed from a helpful tool to a crucial part of service delivery.

Artificial intelligence (AI)-powered sommeliers, smart tables, and computerized menus are some of the most significant advancements. In addition to providing real-time updates, lowering printing costs, and increasing order accuracy, digital menus improve customer engagement with interactive visual content. Additionally, they offer useful information about consumer preferences, which helps with marketing and menu planning decisions.

By integrating ordering, entertainment, and payment systems right at the table, smart tables further improve the dining experience by cutting down on wait times and increasing service effectiveness while freeing up workers to concentrate on individualized guest interactions. AI-powered sommeliers improve service quality and consistency by providing personalized food and beverage suggestions based on dietary requirements, individual preferences, and consumption habits.

These technologies enhance operational performance, boost customer satisfaction, and provide more customisation. However, there are obstacles to their implementation, such as significant upfront costs, the requirement for staff training, worries about data security, and differing degrees of client acceptability.

This study employs a descriptive research methodology based on secondary data from industry reports, academic literature, and case studies to examine the benefits, challenges, and long-term implications of advanced dining technologies. The findings aim to provide insights into how technological innovation is redefining hospitality service models and shaping future dining expectations.

Review of Literature

The application of digital technologies in the restaurant and hospitality industry has been widely examined by scholars, particularly in relation to service efficiency, customer satisfaction, and competitive advantage. One of the earliest and most influential areas of research focuses on the use of digital menus and electronic ordering systems. Kimes (2011) emphasizes that digital ordering solutions significantly reduce customer wait times by streamlining the ordering process and minimizing service delays. The study further highlights that automated order transmission reduces human error, thereby improving order accuracy and overall customer satisfaction. Kimes (2011) also notes that digital menus enable restaurants to dynamically adjust menu content and pricing, contributing to improved operational flexibility and revenue management.

Research on smart tables has gained prominence with the advancement of interactive dining technologies. Lee and Yang (2019) examine the impact of smart tables equipped with touchscreens, wireless charging facilities, and self-service ordering features. Their findings indicate that such technologies enhance service efficiency by reducing dependency on service staff for routine tasks. Additionally, the study reveals that smart tables appeal strongly to tech-savvy and younger consumers, who perceive technology-enabled dining as innovative and engaging. Lee and Yang (2019) conclude that smart tables not only improve operational performance but also serve as a differentiation strategy in competitive restaurant markets.

Artificial intelligence applications in hospitality, particularly AI-driven recommendation systems, have also been extensively studied. Madera and Steele (2021) investigate the effectiveness of AI sommeliers and personalized recommendation engines in restaurants and hotels. Their research demonstrates that AI-based suggestions, tailored to individual preferences and past consumption behavior, significantly increase upselling and cross-selling opportunities. Moreover, personalized recommendations contribute to enhanced guest satisfaction and loyalty, as customers perceive the service as attentive and customized. The authors argue that AI technologies can replicate expert-level service while ensuring consistency across service encounters.

From a broader perspective, technology adoption in hospitality has been linked to strategic competitiveness. Buhalis and Leung (2018) explore the role of digital innovation in shaping service industries and assert that the integration of advanced technologies is positively correlated with competitive advantage. Their study highlights that technology enables service personalization, operational efficiency, and improved customer engagement, which are critical success factors in modern hospitality businesses. The authors also emphasize that organizations that proactively adopt digital innovations are better positioned to respond to changing consumer expectations and market dynamics.

Overall, existing literature underscores the significant role of digital menus, smart tables, and AI-driven systems in transforming restaurant operations and customer experiences. While the benefits of these technologies are well-documented, several studies also acknowledge challenges related to cost, training, and customer acceptance, indicating the need for further research into effective implementation strategies within diverse hospitality contexts.

Research Objectives

1. To explore the role of digital menus, smart tables, and AI sommeliers in enhancing the dining experience.
2. To identify the challenges and limitations of adopting such technologies in restaurants.
3. To analyze customer acceptance of technology-driven dining experiences.
4. To predict the future implications of these technologies for the hospitality industry.

Methodology of the Study

- **Research Design:** The study adopts a descriptive research design to examine trends, benefits, challenges, and implications of advanced dining technologies in the restaurant industry.
- **Data Collection:** The research relies on secondary data sourced from peer-reviewed journals, industry and market reports, academic articles, and published case studies related to hospitality technology.
- **Sample Framework:** Literature published between 2010 and 2024 was selected to capture the evolution and adoption of digital menus, smart tables, and AI-driven systems in dining operations.
- **Analysis Method:** Qualitative content analysis and thematic review were used to identify recurring patterns, key themes, and insights regarding technology adoption and its impact on hospitality services.

Data Analysis

Digital Menus

- Rapidly adopted in the post-COVID era due to hygiene concerns and contactless service.
- Multiple case studies report up to 30% improvement in ordering efficiency, reduced errors, faster table turnover, and better kitchen integration.

Redefining Hospitality: Sustainability and Innovation for an Inclusive, Resilient Future

- Enable real-time menu updates, dynamic pricing, and seasonal promotions.
- Support multilingual content and accessibility features for diverse customer groups.
- Collect customer preference data to assist in menu engineering, demand forecasting, and waste reduction.
- Integration with mobile apps allows remote ordering and pre-ordering, improving convenience.

Smart Tables

- Pilot projects in premium and technology-oriented restaurants show higher customer engagement and interactive dining experiences.
- Reduce dependence on service staff for routine tasks, freeing staff for personalized service.
- Facilitate contactless payment, loyalty program integration, and feedback collection.
- Enable better space utilization, table management, and reduced service bottlenecks.
- Technical challenges include system downtime, maintenance requirements, and customer learning curves.
- Scalability is limited due to high installation and software costs, particularly for small and medium-sized restaurants.

AI Sommeliers

- Early adoption is mainly observed in luxury and upscale hospitality brands.
- Provide personalized food and beverage recommendations based on preferences, dietary restrictions, and past behavior.
- Increase upselling and cross-selling by 15–20%, boosting revenue.
- Ensure service consistency even during staff shortages.
- Support inventory management and real-time recommendation adjustments based on stock availability.
- Challenges include customer trust in algorithmic suggestions and data privacy concerns.

Customer Perception

- Younger diners (Gen Z and Millennials) show strong acceptance and preference for digital and self-service technologies.
- Older demographics exhibit hesitation toward full automation, preferring human interaction.
- Acceptance also depends on income level, dining context (casual vs. fine dining), and cultural expectations.
- Positive perceptions are higher when technologies are intuitive, reliable, and integrated seamlessly with service.

- Some customers value the blend of technology and personal touch, highlighting the importance of hybrid models.

Findings

- Digital Menus significantly improve service speed, ordering accuracy, and cost efficiency.
- Enable dynamic menu updates, promotions, and multilingual options, enhancing customer satisfaction.
- Provide data analytics on customer preferences, supporting menu engineering, demand forecasting, and waste reduction.
- Smart Tables enhance experiential and interactive dining while reducing dependency on staff for routine tasks.
- Facilitate contactless payment, loyalty program integration, and in-table feedback collection.
- Require substantial financial investment and ongoing maintenance, limiting adoption for smaller restaurants.
- AI Sommeliers create measurable value through personalized recommendations, upselling, and revenue growth.
- Support inventory management and real-time adaptation of suggestions based on stock and seasonality.
- Customer acceptance varies across demographics; younger diners embrace technology, while older generations prefer human interaction.
- Successful technology adoption depends on cultural norms, staff readiness, affordability, and seamless integration with human service.
- Hybrid models that combine digital tools with personal service are more effective in enhancing customer experience.
- Technology improves operational efficiency, reducing wait times, order errors, and table turnover bottlenecks.
- Brand differentiation and competitive advantage are enhanced when restaurants leverage technology creatively.
- Long-term adoption is influenced by customer trust, perceived ease of use, and reliability of the systems.
- Above all, these cutting-edge technologies won't offer personalization or a human touch that will affect the overall customer experience.

Conclusion

Dining technology has emerged as a strategic necessity rather than an optional luxury in the modern restaurant industry. Innovations such as digital menus, smart tables, and AI-powered sommeliers are transforming traditional dining experiences by enhancing customer engagement, personalization, and operational efficiency. While challenges related to high investment costs, employee training, data security, and cultural acceptance continue to influence adoption, the long-term benefits of improved service accuracy, convenience, and revenue generation outweigh these limitations. The study highlights that successful implementation depends on balancing technological integration with human-centered hospitality considering the missing of a human touch as a drawback. As customer expectations continue to evolve, the future of dining will be shaped by a hybrid service model that seamlessly combines digital intelligence with personalized human interaction to deliver efficient, engaging, and memorable dining experiences.

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ECO-FRIENDLY HOUSEKEEPING PRACTICES: A STUDY ON THE USE OF LEAF PLATES AND CLAY POTS

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Abstract

The issue of sustainability has become a large concern in hotels. One of the major components of greening hotels is housekeeping. In this paper, the author examines the use of leaf plates and clay pots in hotels as a way of assisting the environment. We discover that biodegradable alternatives to plastic utensils are leaf plates and clay pots. The aim of the paper is to determine whether it is feasible and acceptable to utilize leaf plates and clay pots in housekeeping. The research is descriptive. Our primary data will be gathered through structured questionnaires and interviews with housekeeping employees and managers. Secondary data in the form of journals, literature and sustainability reports are also used by us. We shall address the advantages, expenses, longevity, cleanliness, and difficulties of biodegradable cutlery usage. We shall also discuss employee education and sensitization on green programs. The findings indicate that leaf plates and clay pots can be used to minimize plastic waste and enhance the green image of the hotel. They are however hampered by breakage, storage and high initial costs. Lastly, housekeeping can be adopted by using leaf plates and clay pots with proper planning and management assistance. This study contributes to the sustainable hotel management by providing a new insight into how the green practices can be applied in housekeeping.

Keywords:

Sustainable Housekeeping, Eco-Friendly Practices, Biodegradable Utensils, Leaf Plates, Clay Pots

Introduction

The concept of sustainability has been found to be a highly relevant field of interest in the hotel sector due to the increased eco-consciousness, stringent governmental regulations, and awareness among the guests. Hotels consume a lot of energy, water, and disposables daily and thus a lot of waste is generated. Housekeeping is one of the most significant elements of sustainability in a hotel since, directly, all the elements of cleaning, linen, amenities, and service ware go through the housekeeping department. Conventional housekeeping was heavily dependent on plastic-based products or commodities that are used once and thrown away, contributing to pollution and landfills. Hotels have recently begun to accommodate the going green options: biodegradable products, refillable dispensers, organic cleaning products, and sustainable service ware. The application of leaf plates and clay pots in this situation is a reversion to the traditional, eco-friendly methods, which have strong Indian roots. The leaf plates are usually composed of areca palm leaves or sal leaves, which are biodegradable and compostable, and with very little processing. Clay pots are crafted using natural clay, and therefore they are reusable, nontoxic and environmentally safe. The substitutes will significantly decrease plastic waste in food service locations under the management of housekeeping such as staff cafeterias, banquets, and outdoor catering. This research seeks to learn the viability, advantages and issues surrounding the incorporation of these traditional utensils in the contemporary hotel housekeeping practices.

Aims of the Study

1. To discuss the importance of sustainable housekeeping practices as a factor for eco-friendliness in the hospitality sector.
2. To evaluate the applicability and advantages, as well as difficulties, regarding the utilization of biodegradable products such as leaf plates and clay pots in hotel housekeeping.
3. For assessing the level of awareness and acceptance among the housekeeping staff and management about the green practices and provide effective strategies for the implementation of Eco-friendly utensils in the housekeeping department.

Methodology

The research design used in the study was descriptive research design in the study of eco-friendly home cleaning practices in terms of the use of leaf plates and clay pots. In this paper, primary and secondary sources were used.

3.1 Primary Data

A structured questionnaire was used to collect data among the housekeeping staff members, supervisors, and hotel managers. Also, housekeeping managers were interviewed to get qualitative data on the viability, cost, and management support of green projects. Several questions were used such as organizational awareness, use of biodegradable utensils, benefits, health concerns, and implementation related issues.

3.2 Secondary Data

The secondary data was collected through different sources such as books, journals, articles, official publications, sustainability reports by the hotels, and online material that is available on green housekeeping practices in the hotel industry.

3.3 Sampling

The respondents were selected using convenience sampling method to sample specific hotels. The number of housekeeping staff and managerial staff was considered to be enough to conduct description analyses.

3.4 Tools for Analysis

The data obtained has been examined by a simple percentage analysis and descriptive method. The responses have been summarized to determine the trends, perceptions and the important findings.

4. Literature Review

The significance of sustainability in the hospitality industry has been credited by various studies. Researchers talked about the fact that green practices in addition to environmental impact reduction enhance brand image and customer satisfaction. Previous research indicated that housekeeping department can be extremely significant in the initiation and execution of sustainability projects since they can exercise personal control over consumables and waste management. Studies on biodegradable products have produced research evidence that argues that leaf-based products and clay utensils are naturally much greener than their plastic counterparts. The potential of using traditional practices in modern hospitality operations through satisfactory planning has also been brought out in literature. Nevertheless, the literature also mentions cost, durability, and hygiene standards as the issues that must be tackled. Other researchers have found that green practices are dependent on employee awareness and training. Hotels that undertake staff education and offer the required management support have a greater chance of attaining sustainability goals. The particular research is an addition to the existing literature on the issues of leaf plates and clay pots in the housekeeping section.

5. Data Analysis and Discussion

The results of the interview with housekeeping employees and hotel managers indicate that the issue of sustainability in hotels is becoming increasingly popular. The respondents concurred that plastic waste is a major environmental problem and biodegradable products should be employed in place of plastic.

5.1 Environmental Benefits

The participants concurred that leaf plates and clay pots minimize plastic waste and are eco-friendly. These are biodegradable materials that do not emit toxic chemicals in the environment.

5.2 Cost Implications

Some of the participants claimed that biodegradable utensils are cost-effective, but some of them noted that there are additional costs at the initial stage in comparison with plastic. Clay pots must also be handled carefully so as not to break.

5.3 Durability & Hygiene

Leaf plates were considered to be appropriate in single-use purposes like outdoor catering and staff meals. The clay pots were appreciated due to their traditional nature and the enhancement that they brought to the quality of the foods served. The storage and breaking of the pots was however a concern. Hygiene was observed to be at the required standards provided that proper handling and cleaning was done.

5.4 Employee Awareness and Training.

This research established that training and sensitization exercises are highly effective in the spheres of staff acceptance of green practices. When employees are informed about the environmental benefits, they are more open to using biodegradable cutlery.

6. Results / Findings

Some of the key conclusions made during the research are: Housekeeping is a significant consideration in conducting environmentally friendly operations in a hotel. Plastic is reduced through leaf plates and clay pots. Biodegradable utensils can be used to enhance the green impression of hotels. Breakage, initial investment, and storage are huge challenges. Successful implementation requires employee awareness and management support.

7. Conclusion

The research conclusion is that eco-friendly housekeeping practices, leaf plates, and clay pots are a viable substitute of hotel plastic wares. The application of these traditional practices fits very well into the present demands of sustainability, therefore, contributing to the conservation of the environment. Although it is impossible to deny the fact that some barriers such as costs and operational considerations are present in the way of implementing such practices, they can be easily overcome through proper planning and proper dedication on the part of the hotel managers. The application of green products in the hotel sector does not only conserve the environment, but also contributes significantly to the social and cultural significance of hotel activities.

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GUEST EXPERIENCE IN DIGITAL AGE: A CASE STUDY OF FOOD AND BEVERAGE MOBILE APPLICATION IN SELECTED FIVE STAR HOTELS AT KOCHI

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Abstract: In today's digital world, how guests interact with hospitality services has changed a lot. The guest experience now goes beyond face-to-face interactions at hotel front desks and restaurants. It includes mobile platforms that offer convenience, personalization, and immediacy to customers. This study looks at the guest experience in the digital age, focusing on food and beverage (F&B) mobile apps used in five-star hotels in Kochi, Kerala. Kochi is a fitting location for this research, as it is a busy tourist spot and business center, attracting a wide variety of domestic and international travelers.

Keywords: Personalization, Digital Age, Business Center.

I INTRODUCTION

Mobile applications have become essential tools for today's travelers. They play a key role in how people travel, from planning trips and navigating in real-time to booking hotels and accessing location-specific content. The travel and tourism industry has felt the impact of this increasing reliance on smartphones and mobile internet, leading to developments in digital infrastructure and customer service. The hotel industry is one sector adapting to these changes. It is quickly using mobile technology to improve guest experiences, boost brand engagement, and streamline operations.

Luxury hotels, in particular, face pressure from tech-savvy customers to offer highly personalized, seamless, and convenient services. In this context, mobile applications are seen as strategic assets that can enhance competitiveness in a crowded market, not just as helpful tools. However, there are concerns about the design of these apps, the services they provide, and how they fit into larger business goals. Some international hotel chains have heavily invested in mobile app development, particularly in areas with high smartphone use. Yet, academic studies have not thoroughly examined the types, features, and practical uses of hotel mobile applications, even as usage rates rise.

The ultimate goal of this study is to inform practical decision-making in the hospitality sector and contribute to academic research. It provides valuable insights for hotel owners considering mobile app development and for tech developers aiming to create solutions that meet the needs and constraints of upscale hotels. Understanding the complexities of mobile app adoption from the supplier's perspective is essential for guiding future advancements in hotel technology as the industry continues to adapt to a rapidly changing digital landscape.

II REVIEW OF LITERATURE

Brown, P. (2016). *Digital Service Innovation in Hotels*. Palgrave Macmillan. Brown highlights how digital platforms, especially mobile apps, influence customer engagement. He provides a framework supported by examples from global hotels to show how digital tools drive satisfaction and loyalty.

Davis, K. (2017). *Guest-Centric Hospitality Management*. Cengage Learning. Davis emphasizes personalization through mobile technology. He argues that tailoring services based on guest needs increases satisfaction and gives managers tools to apply these strategies effectively.

Anderson, J. (2018). *Hospitality Technology and Guest Experience*. Routledge. Anderson explains how the use of mobile applications has changed guest expectations. Through case studies, he shows how hotels are adopting technology to improve service speed, efficiency, and customer satisfaction.

Carter, S. (2019). *Smart Tourism and Mobile Applications*. Springer. Carter focuses on the role of mobile apps in smart tourism. He explains how apps connect hotel services, travel planning, and food ordering under one platform, while also pointing out that usability directly affects guest loyalty.

Edwards, R. (2020). *Mobile Technologies in Hospitality*. Sage. Edwards discusses how mobile apps enhance hotel efficiency with features like real-time communication, billing, and loyalty programs. He also addresses challenges such as technical failures and user resistance.

III. OBJECTIVES OF THE STUDY

- To evaluate the impact of food and beverage mobile application usage on overall guest satisfaction in selected five-star hotels at Kochi.
- To identify key factors influencing guest adoption and usage of food and beverage mobile applications in the selected hotels.
- To assess the effectiveness of mobile application features (such as menu navigation, ordering, payment, and tracking) in enhancing the guest experience.
- To recommend improvements for optimizing mobile application performance to meet guest expectations and increase service efficiency.

IV. SCOPE AND SIGNIFICANCE OF THE STUDY

- Evaluating the guest awareness, acceptance, and satisfaction with AR menus.
- Assessing the effectiveness of dietary advice filters, including allergy alerts, nutritional details, and ingredient transparency.
- Studying the preferences of luxury hotel guests regarding health, safety, and interactive dining experiences.
- Exploring the willingness of guests to pay a premium for AR-based dining services.
- Providing recommendations for hotels to adopt AR menus as part of their service innovation and customer experience strategies.

V. RESEARCH METHODOLOGY

Research methodology is the specific procedure or technique used to identify, select, process, and analysis about the topic. In research paper, the method section allows the reader critically evaluate the studies over all validity and reliability.

Research Design: The present study is empirical in nature based on both primary and secondary data. The sample, data source and tools of analysis used for the study are given in the following sections.

- **Universe:** Staffs from the five star hotels at Kochi.
- **Sample size:** 100 sampling size from the hotels.

- **Tools for data collection:** Questionnaire
- **Sample units:** Food and Beverage Managers, and staffs from five star hotels at Kochi.

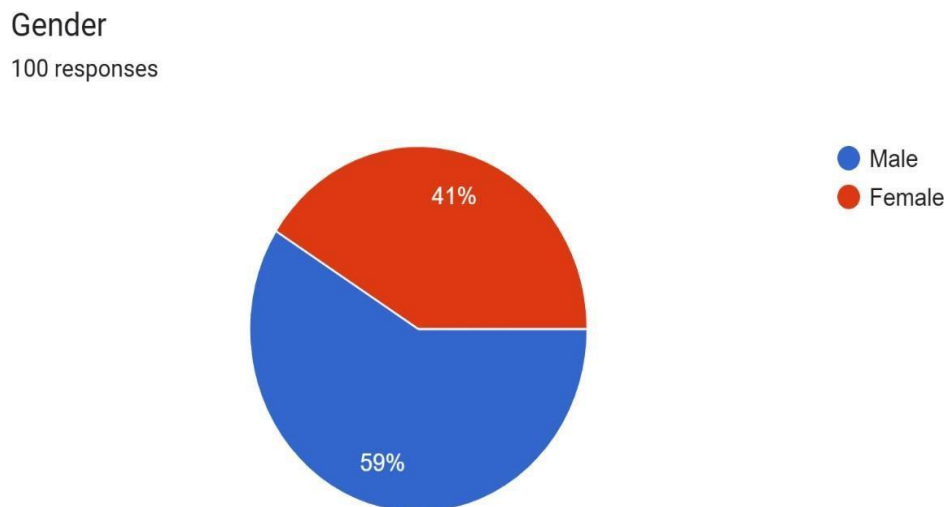
VI. DATA ANALYSIS AND INTERPRETATION

4.1.1 – Gender of the participants

Serial No.	Particulars	Respondents	Percentage
1.	Male	59	59%
2	Female	41	41%

Table 4.1.1

Figure – 4.1.1



Interpretation

As per the table 4.1.1 & figure 4.1.1 shows that 59% of respondents are male and 41% are female.

4.1.2 – Am I satisfied with the overall experience of using the mobile applications in the hotel?

Serial No.	Particulars	Respondents	Percentage
1.	Strongly agree	20	20%
2.	Agree	62	62%
3.	Neutral	15	15%
4.	Disagree	2	2%
5.	Strongly disagree	1	1%

Table – 4.1.2

1. I am satisfied with the overall experience of using the hotel’s food and beverage mobile application
100 responses

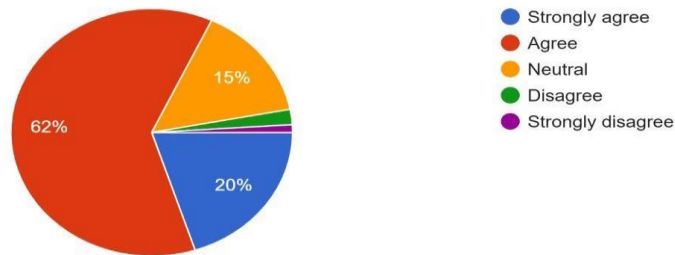


Figure – 4.1.2

Interpretation

As per table 4.1.2 and figure 4.1.2 shows that most of respondents Agree that the hotel’s food and beverage mobile application is well-received by most users, reflecting a strong level of customer satisfaction.

4.1.3. – The food and beverage applications in the mobile are easy to use?

Serial No.	Particulars	Respondents	Percentage
1.	Strongly agree	29	29%
2.	Agree	52	52%
3.	Neutral	18	18%
4.	Disagree	0	0%
5.	Strongly disagree	1	1%

Table -4.1.3

2. The food and beverage mobile application is easy to use (navigation, speed, clarity).

100 responses

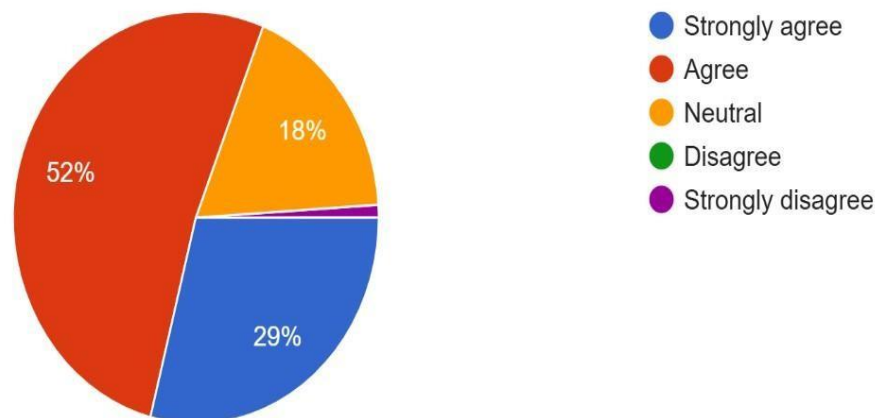


Figure – 4.1.3

Interpretation

As per table 4.1.3 and figure 4.1.3 shows that most of respondents agree that the findings show that the hotel’s food and beverage mobile application is considered highly user-friendly, with positive feedback dominating the responses.

4.1.4 – The application improved the convenience in ordering the food and beverages?

Serial No.	Particulars	Respondents	Percentage
1.	Strongly agree	26	26%
2.	Agree	46	46%
3.	Neutral	25	25%
4	Disagree	2	2%
5.	Strongly disagree	1	1%

Table 4.1.4

3. The mobile application improved my convenience in ordering food and beverages during my stay.

100 responses

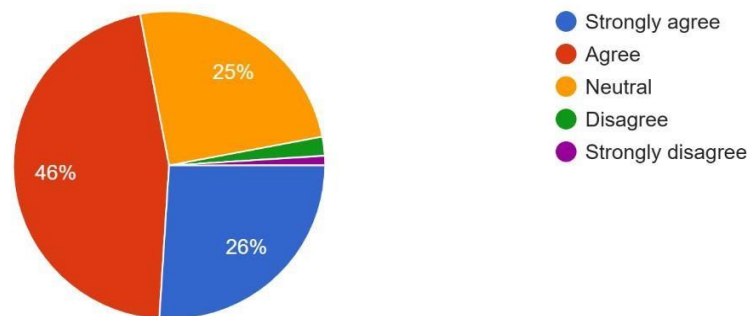


Figure 4.1.4

Interpretations

According to table 4.1.4 and figure 4.1.4 shows that 4 most of respondents Agree that the mobile application positively contributed to their convenience, reinforcing its role as a valuable tool in hotel guest services.

4.1.5 – I would recommend mobile application to order food and beverage service?

Serial No.	Particulars	Respondents	Percentage
1.	Strongly agree	30	30%
2.	Agree	48	48%
3.	Neutral	20	20%
4.	Disagree	2	2%
5.	Strongly disagree	0	0%

Table – 4.1.5

4. I would recommend the hotel's mobile application for food and beverage services to other guests
100 responses

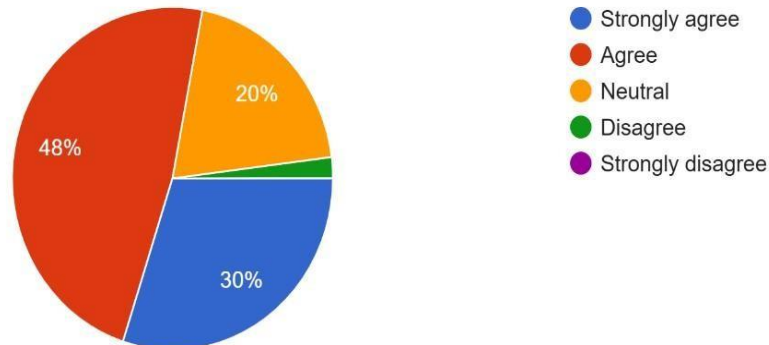


Figure -4.1.5

Interpretation

According to table 4.1.5 and figure 4.1.5 5 most respondents are likely to recommend the hotel's mobile application for food and beverage services.

4.1.6 – The mobile applications enhanced overall satisfaction with the order of food and beverage in the hotels?

Serial No.	Particulars	Respondents	Percentage
1.	Strongly agree	26	26%
2.	Agree	54	54%
3.	Neutral	15	15%
4.	Disagree	4	4%
5.	Strongly disagree	1	1%

Table – 4.1.6

5. The mobile application enhanced my overall satisfaction with the hotel’s food and beverage services compared to traditional methods (phone call, in-person)

100 responses

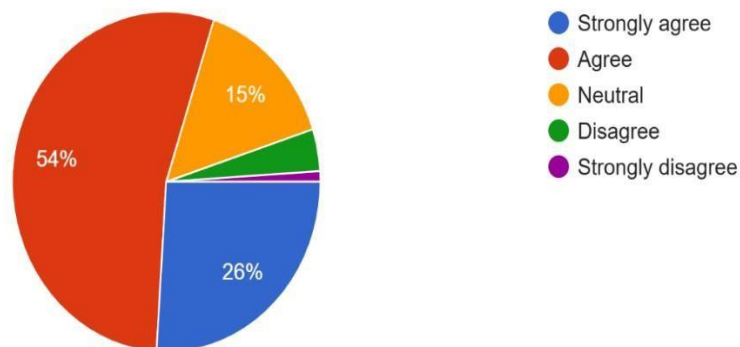


Figure – 4.1.6

Interpretations

As per table 4.1.6 and figure 4.1.6 shows that most respondents had a positive experience using the mobile application for food and beverage services.

4.1.7 – I find mobile application is time saving for placing the order?

Serial No.	Particulars	Respondents	Percentage
1.	Strongly Agree	26	26%
2.	Agree	46	46%
3.	Neutral	22	22%
4.	Disagree	6	6%
5.	Strongly disagree	0	0%

Table – 4.1.7

6. I find the mobile application convenient and time-saving for ordering food and beverages
100 responses

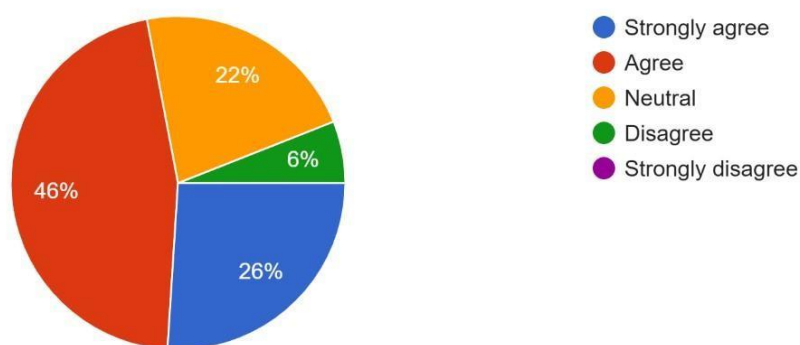


Figure -4.1.7

Interpretations

According to table 4.1.7 and figure 4.1.7 shows respondents view the mobile application as convenient and timesaving for ordering food and beverages.

VII FINDINGS

- Most respondents, over 60%, agreed that food and beverage mobile apps in five-star hotels in Kochi improved guest satisfaction.
- The apps were user-friendly, offering simple navigation and clear design.
- Guests felt the apps added convenience and saved time during their dining experiences.
- Many responders liked features such as order tracking, digital payments, and customization options.

- Promotional offers through the apps positively influenced purchase decisions.
- Users considered technical reliability, including accuracy, timely delivery, and error-free operation, to be essential.
- The availability of support, such as help options or staff assistance, greatly impacted app adoption.
- Guests suggested that integrating the apps with other hotel services, like room booking, spa, or concierge, could create a smoother digital experience.
- Respondents felt that the apps could improve, especially in speed, responsiveness, and features like AI recommendations and voice ordering.
- Overall, the apps improved the digital guest experience but could not completely replace the value of personal service.

VIII SUGGESTION

- Improve app performance: Focus on reducing technical issues, speeding up responses, and ensuring error-free transactions.
- Enhance personalization: Use AI and data to recommend menus, customize offers, and predict guest preferences.
- Expand service integration: Connect food and beverage apps with room service, housekeeping, spa, and loyalty programs to form a single digital platform.
- User-friendly design: Keep simple navigation, an attractive interface, and multilingual support for international guests.
- Training and support: Ensure hotel staff are trained to help guests use the app effectively.
- Balance digital with human touch: Maintain warm, personalized service alongside technology to uphold Indian hospitality values.
- Promotions and loyalty programs: Include discounts, reward points, and exclusive offers to encourage repeat usage.

IX CONCLUSION

In conclusion, the research shows that food and beverage mobile apps have become a key part of the guest experience in five-star hotels. Most guests find these apps convenient, time-saving, and easy to use, which greatly contributes to their satisfaction. However, satisfaction alone doesn't cut it in a competitive hospitality market, and there's still room to improve these digital

services. Hotels need to address issues like app performance, limited customization, and poor integration with other hotel facilities. At the same time, it is essential to remember that while technology is important, hospitality is still about human connection and personalized care. The best results will come from balancing efficiency, speed, and convenience from mobile apps with warm, human interactions from hotel staff that reflect the true spirit of Indian hospitality. By achieving this balance, five-star hotels in Kochi can not only meet but exceed guest expectations and position themselves as leaders in providing modern, tech-enabled, yet human-centered hospitality experiences.

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- <https://www.researchgate.net/publication/280180799> Mobile Applications in the Hospitality Industry

Smart Hotels: AI, IoT and the Future of Guest Service

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Abstract

Digital innovation is driving a significant revolution in the hotel sector, with the Internet of Things (IoT) and artificial intelligence (AI) leading the way. The next frontier in hotel service delivery is represented by smart hotels, which are establishments that use cutting-edge technology to improve operational effectiveness and customer satisfaction. In order to create intelligent settings that anticipate, personalise, and streamline customer experiences while optimising resource utilisation, this study explores the convergence of AI and IoT. The way guests engage with hotel services and systems is changing because of technologies like AI-powered chatbots, predictive analytics, virtual concierges, smart room automation, and linked sensor networks. Through improved energy management and predictive maintenance, these advances promote sustainability goals in addition to providing 24-hour service and personalisation..

Along with practical issues like data protection, infrastructure costs, and striking a balance between automation and human touch in the hospitality industry, the report emphasises important advantages like enhanced guest engagement, dynamic price optimisation, and seamless service delivery. This paper examines current trends, strategic implications, and future perspectives for smart hotel development using real-world examples from top hotel chains and current research. The results indicate that although the adoption of IoT and AI offers substantial competitive advantages in terms of operational performance and guest satisfaction, successful implementation necessitates stakeholder collaboration, strategic resource planning, and continuous assessment of ethical and privacy concerns.

The study offers guidance on how the hospitality industry can manage this change to develop innovations in guest service that are ready for the future and meet the demands of contemporary tourists.

Keywords: Smart hotels, Artificial Intelligence (AI), Internet of Things (IoT), guest service, hospitality technology, operational efficiency.

Introduction

The hospitality industry of the 21st century is transforming smart technologies developed for improving guest experience and enhancing operational efficiency. Smart hotels are now incorporating Artificial Intelligence (AI) and the Internet of Things (IoT) in order to offer seamless, personalized, and responsive services. Artificial Intelligence (AI) is a machine-made replication of human intelligence that is capable of learning from data, reasoning and making decisions on its own while Internet of Things (IoT) is a collection of devices that are connected with a sensor that collect data and send it over the network and they get their decision automatically by collecting all the real-time data. All in all, an AI-powered IoT can help hotels predict guest wants, automate regular processes, and help save the resources they utilize.

AI-powered analytics in smart hotels allow them to provide customized recommendations to guests by learning their behavior and preferences. From room settings to dining options and leisure activities, guests can simply get everything personalized here. Using virtual assistants and intelligent chatbots allows businesses to book reservations, answer guest questions, and offer other services on behalf of the business, which reduces response time and the operational workload. Smart devices such as thermostats, light systems, occupancy sensors, and energy management systems together enhance comfort and promote sustainability through effective energy consumption. The management in the hotel can monitor operations, predict maintenance needs, and disruption of service using real-time data.

Besides, AI and IoT integration strengthens decision-making through actionable insights that can enhance service quality and control costs. To keep guests happy and loyal to their brands, smart hotel technologies are essential as guests are continually expecting better technology that is contactless. This paper examines the interface between AI- and IoT-driven technologies and guest service delivery, highlighting their impact on operational effectiveness, personalization, and competitiveness in an increasingly tech-savvy hospitality market.

Review of Literature

The hospitality industry has experienced a significant transformation with the integration of Artificial Intelligence (AI) and the Internet of Things (IoT), particularly in the development of smart hotels. AI refers to computer systems capable of simulating human intelligence through learning, reasoning, and decision-making, while IoT involves interconnected devices that collect and exchange real-time data. Together, these technologies enable hotels to enhance guest experiences, optimize operations, and improve sustainability.

Buhalis and Leung (2018) emphasize that smart hospitality technologies improve service personalization and operational efficiency by enabling real-time data-driven decision-making. AI-powered tools such as chatbots and virtual concierges automate guest interactions and provide instant responses, thereby increasing service speed and consistency. Ivanov and Webster (2019) further highlight that AI applications in revenue management, demand forecasting, and dynamic pricing significantly enhance hotel profitability and competitiveness.

Personalization has been identified as a major benefit of AI adoption. Tussyadiah (2020) notes that AI-driven personalization systems analyze guest preferences and behavior to deliver customized experiences, which positively influence guest satisfaction and loyalty. Lu, Cai, and Gursoy (2019) observe that contactless AI-enabled services have gained prominence, particularly in response to changing guest expectations for safety, convenience, and efficiency.

IoT technologies play a critical role in enhancing in-room comfort and operational control. Kim and Han (2021) report that IoT-enabled smart rooms equipped with automated lighting, climate control, and occupancy sensors improve guest comfort while reducing energy consumption. Mariani and Borghi (2019) explain that IoT-generated data, when integrated with AI analytics, supports predictive maintenance and reduces equipment downtime. Similarly, Gössling (2021) highlights that smart energy management systems contribute to sustainability by minimizing waste and optimizing resource usage.

The strategic value of smart technologies has also been discussed extensively. Sigala (2018) argues that AI and IoT enable hotels to gain competitive advantage through agile operations and enhanced customer engagement. Koo, Gretzel, and Hunter (2015) suggest that technology-rich service environments positively influence guest perceptions of innovation and service quality. According to Ivanov, Seyitoğlu, and Markova (2020), automation allows hotel staff to focus on high-value, human-centric services, improving overall service delivery.

Despite the benefits, several challenges hinder widespread adoption. Zeng, Chen, and Lew (2020) identify data privacy and cybersecurity risks as major concerns associated with AI and IoT systems. Murphy, Hofacker, and Gretzel (2017) note that high initial investment costs and system integration complexities limit adoption, especially among small and medium-sized hotels. Collectively, the literature indicates that while AI and IoT significantly enhance smart hotel performance, their successful implementation requires strategic planning, technological readiness, and ethical considerations to balance automation with personalized hospitality.

Research Objectives

- **To examine** how AI and IoT technologies are implemented in smart hotels.
- **To analyze** the impact of these technologies on guest service quality and satisfaction.
- **To identify** the operational benefits and challenges associated with smart hotel technologies.
- **To explore** future trends and implications for the hospitality industry.

Methodology of the Study

- **Research Design :** The study adopts a qualitative research approach to explore the role of AI and IoT technologies in smart hotels and their influence on guest services and operations.
- **Data Sources:** Data were collected through a comprehensive review of peer-reviewed journals, academic databases, industry reports, and selected case studies relevant to hospitality technology.

- **Selection Criteria:** Sources were chosen based on relevance to the research objectives, recency of publication, and contribution to understanding AI and IoT adoption in the hospitality sector.
- **Method of Analysis:** A thematic analysis was employed to synthesize findings, focusing on technology implementation practices, guest experience outcomes, and operational impacts of smart hotel technologies.

Data Analysis

- **AI-Powered Guest Interaction**

Analysis of existing literature indicates that AI-driven tools such as chatbots, virtual concierges, and predictive analytics significantly enhance guest interaction in smart hotels. These systems enable real-time responses to guest queries, automate routine service requests, and analyze guest behavior to deliver personalized recommendations. As a result, hotels can improve service efficiency, reduce response time, and create more engaging and customized guest experiences.

- **IoT-Enabled Room Automation**

The literature highlights the growing use of IoT-enabled technologies, including smart thermostats, automated lighting, voice assistants, and occupancy sensors. These systems allow guests to control room environments conveniently while enabling hotels to monitor room usage and optimize energy consumption. IoT-based automation enhances comfort and convenience for guests while supporting operational control and cost efficiency.

- **Operational Optimization**

AI and IoT technologies play a critical role in improving hotel operations. AI-driven analytics support predictive maintenance by identifying potential equipment failures in advance, reducing downtime and maintenance costs. IoT systems provide real-time data on energy usage, water consumption, and equipment performance, allowing hotels to streamline operations and improve resource management.

- **Sustainability and Efficiency**

Sustainability emerges as a key theme in smart hotel implementation. Smart energy management systems reduce waste and optimize the use of electricity and water,

contributing to environmentally responsible operations. These practices not only support sustainability goals but also lead to long-term cost savings and improved brand image.

- **Challenges and Limitations**

Despite the benefits, the analysis reveals persistent challenges, including data privacy concerns, cybersecurity risks, high implementation costs, and integration issues with existing systems. These factors remain significant considerations for hotels planning to adopt smart technologies.

Findings

- **Enhanced Guest Experience:** AI and IoT technologies enable personalized services through preference learning, automation, and real-time responsiveness, resulting in seamless and customized guest interactions.
- **Improved Operational Efficiency:** Hotels benefit from reduced operational costs and improved workflow efficiency through predictive maintenance, automated service processes, and sensor-based monitoring systems.
- **Sustainability Advancement:** Smart energy and resource management systems optimize electricity and water usage, supporting environmentally sustainable hotel operations.
- **Increased Competitive Advantage:** Adoption of smart technologies enhances brand image, guest satisfaction, and market competitiveness, particularly among technology-savvy travelers.
- **Implementation Challenges:** Data security risks, system integration complexity, and high initial investment costs remain major barriers to widespread adoption of AI and IoT technologies in hotels.

Conclusion

Smart hotels represent the future of the hospitality industry, where Artificial Intelligence and the Internet of Things play a pivotal role in enhancing guest services, operational efficiency, and sustainability. These technologies enable personalized guest experiences, automated

service processes, and data-driven decision-making, allowing hotels to meet the evolving expectations of technology-savvy travelers. Smart systems also support efficient resource management, contributing to cost reduction and environmentally responsible operations.

However, the successful adoption of AI and IoT requires addressing key challenges such as cybersecurity risks, data privacy concerns, infrastructure readiness, and high initial investment costs. Equally important is preserving the human-centric nature of hospitality, as excessive automation may reduce the warmth and personal interaction that define quality service. Therefore, hoteliers must balance technological innovation with personalized human touch. Continued research, strategic planning, and collaboration between technology providers and hospitality practitioners will be essential to fully realize the potential of smart hotel innovations and ensure sustainable, guest-focused growth.

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Evaluating the Role of Smart Tourism Technologies in Enhancing Tourist Experience in Thrissur District

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ABSTARCT

In an era marked by rapid technological advancements, the tourism industry has not remained untouched. This study delves into the evolving landscape of smart tourism technologies and their profound impact on tourists' experiences in Thrissur, a culturally rich and historically significant city in Kerala, India. As tourists increasingly rely on smartphones, apps, wearables, and other digital tools, understanding the effects of these technologies on their overall travel experience becomes essential.

The research investigates various dimensions of smart tourism technologies, including mobile applications, augmented reality, virtual reality, location-based services, and more, to assess their influence on tourists' perception, satisfaction, and engagement. Through a combination of surveys, interviews, and data analysis, this study aims to shed light on how these technologies enhance convenience, accessibility, and immersion for visitors in Thrissur.

Furthermore, the research will explore potential challenges and concerns related to the integration of smart technologies in tourism, including issues of privacy, cultural authenticity, and overreliance on digital resources. By examining the multifaceted impact of smart tourism technologies, this study contributes to the growing body of knowledge surrounding the transformation of travel experiences in the digital age.

Ultimately, it seeks to provide insights and recommendations for stakeholders in Thrissur's tourism industry to optimize the use of these technologies while preserving the city's unique cultural heritage.

Keywords: mobile applications, augmented reality, virtual reality, location-based services, and more, to assess their influence on tourists' perception, satisfaction, and engagement

INTRODUCTION

In the context of tourism, smart is used to describe a complex amalgam of social and economic developments fueled by technologies that rely on sensors, big data, open data, new ways of connectivity and exchange of information. The emergence of Smart Tourism Technologies (STTs) has revolutionized how travelers discover and interact with places they visit. These innovative technologies, ranging from mobile applications to virtual reality experiences, has revolutionized the travel industry and greatly impacted the overall tourist experience. STT's attribute to tourism mainly has four key elements, which are: information, accessibility, interactivity and personalization. The latest element in demand, which is security, also has a vital role to play while these smart technologies engage with people.

Information: STTs bring about increased convenience as they enable tourists to effortlessly access information about attractions, accommodations, and local services through mobile apps. This, in turn, allows for more efficient trip planning, ultimately saving valuable time and effort. Moreover, STTs have made navigation in unfamiliar places much easier.

Accessibility: Accessibility in STTs refers to the ease with which tourists can access information and services. GPS-enabled maps and navigation apps provide real-time directions, making it simpler for tourists to explore new destinations without getting lost. Making it available across multiple platforms, such as mobile apps or websites increases the efficiency of accessibility. This not only reduces stress but also allows visitors to maximize their time and experience more of what a place has to offer. Virtual reality (VR) technology, for instance, allows tourists to virtually visit destinations before making a decision to travel.

Interaction: Interaction between tourists and their surroundings is encouraged as it enables users to engage with destination-related content, such as virtual tours, interactive maps, and social media integration. This element enhances the overall travel experience by allowing tourists to actively participate in their journeys and share their experiences with others. This not only helps in making informed choices but also adds excitement and anticipation to the planning process. Furthermore, Smart Tourism Technologies have fostered effortless communication between tourists and the local residents. Language translation apps and chat bots enable tourists to overcome language barriers and interact with locals more easily. This fosters cultural exchange and enhances the overall travel experience by enabling meaningful connections with the local community.

Personalization: STTs have also greatly improved the level of personalization in tourism experiences. Through data analytics and AI algorithms, these technologies can recommend tailored suggestions based on individual preferences and interests. Whether it's personalized recommendations for restaurants, attractions, or activities, tourists can now have more customized and memorable experiences. By analyzing past behavior and preferences, STTs can suggest personalized itineraries, accommodations, and activities, making each trip unique and more enjoyable. Tourists now possess the liberty to tailor their tours to emphasize specific aspects that pique their interest, whether it's art, architecture, or local culinary delights. This adaptability ensures that tourists forge a deeper and more personalized connection with the places they visit.

Security: Security is paramount in STTs to protect users' data and privacy. STTs should implement robust encryption and data protection measures to ensure that sensitive information, such as personal details and payment data, remains secure. Additionally, they must adhere to relevant privacy regulations and inform users about how their data is collected and used, fostering trust and confidence in the technology.

STTs have a substantial influence by offering immersive and interactive experiences. STTs have revolutionized the way tourists experience cultural and historical sites. Traditional audio guides have been replaced by mobile applications that offer multimedia tours enriched with comprehensive historical information, interactive elements, and multilingual support. In conclusion, Smart Tourism Technologies have revolutionized the way tourists experience travel. Smart tourism technologies encompass information dissemination, accessibility, interactive features, personalization, and security measures. When effectively integrated into the tourism experience, these elements enhance travelers' journeys, making them more informed, engaging, and secure. From providing convenient access to information and navigation, to offering personalized recommendations and immersive experiences, these technologies add to the overall tourist experience. As the travel industry continues to evolve, the impact of STTs is expected to grow, making travel more accessible, enjoyable, and memorable for tourists worldwide.

STATEMENT OF THE PROBLEM

The project is “A study on the impact of smart tourism technologies (STT’s) on tourist’s experience in Thrissur district.”

OBJECTIVES

- To study the impact of smart tourism technologies (Apps, Wearable devices, AR) on information access, navigation, cultural engagement.
- To examine tourists views on smart tech in travel, factors influencing adoption, and impact on satisfaction.
- To evaluate the challenges of implementing smart tourism tech: privacy, security, digital divide, culture; suggest responsible integration.

RESEARCH METHODOLOGY

- The study was conducted among the tourists who are using smart tourism technologies in Thrissur. The strength of the respondents is 125. The tool used for data collection was structured questionnaire. The questionnaire consists of 3 demographic factors, five point of scale questions. The study is based on how smart tourism technologies impact users with their engaging and user-friendly nature to deliver an overall positive experience.

➤ NATURE OF STUDY

The study is based on surveys by doing different surveys and experiments and then a final report has been introduced.

➤ AREA OF STUDY

The area of study was related to tourism and the topic I selected for my project was ‘A study on the impact of smart tourism technologies (STT’s) on tourist’s experience in thrissur district’. I had prepared questionnaire to understand the experience of the tourists who are using smart tourism technologies.

METHOD OF DATA COLLECTION

- The data collection for this study is quantitative method.

Types of data

- Primary data: Data was collected through questionnaire (Google forms) which was given to random people in the age group of 18 and above.
- Secondary data: Data was collected through websites, articles, and tourism sites.

SAMPLE DESIGN

- The respondents were selected from random people aged between 18 and above.
- The sample size of the study is 125.
- The sampling method used for this research is with help of questionnaire. The sampling method was random sampling.

REVIEW OF LITERATURE

- ***Investigating the Impact of Smart Tourism Technologies on Tourists' Experiences: Yuwen Zhang, Marios Sotiriadis and Shiwei Shen Sustainability 2022, 14(5), 3048;***

The adoption and implementation of smart technologies in tourism destinations and visitor attractions to enrich tourists' experiences and improve their satisfaction has become a new trend. The main purpose of this study was to explore the influence of the dimensions/attributes of smart technologies on tourism experience in the context of visitor attractions and related outcomes (satisfaction and post-consumption behavioral intentions). The Liangzhu Museum, Zhejiang Province, China was used as the study area, and data were collected from 486 visitors and analyzed with a regression model. The results show that accessibility and interactivity affect smart technology enhanced experiences. Tourists' perceived value of smart technologies is significantly related to their satisfaction. Smart technology positively impacts word-of-mouth recommendations, revisit intention, and willingness to pay a price premium. Therefore, visitor attractions could improve tourists' experiences by designing better infrastructure and services that incorporate the key dimensions of smart technologies, which would also improve their competitiveness.

- ***Systematic Review of smart Tourism Research: Ben Haobin Ye, Huiyue Ye, Rob Law Sustainability 12 (8), 3401, 2020***

In recent decades, smart tourism has been attracting attention from practitioners and scholars. The current study used multiple analysis methods to conduct a systematic review of 124 related articles on smart tourism. Qualitative analysis was

conducted to identify 10 categories of smart tourism articles. Results showed that the largest proportion focus on the influence of technology on tourists' perceptions, behaviors, and experiences. Co-occurrence analysis was performed to investigate the development trend of keywords used by academics in the last five years, while co-authorship (country) analysis was conducted to examine the collaborative relationship between different countries. The research regions, industries, methods, and theories applied in these articles were also analyzed. Theoretical and practical/managerial implications, as well as future research directions, were provided.

- ***Tourists' Experiences with Smart Tourism Technology at Smart Destinations and Their Behavior Intentions: Miyoung Jeong and Hyejo Hailey Shin. Journal of Travel Research 59 (8), 1464-1477, 2020***

This study attempts to assess how tourists use smart tourism technologies at destinations and measure the effects of STT usage on overall travel experience and future revisit intention. Although STTs have received growing attention, little research has evaluated tourists' experience with STTs available at various smart tourism destinations and potential consequences. Building on studies on online tourism information sources, this study develops a conceptual framework to test hypotheses related to STT experiences and consequences. Based on an online survey with travelers to top five US smart cities, this study classifies the most frequently used STTs and examines tourists' overall experience and satisfaction with STTs as well as their revisit intention. Findings suggest that three attributes of STTs—infomativeness, interactivity, and personalization—are the key factors affecting tourists' experience, satisfaction, and revisit intentions. The level of perceived security/privacy moderates the relationships between three STT attributes and tourists' memorable experience.

- ***An investigation of how perceived smart tourism technologies affect tourists' well-being in marine tourism: Yuxiang Zheng, Yue Wu Plos one 18 (8), e0290539, 2023***

Tourism industry is the first of the five happiness industries, playing a ***Tourists' happiness: are there smart tourism technology effects? Hanna Lee, Jimin Lee, Namho Chung, Chulmo Koo. Asia Pacific Journal of Tourism Research 23 (5), 486-501, 2018***

The purpose of this study is to develop a research model demonstrating tourists' value-seeking processes through the tourism services and travel experiences of a destination. The model suggests that tourist happiness is assessed by tourists' perceived experiences, which are formed by two motivational values: smart tourism technology (STT) and destination value. Despite a large quantity of research attention on destination tourism, the relation between tourists' destination experience and STT has been less enthusiastically studied. Therefore, this study proposes to test an integrated model with attributes of STTs and destination values that contribute to tourists' life happiness. The results of this study, from a survey of 191 foreign tourists in Seoul, South Korea, indicate that tourists are likely to put more value on what they perceived from their destination travel experiences than what they perceived from their experiences with STT services when they evaluate their overall happiness. Theoretical and practical implications are discussed.

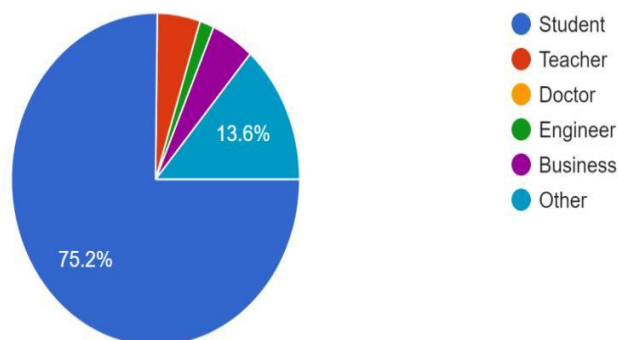
The Role of Perceived Smart Tourism Technology Experience for Tourist Satisfaction, Happiness and Revisit Intention: Chen-Kuo Pai, Yumeng Liu, Sangguk Kang, Anna Dai
Sustainability 12 (16), 6592, 2020

The rapid advancement of smart tourism technology brings new opportunities for tourism development. More travel destinations are relying on smart technology to attract more tourists to visit and enrich their travel experience. The main purpose of this study was to explore whether tourists are satisfied with their smart tourism technology experience (i.e., informativeness, accessibility, interactivity, personalization, and security). This study also investigated the impact of smart tourism technology experience on tourists' happiness and revisit intention. This study used a structural equation method to find the relationship among smart tourism technology attributes, travel satisfaction, happiness, and revisit intention. Surveys of a total of 527 participants who traveled to Macau from Mainland China were used for the analysis. The results showed that accessibility is the most important factor affecting the smart tourism technology experience and personalization the least. Smart tourism technology experience is shown to be significantly associated with travel experience, satisfaction, and travel experience satisfaction has a positive effect on both tourists' happiness and revisit intention. Finally, tourist happiness is also shown to be positively associated with revisit intention.

DATA ANALYSIS AND INTERPRTAION

Occupation

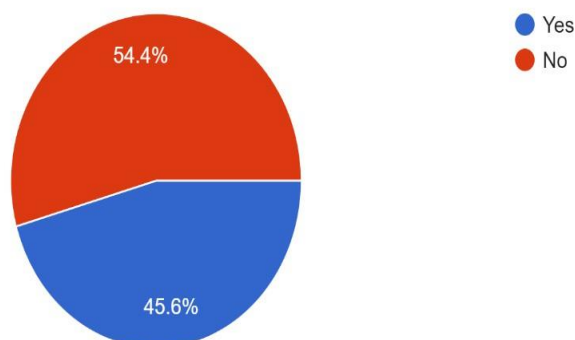
Occupation
125 responses



INTERPRETATION: As mentioned in the Fig 4.1.3, 75.2% are students, 13.6% do other occupations, 4.8% are Business people, 4.8% are Teachers and 1.6% Engineers.

Have you used Smart tourism apps?

Have you ever used Smart Tourism apps?
125 responses



INTERPRETATION: The above Fig 4.2.1 shows that 45.6% of people uses Smart tourism apps and 54.4% does not use smart tourism apps.

4.2.2 Do smart technologies improve your travel experience by offering convenience and efficiency?

Do smart technologies improve your travel experience by offering convenience and efficiency?
125 responses

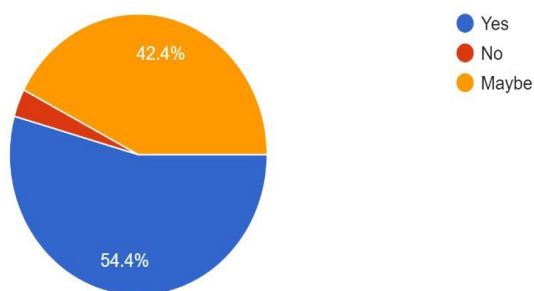


Fig 4.2.2

INTERPRETATION: The above Fig 4.2.2 shows that 54.4% said yes, 42.4% responded as maybe and 3.2% responded as no for the question smart technologies improve your travel experience by offering convenience and efficiency.

4.2.3 Do government rules help encourage the responsible use of smart tourism technologies?

Do government rules help encourage the responsible use of smart tourism technologies?
125 responses

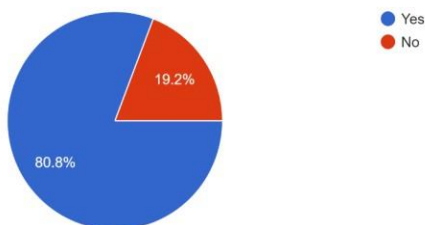
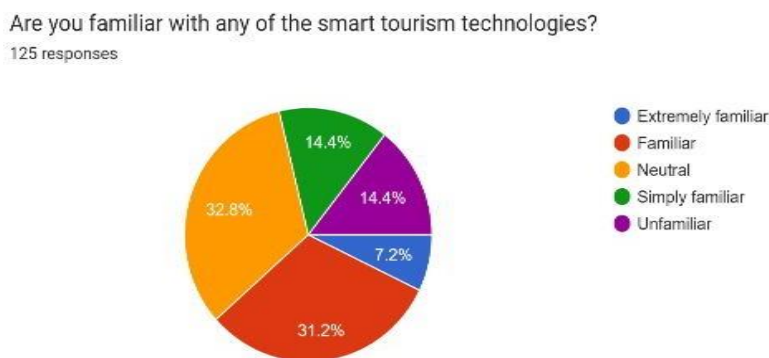


Fig 4.2.3

INTERPRETATION: The above Fig 4.2.3 shows that 80.8% agreed that government rules help encourage the responsible use of smart tourism technologies and 19.2% does not agree.

4.2.4 Are you familiar with any of the smart tourism technologies?

Fig 4.2.4



INTERPRETATION: The above Fig 4.2.4 shows that 32.8% people said neutral, 31.2% are familiar, 14.4% are simply familiar and 14.4 % people are unfamiliar with any of the smart tourism technologies.

FINDINGS OF THE STUDY

- Among the responses, users of smart tourism apps were less than half. The user respondents burned-out to be 45.6%.
- The larger percent of the respondents are familiar with smart tourism technologies and how to use it.
- The study has shown that most respondents has agreed upon the fact that smart tourism apps has improved the access to accurate and timely information while travel.
- Half of the participants concur that wearable devices simplify navigating unfamiliar locations.
- Based on the responses, it is clear that the respondents are satisfied with the positive impact that smart tourism technologies have on their travel.

- Most people stay neutral in the statement that Augmented Reality technologies enhance their engagement with cultural sites and historical landmarks.
- Responses indicate that fewer than 50% agree that incorporating smart tech in tourism might diminish authentic cultural interactions.
- Smart technology-driven improvements in travel, such as convenience and efficiency, have received predominantly positive feedback.
- Participants are satisfied with the internet availability that influences the use of smart technologies while travelling.
- Most responses agree upon the easy usability of smart tech as it is crucial in the travel routine
- Based on the responses, people find it difficult to fully adopt smart technologies during their travels due to privacy and data security concerns.
- Half of the respondents agree that unequal technology access hinders the widespread adoption of smart tourism tech.
- The majority of responses concur with the notion that ensuring smart technology respects local cultures is crucial for its successful utilization in various locations.
- Positive responses have been received regarding the impact of government rules in promoting responsible use of smart tourism technologies.
- The smart tourism technologies have a noticeable impact on the tourist experience as more than half of the respondents agree on that.

RECOMMENDATIONS OF THE STUDY

- We should develop a more captivating approach to promote the adoption of smart tourism apps.
- People need to find smart tourism technologies, like augmented reality, engaging to fully leverage their potential.
- The decision of integrating smart technologies into tourism should go hand in hand avoiding the loss of authentic cultural interactions.
- The easy use of smart tech in the travel routine must be conveyed so that the users find no confusion with it

- It is essential to provide users with a clear understanding of the limits on privacy and data security when adopting smart technologies.
- The limitations of technology access caused by the digital divide need to be overcome.
- For smart technologies used in tourism to be successful, they have to respect the local culture.

CONCLUSION

I have concluded my research project, which delved into the subject of "**A STUDY ON THE IMPACT OF SMART TOURISM TECHNOLOGIES (STT's) ON TOURIST'S EXPERIENCE IN THRISSUR DISTRICT.**" Throughout this investigation, it has become evident that the effectiveness of smart tourism apps greatly hinges on their level of engagement and user-friendliness. To garner favorable reviews from tourists, these applications must be intuitive and easy to navigate. However, this is only the beginning of the equation. In order to truly enhance the tourist experience, smart tourism technologies must prioritize factors that engage and benefit local communities. This entails ensuring widespread internet availability and bridging the digital divide to make these technologies accessible to all. Moreover, respecting the local culture and promoting authentic cultural interactions is crucial. An awareness of government regulations is imperative to operate within the confines of the law. Equally important is safeguarding the secure use of these applications, particularly with regards to data and privacy. Balancing these elements is essential for smart tourism technologies to make a positive impact in Thrissur District. In summary, this research project underscores the significance of user-friendly smart tourism technologies that extend beyond mere convenience. To truly enrich the tourist experience, these technologies should embody principles of community engagement, cultural respect, legal compliance, and data security. Only through such a holistic approach can we harness the full potential of smart tourism technologies in Thrissur District and beyond.

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Digital Influence and Youth Travel Decisions: The Role of YouTube Influencers in Tourism Destination Selection

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The rapid expansion of digital media has significantly reshaped consumer behaviour across industries, with the tourism sector experiencing particularly profound changes. Social media platforms have evolved into indispensable tools throughout the travel journey, influencing individuals during the stages of trip planning, destination selection, travel experience, and post-travel sharing. Among these platforms, YouTube has emerged as one of the most influential sources of user-generated and influencer-driven content, especially among youth audiences. The visual and experiential nature of YouTube content allows viewers to virtually explore destinations, thereby shaping perceptions, expectations, and travel intentions.

The present study aims to examine the role of YouTube influencers in influencing tourism destination selection among youth. Specifically, the research seeks to understand the extent to which YouTube serves as a source of information and inspiration during the destination decision-making process. To achieve this objective, a quantitative research approach was adopted, and primary data were collected through a structured survey administered to 52 participants. The respondents represented young social media users who actively consume YouTube content related to travel and tourism.

The findings of the study reveal that YouTube plays a significant role in shaping youth travel decisions. The platform is widely perceived as a reliable and engaging source of travel-related information, offering insights into destinations through vlogs, reviews, and influencer experiences. Additionally, the results indicate that travel-related content is among the most subscribed and frequently viewed categories on YouTube. Exposure to such content was found to increase users' interest, curiosity, and intention to visit featured destinations. YouTube influencers, through their storytelling, visual representation, and perceived authenticity, contribute meaningfully to destination awareness and preference formation among young viewers.

Overall, the study highlights the growing importance of digital influence in tourism marketing and emphasizes the strategic role of YouTube influencers in shaping youth travel behavior. The findings offer valuable implications for tourism marketers, destination managers, and content creators seeking to engage younger audiences through digital platforms.

Keywords

YouTube Influencers, Youth Travel Behavior, Tourism Destination Selection, Social Media Influence, Digital Tourism Marketing

INTRODUCTION

Travel planning is a process that involves three phases: information search, information processing, and decision making. People adopt various, emerging channels to conduct their information searches. People in the late 19th century relied on friends and family members as well as information found in publications and journals while planning traveling decisions. The invention of the radio and television at the turn of the 20th century, along with the growth of the Internet and ICTs, marked a fundamental shift in how customers chose and organize their travel-related purchases. Additionally, the rise of social media has made it possible for travelers to share their experiences and has established itself as the most popular informational resource while making travel arrangements. The key responsibility of a search for travel information is to assist with individual decision-making and the selection of a certain good or location. Making decisions is difficult since there are so many to consider, including whether to travel, when to go, how long to stay, how much to spend, what to see and do, and where to go. Destination selection is the process of picking a place to go based on how well it can accommodate tourists' needs. According to Crompton (1977), factors like time, money, skill levels, and destination perception affect the choice of location.

Activities that can be engaged in (such as outdoor recreation, sports, cultural activities, shopping, and nightlife) and attributes of the destination (such as accessibility, safety, climate, availability, and quality of accommodations, residents' attitudes toward tourists, and the presence of language barriers), are generally two categories of destination characteristics that are taken into consideration to influence decision-making. When choosing a destination, factors such as the traveler's attitudes, the experience they want to have for themselves, as well as their gender, age, and personality, are crucial.

Later, as technology and information channels developed, it became clear that virtual communities can have an impact on consumer behavior. Social

networks now serve as more than just a way to connect people; they are also a huge data source that influences how individuals make decisions. Social media use is one of the most common online activities today, with 3.6 billion users throughout the globe, and it is expected to grow to 4.41 billion users by 2025.

REVIEW OF LITERATURE

According to this study, audience desired identification was positively influenced by the physical attractiveness, social attractiveness, and credibility of travel vloggers, with credibility having the most effect. When the trip vlogger and the viewer were of different genders, the effect of the vlogger's social attractiveness on the viewer's desired identification was significantly stronger. The association between the characteristics of vloggers and the behavioral intentions of viewers was partially mediated by wishful identification. Finally, the results showed that while male vloggers were seen as more credible than their female counterparts, female vloggers were thought to be more physically beautiful than male vloggers(Hancer, 2021).

The majority of research on social media and tourism focuses on micro-level decisions, therefore very few studies have directly looked at how social media influences travelers' destination choices. These studies offer insightful information about how social media influences travel decisions. The results show that social media is utilized to choose destinations in a wide range of nations and cultures. Social media is used, but it has also been shown to have an impact on tourists' evaluation sets when it comes to selecting the top destinations. But when it was discovered, the level of influence was often very low to low. This research presented a lack of source legitimacy as one explanation for the absence of social media influence(Croy et al., 2019).

Social media content is becoming more and more significant, and it can significantly affect consumer awareness of destination brands. To investigate the moderating effect of COI image (macro and micro) on the relationship between destination brand awareness and destination quality dimensions, we will look at the relationship between social media, destination brand awareness, and destination natural and service quality. The research's findings offer crucial information about how to raise destination brand awareness using various social media items. Additionally, research was found that may shed light on how the macro and micro images of COI affect how tourists perceive the quality of a site for destination management and marketing businesses(Bora Dedeog et al., n.d.).

According to this study, attitude and comprehensiveness were the most important determinants of travel destination intention compared to YouTube content consumption.

OBJECTIVES OF THE STUDY

- a. Social media influencers on YouTube do they create sufficient attention about a destination?
- b. Social media influencers on YouTube do they create sufficient interest in a destination?
- c. Social media influencers on YouTube do they create sufficient desire to visit a destination?
- d. Social media influencers on YouTube do they make people visit a destination?

RESEARCH METHODOLOGY

POPULATION

The study is conducted among youngsters in Kottayam District (Age group 15 to 35)

SAMPLING TECHNIQUE

The respondent is taken by the convenience of the researcher so the technique is sampling is convenience sampling. The questionnaire is used to collect data.

SAMPLE SIZE

The sample size is 52

LIMITATION OF THE STUDY

- As the sample is only a representation of a small group, it does not mean that same is followed by all.
- While collecting primary data, respondents were reluctant to supply whole information about them.

METHODS OF DATA COLLECTION

PRIMARY DATA

Primary data refers to the first-hand information that an investigator himself collects from the respondents. It is direct and original. It refers to the data collected fresh for the first time. The primary data for the project is collected through questionnaires, observation, focus group discussion, and documentary analysis.

SECONDARY DATA

Secondary data are those data that are already collected by someone for some purpose and are available for the present study.

SOURCE OF SECONDARY DATA

- ✓ Websites
- ✓ Publications
- ✓ Magazines
- ✓ Mass media

DATA ANALYSIS AND INTERPRETATION

THE PROBLEM: To investigate the role of social media influencers on

YouTube for creating Attention, Interest, Desire, and Action to select tourist destination.

HYPOTHESIS: There is a significant relationship between social media influencers on YouTube for creating Attention, Interest, Desire, and Action to select tourist destination

- I. Table 1:**
- II. social media influencers on YouTube and tourist Destination selection.**

Correlations						
		The attention created by YouTubers	Interest created by YouTubers	Desire created by YouTubers	Action created by YouTubers	The decision to visit the place
The attention created by YouTubers	Pearson Correlation	1	.517*	.491**	.257	.485**
	Sig. (2-tailed)		.000	.000	.066	.000
	N	52	52	52	52	52
Interest created by YouTubers	Pearson Correlation	.517**	1	.547**	.444**	.518**
	Sig. (2-tailed)	.000		.000	.001	.000
	N	52	52	52	52	52
Desire created by YouTubers	Pearson Correlation	.491**	.547*	1	.399**	.532**
	Sig. (2-tailed)	.000	.000		.003	.000
	N	52	52	52	52	52
Action created by YouTubers	Pearson Correlation	.257	.444*	.399**	1	.622**
	Sig. (2-tailed)	.066	.001	.003		.000
	N	52	52	52	52	52
The decision to visit the place	Pearson Correlation	.485**	.518*	.532**	.622**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	52	52	52	52	52
**. Correlation is significant at the 0.01 level (2-tailed).						

Correlation Test one

Independent variable: Attention created by YouTubers.

Dependent variable: Decision to visit the place

Interpretation;

Table 1 shows that the result of the correlation test. Attention created by social media influencers in You Tube is positively is correlated with Decision to visit the place.

Here the PV value is .000 and it is less than .05 so we reject the null hypothesis and accept the alternative hypothesis. There is a significant relationship between Attention created by youtubers and decision to visit the place.

Correlation Test two

Independent variable: Interested created by youtubers.

Dependent variable: Decision to visit the place

Interpretation;

Table 1 shows that the result of the correlation test. Interest created by social media influencers in You Tube is positively is correlated with Decision to visit the place.

Here the PV value is .000 and it is less than .05 so we reject the null hypothesis and accept the alternative hypothesis. There is a significant relationship between interested created by youtubers and decision to visit the place.

Correlation Test Three

Independent variable: Desire created by youtubers. Dependent variable: Decision to visit the place **Interpretation;** Table 1 shows that the result of the correlation test. Desire created by social media influencers in You Tube is positively is correlated with Decision to visit the place.

Here the PV value is .000 and it is less than .05 so we reject the null hypothesis and accept the alternative hypothesis. There is a significant relationship between Dsire created by youtubers and decision to visit the place.

Correlation Test four

Independent variable: Action created by youtubers.

Dependent variable: Decision to visit the place

Interpretation;

Table 1 shows that the result of the correlation test. Action created by social media influencers in You Tube is positively is correlated with Decision to visit the place.

Here the PV value is .000 and it is less than .05 so we reject the null hypothesis and accept the alternative hypothesis. There is a significant relationship between Action created by youtubers and decision to visit the

REGRESSION TEST

TABLE: 2 - Attention and destination selection

Model Summary

	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.485 ^a	.236	.220	.54974

a. Predictors: (Constant), Attention created by YouTubers

TABLE: 2.1

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.675	.432		3.875	.000

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.675	.432		3.875	.000

Dependent Variable: Decision to visit the place

Interpretation;

Since the r square value in Table 2 is .220, it is found that 22.0 % selection of a tourist destination is based on the attention created by the social media influencers on You Tube. The coefficient Table 2.1 shows a beta value of .485 which means one unit change in social media influencers in You Tube will create a 40% change in decision of the people to select a destination

TABLE :3 - Interest and destination selection

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.518 ^a	.269	.254	.53768

a. Predictors: (Constant Interest created by YouTubers

TABLE: 3.1

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	1.536	.429	3.583	.001
	Interest created by You tubers				
	a. Dependent Variable:	.481	.112	.518	.000
	Decision to visit the place				

Interpretation;

Since the r square value in Table 3 is .254, it is found that 25.04% selection of a tourist destination is based on the interested created by the social media influencers on You Tube. The coefficient Table 3.1 shows a beta value of .518 which means one unit change in social media influencers in You Tube will create a 51% change in decision of the people to select a destination

TABLE :4- Desire and destination selection

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.532 ^a	.283	.268	.53256

a. Predictors: (Constant), Desire created by YouTubers

TABLE :4.1

Coefficients^a

ModelD	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.678	.383		4.383	.000
1 Desire created by YouTubers	.486	.110	.532	4.439	.000

a. a. Dependent Variable: Decision to visit the place

Interpretation;

Since the r square value in Table 4 is .268, it is found that 26.8% selection of a tourist destination is based on the Desire created by the social media influencers on You Tube. The coefficient Table 4.1 shows a beta value of .532 which means one unit change in social media influencers in You Tube will create a 53% change in decision of the people to select a destination.

TABLE :5 Action and Destination selection

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.622 ^a	.387	.375	.49238

a. Predictors: (Constant), Action created by YouTubers

TABLE :5.1

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.648	.310		5.316	.000
	Action created by YouTubers	.516	.092	.622	5.616	.000

Interpretation;

Since the r square value in Table 5 is .375, it is found that 37.5 % selection of a tourist destination is based on the Desire created by the social media influencers on You Tube. The coefficient Table 5.1 shows a beta value of .622 which means one unit change in social media influencers in You Tube will create a 62 % change in decision of the people to select a destination.

TABLE :6 – Area of the Respondent and Destination selection

		Sum of Squares	df	Mean Square	F	Sig.
INFLUENCERS_ATTENTION	Between Groups	.961	4	.240	.492	.742
	Within Groups	22.962	47	.489		
	Total	23.923	51			
INTEREST	Between Groups	2.051	4	.513	.929	.455
	Within Groups	25.949	47	.552		
	Total	28.000	51			
DESIRE	Between Groups	1.482	4	.370	.651	.629
	Within Groups	26.749	47	.569		
	Total	28.231	51			
ACTION	Between Groups	1.719	4	.430	.652	.628
	Within Groups	30.973	47	.659		
	Total	32.692	51			
DECISION	Between Groups	2.097	4	.524	1.196	.325
	Within Groups	20.596	47	.438		
	Total	22.692	51			

INTERPERTATION

Table 6 show Anova Test of Area of the Respondents and the factors affecting tourist

destination selection. Here the p value is greater than 0.005 so, we accept null hypothesis there is no difference between the Area of the respondents and tourist destination selection.

T-test of gender & Destination Selection

TABLE :7 - Gender & Destination Selection

	Gender	N	Mean	Std. Deviation	Std. Error Mean
DECISION	Female	34	3.5588	.66017	.11322
	Male	18	3.6111	.69780	.16447

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
DECISION	Equal variances assumed	.000	.986	-.266	50	.791	-.05229	.19623	-.44643	.34186
	Equal variances not assumed			-.262	33.100	.795	-.05229	.19967	-.45848	.35391

Interpretation;

From this table 7, the p-value is .791, So we can come to the conclusion that there is no different opinion among females and males about the selection of tourist destinations while watching a travel vlog.

- ❖ The study was conducted to know about the role of social media influencers of You Tubes on tourist destination selection. out of 52 respondents 67.3% of respondents get information about new travel destination through You Tube travel vlogs.
- ❖ The study was conducted among the youngsters in Kottayam District. 55.8% of Respondents from the semi-urban area and most of them are Occasional travelers.

- ❖ Based on the analyse Area of the respondents and Tourist destination selection have no difference. As per the Anova test, the p vale is greater than 0.005 so, we accept null hypothesis there is no difference between the Area of the respondents and tourist destination selection.
- ❖ From the study I can understand that majority of the respondents are choosing a destination based on the way how they present their content.
- ❖ Based on the correlation analysis the attention created by social media influencers in YouTube is positively correlated with Decision to visit the place. PV value is .000 and it is less than .05, So There is a significant relationship between Attention created by youtubers and decision to visit the place.
- ❖ From this study I can understand that majority of respondents depend on travel vlogs to gather information about the tourist destination facilities like accommodation, road, rail, etc.
- ❖ Based on the study, social media influencers on YouTube have created interest and attention in respondents for choosing a tourist destination.

SUGGESTION

- According to my study, youngsters most prefer YouTube travel vlogs for selecting travel destination, you tube is one the primary sources for information and with this information people plan their trips.
- Creating more YouTube videos will attract more people to watch travel vlogs.
- Try to provide more accurate information about the destination through travel vlogs.
- Travel vlogs should try include the culture and tradition of the society. Which help people study different culture before they are visiting a place.
- Travel vloggers is able to understand the needs of the customers and provide sufficient information make them more effectual.

CONCLUSION

The study on the topic “DIGITAL INFLUENCE AND YOUTH TRAVEL DECISIONS: THE ROLE OF YOUTUBE INFLUENCERS IN TOURISM DESTINATION SELECTION”, is research which is conducted among youngsters in Kottayam District in Kerala to find out whether there is any effect of social media influencers on selecting Tourist destination. The

findings show that there is a significant relation between travel vlogs and destination selection. This paper aims to investigate how travel vlogs, as well as travel vloggers, influence the intention to visit a destination of viewers. According to this study that information offered in vlogs should be at the centre of consideration. In order to help potential tourists, gain the idea of visiting a tourism attraction, vlogs should be able to provide as much related information and as many details as possible. Helping them to plan a detailed trip can enhance their motivation to visit, for it will save them some time while being there looking for things to do or a parking slot, for instant. It is clear that the travel intention of tourists from the survey of this paper is high as long as they possess enough information to plan one

The correlation and the regression analysis are used to check the relation between social media influencers on YouTube and destination selection. This topic has a great significance in the current world economic conditions and dynamic work environment. This study is not the final one and there is further scope for research on this topic.

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ANNEXURE

1. Through the YouTube travel videos I get information about the location of the destination.
 - 1.Strongly Agree
 - 2.Agree
 - 3.Neutral
 - 4.Disagree
 - 5.Strongly Disagree
2. I notice the destination clearly through the travel videos
 - 1.Strongly Agree
 - 2.Agree
 - 3.Neutral
 - 4.Disagree
 - 5.Strongly Disagree
3. As soon as I start watching YouTube travel videos, my attention goes to destination too
 - 1.Strongly Agree
 - 2.Agree
 - 3.Neutral
 - 4.Disagree
 - 5.Strongly Disagree
4. Upon watching a travel related video, I get interested in the location
 - 1.Strongly Agree
 - 2.Agree
 - 3.Neutral
 - 4.Disagree
 - 5.Strongly Disagree

5. I get interested in the content of the video through the experiences presented by the vlogger

- 1.Strongly Agree
- 2.Agree
- 3.Neutral
- 4.Disagree
- 5.Strongly Disagree

6. I start exploring further about the destination, after I watch a travel

- 1.Strongly Agree
- 2.Agree
- 3.Neutral
- 4.Disagree
- 5.Strongly Disagree

7.Youtubers on travel create a strong wish in me to visit a place.

- 1.Strongly Agree
- 2.Agree
- 3.Neutral
- 4.Disagree
- 5.Strongly Disagree

8.I create a strong determination to visit a place despite of the obstacles.

- 1.Strongly Agree
- 2.Agree
- 3.Neutral
- 4.Disagree
- 5.Strongly Disagree

9.After watching YouTube video because of the trust in the presenter, I normally get a strong a desire to visit the place

- 1.Strongly Agree
- 2.Agree
- 3.Neutral
- 4.Disagree

5. Strongly Disagree

10. Because of the way vloggers, present I have felt like going to the place for my travel

1. Strongly Agree

2. Agree

3. Neutral

4. Disagree

5. Strongly Disagree

11. I always feel an urgency to visit the destination because of the way it is presented

1. Strongly Agree

2. Agree

3. Neutral

4. Disagree

5. Strongly Disagree

13. I have visited a place of interest due to the influence of YouTube bloggers

1. Strongly Agree

2. Agree

3. Neutral

4. Disagree

5. Strongly Disagree

14. Many a time, the attractions and places of interest in the destination have happened due to some travel videos on YouTube.

1. Strongly Agree

2. Agree

3. Neutral

4. Disagree

5. Strongly Disagree

15. Choice of accommodation and activities that I do have also been partly influenced by the YouTube travel vloggers

1. Strongly Agree

2. Agree

3. Neutral

4. Disagree

5. Strongly Disagree

16. How much money you get on your own a month for spending? Nothing, <2000, <10000, <5000, >50000

17. GENDER

1. Female

2. Male

18. AREA

1. Urban

2. Semi – Urban

3. Rural



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