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Smart Destination Planning with ChatGPT*

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Abstract
This research focuses on a smart tourism destination plan created in line with the recommendations of ChatGPT. Within the framework of Conversation Theory, a mutual dialog was developed with ChatGPT to create a smart tourism destination plan. Within the scope of this dialog, 3 questions were asked to ChatGPT to create a smart tourism destination plan, examples and level. It is seen that ChatGPT has created a plan consisting of ten dimensions for Nevşehir destination. In this plan, ChatGPT emphasizes areas such as strengthening the digital infrastructure, augmented reality (AR) and virtual reality (VR) applications, online ticketing systems and e-commerce integration in a more comprehensive manner. In addition to these dimensions, the ChatGPT smart tourism destination plan also emphasizes issues such as cultural heritage protection, community engagement, education, digital marketing and security. It is seen that ChatGPT includes many factors that are important for a destination's tourism activities within the scope of smart tourism. Finally, ChatGPT also creates a smart tourism destination level by adhering to the smart tourism destination plan.
Keywords: *Artificial Intelligence, ChatGPT, Smart Tourism, Smart Destinations, Tourist*

*This study is not included in the study group that requires TR Index Ethics Committee Approval.

1. Introduction

Sectors are rapidly embracing innovations in artificial intelligence, recognizing their potential to enhance the efficiency of business processes (Gajdošík & Marciš, 2019). Notably, AI-supported innovations and applications are highly effective in the context of smart tourism destinations (Bulchand-Gidumal, 2022). Adopting and implementing technological innovations bolstered by artificial intelligence empower smart tourism destinations to introduce novel applications (Boes et al., 2016). These applications, in turn, facilitate the development of innovative models within smart tourism destinations (Ammirato et al., 2018). Consequently, the interaction between destinations and visitors intensifies, paving the way for the enhancement of the infrastructure in smart tourism destinations (Gök & Şalvarcı, 2022).

Artificial intelligence applications play a pivotal role in transforming the data acquired in smart tourism destinations into valuable information (Mrsic et al., 2020). This information, in turn, allows for monitoring development processes within smart tourism destinations, offering insights into the current progress (Mandić & Garbin Praničević, 2019). Notably, artificial intelligence-supported applications are instrumental in contributing to the realization of smart tourism in various destinations. Among these applications, ChatGPT emerges as an effective tool for destinations and tourism. With the use of artificial intelligence in the functioning of destinations, service delivery, especially for tourists, is of higher quality and it is easier to create a wealth of experience with personalized services according to the wishes of tourists (Karpova et al., 2019). Artificial intelligence is useful for effectively managing the mobility of tourists in destinations. With artificial intelligence, the mobility of tourists in the destination can be solved without creating problems. This has a positive impact on the employees who communicate directly with tourists in destinations as well as tourists. Thanks to artificial intelligence, tourists communicate less with employees because potential problems are less likely to occur (Grundner & Neuhofer, 2021). In summary, destinations that utilize the capabilities of artificial intelligence can create quality personal experiences for tourists and make destination management more functional (Lukita et al., 2023).

ChatGPT, developed by OPENAI in 2023, stands out as a highly advanced and versatile language model (OPENAI, 2023). Recognized for its exceptional capabilities, ChatGPT has proven to be among the most proficient models developed to date (Ali, 2023). Its applications span various domains, including travel planning, customer service, and content creation within the tourism sector (Dwivedi et al., 2023a). Within the tourism industry, hotel businesses can leverage ChatGPT to enhance customer interactions, deliver prompt responses, and generate diverse tourism-related content (Demir & Demir, 2023a). Additionally, ChatGPT provides travel agencies and tour operators with the capability to furnish rapid and practical answers to customer inquiries, contributing to improved customer service (Demir & Demir, 2023b). The model further facilitates users in personalizing their vacation plans, acquiring information about destinations, and receiving tailored travel recommendations (Ali et al., 2023; Kim et al., 2023). Beyond customer interactions, ChatGPT extends its utility to the creation of tourism-oriented promotional texts and social media content, showcasing its versatility in contributing to marketing efforts within the tourism industry.

These positive contributions of ChatGPT reveal its value in providing fast, effective, and content-oriented communication in the tourism sector. This valuable aspect of ChatGPT has been recognized in the literature, and various studies have been conducted in the field of tourism. In these studies, ChatGPT has been studied on different topics in the tourism sector. For example, in travel recommendations (Ali et al., 2023), destination evangelism (Soliman & Al Balushi, 2022), general effects on the tourism sector (Carvalho & Ivanov, 2023; Demir and Demir, 2023a; Dwivedi et al., 2023b; Gursoy et al., 2023; Altinay et al., 2024), staff recruitment (Elmohandes & Marghany, 2024; Yaşar et al., 2024a), tourism management (Fusté-Forné & Orea-Giner, 2023), tourist behavior (Kim et al., 2023; Duong et al., 2024; Pham et al., 2024; Solomovich & Abraham, 2024; Xu et al., 2024), tourism education (Skavronskaya et al., 2023; Dalgıç et al., 2024; Yaşar et al., 2024; 2024b).

ChatGPT has been investigated in various fields of tourism, as seen in the studies mentioned. However, the research on ChatGPT and destination is limited (Soliman & Al Balushi, 2022). Also, ChatGPT and smart tourism destinations is limited (Erdem, 2023). ChatGPT significantly impacts the creation of a smart tourism destination plan. In smart tourism destinations, resources should be used effectively and tourist satisfaction should be ensured. In these issues, ChatGPT can make a difference in smart tourism destinations (Rather, 2024). Because ChatGPT responds quickly and comprehensively to individuals' requests by responding humanely. It creates this response in a comprehensive manner. It is a necessity to benefit from ChatGPT's comprehensive and fast evaluations in a field such as smart tourism destination planning, where every detail is important and strong to make a difference (Erdem, 2023). ChatGPT's ability to provide access to various information about destinations can enhance the smart tourism destination planning process. This study aims to develop a smart tourism destination plan and level through ChatGPT.

2. Conceptual Framework

In this section, information about the conceptual framework of the study is given.

2.1. Smart Destination

A tailored adaptation of smart cities, as outlined by Buhalis & Amaranggana (2015), smart destinations represent a paradigm shift in the sustainable development of tourism locales. These destinations boast modern technological infrastructure, fostering enhanced interaction and integration between tourists and their surroundings. The overarching goal is to elevate the quality of life for both tourists and local residents (Gretzel et al., 2015). The conceptual roots of smart destinations can be traced back to the principles established by smart cities, as noted in the literature (Borges-Tiago et al., 2022).

Smart destinations, while sharing principles with smart cities, distinguish themselves by being applicable to both urban and rural areas. Unlike smart cities, smart destinations extend their focus beyond local residents to encompass visitors as well (Sorokina et al., 2022). This expanded scope acknowledges the dynamic interaction between tourists and the destinations they explore, emphasizing a comprehensive approach that integrates technology, sustainability, and improved well-being for all stakeholders involved.

Gretzel et al. (2015) broaden the perspective to a technology-driven perspective by defining smart destinations as a "tourism-based" digital business ecosystem consisting of numerous and diverse microorganisms or businesses and agencies that interact and collaborate. Boes et al. (2016) divide the smart destination approach into hard smartness and soft smartness. Here, hard smartness reflects the technology dimension of the smart destination, while soft smartness includes leadership, entrepreneurship and innovation, human capital, and social capital factors. Boes et al. (2016) emphasize the combination of these factors for the formation and competitiveness of a smart destination.

The basic building blocks of smart destinations are shaped around the factors of technology, sustainability, accessibility and innovation (Gretzel & Jamal, 2020). In the development process of smart destinations, it is seen that information communication technologies such as artificial intelligence, cloud computing and the Internet of Things are used to provide personalized information and advanced services (Çelen, 2020). In summary, it is seen that destination management organizations have started to pay more attention to the development of smart destinations that provide advantages in terms of competitive advantage (Yayla & Belber, 2023).

2.2. ChatGPT and Tourism

ChatGPT, an artificial intelligence-based large language model developed by OpenAI, is proficient in generating human-like textual responses by predicting the next word, phrase, or sentence in a manner akin to human speech (Demir & Demir 2023b). Other artificial intelligence applications continue to show interest in providing more meaningful and human responses to individuals in response to ChatGPT.

ChatGPT may have the perception that it is talking to another person while it is running. These responses in question can be produced instantly in a quick and concise manner by ChatGPT. Thanks to this feature, ChatGPT increases efficiency for both individuals and other user services (Kalla et al., 2023). This language model, as highlighted by Singh (2023), possesses the capability to produce coherent, relevant, and persuasive responses. Notably, ChatGPT exhibits an unprecedented ability to understand and interpret human language, allowing users to engage in conversational interactions and receive intuitive responses (Zhu et al., 2023). The application of ChatGPT extends to answering a myriad of questions through chat, providing users with fast and accurate responses (Salvagno et al., 2023). This interactional aspect, according to Yağcı & Yıldız (2023), has drawn considerable attention from users, who are intrigued by the detailed and clearly expressed evaluations offered by ChatGPT across various fields of interest (Rudolph et al., 2023).

The interconnection between ChatGPT utilization and the tourism sector is evident in various studies within the tourism literature. One such study by Eruh and Işın (2023) highlights the potential contributions of ChatGPT to the tourism sector, emphasizing its role in enhancing consumer experiences, improving service quality, increasing operational efficiency, providing information, analyzing data, making suggestions, and offering solutions to problems within the field. This underscores the multifaceted impact that ChatGPT can have on different aspects of the tourism business. Similarly, findings from Demir & Demir (2023a) emphasize how ChatGPT aids tourism businesses in staying abreast of market trends, aligning services with customer demands, enhancing operational efficiency, and supporting decision-making processes. The versatility of ChatGPT is evident in its ability to address diverse needs within the dynamic landscape of the tourism sector. Furthermore, Dwivedi et al. (2023) underscores the practical application of ChatGPT for tourists, particularly in creating tour itineraries and obtaining information about tourist attractions in visited destinations. The study highlights the valuable aspect of ChatGPT for tourists due to its quick response time, showcasing its effectiveness in the information retrieval process.

Sudirjo et al. (2023) stated that ChatGPT can provide recommendations, information, and customer service quickly and efficiently in the current digital age and has a vital role in improving tourists' decision-making processes by facilitating the travel planning process. Furthermore, Dwivedi et al. (2024) stated that with the introduction of ChatGPT, tourism businesses have started to take initiatives to integrate this technology into their processes because ChatGPT provides both time and cost advantages to tourism businesses and helps to improve service quality. Therefore, it is seen that the ChatGPT application has benefits for tourism businesses and tourists in the tourism industry. Therefore, as a result of the adoption of ChatGPT in the tourism industry, it is predicted that this may lead to significant changes in the future (Gursoy et al., 2023).

3. Metodology

The main purpose of this research is to determine the effectiveness of ChatGPT, which has been widely used in many areas around the world since the last months of 2022, in creating a smart tourism destination plan. In fact, in the researches on ChatGPT and tourism so far, it is stated that ChatGPT has significant potential in many areas of the tourism sector. However, smart tourism destinations are rarely mentioned as one of these potential areas. In this context, this research determines whether it is possible to create a smart tourism destination plan and level by chatting with ChatGPT. The basic theory to be used at this point is the Conversation Theory.

Conversation Theory, proposed by John Pask, serves as a communication model elucidating interpersonal communication stages. Central to this model are two pivotal elements: content and relationship. As individuals engage in conversation, they possess information about the subject matter (content) and the relational dynamics surrounding the discourse (Erul & Işın, 2023).

This research endeavors to craft a smart tourism destination plan and level by leveraging ChatGPT within the conceptual framework of Conversation Theory. ChatGPT is engaged through a series of carefully crafted questions to achieve this objective. The precision and relevance of these questions are paramount, aligning with the need to facilitate effective communication and learning within the Conversation Theory framework (Rospigliosi, 2023). This research focuses on formulating questions conducive to successful engagement with ChatGPT.

To create a smart tourism destination plan and level through ChatGPT, ChatGPT was asked to imagine itself as a tourism destination manager and create a smart tourism destination plan. During the chat on creating a smart tourism destination plan with ChatGPT, the first question "*Can you imagine yourself as a tourism destination manager in Nevşehir and create a smart tourism destination plan for Nevşehir?*" was asked. Upon this question, ChatGPT created the plan consisting of 10 topics. Then the question "*Can you explain the Digital Infrastructure title comprehensively with detailed and concrete examples?"* was asked. The reason for asking this question is to find out whether ChatGPT's smart destination plan titles and dimensions have a certain logical integrity. Finally, the question "*Within the scope of this strategic plan, can you categorize the smart tourism destination into levels 1-5 and explain the applications that should be in a smart tourism destination at each level?*" was asked. In this way, the smart tourism destination plan and level were created.

In response to the request for a detailed explanation of each topic along with concrete examples, ChatGPT adeptly provided comprehensive insights into the components of the smart tourism destination plan. In the final stage, ChatGPT was directed to assign a smart tourism destination level ranging from 1 to 5. This level was expressly intended to be determined in alignment with the smart tourism destination plan crafted by ChatGPT.

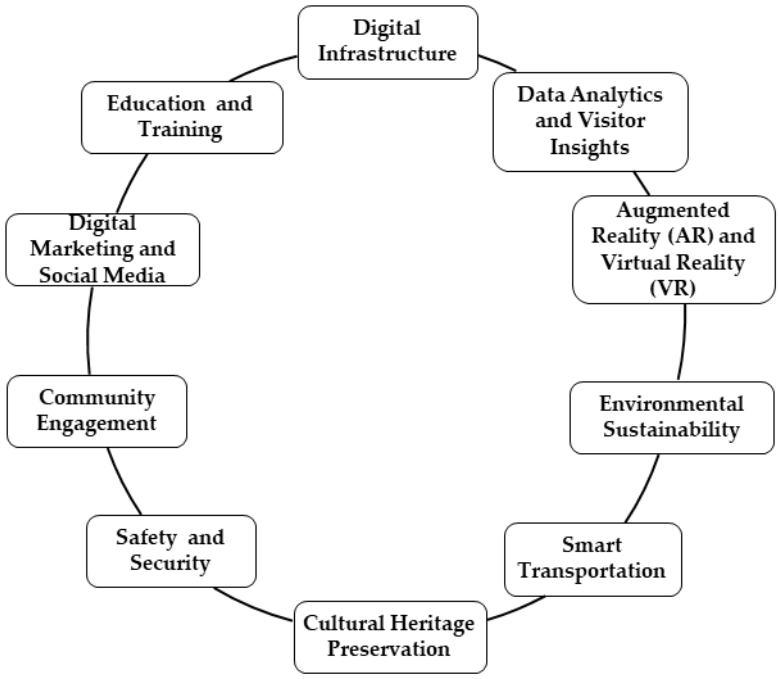

Figure 1. Smart Tourism Destination Plan Dimensions (Created by the authors using ChatGPT)

4.Findings

The dimensions and contents of the smart tourism destination plan created by ChatGPT are shown in the figures.

Digital Infrastructure: In digital infrastructure, the recommendation is to fortify Nevşehir's connectivity and accessibility for visitors through strategic measures. Implementing a robust Wi-Fi network in crucial tourist areas to provide seamless internet access to visitors is advised.

Wi-Fi connectivity is related to the provision of uninterrupted internet connectivity in areas with a high number of tourists. ChatGPT suggested collaborating with accommodation and catering establishments to provide free Wi-Fi to visitors. The purpose of a tourism mobile app is to provide information and services that visitors want to obtain through a centralized platform. These apps can include real-time event updates, interactive maps, restaurant recommendations and emergency contacts. Augmented reality applications can also be integrated into the apps.

Smart information kiosks are designed to increase accessibility to information for visitors who do not have a smartphone. They include touchscreen kiosks with important information and all the features of the destination, such as attractions, transportation, etc. These kiosks can consist of multilingual support for international visitors. Digital signage can be introduced to provide dynamic and real-time information to visitors. Digital signage boards can be installed in transportation hubs to provide access to events and local news and weather information. QR codes can also be used on signage to facilitate visitors' access to additional information. Smart ticketing aims to simplify the ticketing system for tourist attractions. For museums, a digital ticketing system can allow visitors to purchase tickets online or through a tourism app. In addition, physical contact and waiting time can be reduced by using contactless QR code technology.

E-commerce integration emerges as a pivotal tool in streamlining booking processes and transactions for various tourism-related services. This is particularly applicable to accommodation, tours, and transportation services, where the implementation of an online booking system through a regional tourism app proves beneficial. This centralized platform not only facilitates easy and efficient booking for visitors but also contributes to the seamless coordination of tourism-related services. Furthermore, the potential of e-commerce integration extends to local artisans and businesses, allowing them to showcase and market their products to visitors through digital platforms. This digital marketplace enhances visibility, fostering economic opportunities for local entrepreneurs within the tourism sector.

Real-time communication channels play a crucial role in establishing direct lines of communication for visitors seeking assistance. Integrating a chatbot into the tourism app serves as a valuable resource, offering immediate responses to frequently asked questions and providing information to enhance the visitor experience. Additionally, setting up a dedicated hotline within the app ensures instant help and guidance, further enhancing the visitor support system. Digital experience enhancement takes the form of enriching the overall visitor experience through innovative digital tools. Incorporating virtual reality (VR) experiences at touristic sites allows visitors to explore historical places in a captivating virtual environment. Moreover, audio guides integrated into the tourism app provide detailed information, enhancing the narrative as visitors explore different locations. These digital enhancements collectively contribute to a more immersive and enjoyable tourism experience in Nevşehir.

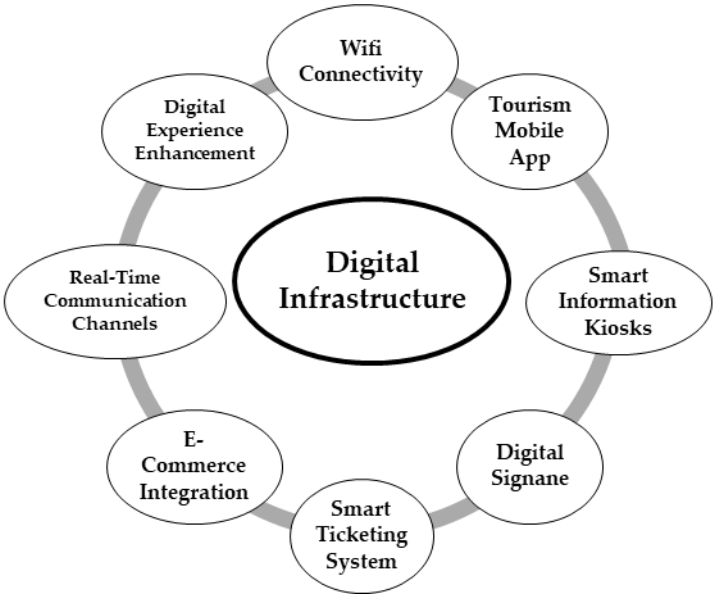

Figure 1. Digital Infrastructure Sub-Dimensions (Created by the authors using ChatGPT)

Data Analyticts and Visitor Insights: In the Data Analytics and Visitor Insights dimension, ChatGPT suggested using data analytics to clearly understand visitor behavior, trends, and preferences, which can be used in marketing strategies to increase visitor satisfaction. ChatGPT also proposed a smart ticketing system for frequently visited tourist areas.

Effective management of tourist flows and identification of popular areas can be achieved by implementing visitor tracking and heat maps facilitated by Wi-Fi tracking or beacon technology. These tools enable the monitoring of tourist movements, allowing for the creation of heat maps that highlight areas with the highest visitor concentrations. This information proves invaluable for optimizing resource allocation and implementing efficient crowd management strategies. The primary goal of survey and feedback analysis is to gauge visitor satisfaction and pinpoint areas that require improvement. Digital surveys, integrated into tourism apps, provide a convenient and immediate means for visitors to share their experiences and opinions. Online reviews and social media sentiment analysis serve as additional avenues to comprehend public opinion, offering valuable insights into the strengths and weaknesses of the tourism experience. By leveraging these technologies and methodologies, destination managers can comprehensively understand visitor behaviors, preferences, and satisfaction levels. This data-driven approach enables informed decision-making, continuously enhancing the tourism experience in Nevşehir.

Smart ticketing data can help in understanding visitor demographics and preferences. Ticket sales data can be analyzed to identify peak visitation times and adjust operating hours accordingly. Attractions and events can then be tracked to inform marketing strategies. Social media analysis can monitor social media platforms to measure the destination's online presence and visitor sentiment. Social media analytics tools can be used to track comments, hashtags and geotags related to Nevşehir. Popular user-generated content can be identified to showcase authentic visitor experiences.

Weather and seasonal analysis can be used to understand the impact of changes on visitor numbers. It can be used to develop targeted marketing campaigns for different seasons. Personalized marketing campaigns are essential for adapting marketing efforts to visitor preferences and behavior. Personalized recommendations can be provided through a tourism app based on user preferences and past activities. It can create targeted promotional campaigns, such as discounts at popular attractions. Economic impact

analysis can be applied to assess the economic impact of tourism on the local economy. Spending patterns can be analyzed to understand the contribution of tourism to local businesses.

Data can be used to develop strategies for sustainable economic growth and diversification. Predictive analytics for demand forecasting is key to forecasting future visitor trends and demand. Predictive analytics can be used to estimate visitor numbers for specific events and seasons. Infrastructure and services can then be evaluated according to expected demand. Collaboration with tourism stakeholders could include data sharing agreements with accommodation, catering and travel businesses to improve overall destination management. Collaboration with local businesses to develop promotions targeting visitor trends. Continuous improvement is based on applying continuous data analysis to adapt strategies and improve the visitor experience. The tourism app can be regularly reviewed and updated based on user feedback and usage patterns. Data-driven reviews can also be carried out regularly to assess the effectiveness of marketing campaigns and adjust strategies accordingly.

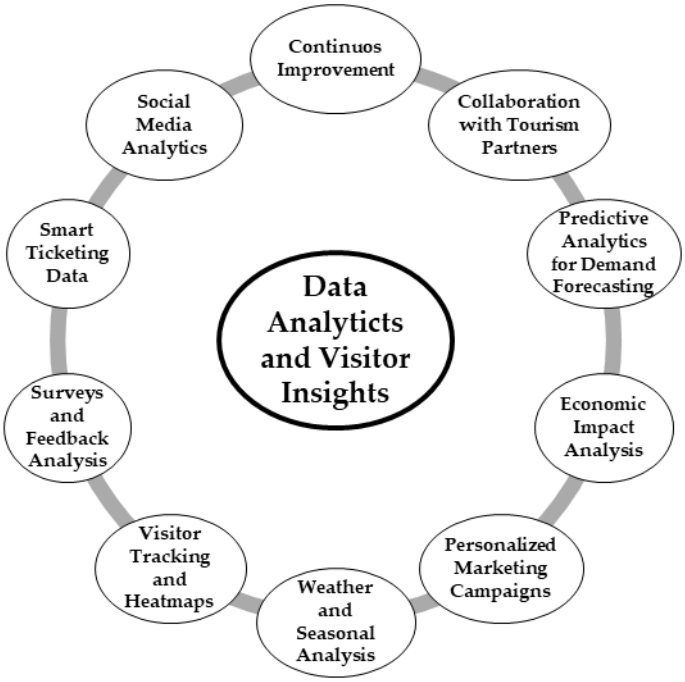

Figure 3. Data Analytics and Visitor Insights Sub-Dimensions (Created by the authors using ChatGPT)

Augmented Reality (AR) and Virtual Reality (VR): Incorporating augmented reality (AR) and virtual reality (VR) technologies into the tourism experience in Nevşehir marks a significant leap toward providing visitors with immersive and educational encounters. This augmented and virtual reality phase consists of ten sub-headings designed to enhance various aspects of the tourist journey.

Virtual tours and experiences can enable tourists to explore Nevşehir virtually. Tourists' experiences can be enhanced with technological equipment integrated into areas frequently visited by tourists. In addition, the visibility of Nevsehir can be increased. Interactive AR guides are important in terms of obtaining instant information in the destination and giving the opportunity to see the area beforehand. AR navigation systems allow tourists to visit roads and areas that they know less. AR-supported navigation applications make an important contribution to increase the awareness of lesser-known points in the destination. By using digital technologies, it is possible to exhibit cultural heritage sites in their original form. Thus, cultural heritage sites can be shared before and after. AR-based interactive exhibitions in museums allow visitors to have an interactive visit experience.

Geotagged AR content proves to be a valuable asset for tourists exploring Nevşehir, offering instant access to information about various locations. This innovative technology lets visitors quickly grasp each place's historical significance and stories. The efficiency of geotagged AR content enables a swift and comprehensive understanding of the rich historical tapestry of Nevşehir. Virtual cultural events, facilitated through AR, transcend physical constraints, allowing individuals not physically present in Nevşehir to participate actively in these events. This digital inclusivity adds an extra layer of positive contribution to the destination's attractiveness, broadening its appeal beyond geographical boundaries.

AR's application in souvenir shopping enhances the visual evaluation of items for tourists. It visually represents how tourists perceive the items, aiding in their decision-making process. Additionally, AR enables the conveyance of information about items that may not be suitable for personal use, enhancing the overall shopping experience and ensuring informed choices. Integrating AR games into the tourism experience adds an element of entertainment while simultaneously promoting and enhancing the destination's attractiveness. These gamified experiences contribute to a dynamic and engaging environment for tourists. Lastly, prioritizing accessibility initiatives is crucial to ensuring that people with disabilities can visit Nevşehir without encountering obstacles. By focusing on inclusive practices and technologies, the destination can create a welcoming environment for all visitors, fostering a genuinely accessible and enjoyable tourism experience.

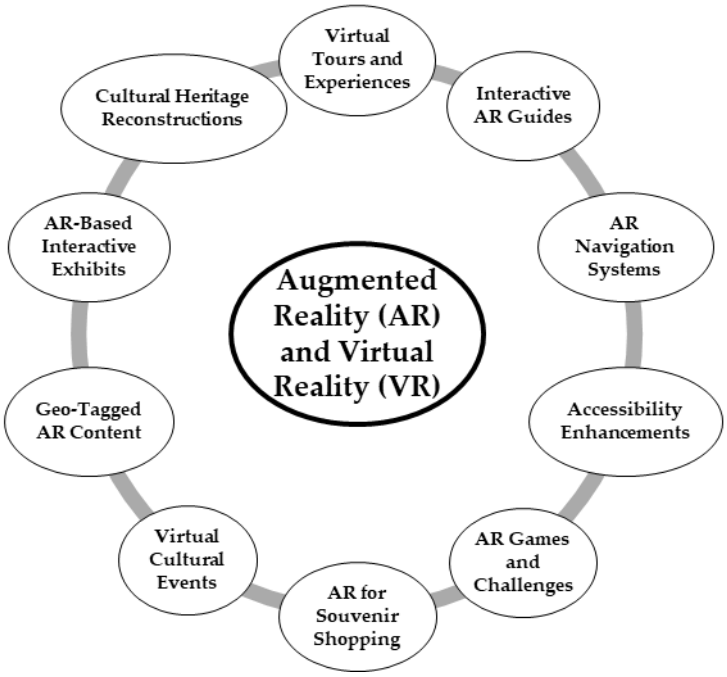

Figure 4. Augmented Reality (AR) and Virtual Reality (VR) Sub-Dimensions (Created by the authors using ChatGPT)

Environmental Sustainability: Environmental sustainability is the set of strategies and policies that societies and businesses implement to preserve the natural environment, use resources efficiently, and reduce environmental impacts. In addition, environmental sustainability is the responsible use of natural resources to ensure their continued existence in the future. With environmental sustainability, the right of future generations to live in a healthy environment is possible.

Indeed, waste reduction and recycling programs are crucial in minimizing waste generation and fostering responsible recycling practices. The integration of renewable energy sources, as part of renewable energy integration, contributes significantly to reducing the carbon footprint and promoting cleaner energy

alternatives. Developing energy-efficient infrastructure in buildings and public spaces enhances overall energy efficiency, aligning with sustainability goals. Water conservation initiatives are vital for preserving water resources, encouraging responsible water use, and promoting sustainability in resource management. The conservation of biodiversity involves the preservation of local ecosystems and the protection of diverse species within them. Sustainable transportation initiatives further contribute to reducing the environmental impact of transportation within tourist areas, emphasizing eco-friendly modes of travel.

Certification programs are instrumental in recognizing and rewarding businesses and attractions prioritizing sustainability and providing incentives for adopting environmentally friendly practices. Education and awareness programs play a crucial role in raising awareness of environmental sustainability among tourists and locals, fostering a collective commitment to responsible practices. Community engagement in sustainability involves actively involving the local community in sustainable tourism practices, ensuring a collaborative and inclusive approach. This engagement extends to encouraging sustainable practices, including environmentally friendly hotel accommodations and other lodging options. Altogether, these initiatives create a more sustainable and responsible tourism environment.

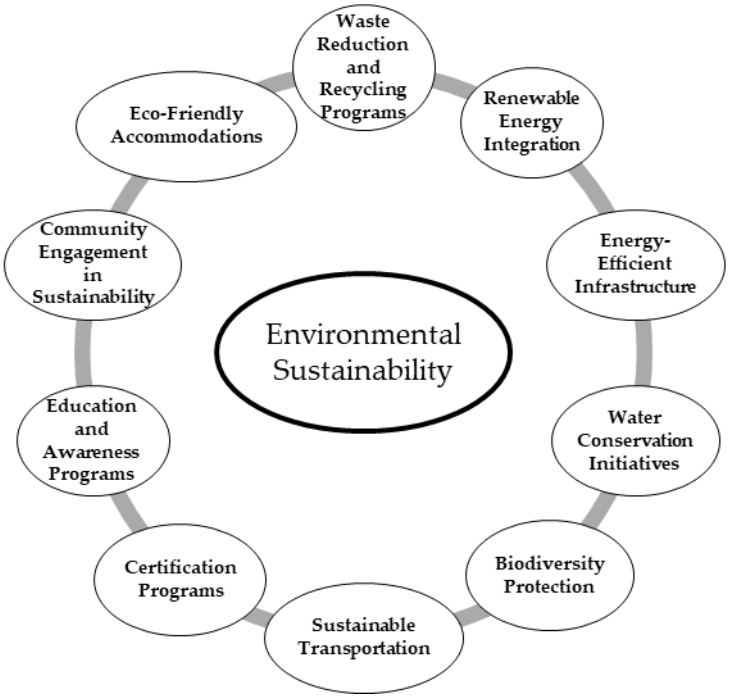

Figure 5. Environmental Sustainability Sub-Dimensions (Created by the authors using ChatGPT)

Smart Transportation: Smart transportation refers to the integrated application of modern technology and management strategies aimed at enhancing the safety and efficiency of transportation systems. These systems play a crucial role in minimizing traffic congestion and improving traffic safety, ultimately leading to reduced travel times and fuel savings. Consequently, smart transportation is deemed essential in the formulation of a comprehensive smart tourism destination plan.

Smart transportation is a crucial component of the smart tourism destination plan, incorporating various dimensions to enhance the efficiency and intelligence of transportation systems. Digital navigation assistance ensures tourists can quickly find their destinations through the provision of digital tools. The exploration of autonomous (driverless) vehicles presents innovative transportation options. Safety and security measures are implemented to guarantee the well-being of tourists using transportation services.

Data-driven decision-making leverages data analytics to enhance the quality and efficiency of transportation services. Real-time tracking and planning furnish tourists with up-to-the-minute information for improved travel planning. Smart parking solutions address parking challenges and reduce traffic congestion intelligently.

The integration of electric and hybrid transportation options seeks to minimize the environmental impact of transportation. Integrated multimodal transport establishes seamless connectivity between different transportation modes, offering comprehensive travel options. Intelligent traffic management optimizes traffic flow and mitigates congestion. Micro-mobility solutions facilitate short-distance travel within the destination, providing convenient and sustainable mobility alternatives. Collectively, these dimensions contribute to the development of a smart and efficient transportation network within the context of smart tourism destinations, aligning with sustainability principles and enriching the overall travel experience for tourists.

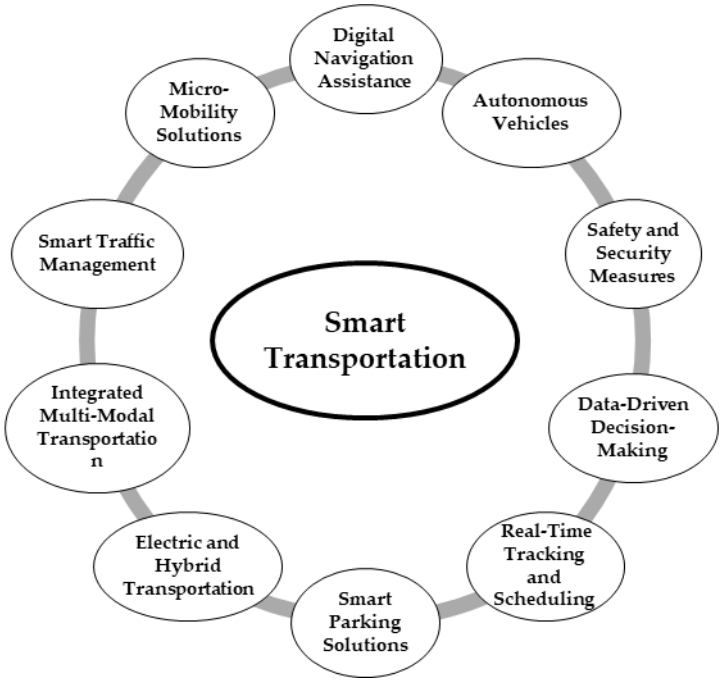

Figure 6. Smart Transportation Sub-Dimensions (Created by the authors using ChatGPT)

Cultural Heritage Preservation: The sixth dimension of the Smart Tourism Destination Plan for Nevşehir focuses on Cultural Heritage Preservation. This facet of the smart tourism destination initiative encompasses safeguarding historical artifacts and documents through digitization. Additionally, the proposal advocates for establishing virtual museums, allowing visitors to access information about Nevşehir at their convenience.

The digitization of artifacts and documents is strongly recommended as a means of preserving cultural treasures while also ensuring accessibility for visitors. Virtual museums and exhibitions play a crucial role in enriching the overall experience for visitors. Interactive educational programs are designed to educate both locals and visitors about the rich cultural heritage of Nevşehir. The preservation of historical architecture is imperative for the enduring sustainability of cultural heritage. Creating cultural heritage trails offers visitors a distinct and immersive experience during their Nevşehir visits. Public information meetings are strategically planned to underscore the significance of cultural heritage. Essential restoration efforts, complemented by the adaptive reuse of heritage buildings, are integral components of the preservation strategy. The organization of cultural events and festivals serves as a dynamic means of

sustaining the cultural vibrancy of the region. The management of responsibilities is streamlined through effective archaeological site management. Actively engaging the local community in the conservation process ensures their direct involvement in sustaining cultural heritage. Lastly, leveraging conservation technologies becomes instrumental in safeguarding and preserving various elements of cultural heritage.

Figure 7. Cultural Heritage Preservation Sub-Dimensions (Created by the authors using ChatGPT)

Safety and Security: The seventh dimension of the smart tourism destination plan revolves around Safety and Security, acknowledging the pivotal role they play in ensuring a seamless visitor experience. Leveraging smart technologies becomes essential in enhancing destination safety and security to prevent visitor disruptions during their vacations. Minimizing issues within the destination is a crucial aspect of the smart tourism destination initiative.

Implementing smart surveillance systems enables the identification of behaviors and potential threats within the destination, enhancing overall security. The integration of emergency response applications is crucial, providing tourists with a direct means to seek assistance in emergencies. To manage crowds effectively and mitigate issues related to over-tourism, establishing crowd management systems is imperative. Geofencing for areas with security vulnerabilities contributes significantly to enhancing the overall safety of the destination. Travel advisory systems play a vital role in proactively informing tourists about potential security concerns. The use of biometric authentication at entry and exit points heightens security levels within the destination.

To safeguard digital platforms, robust cybersecurity measures are essential for the successful operation of destination websites and mobile applications. Visible security forces, such as police presence, instill a sense of trust among visitors, contributing to a secure environment. Smart lighting systems, particularly during nighttime, allow visitors to navigate and enjoy the destination safely at any hour. Disaster preparedness activities should be intricately planned within a specific framework, encompassing preventive measures. Tourists need to be well-informed about accessible support units in case of any issues, ensuring their confidence in the destination's safety protocols. This comprehensive approach to safety and security aligns with the overarching goal of providing a secure and enjoyable experience for all visitors.

Figure 8. Safety and Security Sub-Dimensions (Created by the authors using ChatGPT)

Community Engagement: Community engagement is important in terms of ensuring cooperation between stakeholders in a smart tourism destination plan. The involvement of local people and businesses in tourism can be realized through community engagement. Community engagement can also be useful for businesses to adopt and use smart technologies.

Enhancing the visibility of local businesses in the tourism sector necessitates the development of collaborations. Beyond businesses, organizing events and festivals becomes a valuable strategy to actively engage communities in tourism activities. To achieve this, targeted initiatives such as local art and culture programs and specialized training sessions can be orchestrated for the destination. Establishing an event calendar can aid in coordinating and promoting these activities effectively. Feedback mechanisms play a pivotal role in gathering insights from the local community regarding the undertaken initiatives and studies. Constructive feedback facilitates continuous improvement and ensures that the community's perspectives are integrated into decision-making processes. Emphasizing local experiences is crucial for the preservation of cultural values within the destination.

Furthermore, fostering cultural exchange programs allows local residents to interact with individuals from diverse cultures, promoting cross-cultural understanding and enriching the community's perspectives. These initiatives contribute not only to the economic development of the destination but also to the social and cultural enrichment of the local populace. In summary, a holistic approach that involves collaboration, community engagement through events, and the preservation of cultural values forms the foundation for creating a vibrant and sustainable smart tourism destination.

Figure 9. Community Engagement Sub-Dimensions (Created by the authors using ChatGPT)

Digital Marketing and Social Media: Another smart tourism destination plan dimension is digital marketing and social media. With the digital marketing and social media dimension, a smart tourism destination fulfills its promotional activities with the support of technology. Thus, promotional activities are more successful, and technological innovations are added to marketing activities.

The success of promotional activities in tourism is significantly enhanced through the utilization of tourism websites, mobile applications, and chatbots. These tools, accessible to tourists at any time, offer comprehensive information, contributing to the effectiveness of promotional endeavors. In recent times, the prominence of social media and influencer promotions has become noteworthy in the field of destination marketing. Leveraging these platforms can amplify the reach and impact of promotional activities. Various incentives can be implemented to encourage tourists to share their experiences, creating a dynamic feedback loop on social media. Harnessing the power of user-generated content contributes to the authenticity and relatability of promotional efforts. Furthermore, analyzing past data becomes instrumental in shaping future marketing activities for destination promotion.

Digital analysis techniques play a crucial role in crafting destination promotion content. By delving into data-driven insights, marketers can tailor their strategies to align with the preferences and behaviors of their target audience. This adaptive approach ensures that promotional content remains relevant and resonates with potential tourists' evolving needs and interests. In essence, a comprehensive and dynamic approach that integrates technological tools, social media dynamics, user-generated content, and data-driven insights is essential for achieving success in destination promotional activities within the evolving landscape of the tourism industry.

Figure 10. Digital Marketing and Social Media Sub-Dimensions (Created by the authors using ChatGPT)

Education and Training: The education of stakeholders, such as tourists and local people in tourist destinations, is an essential building block for tourism development.

Digital literacy programs can provide local people with digital skills specific to tourism-related activities. Sustainable tourism practices training can be conducted to educate tourism stakeholders on sustainable tourism principles and practices. Local tourism workforce training can be implemented to upskill the local workforce in the tourism industry. Tourist safety and emergency response training can be used to educate local people on emergency response and safety measures to ensure visitors' well-being. Tourism awareness programs for local people can be implemented to raise awareness among local people about the importance of tourism and its role in destination management. Tourism research and innovation center for ongoing research and innovation in tourism. Intercultural communication workshops to improve cultural understanding between tourists and locals who are constantly interacting.

Culinary training programs can be implemented to improve the culinary skills of chefs and caterers in the destination. Hospitality management courses focus on developing the skills of individuals who want to work in hospitality management. High-quality tour guiding services can be provided through tour guide certification programs. Multilingual training for tourism professionals can be implemented to equip them with multilingual skills to serve visitors from different countries better. Cultural heritage conservation courses can be organized to educate local people on cultural heritage conservation.

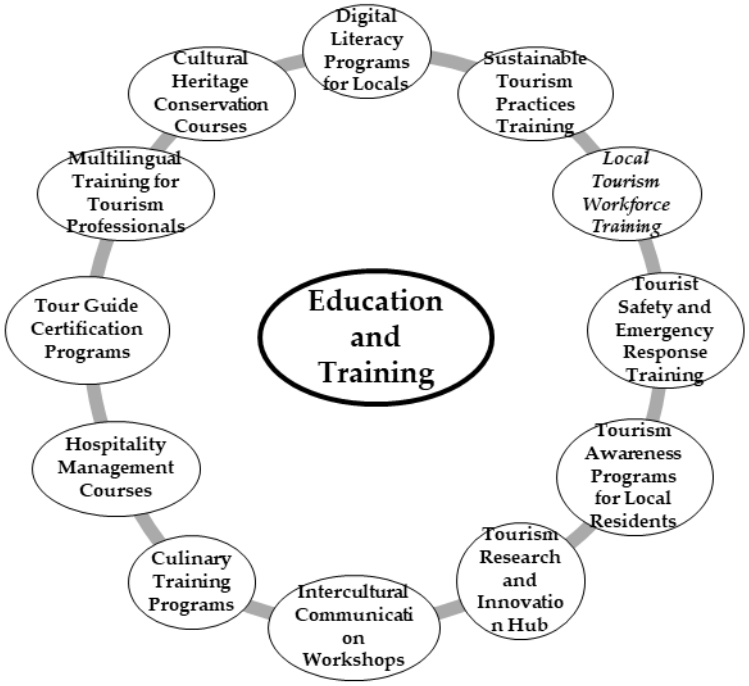

Figure 11. Education and Training Sub-Dimensions (Created by the authors using ChatGPT)

Smart Tourism Destination Level: We asked ChatGPT to create smart tourism destination levels 1-5 within the scope of its proposed smart tourism destination plan. ChatGPT created smart tourism destination levels 1-5 after the command. Smart tourism destination levels are as follows:

Level 1: At the basic smart tourism destination level, the destination has simple digital applications. For example, a website with the attractions of the destination or a basic mobile application are simple digital applications.

Level 2: At the smart tourism destination level, which is expressed as emerging technologies, it is seen that digital applications have developed compared to the first level. Increasing the features of the website, integrating augmented reality applications and active use of social media platforms are the main examples.

Level 3: At this level, which focuses on integrated solutions, there are applications to reduce and solve the problems of tourists in the destination. An example is an interactive, comprehensive tourism application that provides accurate and fast information to tourists. The use of chatbots is another example. Widespread use of digital marketing is also recommended.

Level 4: Described as smart destination management, this level focuses on smart transportation and sustainability issues in the destination. Integrating smart transportation systems and ensuring environmental sustainability are priorities.

Level 5: In this advanced phase of smart tourism destination development, the focal point revolves around innovation and continuous enhancement, addressing critical aspects such as security, cultural preservation, and artificial intelligence (AI) integration. To ensure the safety of tourists, the destination prioritizes advanced security measures, incorporating facial recognition technology for robust surveillance and implementing emergency response features within tourism applications. These features empower visitors with immediate assistance during unforeseen events, contributing to an overall secure environment. Moreover, a pioneering approach is adopted for the preservation of cultural heritage, employing augmented and virtual reality technologies. Artificial intelligence takes center stage in this

advanced smart tourism destination, with applications utilizing AI algorithms to offer personalized recommendations to tourists.

5.Discussions and Conclusion

ChatGPT has been a common research topic in many fields for the last two years. One of these areas is the tourism sector. Research has been conducted on the potential impacts or utilization of ChatGPT for various tourism sector stakeholders (Demir & Demir, 2023a; Dwivedi et al., 2023b; Gürsoy et al., 2023). However, it is notable that there is no research related to ChatGPT in the field of destinations or even smart destinations. At this point, we wanted to create a smart tourism destination plan through ChatGPT. We also aimed to determine a smart tourism destination level within the scope of this plan. In this direction, we directed commands to ChatGPT per our requests. ChatGPT first created a smart tourism destination plan by our commands. This plan consists of 10 dimensions. We then asked ChatGPT to explain and exemplify each dimension in detail. Our aim in this request was to see whether ChatGPT's proposed dimensions have a logical justification and whether it supports them with concrete examples. With ChatGPT's detailed explanations, we have seen that each dimension has various sub-headings and examples.

The first dimension proposed by ChatGPT within the scope of the smart destination plan is digital infrastructure. It is seen that the digital infrastructure prioritizes the presence and implementation of digital applications in every area of the destination. These digital applications, which will be used by tourists and other stakeholders and will minimize the uncertainty in the destination, are the center of the digital infrastructure. Wi-Fi connections, mobile tourism applications, augmented reality, smart information kiosks are some of the applications that make up the digital infrastructure. ChatGPT's recommendation of digital infrastructure as the first priority in the smart tourism destination plan is in line with the relevant literature. The widespread successful use of digital applications in destinations contributes positively to the satisfaction of tourists and strengthens the destination as a smart tourism destination (da Costa Liberato et al., 2018). Mandić & Garbin Praničević (2019) state that digital applications are important attractive elements in smart tourism destinations. Digital applications are one of the strategic elements in creating a smart tourism destination. Because smart solutions are provided with digital applications (Zadel et al., 2020). Due to these contributions, digital applications are seen as important in smart tourism destinations and are encouraged by various institutions (Gretzel, 2022). In fact, it is emphasized that digitalization, which is described as a digital revolution, creates smart tourism destinations (Jovicic, 2019). As a result, digital applications are a key component of smart tourism destinations (Cimbaljević et al., 2019).

The second dimension outlined in the smart destination plan, as proposed by ChatGPT, underscores the significance of data analytics and visitor insights. This dimension emphasizes the utilization of artificial intelligence to analyze visitor behaviors within the destination, enabling more informed marketing activities. Artificial intelligence plays a crucial role in deciphering tourists' preferences, and the implementation of a smart ticketing system is suggested to gather valuable insights. This system aids in understanding concentration areas within the destination and discerning temporal patterns. The incorporation of data analytics in smart tourism destinations results in an improvement in the decision-making processes of destination managers, as highlighted by Xiang et al. (2015). The advent of new information providers, such as big data, as mentioned by Gajdošík (2019), further enhances the understanding of tourist behavior and has the potential to significantly contribute to the development of

smart destinations. Data analytics is portrayed as a gateway to innovation within smart destinations, as it has the capability to visualize the otherwise invisible aspects of visitor behaviors (Xiang & Fesenmaier, 2017). In this context, Del Vecchio et al. (2018) underscore data analytics as a strategic asset that not only enhances but is integral to the success of smart destinations.

The third dimension proposed by ChatGPT within the smart destination plan is augmented and virtual reality. The main goal is to increase the satisfaction of tourists with augmented and virtual reality. Another desire is to present the cultural artifacts in the destination to tourists in an original way. For this reason, there are suggestions to add augmented and virtual reality to various applications. These suggestions are supported in the literature. The use of augmented and virtual reality by tourists before and after their visits has positive effects on improving tourists' experiences (Marzouk et al., 2019). Because these applications promise tourists a difference in terms of information and attractive experiences in smart destinations (Boletsis & Chasanidou, 2018). Therefore, augmented and virtual reality applications are increasing in smart destinations (Kaji et al., 2018).

The fourth dimension, environmental sustainability, emphasizes the promotion of electric or hybrid vehicles in urban transportation, waste reduction, recycling programs, and energy-efficient infrastructure. According to ChatGPT, environmental sustainability is essential for smart tourism destination management. Because with environmental sustainability, the negative impacts of tourism activities can be minimized. This is realized through the use of technological applications. Chourabi et al. (2012) state that the natural environment is one of the practical dimensions of smart destinations. Zygiaris (2013) defines one of the dimensions as green in the smart destination model he developed. He emphasizes urban environmental sustainability from the green city dimension. In smart tourism destinations, technological applications should be used to ensure sustainability and manage natural resources (Brandão et al., 2019). Smart tourism destinations that adopt technological applications offer a sustainable tourism management approach by promoting environmental sustainability (Shafiee et al., 2019). Therefore, environmental sustainability and smart tourism destinations have a strong relationship.

In the realm of smart transportation, the implementation of real-time tracking and planning for all public vehicles, coupled with the widespread adoption of electric scooters and bicycles for environmentally friendly mobility, emerges as a critical focus. According to ChatGPT, the provision of smart transportation not only ensures accessibility but also guarantees efficiency and quality in transportation services for tourists within the destination. Recognized as one of the critical and challenging facets of smart destinations, smart transportation aligns with the priorities outlined by Pellicer et al. (2013). Azgomi & Jamshidi (2018) further emphasize the importance of smart traffic control and the integration of autonomous vehicles in shaping the landscape of smart transportation. Additionally, the utilization of sensors, wireless networks, and other artificial intelligence applications plays a pivotal role in enhancing the efficiency and intelligence of transportation systems, as noted by Fantin Irudaya Raj & Appadurai (2022). As part of the Smart Cities Wheel developed by Cohen (2018), the concept of smart mobility underscores the integration of technological innovations into transportation systems. This aligns seamlessly with the smart transportation practices proposed by ChatGPT and the corroborating insights from related literature. In essence, the synergy between technological advancements and transportation systems is integral to the vision of smart destinations.

In cultural heritage protection, it is recommended that historical artifacts and documents be digitized and cataloged to ensure protection and accessibility. In addition, developing virtual museums and online

platforms to exhibit cultural heritage and providing opportunities to explore the history of Nevşehir remotely are also considered in this context. According to ChatGPT, protecting cultural heritage elements is an integral part of a smart tourism destination plan. As smart tourism destinations continue to develop, integrating cultural heritage elements with technological developments is accelerating (Gomez-Oliva et al., 2019). Cultural heritage elements experience the effects of digitalization in smart tourism destinations (Sonuç & Süer, 2023). Angelidou et al. (2017) state that smart destinations and cultural heritage intersect and that cooperation should be established. In particular, it is said that only technological applications will not be sufficient for a destination based on cultural heritage to become a smart tourism destination and that the local people in the destination should participate in the protection of cultural heritage (Sinis et al., 2021).

In the safety and security dimension, there are suggestions for using smart surveillance systems and developing an emergency response application to increase security at the destination. ChatGPT states that it is essential to ensure security in the destination and that technological advances should be used in the security field. Safety and security are among smart destinations' most critical and modeled areas (Lacinák & Ristvej, 2017). Laufs et al. (2020) state that smart destination security affects destination planning and management. Poor privacy and security conditions in the destination lead to decreased trust in the destination (Ismagilova et al., 2020). For these reasons, ensuring smart destination privacy and security is essential for destination management.

The community engagement dimension underscores the importance of fostering active community participation in tourism activities through the organization of local events, festivals, and cultural programs. Additionally, it is recommended to incentivize local businesses, encouraging the development of a more efficient local economy that embraces smart technologies. The impact of smart destinations extends beyond tourists to the local community, contributing to an enhanced quality of life for residents, as indicated by Lopez de Avila (2015). In the evolution of smart destinations, the integration of smart systems is not limited to tourists but also extends to local residents. These smart systems play a crucial role in making the destination more livable for both visitors and locals, enhancing overall urban and community functionality (Lalicic & Önder, 2018). Community engagement in the context of smart tourism destinations serves as a catalyst for improving the quality of interactions among local residents, businesses, and tourists. This collaborative approach not only fosters a sense of shared responsibility but also contributes to resolving mutual problems and building stronger, more positive relationships within the community. In essence, community engagement emerges as a vital component in the sustainable development and success of smart tourism destinations.

Digital marketing and social media play a pivotal role in promoting smart destinations, involving implementing digital marketing strategies to engage a broader audience and position a destination as innovative and intelligent. Applying these strategies catalyzes establishing a destination as "smart," creating awareness among people and attracting their interest. Ensuring that tourists are intrigued by a smart destination requires the development of comprehensive and destination-specific digital marketing applications. These applications not only facilitate tourists' access to the destination but also contribute to shaping the overall perception of the destination. As highlighted by Prakash et al. (2024), a well-crafted digital marketing approach tailored to the destination's unique attributes is essential to capture tourists' attention effectively. Considering the inherent connection between smart destinations and technology, effective management of the destination's image through digital spaces and social media becomes imperative, as noted by Adamış & Pınarbaşı (2022). By leveraging digital platforms and social media

channels, destinations can successfully communicate their smart features, technological advancements, and unique offerings to a global audience, reinforcing their position as innovative and attractive smart destinations.

After formulating the smart tourism destination plan, ChatGPT has delineated a five-tiered classification system to categorize smart tourism destinations based on the sophistication of their content and applications. At Level 1, destinations are characterized by basic applications featuring rudimentary technological solutions. Moving to Level 2, a slight advancement in technical applications is observed, introducing more sophisticated features than in Level 1. As destinations progress to Level 3, tourism applications become more comprehensive, showcasing intricate and multifaceted technological solutions. Level 4 marks the integration of smart solutions into destination management, coupled with a diversification of applications to encompass a broader range of services. Reaching the pinnacle at Level 5, smart tourism destinations exhibit the full integration of analytics and artificial intelligence into their applications. This highest level of technological sophistication signifies a comprehensive utilization of advanced technologies to optimize and elevate the tourism experience. In essence, this tiered classification system provides a structured framework for understanding the evolving levels of technological integration within smart tourism destinations, reflecting the destinations' increasing capacity to leverage cutting-edge technologies.

In the intersection of ChatGPT and the tourism sector, existing studies predominantly focus on two main themes: the utilization and impact of ChatGPT in the tourism industry and the integration of ChatGPT into tourism education. However, there is a noticeable gap in research regarding the potential contributions of ChatGPT to destinations and its broader applications. This research seeks to address this gap by providing a unique perspective on the potential use of ChatGPT in destinations. The study leverages ChatGPT's capabilities to formulate a comprehensive smart tourism destination plan and level. ChatGPT's potential applications are explored through this innovative approach, showcasing its ability to generate detailed and structured plans for smart tourism destinations. The proposed plan and level offer a versatile framework applicable to any destination, demonstrating the adaptability and potential impact of ChatGPT in shaping the future of smart tourism.

Although ChatGPT is useful in smart tourism destination planning by generating content in a detailed way, it may cause concern due to some negative aspects. The placement of digital applications such as ChatGPT within a specific system causes negative prejudice due to lack of security and system. The fact that ChatGPT does not create full confidence in the reliability of information and data storage is a negative feature (Dwivedi et al., 2024; Gürsoy et al., 2023). Since ChatGPT is a new application, it is not fully trusted and included in the system by businesses and local governments. Integrating applications based on artificial intelligence such as ChatGPT into the system functioning that local governments already have can be considered a risky behavior. Because local governments do not have such preparations and the future of ChatGPT is not clear, which creates uncertainty. In this case, ChatGPT's content such as smart tourism destination planning can only offer a variety of ideas to decision makers, but it does not seem possible to expect the content to be implemented.

By presenting ChatGPT's contributions in the context of smart tourism destination planning, this research expands the discourse on ChatGPT in the tourism sector. It introduces a practical and inclusive framework for destination development. This novel perspective emphasizes the potential of ChatGPT to revolutionize

destination planning and management, showcasing its versatility as a tool for advancing smart tourism initiatives across diverse destinations.

This research holds several practical contributions to the field. Firstly, it establishes the viability of employing ChatGPT in smart tourism destination applications. By showcasing the potential utility of ChatGPT, the research paves the way for the integration of advanced language models in practical destination management scenarios. Secondly, the research introduces a comprehensive smart tourism destination plan comprised of ten distinct dimensions. Each dimension and its corresponding sub-dimensions are meticulously elucidated and concretized, providing a detailed framework for the development and implementation of smart tourism initiatives in diverse destinations. This structured plan offers practical insights for destination managers and stakeholders seeking to enhance their technological infrastructure and tourist experiences.

Thirdly, the research defines a smart tourism destination level ranging from 1 to 5, each level representing different degrees of technological sophistication. By categorizing smart tourism destination practices at each level, the research provides a valuable tool for assessing and determining a destination's standing in the journey towards becoming a smart tourism destination. This level framework facilitates destination managers in gauging their current technological status and envisioning progressive steps for future advancements. In summary, this research not only highlights the practical applicability of ChatGPT in smart tourism but also furnishes destination stakeholders with a detailed plan and level framework, empowering them to strategically navigate and elevate their smart tourism initiatives.

In a comprehensive evaluation, it is evident that ChatGPT proves to be a valuable tool for devising a smart tourism destination plan. Adapting to the unique characteristics of Nevşehir, ChatGPT has adeptly crafted a plan comprising ten dimensions. These dimensions encompass Digital Infrastructure, Data Analytics and Visitor Insights, Augmented Reality (AR) and Virtual Reality (VR), Environmental Sustainability, Smart Transportation, Cultural Heritage Preservation, Safety and Security, Community Engagement, Digital Marketing and Social Media, and Education and Training.

Within this tailored smart destination plan, ChatGPT accentuates the significance of digital applications, cultural heritage preservation, community engagement, and safety and security. The plan is strategically designed to not only create a smart destination but also prioritize the satisfaction of both tourists and the local community. The focus on these critical aspects underscores ChatGPT's commitment to fostering a well-rounded and sustainable tourism environment.

Furthermore, ChatGPT constructs a smart tourism destination level by adhering to the dimensions outlined in the plan. This level framework, ranging from 1 to 5, reflects varying degrees of technological integration, providing destination stakeholders with a roadmap to assess and enhance their smart tourism initiatives incrementally. The fact that ChatGPT thoroughly embodies each dimension of the smart tourism destination plan attests to the logical coherence and practicality of these dimensions. This holistic approach by ChatGPT not only showcases its versatility but also lays a foundation for comprehensive and effective smart tourism destination planning.

This research created a smart tourism destination plan and level for Nevşehir destination through ChatGPT. The main limitation of this study is that the smart tourism destination plan is created only with ChatGPT. In addition, the fact that this plan was created for Nevşehir is another limitation. Smart tourism destination plans can be created for different destinations and their contents can be compared. In future research, creating destination plans with other artificial intelligence tools besides ChatGPT and comparing

them may contribute to the literature. Destination plans may differ due to the different information scopes of artificial intelligence tools. Therefore, comparisons can be made between different artificial intelligence tools. The applicability of the plans created specifically for the destination can be explained by interviewing the destination management and decision makers. In this way, applicable and inapplicable plan headings of artificial intelligence can be determined. In addition to the smart tourism destination plan, destination promotion contents and strategies can also be determined and implemented with ChatGPT.

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