IMPACT OF ARTIFICIAL INTELLIGENCE MODELS ON RECREATION: COMPARATIVE ANALYSIS OF CHATGPT AND GEMINI

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ABSTRACT

Since the dawn of human history, recreation has consistently played a role in daily life. Despite ongoing changes in technological, economic, and climatic conditions over time, the concept of leisure has remained a persistent and integral part of human experience. Recent technological advancements have not fundamentally altered the desire for leisure but have instead diversified the ways people engage in it. Innovations such as computers, mobile devices, smart technologies, social media platforms, and digital games have significantly enhanced individuals' recreational experiences. This study aims to evaluate the performance of Artificial Intelligence (AI) models within the context of recreation. Specifically, it explores the functional capabilities of advanced AI systems –namely Gemini and ChatGPT– in supporting and enhancing recreational practices. This research is situated within the broader discourse on the role of AI in the technological landscape and seeks to assess how effectively these models can contribute to leisure-related applications. Using a literature review and expert input, twelve structured questions were posed to both AI models. Their responses were systematically analyzed and compared based on criteria including detail, creativity, elaboration, use of visuals and graphics, response speed, competence, and subject-matter knowledge. The study employed content analysis and descriptive analysis, both of which are qualitative research methods, to interpret the data. Findings indicate that both AI models demonstrate a high degree of reliability and content accuracy. Moreover, valuable insights were derived regarding their potential contributions to the recreation industry. The results suggest that AI has the capacity to expand its utility in this field, with promising implications for enhancing workforce efficiency and promoting sustainable development within the recreation sector.

Keywords: Tourism, Recreation, Artificial Intelligence, ChatGPT, Gemini.

1. INTRODUCTION

Since the first day of humanity's existence in the world, instincts of not working and being lazy have existed, as well as working and being busy with a job, due to its nature. Working principles are constantly changing with the increasing number of humanity and changing living conditions. In particular, not working and being lazy have been constantly criticized by some groups (Lafargue, 2009). There are constant technological and sociological changes in the world. With the industrial revolution, people's working hours have changed and their free time has increased. In this process, the concepts of having fun and distraction, which have become people's needs, have become even more important (Veal, 2004: 44).

Recreation is defined as activities carried out to keep people's life functions alive, to rest them, to entertain them, to cheer them up and to provide them with pleasure, and to revitalize people by enabling them to participate in these activities. Activities that provide happiness, satisfaction, spiritual and serenity, physical activity and socialization, and an intellectual perspective to people participating in activities are called recreation (Parker, 1979).

Mirzeoğlu (2006) defines recreation as a social life that suits people's nature and gives them pleasure, and aims to give up the time they spend between work and home and listen spiritually and mentally. According to Kara Küçük (2008), activities and activities that people voluntarily participate in in their spare time, apart from meeting their mandatory needs, are called recreation. When the definitions are evaluated in general, recreation; It refers to activities and activities that people voluntarily participate in, that enable them to renew themselves mentally and spiritually, and that entertain and provide them with pleasure, in their free time periods other than their mandatory (physiological) needs. Recreation is divided into various types according to the place where the activities are carried out, according to their purpose, according to the time they are held, according to the number of people participating, according to the ages of the participants, according to the participation status, according to the nationality of the participants, according to the area, and according to the functions of the activities (Gül, 2014). However, with the advancements in social, cultural, technological and economic life, recreational activities have begun to come to the fore. These activities that people do in their spare time have led to the emergence of the concept of recreation over time. Nevertheless, the rapid increase in the human population in today's world unfortunately brings with it various social, environmental and economic problems (Kırmacı & Akmanoğlu, 2021). It is no longer surprising that digitalization, which deeply affects economic and social life, creates technological innovations every day, and especially in recent years, developments in information technologies provide convenience for users in their work (Demir, 2023).

As a matter of fact, content created by Artificial Intelligence covers various forms of multi-modal content, including text, images, audio and video, produced by generative artificial intelligence systems supported by machine learning algorithms trained on extensive data sets (Zhang & Prebensen, 2024). In this context, the aim of this study is to evaluate the impact of generative artificial intelligence models on the field of recreation. Within the scope of the research, the study conducted on ChatGPT and Gemini artificial intelligence models includes qualitative research methods. Within the scope of the study, a literature review was conducted and 12 questions were asked by academics who are experts in the field. Based on the information obtained, it is thought that it will have a positive impact on the recreation area in the future, but there are also negative aspects resulting from confidentiality and misinformation. In this regard, future studies should be evaluated and developed within the framework of confidentiality and ethics, and it is suggested that they can be created with a specific type of recreation.

2. CONCEPTUAL FRAMEWORK

2.1. Recreation And Artificial Intelligence

Recreation is derived from the Latin term "recretio" and means renewal and re-creation. Conceptually, recreation can be defined as entertainment and social interaction-based activities that offer individuals the opportunity to restructure themselves in the process of spending their free time. When the behaviors of individuals participating in recreational activities are examined, it is determined that these processes provide personal relaxation, increased motivation and psychological renewal. In addition, it is observed that recreational activities positively affect social interactions of individuals by strengthening their social relationships.

The increase in social and environmental stressors brought about by modern life significantly increases individuals' needs for relaxation, relaxation and remotivation (Can, 2015).

It is stated that participation in recreational activities is closely related to the socio-cultural dynamics that shape individuals' leisure habits. In today's complex social structures, the effective and efficient use of individuals' free time at the institutional level emerges as an important problem area. Therefore, in order to support young people's integration into the social structure, it is considered a critical necessity to develop mechanisms that will facilitate their access to leisure activities and to implement policies to increase participation rates (Kılıç & Şener, 2013).

Many different components can be effective in destination branding. In recent years, it has been observed that recreational activities have become more prominent among holidaymakers' travel motivations. These activities are considered an important determining factor in both destination selection and revisiting the region. Academic research reveals that regions use recreational activities extensively in their efforts to promote themselves and that these activities are emphasized in promotional materials. In this context, it is stated that the contribution of recreational activities to destination branding should be increased, and therefore it would be beneficial to include these activities more in marketing strategies (Kargiglioğlu, 2019).

With the release of ChatGPT in November 2022 and the rapid evolution and release of GPT-4 in mid-March 2023, interest and discussions on large language models are spreading all over the world (Chen et al., 2023). ChatGPT is an AI-based generative language model developed by OpenAI that is used to generate high-quality, human-like text by predicting the next word based on context. ChatGPT is able to produce coherent texts with unprecedented fluency by processing large amounts of text data (Shin & Kang, 2023). The prevalence of ChatGPT (and generative AI in general) is accelerating a paradigm shift in several industries, including tourism and hospitality. ChatGPT enables tourism and hospitality organizations to transform and innovate their business models by revolutionizing entire business functions (from marketing to operations). It contributes to the literature by discussing the potential integration of ChatGPT into different fields of hospitality and tourism (Sigala et al., 2024).

Applying GPT in leisure tourism offers several opportunities to enhance the authentic experience. Personalized itineraries, real-time interactive guidance and better translated communication with locals mean that tourists can enjoy a more meaningful interaction with the places they visit (Çolak, 2023). ChatGPT will not completely replace staff in the hospitality and tourism industry, but will instead empower them and increase employee productivity. It will also give them the freedom to move from monotonous tasks to more meaningful customer-related job responsibilities. This will help increase the well-being and job enrichment of employees in the hospitality and tourism sector in the long run (Dwivedi, 2024).

While it is understood that ChatGPT can revolutionize the field of tourism, it has also become clear that there are several important issues that various stakeholders need to address to ensure the safe use and effectiveness of ChatGPT (Altınay et al., 2024). The ability to quickly and accurately filter extensive information eliminates the need for tourists to navigate complex data sources. While acknowledging the potential for misinformation, ChatGPT's user-friendly interface and rapid response system offer a new and effective method to access travel information, thus contributing positively to the sustainable development of the tourism industry (Shi et al., 2024).

3. METHOD

Descriptive analysis is a method that seeks to organize collected data systematically and present it in a clear and comprehensible manner. This approach often incorporates direct quotations to

accurately reflect individual perspectives obtained through observation or interviews. In contrast, content analysis is an analytical technique used to systematically examine components such as words, concepts, themes, idioms, characters, or sentences within texts, and to convert these into statistical data. This method enables a deeper analysis of textual content, allowing for the identification of trends, recurring patterns, and distinct thematic elements (Erdem, 2023).

In this study, twelve questions pertaining to the field of recreation were developed based on a comprehensive literature review and expert consultations. These questions were directed to two artificial intelligence applications -Gemini and ChatGPT- and the resulting responses are presented in tabular form in the findings section. The two AI systems were systematically compared across several criteria, including accuracy, level of detail, creativity, consistency, use of graphics and visuals, response speed, competence, and domain-specific knowledge. The study was conducted within the framework of a qualitative research methodology, employing both content analysis and descriptive analysis techniques for interpretation. It was assumed that the data obtained were reliable and free from technical disruptions.

4. RESULTS

Table 1. Responses of Artificial Intelligence Applications Regarding Recreation

1-What is recreation?							
	Detail	Creativity	Consistency	Visual-Graphic	Speed	Proficiency	Field knowledgeable
ChatGPT	X	X	X		X	X	X
Gemini	X	X	X				X

According to the information obtained, Gemini goes to the etymological root of the problem, while ChatGPT is thought to be heading towards a more general conclusion. This is also indicated in the table above. The main answers given by the two artificial intelligence models are as follows;

Gemini: *"Recreation is derived from the Latin word "recreatio" and is generally translated in Turkish as "evaluation of free time" or "revival"." While answering,*

ChatGPT: *"It can be defined as fun and relaxing activities that individuals participate in during their free time, providing physical, mental and emotional recovery."*

In line with the information obtained, the accuracy of the answers is considered to be at an acceptable level. Indeed, Gözen (2019) stated in his study that '*The term recreation derives its origin from the Latin word 'recreare' and means 're-creation' and 'refreshment'. Throughout history, this concept has been expressed in various sources as 'revitalization of spiritual power or soul' or 'rebirth'."*

Table 2. Responses to History of Artificial Intelligence Applications

2-Can you give information about the history of recreation?							
	Detail	Creativity	Consistency	Visual-Graphic	Speed	Proficiency	Field knowledgeable
ChatGPT	X	X	X		X	X	X
Gemini	X	X	X			X	X

In line with the information obtained, Gemini examined the subheadings of Mesopotamia and Egypt, Rome and Greece under the title of Ancient Times, examined the subheadings of Industry and the 20th Century after under the title of Middle Ages and Modern Period, and then concluded with the title of Recreation in Türkiye. Finally, it summarized the subject with a general summary. ChatGPT provided information on this subject under the general headings of Ancient Period, Middle Ages, Industrial Revolution, 20th century, and made its final evaluations under the title of Today. The main answers given by the two artificial intelligence models are as follows;

Gemini: *'Throughout human history, there has always been a need for individuals to make their lives more meaningful, albeit in different ways. Today, recreation is an indispensable element for living a healthy life, reducing stress, and strengthening social relationships.'*

ChatGPT: *'The historical evolution of recreation has been shaped by the changing values of societies, technological developments, and the ways individuals spend their free time. This process has enabled recreation to reach wider audiences and become an activity that strengthens health and social ties.'*

Indeed, in ancient times, recreation was shaped as activities aimed at rest and entertainment at individual and social levels, and in this context, physical activities, social celebrations and cultural practices aimed at both reinforcing the struggle for life and achieving spiritual peace. In ancient Egypt, especially the upper classes' way of spending their free time was shaped by sports and cultural activities, while in ancient Greece, recreation diversified among disciplines such as sports, art and folk entertainment and took a more complex form. This historical process has transformed into a systematic evolution of the concepts of rest, vacation and free time over time (Öz, 2014).

Table 3. Responses Regarding the Importance of Artificial Intelligence Applications

3-Give information about the importance of recreation?						
	Detail	Creativity	Consistency	Visual-Graphic	Speed	Proficiency	Field knowledgeable
ChatGPT	X	X	X		X	X	X
Gemini			X		X		X

Based on the information obtained, it is thought that ChatGPT provides more regular and detailed feedback, while Gemini is a bit more lacking in this regard. While ChatGPT lists the topic in bullet points, Gemini has been observed to make more generalizations. The main answers given by the two artificial intelligence models are as follows;

Gemini: *'Recreation is not only fun, but also a very important activity for our physical, mental and social health. It allows us to take time for ourselves and gather energy by getting away from the stress and intensity of daily life.'*

ChatGPT: *'Recreation is an important area of activity that increases the quality of life of individuals, protects their health and strengthens their social ties. Recreation has many positive effects on both the individual and social levels. It strengthens social ties and contributes to environmental sustainability. For these reasons, recreation is of great importance on both the individual and social levels.'*

Indeed, there are significant differences in terms of health, attitudes towards the environment and legal responsibilities between individuals who are deprived of recreation opportunities and those who use such opportunities effectively. At the most basic level, recreation is a spiritual activity that gives meaning to life and makes individuals' lives valuable. In this context, people all over the world need recreation due to their physical, psychological and social structures (Çoruh, 2013).

Table 4. Responses to Participation in Artificial Intelligence Applications

4-What are the factors affecting participation in recreational activities?						
	Detail	Creativity	Consistency	Visual-Graphic	Speed	Proficiency	Field knowledgeable
ChatGPT			X		X	X	
Gemini	X	X	X			X	X

In line with the information obtained, Gemini provided a more detailed answer by creating subheadings under the headings of individual, environment and other factors, while ChatGPT

is thought to have focused on the general topic, again in bullet points. The main answers given by the two artificial intelligence models are as follows;

Gemini: *'Participation in recreational activities is affected by many individual and environmental factors. These factors shape a person's attitude, frequency, and choices toward recreational activities. Participation in recreational activities emerges as a result of a complex interaction between an individual's internal world and the external environment. All of these factors shape an individual's recreational experience and affect their quality of life.'*

ChatGPT: *'Participation in recreational activities is affected by a variety of internal and external factors. These factors determine how individuals spend their free time and what types of recreational activities they tend to participate in. Since each individual's lifestyle, preferences, and environmental conditions are different, participation levels may also vary from person to person.'*

Certain basic conditions must be met for individuals or communities to participate in recreational activities and for these activities to be carried out under more suitable conditions. The most important of these conditions are the availability of time, sufficient economic capacity and the existence of suitable places where recreational activities can be carried out (Sağlık, 2014).

Table 5. Responses to Types of Artificial Intelligence Applications

5-What are the types of recreation?						
	Detail	Creativity	Consistency	Visual-Graphic	Speed	Proficiency	Field knowledgeable
ChatGPT		X	X		X	X	X
Gemini	X	X	X	X		X	X

In line with the information obtained, Gemini approached the types of recreation with a specific approach, while ChatGPT explained this issue under general headings with subheadings. Gemini, which entered into specific types of recreation, is thought to be more adequate in this regard. At the same time, Gemini supported it with visuals. The main answers given by the two artificial intelligence models are as follows;

Gemini: *'Types of recreation vary according to the individual's interests, age, physical condition and social environment. What is important is that the individual chooses activities that will make them feel good and increase their quality of life. Note: While this list is comprehensive, types of recreation are constantly evolving and diversifying.'*

ChatGPT: *'It covers a variety of activities that help individuals spend their free time in a fun and relaxing way. Recreational activities can be divided into different types, each of which appeals to different needs and preferences. Recreation can be done in a wide variety of categories according to the needs and preferences of individuals. Each type of activity is designed to meet different physical, mental, social and cultural needs and can appeal to individuals of all ages. This diversity reinforces the important role of recreation in society and its positive effects on individuals' health.'*

Recreation is becoming increasingly important in the social life of countries, depending on their level of development. In some countries, entertainment, art, cultural events, sports, dance, physical activities such as hunting and fishing, and leisure time elements are defined either under the same name or with similar concepts. The basic functions of recreation can be grouped under four main headings as individuals resting or relaxing, having fun, and improving themselves physically and mentally (Zorba & Yermakhanov, 2022).

Table 6. Responses to Artificial Intelligence Applications Regarding Branches of Science

6-What branches of science does recreation include?						
	Detail	Creativity	Consistency	Visual-Graphic	Speed	Proficiency	Field knowledgeable
ChatGPT	X	X	X		X	X	X
Gemini		X	X	X		X	X

In line with the information obtained, Gemini responded with short and clear information, while ChatGPT provided more detailed information under the subject headings. While Gemini provided visual support, ChatGPT responded more quickly on this subject. While both AI models provided similar results, ChatGPT evaluated them from two different perspectives, namely communication sciences and management sciences. The main responses given by the two AI models are as follows;

Gemini: *'Recreation is an interdisciplinary field where many different branches of science intersect. Recreational activities designed to meet people's needs for leisure, rest and entertainment become more productive and meaningful with the contributions of these branches of science.'*

ChatGPT: *'Recreation is a multifaceted and comprehensive field that includes many branches of science. These disciplines play an important role in the design, implementation and evaluation of activities that support the physical, mental, social and cultural development of individuals. The fact that recreation is connected to different branches of science increases the richness and diversity of studies in this field.'*

Table 7. Responses of Artificial Intelligence Applications Regarding the Best Type of Recreation

7-Can you list the 3 best recreation types that can be implemented and why?						
	Detail	Creativity	Consistency	Visual-Graphic	Speed	Proficiency	Field knowledgeable
ChatGPT	X	X	X		X	X	X
Gemini	X	X	X	X	X	X	X

The two artificial intelligence models summarized this question under three general headings and mentioned many recreational activities.

Gemini: *It stated that it stems from reasons such as being in touch with nature, doing sports and participating in social activities, health, sociality.*

ChatGPT: *It listed it under more general headings such as physical activity and sports, nature recreation and camping, artistic and creative activities. When we look at the reasons, it listed them as sensory, mental, problem solving, health and well-being.*

In line with the information obtained, ChatGPT provides more systematic information on this subject, and it is also possible to create a concept map.

Table 8. Responses of Artificial Intelligence Applications Regarding Recreation in the World

8-Can you list the 3 cities in the world that best enable sustainable recreational activities and why?						
	Detail	Creativity	Consistency	Visual-Graphic	Speed	Proficiency	Field knowledgeable
ChatGPT	X	X	X		X	X	X
Gemini	X	X	X	X	X	X	X

According to the information obtained, the two AI models indicate the same places even though they touch on different reasons.

Gemini: *'Copenhagen, Denmark due to bicycle culture, green areas, sustainable transportation and cultural events; Vancouver, Canada due to nature, sustainable living, cultural diversity and active lifestyle; Portland, Oregon, USA due to bicycle-friendly city, green city, art and culture and beer culture.'*

ChatGPT: '*Vancouver-Canada due to urban planning compatible with nature, green areas and parks, sustainable transportation and environmentally friendly infrastructure, nature and water sports; Copenhagen-Denmark due to bicycle-friendly city, green areas and parks, water recreation, sustainable tourism and environmental awareness; Portland-USA due to environmentally friendly infrastructure and planning, large green areas and socio-cultural events.*'

Table 9. Responses to Artificial Intelligence Applications Regarding Recreation in Türkiye

9- Can you list the 3 cities in Türkiye that best enable recreational activities to be sustained and why?						
	Detail	Creativity	Consistency	Visual-Graphic	Speed	Proficiency	Field knowledgeable
ChatGPT	X		X		X	X	X
Gemini	X	X	X	X		X	X

According to the information obtained, the three important cities that allow recreational activities to be sustained in Türkiye are Gemini; Fethiye-Muğla, Cappadocia-Nevşehir and Antalya, while ChatGPT; İzmir, Antalya and Bodrum-Muğla. While Gemini examines the subject within the framework of culture and tourism, ChatGPT evaluates the subject more from the perspective of tourism and sustainability.

Gemini: '*Türkiye is a very suitable country for recreation thanks to its geographical location and rich natural beauties. However, since each city has different characteristics, the cities that offer the most suitable opportunities for the sustainability of recreational activities also vary.*'

ChatGPT: '*The cities that best enable the sustainability of recreational activities in Türkiye are based on factors such as natural beauties, environmentally friendly practices, accessibility and diversity of green areas.*'

Table 10. Responses to the Relationship Between Artificial Intelligence applications and Recreation

10-Please provide information about the relationship between Artificial Intelligence and Recreation?						
	Detail	Creativity	Consistency	Visual-Graphic	Speed	Proficiency	Field knowledgeable
ChatGPT	X		X		X	X	X
Gemini	X	X	X	X		X	X

Although Gemini and ChatGPT gave similar answers to the relationship between AI and recreation in line with the information obtained, Gemini made different suggestions and supported them with examples.

Gemini: '*AI will develop further in the recreation sector, offering more personalized experiences that exceed users' expectations. For example, it may become possible to interact with AI-supported virtual avatars in real time or participate in recreation activities in completely virtual worlds.*'

ChatGPT: '*AI offers innovative solutions in many areas, from personalizing activities in the recreation field to managing them more efficiently. AI has the potential to increase environmental and social sustainability, as well as enabling people to have more productive, healthy and enjoyable recreation experiences.*'

Table 11. Responses Regarding the Advantages and Disadvantages of Artificial Intelligence Applications

11-What are the advantages and disadvantages of Artificial Intelligence in Recreation?						
	Detail	Creativity	Consistency	Visual-Graphic	Speed	Proficiency	Field knowledgeable
ChatGPT	X	X	X		X	X	X
Gemini			X			X	X

In line with the information obtained, Gemini showed a general approach to the subject, while ChatGPT responded with more details.

Gemini stated that the advantages were personalized experience, efficient route planning, virtual and augmented reality, smart home systems and automation, Chatbot support, data analysis and trend forecasting, while the disadvantages were privacy issues, technological dependency and misinformation.

ChatGPT mentioned the following advantages; suggestions according to individual preferences under the title of personalized experiences, customized fitness and exercise plans, efficient planning and management of recreation areas under the title of time and space management, virtual reality and augmented reality, inclusiveness under the title of accessibility and overcoming obstacles, performance tracking and improvement under the title of data analysis and better experiences, analysis of activity preferences, and social activities under the title of social interaction. As disadvantages, under the heading of technological dependency, he stated the subheadings of social isolation and decreased physical activities, under the heading of data security and privacy, excessive monitoring and disclosure of personal data, and under the heading of technological errors and inadequacies, algorithm errors and system failures.

Table 12. Responses to the Future of Recreation by Artificial Intelligence Applications

	Detail	Creativity	Consistency	Visual-Graphic	Speed	Proficiency	Field knowledgeable
12-What impact could Artificial Intelligence have on recreational activities in the future?							
ChatGPT	X	X	X		X	X	X
Gemini	X	X	X	X	X	X	X

According to the information obtained, unlike ChatGPT, it also mentions negative results for recreational activities.

Gemini; *'Artificial intelligence has a great potential to lead to radical changes in the recreation sector in the future. However, although artificial intelligence has a great potential in the recreation sector, the development of this technology should be followed carefully and used in accordance with ethical values.'*

ChatGPT: *'Artificial intelligence (AI) has the potential to create revolutionary changes in recreational activities in the future. With the development of technology, the effects of AI in this area will show themselves in many dimensions such as more personalized experiences, increased accessibility, environmental sustainability and new forms of social connection.'*

5. CONCLUSIONS AND DISCUSSION

This study aims to explore the potential of generative artificial intelligence (AI) models within the field of recreation and to evaluate their influence on sectoral transformation. Through comparative analyses of AI models such as Gemini and ChatGPT, the research investigates the opportunities these technologies offer. Employing qualitative research methods –specifically content analysis and descriptive analysis –the study evaluates AI performance based on key criteria: level of detail, creativity, consistency, visual-graphic production skills, processing speed, competence, and domain-specific knowledge.

The findings reveal that generative AI models significantly contribute to knowledge-based management processes, creative content generation, and workforce efficiency within the recreation sector. These technologies exhibit strong potential to enhance user-oriented service delivery, improve customer experience, and support sustainable practices, particularly in dynamic, human-centered industries such as recreation. However, for effective and ethical integration, it is crucial to conduct precise sectoral needs analyses and ensure continuous updates and contextual adaptation of AI models.

Positioning generative AI as a strategic tool in the recreation domain not only facilitates the optimization of existing operations but also fosters innovative practices within the sector. In this context, it is essential that stakeholders regularly evaluate the performance of AI models and prioritize human-centered integration to maximize the benefits of such technologies.

The results also indicate that generative AI systems tend to associate the recreation field with broader domains such as tourism and travel, and their responses frequently reflect perspectives tied to culture, gastronomy, sustainability, and experiential travel. For instance, gastronomy-oriented tourism has gained significant popularity in recent years, with individuals traveling to explore new cuisines and thereby engaging with local culture and regional products (Türker & Akmanoğlu, 2022).

Moreover, generative AI provides highly personalized services and demonstrates the capacity to integrate recreation with various sectors such as health, sports, tourism, and gastronomy. It offers tailored programs -such as fitness routines in the sports category, travel itineraries in tourism, and nutrition plans in gastronomy- while emphasizing their relevance and benefits. Indeed, Kırmacı & Akmanoğlu (2024) highlight the growing importance of encouraging healthy and balanced nutrition not only in the private sector but also in public institutions. Similarly, Ertüzün & Karaküçük (2014) underline the increasing significance of recreational exercise in preventive healthcare. Their findings emphasize how delays in resolving health issues further underscore the value of such proactive measures.

Despite the promising outcomes, concerns remain regarding privacy and the risk of misinformation. Demir (2023) notes that security vulnerabilities encountered during the development of ChatGPT may impact tourism businesses' efforts to safeguard personal data. Nevertheless, these risks can be mitigated through enhanced security protocols, employee training, technological upgrades, and compliance with legal regulations. Additionally, fostering employee creativity, encouraging participation in innovative projects, and managing the balanced integration of human-supported AI systems are essential for long-term success in the tourism and recreation industries.

As generative AI models continue to evolve and become more embedded in everyday life, several recommendations for future research and practice are proposed:

➢ Integrating AI technologies with specific recreational domains,
➢ Addressing security concerns by establishing clear ethical and privacy guidelines,
➢ Continuously gathering feedback and making iterative improvements,
➢ Providing comprehensive training on AI applications in recreation,
➢ Enhancing speed and operational efficiency,
➢ Expanding creative capacity,
➢ Designing domain-specific AI applications for recreation,
➢ Ensuring multi-language support and improving visual output capabilities.

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