



THE ROLE OF TECHNOLOGICAL INNOVATIONS IN DIVERSIFICATION OF RECREATIONAL ACTIVITIES: INTERVIEW WITH CHATGPT

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Abstract

Individuals, who act in line with new searches and discoveries, increase their leisure time evaluations day by day. Recreational activities, which closely affect individuals' quality of life and perceived well-being, can also offer innovative opportunities by presenting different variations. However, adopting the traditional approach and performing the known activities frequently may prevent the development of new recreational activities. With the increase in economic income and leisure capacity, it is seen that participation in recreational activities has accelerated in the 21st century. In this context, although recreational enterprises want to gain competitive advantage by increasing the number of activities, they often face a limited variety of recreational activities. At this point, artificial intelligence supported applications, one of the most important inventions brought by technology, are used in recreational activities as well as in all areas of tourism. In particular, programs such as ChatGPT, one of the artificial intelligence applications (chat robot), can offer new suggestions and ideas for activity diversity. From this point of view, important findings were obtained by asking the questions of what innovative recreational activities can be with the ChatGPT software. ChatGPT, which presents many innovative proposals, especially virtual museum events, e-sports, adventure recreation, digital storytelling, interactive theater, meditation and various touristic recreations, is an inspiring resource for recreational diversification. It is foreseen that innovative ideas will be formed in the relationship between artificial intelligence and tourism by conducting similar studies in other service areas of tourism. It is recommended to develop studies on the subject by drawing attention to the benefits of artificial intelligence to scientists and sectoral stakeholders.

Keywords: Recreation, Artificial Intelligence, ChatGPT, Technology

Introduction

Artificial intelligence, which is seen as one of the most advanced development stages of technology, is one of the most popular topics today. It contains many features that make life easier, along with concerns such as leaving behind human abilities and becoming difficult to control. Artificial intelligence (AI) is considered to be the simulation of human intelligence processes by machines, tools or computer systems. It covers common applications of artificial intelligence such as word counting, speech recognition, expert systems or the use of machine vision. In other words, the field of artificial intelligence produces results that combine computer science with accurate, qualified, examined datasets to solve a specific problem (Zhang et al., 2021). Artificial intelligence is used in almost all branches of science, benefiting from the useful outputs it provides. It plays an important role in engineering, medicine and informatics sectors, as well as in service sectors such as production, agriculture and tourism (Kumar et al., 2021). There are tendencies towards artificial intelligence, especially in the field of tourism and entertainment services, which continue their activities in an intensely competitive environment, due to the fact that technological opportunities come to the fore and provide an advantage over competitors (Pencarelli, 2020).

Artificial intelligence is a resource in appropriate laboratory conditions for the implementation of many applications such as OpenAI. OpenAI is an artificial intelligence research laboratory that was founded in 2015. The purpose of this application is to make artificial intelligence (AI) systems, which are more competent and smart than humans, beneficial to society. OpenAI has made rapid progress in the development of artificial intelligence technologies since its establishment, and has revealed ChatGPT at the end of 2022 with a program that everyone can use and benefit from (Göktaş, 2023). Today, it has gained a popular qualification as an artificial intelligence application that serves various branches of science and related subjects with its education,

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research and development dimensions. As a matter of fact, when we look at the statistics on the usage level of ChatGPT since November 2022; According to OpenAI, ChatGPT reached 1 million users 5 days after its launch. Considering that Instagram took approximately 2.5 months to reach 1 million downloads and Netflix had to wait approximately 3.5 years to reach 1 million users, the impact rate of ChatGPT is better understood. ChatGPT made history as the fastest growing app in history until the Threads app won the fastest growing app title in July 2023. On the other hand, in January (2023), approximately 13 million unique visitors used ChatGPT every day, and an average of 1.6 billion visits were received each month, resulting in an average of 4.26 page views per user. In addition, it is understood that this application is used for long periods of time because each user spends an average of 7 minutes and 27 seconds on the ChatGPT site (Exploding Topics, 2023).

ChatGPT was developed as a chatbot based on the GPT-3.5 (Generative Pretrained Transformer 3) state-of-the-art LLM (Large Language Models). It has managed to reach a wide audience thanks to its superior qualities, which include many features such as the ability to understand and speak the nuances of human language and interact in a human-like manner. With the ChatGPT program, you can answer your questions, admit your mistakes, and reject inappropriate requests by objecting to false premises. You can also get help in understanding the coding situations created in a systematic way (Hughes, 2023). While all these situations reveal the benefits of the program, it proves how important it is for recreational activities that take an active role in leisure time management. Because it is thought that higher levels of benefits can be obtained with ChatGPT, an artificial intelligence product, in these activities where physical, mental and cognitive abilities are developed, and health improvement and relaxation are gained. Because scientific studies that examine the digital transformation in the way recreational activities are carried out are still very insufficient (Tussyadiah, 2020). From this point of view, based on the review of the literature on the subject and the innovative trends in the integration of artificial intelligence in recreational activities, basic research priorities were created and answers were tried to be found for recreational diversification through ChatGPT. As a matter of fact, the fact that no similar study has been conducted on the subject reveals the originality of the study.

Although recreational activities are desired to be carried out more in indoor and outdoor environments in recent years, they are far from the expected level in terms of innovation and diversity. In addition, the reasons such as the fact that the participants do the same activities frequently and get bored and do not gain new experiences reveal the necessity of innovative recreational activities. In this context, the innovative ideas and creative solutions provided by artificial intelligence-supported ChatGPT have the potential to remove perceived barriers. In simple words, by providing recreational diversification with ChatGPT, participants can be offered the opportunity to participate in innovative activities. Since the human mind and the scope of knowledge are limited against artificial intelligence, which can make robotic coding and scan by commissioning all components, it is not a rational method to not benefit from technology. For this reason, this research examines how to provide recreational diversification with ChatGPT, as well as different ideas and new solution proposals with questions directed to practice.

Conceptual Framework

Artificial Intelligence

Before defining artificial intelligence, it is useful to clarify what intelligence means. Intelligence can be defined as a set of abilities. It is a set of many approaches, such as the ability to understand events occurring in the environment, the ability to draw on past experiences, and the ability to combine existing information to respond appropriately to a new challenge. With the development of technology, intelligence capabilities come to the level that smart systems can perceive the environment, learn and use what has been learned in future situations. Artificial intelligence is generally referred to as cognitive abilities that cover many processes from problem solving to outputs that can imitate human intelligence (Bulchand-Gidumal, 2022). With the abbreviation of artificial intelligence (AI), it is accepted as a concept that expresses programs, algorithms and machines that show intelligence. AI has a comprehensive dimension that includes smart technologies and robotic tools, machine learning, internet of things, artificial neural networks, big data, virtual and augmented reality applications. Organizations that want to increase the production of services and products in an intensely competitive environment are placing more and more importance on artificial intelligence due to the increasing computing power, availability of big data, and advances in machine learning algorithms and models (Knani et al., 2022). Hence, in recent years, artificial intelligence has begun to play an increasingly critical role in transforming all business processes and the way companies analyze customer and market trends. It has started to attract great attention in the tourism sector, especially accommodation, travel and recreational activities. Artificial intelligence, which has drastically changed traditional accommodation and tourism research by

removing some limitations on traditional data, such as the application of big data analysis and self-reported survey data, has managed to attract the attention of the tourism industry. Big data analytics and information technology have become key elements in the revenue management, risk analysis, innovative and digital development of tourism activities (Lv et al., 2022).

Using artificial intelligence, natural language processing and pattern recognition provides significant advantages from improving multinational commercial service assurance and using tourism business more effectively. In 2016, Chatbot was using artificial intelligence to provide voice customer assistants, service usage personal advice like Starbucks. The North Face was an add-on, as was the XPS, a digital brand specialist, a personal shopping tool that uses IBM Watson's artificial intelligence for its in-store boutique service to the internet. Vanguard aimed to provide better service by piloting an intelligent tool that helps customer staff answer common questions. SEBank in Sweden and refining tech giant Becton, Dickinson in the United States leveraged the capabilities of artificial intelligence in part using the realistic smart agent avatar Amelia to serve as an internal employee help desk for IT support (Tsaih ve Hsu, 2018). The tourism sector was also moving with other sectors by keeping up with the use of artificial intelligence. By launching an online concierge, the Hilton hotel chain was analyzing data to offer escaped accommodation options through Facebook content-based advertising. Booking system, Booking, has improved how tourists can organize their leisure time and buy tickets using AI without queues in popular world capitals using a QR code. Again, tourists rely on three components when choosing a package tour: affordability, variety and convenience. Oftentimes, a person has to spend several days to find the perfect option. However, an artificial intelligence-supported program can determine the statistical probability of lower ticket prices based on the collected data and present it to the users' information. For example, Hopper company provides a service that can predict prices for the next year with 95% accuracy by informing the user about the best time to buy tickets via a mobile application. Hopper can now sell its services in more than 120 countries thanks to artificial intelligence. While travel companies spend huge amounts of money on call centers in order to solve recurring problems, they have managed to reduce their costs with the transition to artificial intelligence programs. While artificial intelligence improves service quality, it can also provide real-time recommendations to managers. In addition, it can save on the expenses of enterprises by reducing the need for human labor (Kazak et al., 2020).

With the development of new technologies, digital environments and platforms continue to develop or create new ones. In this context, there are many different actions that can be taken in the digital space, from actions on social networks, PPC strategies or influencer marketing. Extracting large volumes of data has been a core strategy for many international companies for years given that it often requires a fundamental data-driven analysis before executing a marketing strategy. In this direction, before deciding on actions, it is preferred to analyze and interpret the data in order to make a more appropriate choice based on the accuracies made by artificial intelligence (Lacárcel, 2022). Artificial intelligence applications are needed in order to interpret big data and perform a successful activity in the planning phase of recreational activities.

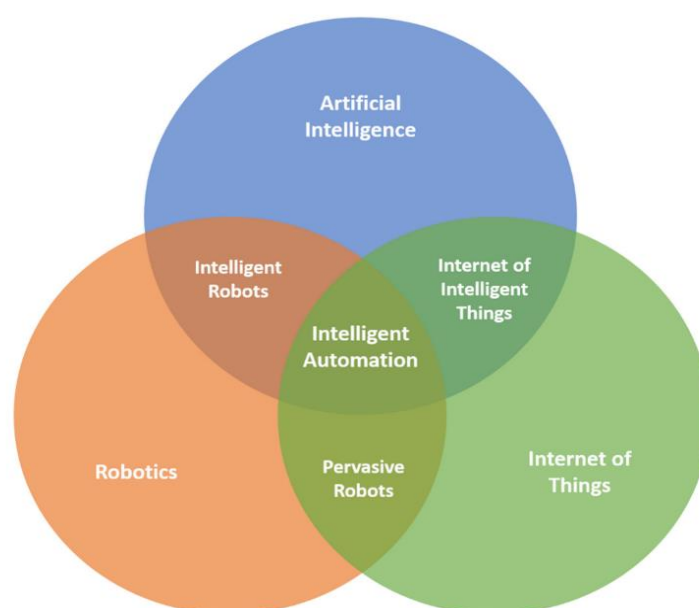


Figure 1. Technological Framework of Intelligent Automation in Tourism (Tussyadiah, 2020).

Automation applications in tourism are frequently used, including the benefits and risks for people participating in touristic activities. These applications are programmed to provide service and assistance in the process from decision making to travel to return journey. Figure 1 shows that contains information on artificial intelligence automation that provides services in tourism. It is critical for service providers to deploy AI, scale marketing content globally, provide personalized offers and a more direct buying path to customers, and generate leads. Marketing automation can serve customers with predictive analytics and adaptive modeling that collects and processes relevant customer data, identity matching (i.e. biographical information; social media profiles, devices and locations, etc.). The use of artificial intelligence techniques allows for faster purchase (booking) rates. Applications such as natural language generation, including text-to-speech combined with automatic translation, are used to scale digital content to a global audience. These systems can then be created as personal travel assistants that nurture the ongoing dialogue, facilitate the purchasing path and. In addition, there are artificial intelligence applications that can guide tourists throughout their journey, including the stages of sharing, remembering and following their post-travel experiences (Tussyadiah, 2020).

ChatGPT

Chatbots are known as artificial intelligence supported applications used to facilitate real-time interactions with hotel guests via text messages. They are designed to assist users by providing information to plan their intended experience. During the experience, chatbots are also used as mobile concierges to provide relevant information. Chatbots use NLP (natural language processing) to understand user requests and provide relevant information (Solakis et al., 2022).

AI-Based Chatbot and Its Evolution

The development of AI-based chatbots has been multidimensional since its inception. The stages of this process are summarized as follows (Verma, 2023);

1. Early stage (1960's-1990's): The first chatbots were developed in the 1960s and were designed very simply. It could respond to a limited number of pre-programmed commands and questions. Over time, they became more sophisticated and used for a variety of purposes, including customer service and entertainment.
2. Rule-based chatbots (2000-2010): In the early 2000s, chatbots became more advanced, able to respond to more complex queries and requests. Rule-based chatbots were introduced, programmed with a set of rules to determine how to respond to certain inputs.
3. Natural language processing (2010's): With the advent of natural language processing (NLP) and machine learning techniques, innovations that revolutionized the chatbot industry were introduced. Artificial intelligence-based chatbots have been trained on large amounts of data, allowing them to understand and respond to user requests in a more humanlike way.
4. Deep learning chatbots (2020's): The integration of deep learning techniques has further enhanced the capabilities of AI-based chatbots, revealing a wider range of inputs, including questions and requests expressed in natural language. It is designed with capabilities that can also use contextual information to provide more accurate and relevant answers.

ChatGPT (Chat Generative Pre-trained Transformer), which has been used rapidly in recent years as one of the chatbots, has been developed as a language model for dialogue. Developed by Open AI, this chatbot was launched in prototype form in November 2022. Since its release, ChatGPT has gained the attention and appreciation of a large number of users from various fields for being able to provide detailed and humane answers to almost any question. It is known that ChatGPT serves a variety of functions, from uses in documentation to training in many disciplines (Chow et al., 2023). ChatGPT, a recently released chatbot, is a program with productive artificial intelligence that is gaining popularity thanks to its functionality. What distinguishes it from other chatbots is that it can reveal information that never existed before. It is also understood that ChatGPT has great potential in terms of organizing existing information in new ways. It can even enable researchers, students, and educators to write articles on a specific topic while helping to form opinions, comments, and ideas. However, since it is based on artificial intelligence, the absence of an autocontrol system causes ChatGPT to give incorrect or meaningless answers in some cases. When the user provides an ambiguous query, he or she can usually guess what the user intends by asking explanatory questions. Although efforts are made to make the program reject inappropriate requests in some cases, it may be observed that it responds to harmful instructions or exhibits biased behavior. Unlike the Google search engine, ChatGPT does not crawl the web for information on day-to-day developments, and the accuracy and

timeliness of some of its answers is questionable as its knowledge is limited to what it learned before 2021. For this reason, the OpenAI company that developed the software is working on an improved version that is better at rendering text than previous versions. While ChatGPT can be a useful tool for researchers, it can also pose a threat to scientific journals as articles created by ChatGPT can add false or plagiarized content to the published literature. Peer reviews may not be able to detect ChatGPT-generated content and may have difficulty distinguishing it from author-written content. For this reason, a major AI conference banned the use of ChatGPT and other AI language tools for conference proceedings (Zielinski et al., 2023).

Since scientific studies on ChatGPT started in 2023, there are limited resources. However, the fact that the subject is popular and interesting allows for a rapid increase in scientific studies. Some of the studies are summarized in Table 1.

Table 1. Literature Review

<i>Author(s)</i>	<i>Purpose of the study</i>	<i>Methodology</i>	<i>Findings</i>
<i>Carvalho ve Ivanov. (2023).</i>	The rapid growth of artificial intelligence can disrupt the recreation service industries, including the tourism sector. It aims to broadly summarize the applications, benefits, and risks of ChatGPT's major language models on tourism.	Drawing on the available literature on ChatGPT, large language models and artificial intelligence	Although it is expected to have negative results in terms of human resources, this practice is mostly beneficial for tourism employees.
<i>Gao et al., (2023).</i>	It proposes a new paradigm called Chat-Rec (ChatGPT Augmented Recommendation System) by examining recreational participant user profiles and past interactions to create dialog-based recommendation systems by transforming them.	The scenarios method was used for the implementation of AIGC (AI-generated content).	Findings proved that Chat-Rec is effective in learning recreational participant preferences and establishing connections between users and products through in-context learning.
<i>Ivanov ve Soliman, (2023).</i>	Aims to assess how ChatGPT will disrupt tourism and leisure industry research.	This conceptual method is preferred.	ChatGPT has the potential to revolutionize tourism research. Because Researchers must create text (assignments and research papers). Universities need to re-evaluate their teaching and assessment strategies and incorporate generative language models through ChatGPT.
<i>Dwivedi et al., (2023).</i>	This study aims to analyze the existing practices and challenges and establish a research agenda for the implementation of generative artificial intelligence (AI) (such as ChatGPT) and similar tools in	This study analyzes the existing literature and practices.	The integration of productive AI technologies such as ChatGPT will have a transformative impact on the hospitality, recreation and tourism industry.

	the hospitality and tourism industry.		
Sudirjo et al. (2023).	This research aims to discuss the role of ChatGPT in improving the process of information search and decision making of recreation tourists.	This research is qualitative in nature.	This study arrives at the conclusion that in today's digital era, artificial intelligence technologies such as ChatGPT have an important role to play in improving travellers' information search and decision-making process.
Adetayo, (2023).	The research aimed to explore students' perspectives on the use of ChatGPT, its potential benefits and disadvantages over traditional reference librarians.	The study used a descriptive survey research methodology and analyzed data collected through descriptive and inferential statistics.	Participants recognized the advantages of ChatGPT such as convenience, user friendliness, extensive knowledge base, and accessibility. However, there are findings that draw attention to limitations such as inability to understand emotions, limitations in answering complex questions, the potential to give incorrect answers, and the risk of outdated information.

Methodology

ChatGPT, which serves as a question-answer dialog system based on a large language model, has attracted great interest since its launch in 2022. It is frequently used in social sciences that provide information, consultancy and service, especially in fields such as mathematics, science and medicine. In this study, which discusses the different ideas that ChatGPT will reveal in order to diversify the limited activities faced by the participants in recreational activities, document analysis, which is one of the qualitative method approaches, was preferred. Document review is a systematic procedure for examining or evaluating both printed and electronic (computer-based and internet-accessed) documents (Bowen, 2009). It is seen that this method is actively used in the processing of the data obtained from the questions directed to the ChatGPT program. In the research, questions are asked about how to diversify activities for entertainment, recreation, cultural and artistic, sportive and touristic purposes according to the purpose of participation in recreation. Each question asked is transferred to the program in a new session and an independent source of information is tried to be obtained. The originality of the research is revealed because the program that is planned to obtain the data source on the subject is new and there is no similar study related to the diversification of recreational activities yet. In this research, where the articles were reviewed through document analysis, no ethics committee approval or legal/special permission was required.

Findings

Recreational activities for recreational purposes offer a variety of alternatives for the participants to have a pleasant time. It carries out recreational activities that raise awareness about the world of entertainment through physical activities or computer-based entertainment options (Whitty ve McLaughlin, 2007). In this context, the findings obtained by first asking ChatGPT "What kind of innovations are there in the diversification of recreational activities for recreational purposes" are presented as follows;

ChatGPT

What kind of innovations are there in the diversification of recreational activities for entertainment purposes?

1. *Virtual Reality (VR) and Augmented Reality (AR)*: VR and AR technologies have been increasingly integrated into recreational activities, providing immersive and interactive experiences for users. These technologies have found applications in gaming, education, tourism, and even fitness activities.
2. *Escape Rooms*: Escape rooms have gained popularity as a recreational activity where participants work together to solve puzzles and challenges to "escape" from a locked room within a set time limit. These experiences often incorporate storytelling and themed environments to enhance engagement.
3. *Experiential Museums and Pop-up Installations*: Museums and entertainment companies have been collaborating to create interactive and experiential exhibits that go beyond traditional static displays. These immersive experiences often feature cutting-edge technology, interactive elements, and artistic installations.

4. *Indoor Skydiving and Trampoline Parks*: Indoor skydiving facilities and trampoline parks have become more prevalent, offering people the thrill of skydiving or bouncing on trampolines in a controlled indoor environment.
5. *E-sports and Competitive Gaming*: E-sports have seen significant growth, with professional players, organized leagues, and major tournaments attracting huge audiences. This form of entertainment has become a mainstream activity, with gaming arenas and online platforms catering to both players and spectators.
6. *Urban Adventure Games*: These games combine elements of scavenger hunts, geocaching, and exploration to create city-wide challenges and adventures that encourage participants to explore their surroundings.
7. *Escape and Puzzle Rooms for Virtual Platforms*: Alongside traditional escape rooms, virtual escape rooms and online puzzle-solving experiences have gained popularity. These platforms allow people to participate remotely, connecting with friends and family from different locations.
8. *Eco-Tourism and Adventure Tourism*: There has been a growing interest in eco-friendly and sustainable tourism, focusing on outdoor recreational activities that promote environmental conservation and appreciation for nature.
9. *Fitness Entertainment*: Fitness activities have been integrated into entertainment experiences, such as dance-based games, interactive fitness classes, and gamified workouts that turn exercise into a fun and engaging activity.
10. *Social VR Platforms*: Virtual reality social platforms have emerged, allowing people to interact and engage in various activities with others in virtual environments, from attending virtual concerts to playing games and participating in virtual meetups.
11. *Retro and Nostalgia-Based Entertainment*: Some entertainment companies have capitalized on the nostalgia trend, bringing back retro games, toys, and entertainment experiences that appeal to adults who grew up in the '80s and '90s.

The individual who wants to get rid of stressful life sources and intense work tempo wants to relax by participating in recreational activities for resting purposes in certain periods. Rest is among the most preferred participation purposes among recreational activities in recent years, as it includes positive features such as energy renewal as well as providing mental and physical comfort to the human body (Carruthers ve Hood, 2004). From this point of view, the findings obtained by asking the question "What kind of innovations are there in the diversification of recreational activities for recreational purposes" are presented to ChatGPT as follows;

ChatGPT

What kind of innovations are there in the diversification of recreational activities for resting purposes?

1. *Sleep Technology*: Companies have been developing smart mattresses, sleep tracking devices, and sleep-related apps to help individuals improve the quality of their sleep. These technologies monitor sleep patterns, provide personalized insights, and even adjust mattress settings to optimize sleep comfort.
2. *Meditation and Mindfulness Apps*: The popularity of meditation and mindfulness has led to the development of various mobile apps that offer guided meditation sessions, stress-relief exercises, and techniques for improving focus and relaxation.
3. *Relaxation Pods and Nap Stations*: In busy urban areas and workplaces, relaxation pods and nap stations are becoming more prevalent. These private spaces allow individuals to take short power naps or meditate during their breaks.
4. *Sensorial Immersion*: Some recreational experiences focus on providing a sensorial immersion to promote relaxation. This could involve experiences like floating in sensory deprivation tanks, sound baths, aromatherapy, or soothing light installations.
5. *Forest Bathing and Nature Relaxation*: The concept of forest bathing, a practice involving immersing oneself in nature and connecting with the outdoors, has gained popularity. Nature-based experiences, such as guided nature walks, wilderness retreats, and eco-resorts, aim to help people relax and rejuvenate.
6. *Relaxation Retreats and Spas*: Wellness resorts, relaxation retreats, and luxury spas offer a wide range of therapeutic treatments and experiences, including massages, hydrotherapy, saunas, and yoga sessions, aimed at promoting relaxation and rejuvenation.
7. *ASMR (Autonomous Sensory Meridian Response)*: ASMR videos and content have become increasingly popular on online platforms. These videos use gentle sounds and visual triggers to induce a relaxing and tingling sensation in some viewers, helping them de-stress and unwind.
8. *Biofeedback and Relaxation Devices*: Biofeedback devices use technology to monitor and provide feedback on physiological processes like heart rate, breathing, and muscle tension. These devices help individuals learn relaxation techniques and manage stress more effectively.
9. *Sleep and Relaxation Music Platforms*: Streaming services dedicated to sleep and relaxation music offer a wide range of calming sounds and soothing melodies designed to help people relax and fall asleep more easily.
10. *Wellness Apps and Platforms*: Mobile apps and online platforms focused on wellness and self-care offer a variety of tools and resources for managing stress, practicing mindfulness, and finding relaxation techniques that suit individual preferences.
11. *Travel Experiences for Rest and Rejuvenation*: Some travel companies are curating experiences specifically tailored to rest and relaxation, focusing on serene destinations, yoga retreats, and wellness-focused getaways.

Belonging to the society and aesthetic concerns that people need after their physical needs continue to increase day by day. Cultural values, which convey the traditional lifestyle and reflect the basic dynamics of the society, are tried to be preserved with recreation activities. In addition, recreational activities that appeal to the visual and auditory senses from an artistic point of view attract attention. With the development of activities within this scope, the number of recreation participants who want to realize themselves is increasing rapidly (Crossick ve Kasznska, 2016). In this context, the findings obtained by asking ChatGPT "What kind of innovations are there in the diversification of recreational activities for cultural and artistic purposes" are presented as follows

ChatGPT

What kind of innovations are there in the diversification of recreational activities for cultural and arts purposes?

1. Virtual Cultural Tours and Exhibitions: Museums, galleries, and cultural institutions have been offering virtual tours and exhibitions that allow people to explore artworks, historical artifacts, and cultural heritage from the comfort of their homes. These virtual experiences often include interactive elements and multimedia content.
2. Immersive Art Installations: Artists and designers have been creating immersive and interactive art installations that go beyond traditional static displays. These installations use technology like virtual reality, augmented reality, and projection mapping to engage visitors in unique and dynamic ways.
3. Digital and Augmented Reality (AR) Art: Artists have embraced digital platforms and augmented reality to create artworks that blend the physical and digital worlds. AR art allows viewers to see virtual elements superimposed onto the real environment using their smartphones or AR glasses.
4. Art and Craft Classes Online: Online platforms and apps offer virtual art and craft classes taught by professional artists, making it easier for people to learn new skills and techniques at their own pace.
5. Collaborative Art Projects: Technology has facilitated collaborative art projects that bring together artists and participants from different locations to create collective artworks, often through online platforms and social media.
6. Digital Storytelling and Interactive Theater: The integration of technology in theater productions and storytelling has led to interactive experiences where the audience can influence the narrative or participate actively in the performance.
7. Cultural Heritage Gaming: Some video games and interactive experiences focus on preserving and showcasing cultural heritage by recreating historical settings, traditional stories, and indigenous knowledge.
8. Art and Music Festivals with Virtual Components: Some art and music festivals have adopted hybrid formats, combining in-person events with virtual components to reach a wider audience and create more inclusive experiences.
9. Cultural Exchange Platforms: Online platforms facilitate cultural exchange by connecting artists, performers, and enthusiasts from diverse backgrounds, allowing for the sharing of ideas and performances across cultures.
10. Art and Music Streaming Services: Streaming platforms dedicated to art and music have been curated to promote independent artists, local art scenes, and cultural diversity, offering audiences access to a broad range of creative expressions.
11. Digital Archives and Preservation Efforts: Digital archives and databases preserve cultural artifacts, artworks, and performances, ensuring their accessibility to future generations and researchers.
12. Art and Heritage Apps: Mobile apps provide interactive guides and information about art, cultural sites, and historical landmarks, enhancing the visitor experience and promoting cultural awareness.

Individuals who tend to sports in order to achieve a healthy lifestyle are more likely to engage in recreational activities for sports purposes. In addition, they can feel the motivation to participate in touristic recreation activities for reasons such as discovery, recognition and gaining experience. Participants can get a sense of satisfaction both physically and spiritually with the types of recreation carried out in sports fields and in the natural environment. From this point of view, the findings obtained by asking the question "What kind of innovations are there in the diversification of recreational activities for sports and touristic purposes" are presented to ChatGPT as follows;

ChatGPT

What kind of innovations are there in the diversification of recreational activities for sport and touristic purposes

1. Adventure Tourism and Ecotourism: There has been a rise in adventure tourism and ecotourism, offering travelers opportunities to engage in outdoor activities such as hiking, rock climbing, zip-lining, wildlife safaris, and other nature-based experiences. These activities often emphasize sustainable practices and responsible travel.
2. Sports Tourism: Sports tourism has gained popularity, attracting travelers to attend major sporting events, participate in sports-related activities, or visit sports-themed attractions and museums.
3. Virtual Sports and Esports: Virtual sports and esports have seen significant growth, with virtual racing, virtual golf, and esports tournaments becoming increasingly popular recreational activities and tourist attractions.
4. Sports Tech and Wearables: Innovations in sports technology and wearable devices have enhanced the sporting experience by providing data analytics, real-time performance monitoring, and personalized training programs.
5. Stadium and Arena Experiences: Stadiums and arenas are integrating technology to offer fans more engaging experiences during sports events, including interactive screens, augmented reality displays, and mobile apps for ordering concessions and accessing exclusive content.

6. Urban Sports Parks: Cities are creating urban sports parks that offer recreational spaces for activities such as skateboarding, parkour, and urban biking, catering to the interests of adventure-seeking tourists.
7. Sports and Cultural Festivals: Some destinations organize sports and cultural festivals that combine sporting events with cultural celebrations, music performances, and local cuisine, providing a multi-faceted experience for tourists.
8. Sports Simulation and VR Experiences: Tourist attractions and sports centers are incorporating virtual reality and sports simulation games that allow visitors to experience various sports in a controlled environment.
9. Water Sports and Underwater Adventures: Water-based recreational activities, such as surfing, snorkeling, scuba diving, and underwater exploration, are popular in coastal and island destinations.
10. Stadium and Arena Tours: Guided tours of famous sports stadiums and arenas offer visitors behind-the-scenes access, providing insights into the history and operations of sports venues.
11. Sports Wellness Retreats: Sports-themed wellness retreats and camps combine fitness activities with relaxation and wellness programs, offering tourists a holistic experience.
12. Sports and Culinary Tourism: Some tour operators offer sports and culinary tours, combining sports events or activities with opportunities to explore local cuisine and food traditions.

Conclusion

Artificial intelligence continues to grow globally because of its power to drive economic growth and transform industries. Share of artificial intelligence in regional gross domestic product; It is estimated that it could increase by 26% in China, 14% in North America and 11% in Europe. The transformation of this technology in the tourism and recreation sector is expected to expand into exemplary applications such as search/reservation engines, robots, autonomous vehicles, self-service kiosks, AR, VR and virtual recreation (Huang et al., 2022). AI applications are predicted to be less likely to be adopted due to perceived information risk and limited control, but with ChatGPT, the opposite is true. ChatGPT has managed to attract attention as the most downloaded application since its release and maintained this success until the Threads application

Individuals who are constantly in search of innovative and different recreational activities in line with their recreational experience expectations can apply to technological applications such as artificial intelligence (Cooke et al., 2021). The functional data and results revealed by ChatGPT, a product of artificial intelligence, are also effective in this regard. Considering all these, this research was conducted based on the evaluations on how to make recreational diversification with the ChatGPT application. In the light of the answers obtained from ChatGPT, a lot of information for entertainment, recreation, cultural-artistic, sportive and touristic purposes was shared in the diversification of recreational activities according to the purposes of participation. In addition to this, traditional recreational activities are also expressed. In general, it is understood that he can benefit from different ideas in virtual, educational and entertaining dimensions through ChatGPT. However, there are also repetitive and incompatible ideas. This can be interpreted as the artificial intelligence application's timeliness and failure to scan information before 2021.

The application of ChatGPT in recreation allows visitors to better appreciate their own experience by offering virtual tours with personalized itineraries, the creation of more engaging social media content, and enhanced insights into local culture, as well as various opportunities to enhance the authentic experience (Çolak, 2023). In this context, it is predicted that the relationship between recreation and software technology will become increasingly stronger in the future.

It is seen that recreational recreational activities are becoming increasingly common in augmented virtual reality environment and digital platforms. In the results of the research, it is understood that entertainment and technology-based activities such as Virtual Reality (VR), Augmented Reality (AR), Experiential Museums, Pop-up Installations, E-sports and Retro-themed develop similarly. The participants, who turn to recreational activities for resting purposes in order to feel good physically and spiritually, make choices that do not require much energy and provide peace of mind. The results of the research, which reveal the types of rest-based recreational activities such as quality sleep sessions, meditation, sensory immersion, forest bathing and retreat spas, offer relaxation, rest, healthy breathing and relaxation suggestions to the participants. Participants who want to improve their intellectual knowledge by participating in cultural and artistic recreation activities can experience the feeling of self-realization. However, it can reveal a more conscious perspective by increasing the level of knowledge and aesthetic perception. At this point, in addition to visiting museums and art galleries, participants who come into contact with different cultures can gain a versatile perspective. In this research, it is suggested to diversify the relevant subject by suggesting cultural and artistic recreation activities such as Immersive Art Installations, Music Streaming Services, Crafts Lessons, Digital Storytelling and Interactive Theatre. Sports activities, which are accepted as a necessity of a healthy lifestyle, penetrate more into human life with yoga, meditation and dance-based recreation activities. As a matter of fact, the physical and mental

benefits provided by sports activities can become more enjoyable with recreational activities. In addition, with the touristic recreation activities experienced in different destinations, the participants can experience the feeling of self-actualization intensely. In this research, innovative recreational activities such as sports tourism, virtual sports, e-sports, wearables, underwater adventures, arena tours, sports simulation and VR experiences are presented.

Nowadays, where participation in recreational activities has increased, it has become very important to be able to compete and maintain its current existence. In this process, the development of recreational diversification with innovative and creative ideas is considered as the most appropriate solution. In addition, artificial intelligence applications such as ChatGPT should be taken at the highest level for more effective recreational activities by taking advantage of the possibilities of technology. In this context, it is recommended to increase recreational activity-based artificial intelligence studies to relevant industry stakeholders and scientists. Because, considering the future of technology and the importance of recreational activities for human health, it is thought that this relationship should be the subject of more studies. In the light of the research evaluation, the following suggestions are presented in general;

- More use of artificial intelligence in diversifying recreational activities,
- Increasing recreational activities on digital and virtual platforms depending on technology development,
- Raising awareness by drawing attention to the benefits of recreation activities,
- Implementation of innovative recreational activity types
- Making special recreation diversifications for disadvantaged groups (elderly, disabled, children...),
- Adopting innovative approaches in recreation by public and private institutions related to stakeholder sectors,
- More research on recreation and artificial intelligence in scientific studies.

References

- Adetayo, A. J. (2023). ChatGPT and Librarians for Reference Consultations. *Internet Reference Services Quarterly*, 1-17.
- Bowen, G. A. (2009). *Document analysis as a qualitative research method. Qualitative research journal*, 9(2), 27-40.
- Bulchand-Gidumal, J. (2022). Impact of artificial intelligence in travel, tourism, and hospitality. In Handbook of e-Tourism (pp. 1943-1962). Cham: *Springer International Publishing*.
- Carruthers, C., ve Hood, C. D. (2004). The power of the positive: Leisure and well-being. *Therapeutic Recreation Journal*, 38(2), 225-245.
- Carvalho, I., ve Ivanov, S. (2023). ChatGPT for tourism: applications, benefits and risks. *Tourism Review*.
- Chow, J. C., Sanders, L., ve Li, K. (2023). Impact of ChatGPT on medical chatbots as a disruptive technology. *Frontiers in Artificial Intelligence*, 6, 1166014.
- Cooke, S. J., Venturelli, P., Twardek, W. M., Lennox, R. J., Brownscombe, J. W., Skov, C., ... ve Danylchuk, A. J. (2021). Technological innovations in the recreational fishing sector: implications for fisheries management and policy. *Reviews in Fish Biology and Fisheries*, 31, 253-288.
- Çolak, O. (2023). The Role of Generative Pre-trained Transformers (GPT) in Recreational Tourism: An Interview with ChatGPT. *Journal of Sport Sciences Research*, 8 (3) , 733-748.
- Dwivedi, Y. K., Pandey, N., Currie, W., ve Micu, A. (2023). Leveraging ChatGPT and other generative artificial intelligence (AI)-based applications in the hospitality and tourism industry: practices, challenges and research agenda. *International Journal of Contemporary Hospitality Management*.
- Exploding Topics, (2023). <https://explodingtopics.com/blog/chatgpt-users>, Erişim Tarihi: 12.07.2023.
- Gao, Y., Sheng, T., Xiang, Y., Xiong, Y., Wang, H., ve Zhang, J. (2023). Chat-rec: Towards interactive and explainable llms-augmented recommender system. *arXiv preprint arXiv:2303.14524*.
- Göktaş, L. S. (2023). ChatGPT Uzaktan Eğitim Sınavlarında Başarılı Olabilir Mi? Turizm Alanında Doğruluk ve Doğrulama Üzerine Bir Araştırma (Can ChatGPT Succeed. *Journal of Tourism ve Gastronomy Studies*, 11(2), 892-905.

- Huang, A., Chao, Y., de la Mora Velasco, E., Bilgihan, A., ve Wei, W. (2022). When artificial intelligence meets the hospitality and tourism industry: an assessment framework to inform theory and management. *Journal of Hospitality and Tourism Insights*, 5(5), 1080-1100.
- Hughes, A. (2023). ChatGPT: Everything you need to know about OpenAI's GPT-3 tool. *BBC Science Focus Magazine*, 16.
- Ivanov, S., ve Soliman, M. (2023). Game of algorithms: ChatGPT implications for the future of tourism education and research. *Journal of Tourism Futures*, 9(2), 214-221.
- Kazak, A. N., Chetyrbok, P. V., ve Oleinikov, N. N. (2020). Artificial intelligence in the tourism sphere. In *IOP Conference Series: Earth and Environmental Science* (Vol. 421, No. 4, p. 042020). IOP Publishing.
- Knani, M., Echchakoui, S., ve Ladhari, R. (2022). Artificial intelligence in tourism and hospitality: Bibliometric analysis and research agenda. *International Journal of Hospitality Management*, 107, 103317.
- Kumar, I., Rawat, J., Mohd, N., ve Husain, S. (2021). Opportunities of artificial intelligence and machine learning in the food industry. *Journal of Food Quality*, 2021, 1-10.
- Lacárcel, F. J. S. (2022). Main uses of artificial intelligence in digital marketing strategies linked to tourism. *Journal of Tourism, Sustainability and Well-being*, 10(3), 215-226.
- Ly, H., Shi, S., ve Gursoy, D. (2022). A look back and a leap forward: a review and synthesis of big data and artificial intelligence literature in hospitality and tourism. *Journal of Hospitality Marketing ve Management*, 31(2), 145-175.
- Pencarelli, T. (2020). The digital revolution in the travel and tourism industry. *Information Technology ve Tourism*, 22(3), 455-476.
- Solakakis, K., Katsoni, V., Mahmoud, A. B., ve Grigoriou, N. (2022). Factors affecting value co-creation through artificial intelligence in tourism: A general literature review. *Journal of Tourism Futures*.
- Sudirjo, F., Diawati, P., Riady, Y., Ausat, A. M. A., ve Suherlan, S. (2023). The Role of ChatGPT in Enhancing the Information Search and Decision-Making Process of Travellers. *Jurnal Minfo Polgan*, 12(2), 500-507.
- Tsaih, R. H., ve Hsu, C. C. (2018). Artificial intelligence in smart tourism: A conceptual framework. In *Proceedings of The 18th International Conference on Electronic Business* (pp. 124-133). ICEB, Guilin, China, December 2-6.
- Tussyadiah, I. (2020). A review of research into automation in tourism: Launching the Annals of Tourism Research Curated Collection on Artificial Intelligence and Robotics in Tourism. *Annals of Tourism Research*, 81, 102883.
- Verma, M. (2023). Novel Study on AI-Based Chatbot (ChatGPT) Impacts on the Traditional Library Management. *International Journal of Trend in Scientific Research and Development (IJTSRD)*, 7(1), 961-964.
- Whitty, M. T., ve McLaughlin, D. (2007). Online recreation: The relationship between loneliness, Internet self-efficacy and the use of the Internet for entertainment purposes. *Computers in human behavior*, 23(3), 1435-1446.
- Zielinski, C., Winker, M., Aggarwal, R., Ferris, L., Heinemann, M., Lapeña, J. F., ... ve Citrome, L. (2023). Chatbots, ChatGPT, and Scholarly Manuscripts-WAME Recommendations on ChatGPT and Chatbots in Relation to Scholarly Publications. *Afro-Egyptian Journal of Infectious and Endemic Diseases*, 13(1), 75-79.
- Zhang, C., ve Lu, Y. (2021). Study on artificial intelligence: The state of the art and future prospects. *Journal of Industrial Information Integration*, 23, 100224.