CHAPTER 11

UDC: 004.8:[005.6:930.85
doi: https://doi.org/10.18485/akademac_nsk.2023.4.ch11

ARTIFICIAL INTELLIGENCE IN THE FUNCTION OF BRANDING AND QUALITY MANAGEMENT OF CULTURAL HERITAGE

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Summary: This paper aims to present the role of artificial intelligence (AI) in the quality management of cultural heritage and in the process of its branding. If cultural heritage is managed in an adequate way, it can represent a key aspect of community development and raising the quality of life in society. Cultural tourism is a specific form of sustainable tourism, and therefore part of the sustainable development of the community as a whole. The work should help decision makers at local, national and regional levels to understand the inextricable link between modern technology and cultural heritage. In addition, the work deals with determining the impact of artificial intelligence on the management of the quality of cultural heritage. Managing the quality of cultural heritage in a systematic way contributes to gaining a competitive advantage. This challenge is addressed to artificial intelligence, which should contribute to the knowledge of the tourist market, management and protection of cultural heritage.

Key words*: artificial intelligence, cultural heritage, quality management, marketing*
JEL classification: M15, M30, M31, Z33

1. Introduction

One of the aspects of tourism is the process of experiencing different experiences, the interest of tourists in the historical, artistic, scientific or craft products

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of the local community is cultural heritage tourism. Tourism based on cultural heritage provides visitors with an introduction to the history of a place through different eras and traditions with the help of its intangible components (Gajić et al., 2021). Historical figures and events from the past are part of the cultural tradition of a society. The basis of cultural heritage is a proactive approach of the individual and the social community for preservation and sustainability in social, economic and cultural development.

According to the authors Sančanin & Ratković Njegovan (2020), cultural heritage is a product of world culture. The most developed countries promote their cultural heritage for the purpose of developing the tourism industry. Authors Mandarić & Milovanović (2022) point out that cultural heritage is a valuable resource for achieving competitive advantage and tourism development. According to the authors (Krasojević & Đorđević, 2015), cultural tourism is ranked among the ten most important and dynamic tourism branches because of its tourists who spend a third more than average tourists. On these grounds, according to Filipović (2018), cultural tourism is sustainable tourism, bringing benefits to the local and wider community.

Therefore, as cultural tourism is a part of sustainable tourism, it is an indispensable part of the process of sustainable development of the local community and the country as a whole. In addition, the situation on the tourist market is particularly complex due to the nature of tourist services. Leroy – Werelds et al. (2017) mean by service "the use of resources in a way that supports the everyday practice of users" (p. 620). Service is defined as "a process that leads to an outcome in the simultaneous action of production and consumer evaluation" (William et al., 2016:3). Kotler & Keller (2006) define a service as follows: "a service is any act or deed that can be offered by one party to another that is essentially intangible and does not result in any form of ownership" (p. 402). Thus, the tourist service is created by creating the experience of the user, more precisely by the process of co-creating or co-creating the value of the experience.

Researchers in this field Yi et al. (2011) point out that increasing attention is being directed to what has become known as a service-dominant logic that views users as co-creators of value in the service delivery process.

According to Payne et al. (2008) the customer value creation process can be defined as a series of activities performed by the customer to achieve a specific goal (p. 86). Rihova et al. (2015) see co-creation as a joint realization process based on the participation of employees and users (p. 357). Key factors affecting users' ability to create value are: the amount of available information, knowledge and other operational resources that users can access and use (Payne et al., 2008).

Therefore, the focus of the tourist service is the user. The term "user" in modern conditions has acquired a broader meaning. Users are also considered partially employed, so they can be called an important resource. According to Vargo & Lusch (2008), users are always co-creators of value (p.3). Co-creation allows users to take an active and central role of participants in the process of providing services.

Hoyer et al. (2010) point out that the co-creative role of the user reduces the risk and increases the acceptance of the service in the market. One of the basic principles in the service process is that users act as integrators of resources. They use the resources provided by the organization and integrate them with other resources and skills they possess, thus creating real value or value in use (Vargo & Lusch, 2004).

The role of the user as a co-creator of value comes to the fore especially in the case of tourist services. In the tourist context, a simple and unforgettable user experience is of the greatest importance for achieving a competitive position of a tourist destination. By including users' opinions in the creation of the tourist offer, the services are adjusted and influences the creation of their unique experience.

Therefore, service users have a key role in the success of services. McColl-Kennedy et al. (2015) point out that creating a user experience is key to achieving competitive advantage and customer satisfaction. Users change their behaviors and thereby influence not only the formation of their own experiences but also those of other users, interested parties and service providers (p. 431). User behavior is the key to measuring their level of satisfaction. Satisfaction is a fundamental variable for customers - to develop trust. The author Setó-Pamies (2012) points out that satisfaction in itself will not be enough to guarantee loyalty, but it is necessary to examine what other factors influence its formation.

2. Quality management of cultural heritage

Due to all of the above, the priority of modern management is building relationships with users. According to Mandić & Milovanović (2022), quality management of cultural heritage includes all activities undertaken to preserve cultural heritage and adapt it to the needs of users. All in order to ensure user satisfaction and sustainable development of tourism. Quality management of cultural heritage is important from the aspect of fulfilling user expectations, user satisfaction and ensuring the quality of services.

Expectations as the first aspect of quality management represent the level of service that the customer hopes to receive. They include a mix of what that customer believes can and should be delivered (Gwynne et al., 2000). Karami et al. (2016) point out that expectations can be seen as an attitude formed before use about what the user wants to get from the service. Different users have different expectations based on the knowledge they have about the product or service (Karami et al., 2016).

Another aspect is satisfaction or satisfaction of service users. Authors Lee et al. (2011) point out that the satisfaction or dissatisfaction of service users stems from the difference that is formed between expectations and actual performance. According to the opinion of some authors, satisfaction can be divided into relative and absolute user satisfaction. Relative satisfaction looks at customer satisfaction after purchasing a service. On the other hand, absolute satisfaction is often identified with total user satisfaction because it analyzes user satisfaction in all phases of the purchase (before, during and after the purchase of the service) (Maričić, 2008: 486).

The concept of service quality is difficult to define. Due to the very nature of services, it is even more difficult to define service quality than product quality. William et al. (2016) point out that quality has different meanings to different people. According to Carvan (2002), the quality of the service is determined by a subjective assessment, a comparison that users make between their expectations about the service and their perception of the way the service will be realized (p. 814).

Butnar & Bordeianu (2012) point out that for the user, quality is equivalent to satisfaction (p. 54). According to Mandarić & Milovanović (2022), quality management of tourist services related to cultural heritage includes a measure of satisfaction or cause of dissatisfaction in order to subsequently implement corrective measures and prevent potential future dissatisfaction. Quality is a prerequisite for satisfaction, loyalty and ultimately profitability. There is no absolute quality, because quality always depends on the requirements of the users who exist at a certain time, in a certain market.

The key to defining service quality, according to Butnar & Bordeian (2012), is that its main determinant is "the service's ability to meet or exceed customer expectations" (p. 54). The quality of the tourist service depends on the quality of the processes from which it comes, and the process depends on the materials, equipment, personnel, methods, environment, management and measures. Quality management can optimally realize the implementation of the quality management system in tourism companies through the standards of the ISO 9000 group (Butnaru & Bordeianu, 2012: 54).

Service quality (Carvana, 2002; Stan et al., 2013; Wang et al., 2016) explained as the sum of three types of quality, namely the quality of the interaction, the quality of the environment and the quality of the outcome. The quality of the interaction is determined by the interpersonal relationships that take place during the service delivery process. Attitudes and behavior of employees involved in providing the service significantly influence the perception of quality by users. Interaction quality is also called functional quality (Wang et al., 2016: 3827). Functional quality depends on the development of the situation and the impact on the end result of the user-oriented process.

This refers to both the psychological and behavioral aspects of the service provider performing their task (Carvana, 2002:2014). Ambient conditions: lighting, colors, smells, music, temperature, etc. are factors that, together with the quality of the interaction and the quality of the outcome, make up the quality of the service. The quality of the outcome is defined as what remains when the production process is completed. The outcome achieved by the service for the user is also called technical quality (Wang et al., 2016: 3828).

According to Wallin Andreassen & Lindestad (1998), the perception of the service outcome is influenced by the user's perception of quality, marketing mix, brand and image of the company (p.10). The effects of technical and functional service quality on user loyalty are positive and significant, Stan et al. (2013). Creating a superior user experience according to Jaakkola et al. (2015) is considered key to achieving customer satisfaction and loyalty.

As stated by Jevtić et al. (2020: 26) Each individual has different socio-demographic and psychographic characteristics, which determine his/her choices. Therefore, each person reacts differently to the same service. This defines the very aspect of the experience. In addition to personal factors, environmental factors also influence the experience. The joint creation of services arises as a result of the simultaneous development of production and consumption.

As Cronin et al. (2000) point out, a favorable perception of service quality leads to improved satisfaction and value, and positive value directly affects satisfaction (p. 195). Also, Cronin et al. (2000) state that the perception of service quality is an important determinant of customer satisfaction. According to Pizam & Ellis (1999), customer satisfaction is the cheapest means of promotion (p. 326). Andreassen (2001) states that the satisfaction of users of tourism services is the result of an evaluation process whereby service expectations are compared with the actual service experience (p. 7). According to Setó - Pamies et al. (2012) becomes a mediating variable between the perception of service quality and their loyalty.

Trust influences loyalty intentions. Satisfaction is a necessary element to gain customer loyalty, although in many cases it will not be enough. In addition to

satisfaction, the authors also mention trust (between the user and the employee) as a prerequisite for the formation of loyalty. Thus, customer satisfaction has a positive effect on loyalty, but it will not be enough by itself to guarantee loyalty (Setó - Pamies et al., 2012, 1266-1267).

Critical success factors may change over time, consistent with the changes in the company and the environment. Relevant literature identifies a wide range of keysuccess factors: product quality, costs, customer satisfaction, manufacturing flexibility, innovation, employee satisfaction and brand awareness (Tadić et al., 2019: 413).

According to Mandarić & Milovanović (2022), the level of services may vary due to employee education, training, experience and culture, classification of quality measurement indicators, quality of public services in the destination (health services, public transport, hygiene, accessibility and others). WOM is especially important for services whose offer is not material. In this regard, Ng et al. (2011) point out that when making decisions, users rely more on the advice of others who have already experienced the services. Moisescu & Gică (2014) and Richard & Zhang (2012) point out that those who are characterized by repeated purchases have a much higher tendency to buy additional services, generate repeated word-of-mouth communication, are more willing to pay higher prices and at the same time facilitate the service process. WOM is interpreted as a form of informal, face-to-face communication regarding the perception of a product/service or organization.

Yildiz (2017) pointed out that service quality, satisfaction and loyalty have positive effects on word-of-mouth communication. Thus, customer satisfaction has a direct impact on customer loyalty and an indirect impact on WOM through loyalty, and customer loyalty has a direct impact on WOM. Stan et al. (2013) conclude in their work that service quality and customer satisfaction have a positive and significant impact on WOM. A user who uses the service and at the same time spreads positive word of mouth, thereby introducing new potential users to the company and its offer, can be called an enthusiastic user.

3. Modern technologies in the function of quality management and branding cultural heritage

If users provide feedback to companies and employees, they also participate in organizational processes. Since balancing service quality and productivity is an essential task for them, frontline employees can see customer feedback as a bu-

siness resource that is important for improving service quality. Special attention should be paid to the quality of services and its elements (reliability, comfort, user participation in the service process and other characteristics) bearing in mind their positive impact on the level of user satisfaction (Grubor, Milićević & Đokić, 2017: 536).

In modern conditions, in addition to traditional WOM, the effects of eWOM (electronic WOM or WOM on the Internet) are increasingly being monitored. The author Matić (2020) states that eWOM communication, although less personal, has a greater potential reach, eWOM remains digitally recorded and remains for a longer period of time, unlike traditional WOM which, like a spoken word, "disappears into thin air". Due to the specific technology, eWOM spreads faster than traditional, through forums, discussion groups, social networks, blogs, virtual communities, etc.

Also, the intensity of eWOM can be measured more easily, because it is a communication that can be "followed" and analyzed more easily, through the number of information published by Internet users, the speed of transmission and the number and type of information that is further transmitted. Compared to the traditional way of advertising, where the role of the tourist is reduced to a passive user, social media have enabled eWOM, giving tourists the opportunity to actively participate, and sometimes to directly create content. The importance of consulting an external source of information for the consumer is greater when purchasing services than when purchasing products (Matić, 2020).

Since tourism was one of the first industries to accept the application of information technology in order to improve its business processes, the entire industry rapidly progressed in the process of digitization, i.e. the translation of analog operations into digital ones. The Internet greatly facilitates the exchange of information and communications, and its popularity has also adopted numerous changes in the use of traditional media. According to Sančanin & Ratković Njegovan (2020), in the promotion of cultural heritage as sustainable tourism, the reasons for the use of social media in promotion should be sought in their continuous availability, economy and interestingness, and the most important is the increasingly thin border that is created between producers and consumers of media content (Sančanin & Ratković Njegovan, 2020).

E-tourism or smart tourism refers to the use of digital technology, both among the tourist offer and among tourists. It is based on the use of Industry 4.0 technologies (internet of things, artificial intelligence, use of sensors, cognitive technologies, wearable technologies, augmented and virtual reality, Big Data analytics, 3D printing, drones and others), often called Tourism 4.0 (Vasiljević et al., 2021).

Smart tourism can be seen as a system of integration of smart technologies that provide the expected intelligence at the destination level, with a significant

potential to provide tourists with unique and unforgettable experiences through the process of co-creation, and tourist destinations to improve their image, improve their competitive position and achieve the benefits of sustainable development. In order for tourism to be considered smart, it should undergo a digital transformation, that is, use technology to innovate business processes and thus become more efficient or effective. The main premise is not to use technology only to replicate existing services in digital form, but to transform that service into something significantly better, that is, to evaluate it and be more efficient and effective for use (Vasiljević et al., 2021).

Supported by the rapid development of smart cities, smart tourism and smart tourist destinations have gained momentum in tourism research and practice. Currently, many cities in Asia are leading the development of smart tourism on a global scale, while Europe tends to keep pace with this type of innovation. This is why the European Union created an initiative to recognize innovative and smart tourism in European cities, called the European Capital of Smart Tourism (Vasiljević et al., 2021).

As Mandarić & Milovanović (2022) point out that different forms of tourism and different destinations compete to win over tourists, quality management of tourist resources, as well as branding of tourist destinations are essential for the sustainable development of tourism. Marketing according to Wang et al., (2016) should play a central role in all activities in order to establish, develop and maintain successful exchanges between the employee and the user through relationship marketing.

As Vidaković & Vidaković (2017: 134) point out, the content that is published in addition to its marketing purpose must have certain added value, the goal of which will not be direct profit or taking advantage of the user, but achieving a deepened relationship with him. In the promotion of cultural heritage, it is desirable to maintain a balanced attitude towards the media and media products, considering their basic aspiration to fulfill an informative, educational and entertaining function, but with different target groups.

Planning the system of preservation, protection and interpretation of cultural heritage should be based on communication and intensive participation Sančanin & Ratković Njegovan (2020). With the development of the destination brand, tourists are enabled to more easily identify the characteristic advantage of tourist products and services provided at a certain destination compared to competitors (Mandarić & Milovanović, 2022).

3.1. Artificial intelligence in the function of quality management

Unlike human intelligence, artificial intelligence (AI) is the intelligence demonstrated by machines. A system of intelligent agent machines that perceives the environment to successfully achieve its goal represents artificial intelligence. Artificial intelligence describes machines (computers) that simulate the cognitive and affective functions of the human mind. The development of artificial intelligence is phenomenal and experts have worked tirelessly for several decades to improve the concepts of artificial intelligence (Vermart et al., 2021).

AI refers to computer technologies that can perform certain tasks in place of human intellect. This technology is advancing at breakneck speed, similar to the exponential growth of database technology. Databases have evolved into the critical infrastructure that powers enterprise-level applications. Big data and AI have a specific connection. Recent advances in artificial intelligence are primarily driven by "ML" AI chatbots that can be trained on datasets containing text recordings of human conversations collected from messaging apps to understand what people are saying and respond appropriately. AI can find patterns in huge data sets that human vision cannot detect. Computer models can identify an individual's personality traits more accurately than their friends can, based solely on which Facebook posts they like (Haleem et al, 2022).

The term artificial intelligence generally makes people think only of automated robots that work for humans because humans have only seen human-machine interaction in movies or any show only through robots. Artificial intelligence is applied to any type of machine that needs to think like a human, resulting in continuous learning and problem solving. These are the characteristics of AI that make it unique. Sometimes people find the task boring or boring, repetitive. However, with the help of the machine, people never have to experience similar work as boring. An artificial intelligent system continuously performs repetitive tasks for humans (Vermart et al., 2021).

Artificial intelligence (Artificial Intelligence - AI), allows computers to use a huge amount of data in order to make a decision or perform an activity on their own. These are devices that can perceive and analyze their environment, and based on that, with a certain degree of autonomy, make decisions in order to achieve specific goals. Systems based on artificial intelligence can be based exclusively on software and operate in the virtual world (virtual assistants, photo analysis software, Internet browsers, speech and face recognition systems) or they can be embedded in devices - hardware (advanced robots, autonomous vehicles, drones and the like). Artificial intelligence facilitates and improves people's lives in va-

rious fields. At the same time, its accelerated development and application open numerous questions from the sphere of security and ethics (www.economicdiplomacy.co.re).

Disruptive technologies such as IoT, big data analytics, blockchain and artificial intelligence have changed the way businesses operate. Of all the disruptive technologies, artificial intelligence (AI) is the latest technological disruptor and has enormous potential for marketing transformation. Practitioners around the world are trying to find the best AI solutions for their marketing functions. However, systematic review literature can highlight the importance of artificial intelligence (AI) in marketing and point to future legal research (Vermart et al., 2021).

Brands can use AI to improve the customer experience by providing tailored content and offers and excellent customer service to every consumer. Predictive marketing analytics is one method companies are using with AI. By analyzing data from previous events, AI can reliably and adequately predict how performance will appear in the future, depending on a number of parameters. Understanding what individuals value most can help provide them with more meaningful recommendations. However, most AI-based customization solutions start from the top down and are tailored to the individual rather than the whole group. The capacity to use AI to predict the success of marketing initiatives and better tailor the customer experience is a huge technical trend that will continue for many years (Haleem et al, 2022).

Major social networks have vehemently opposed certain practices for marketers using artificial intelligence on social media. This allows consumers to ask a customer service bot questions that don't require a phone call or a full human discussion. Millions of individuals around the world use disappearing messaging services for personal contact with friends and marketers who want to communicate with consumers in a more honest and intimate way. Brands can communicate with individuals in unique and intimate ways where audiences spend time online, especially on social media, thanks to the power of artificial intelligence (Haleem et al, 2022).

Practitioners and academics believe that artificial intelligence is the future of our society. With the advancement of technology, the world has become a network of interconnected networks. Technology implementation has led to investments in artificial intelligence (AI) for big data analytics to generate market intelligence. Applications of artificial intelligence are not limited to marketing; rather, it is widely used in other sectors such as medicine, e-commerce business, education, law and manufacturing. AI is continuously being applied to benefit many different industries. As organizations move towards Industry 4.0, artificial intelligence and other emerging technologies are also developing in parallel.

However, the application of artificial intelligence in all sectors has not been possible due to many limitations, but scientists are working on systems that satisfy the theory of mind and self-awareness of artificially intelligent systems (Vermart et al., 2021).

For decades, even before its inception, artificial intelligence evoked negative associations among the general public. According to Velojić et al. (2021) misconception that artificial intelligence only means human-like robots has largely blinded society to the fact that we have been using artificial intelligence for some time. Machine learning strategies for generating artificial intelligence have also long been used, the authors say, as algorithms for finding solutions to intractable computing problems. As early as the 1990s, the door was opened to one of the most used abilities of artificial intelligence - the search of massive piles of data (Velojić et al., 2021).

Innovations in artificial intelligence and machine learning algorithms have expanded the capacity to find information in texts, allowing us to search photos, as well as videos and sounds. They allow one to read lips, read emotions (including lying), forge signatures and other handwriting, and edit videos. All these are advantages, but their negative side is also present. In order to prevent the abuse of artificial intelligence, standards were created that ensure that artificial intelligence provides humanity with only benefit and not harm (Velojić et al., 2021: 189).

Artificial intelligence (AI) will become an integral part of every commercial entity worldwide in the long term. New trends in AI-driven automation reflect significant changes in the AI landscape. This is evident in the form of reconfigured ideas, interests and investments in the area of AI adoption by enterprises. This technology is sophisticated enough to recognize faces and objects, which has huge implications for various business applications.

For security reasons, facial recognition can distinguish between individuals; On the other hand, object detection can be used to distinguish and analyze images. AI treats human images like cookies, enabling more personalized services based on customer preferences. Some businesses are experimenting with facial recognition to diagnose the mood of their customers and, as a result, make appropriate product recommendations (Haleem et al, 2022).

AI is a computer science technology that teaches computers to understand and mimic human communication and behavior. Based on the data provided, AI has created a new intelligent machine that thinks, reacts and performs tasks in the same way that humans do. AI can perform highly technical and specialized activities such as robotics, speech and image recognition, natural language processing, problem solving, etc. AI is a collection of several technologies capable of performing tasks that require human intelligence. When applied to standard

commercial processes, these technologies can learn, act and operate with human-like intelligence. It simulates human intelligence in machines, saving us time and money in business transactions (Haleem et al, 2022).

According to Velojić et al. (2021) quality assurance is achieved through a process approach based on the quality management system model. As stated by (2021), this model describes the interaction between the company and the customer during the process of production and consumption of the product. In order to correct product quality parameters to improve seon for customers, the model includes feedback.

According to Velojić et al. (2021), after management decides to keep users satisfied and build a long-term relationship with them, they must identify failures. To collect data and assess customer satisfaction, the international quality standard ISO 10004 recommends the use of the following methods: personal interviews, telephone interviews, discussion groups, mail surveys, online research and surveys. However, these methods of collecting and analyzing customer opinions show a number of significant shortcomings, as pointed out by Velojić et al. (2021). The main disadvantage of the recommended methods is the need for a large amount of manual work: preparing questions, creating a database of respondents, sending questionnaires and collecting results, conducting personal interviews, preparing reports based on the results.

AI also offers customer engagement opportunities in the context of services. Service robots programmed with emotional AI codes are convenient in their surface action. Embodied robots greet and interact with customers, but human elements must complement the service environment to keep customers satisfied. Automating service processes with AI offers an additional opportunity to improve performance and productivity (Vermart et al., 2021).

All this increases the cost of research. In addition, these methods do not allow continuous monitoring of user satisfaction. For this reason, data analysis is limited to one time period and does not provide insight into trends and dynamics of customer satisfaction. This also negatively affects the speed of managerial decision-making, which depends on the rate of arrival of the latest information on customer opinions. Values of customer satisfaction expressed in the form of some indices make it difficult to understand, compare and interpret the results. Therefore, in order to increase the efficiency of product quality management, the authors of Velojić et al. (2021) propose an approach to user satisfaction research using artificial intelligence technologies (Velojić et al., 2021: 184).

Artificial intelligence, as a rapidly growing field that brings great changes to the world, is becoming an increasingly important topic in Serbia as well. As they state, the state adopted the Strategy for the Development of Artificial Intelligence

in the Republic of Serbia for the period from 2020 to 2025 and established the National Platform for the Development of Artificial Intelligence and the Research and Development Institute for Artificial Intelligence.

In addition to the great impact on the educational system and the scientific research community, the development of artificial intelligence will undoubtedly reflect on the economy and the world of work. New technologies have the potential to change the way society functions in a few years - traffic, market conditions, communications, they can create new needs and lifestyles.

Artificial intelligence cannot be seen as a phenomenon only at the regional level, but it is necessary to include global trends, which are changing and developing. A large number of countries recognize the need to define a general action plan, a strategic and legal framework, in order to achieve clearly defined goals for the development of artificial intelligence. Since man has limited resources, artificial intelligence can contribute to the progress of society, work and the working environment (www.centaronline.org).

3.2. Artificial intelligence in the function of brending cultural heritage

Tourism is a highly segmented sector, which is characterized by various reasons for visiting, patterns of consumption, socio-economic characteristics of visitors and so on, which creates challenges for formulating a marketing strategy for tourism, in which ecology and cultural heritage occupy an increasingly important place, especially for the reason that in the function of sustainable tourism development, and consequently the quality of life, which is important for creating a positive image of cities for potential investors, employers, residents and visitors (Mandarić & Milovanović, 2022).

The period during and after the Covid-19 pandemic has severely shaken the tourism industry. The situation that befell the world required an urgent search for innovative technological solutions. Tourism is the activity most severely affected by the pandemic, due to restrictions on travel and the operation of catering facilities. AI (artificial intelligence) has contributed to reduce contact with tourists through robotic staff in hotels.

Terminals for independent check-in and check-out from the hotel have been installed, tourist virtual visits are also enabled, which is not only important in the era of the pandemic, but also plays a major role in ensuring the accessibility of tourist attractions to a larger number of people, i.e. those who are unable to travel due to health or economic reasons, lack of knowledge of foreign languages, as well as lack of time (Mandarić & Milovanović, 2022).

Technological innovations within the management and marketing of smart destinations have proven to be effective in overcoming the consequences caused by the Covid-19 pandemic, both in the field of automating certain jobs (replacing human labor with robots) and in managing the safety of tourists and local residents (mobile applications for tracking movements), but also for enabling virtual tourist alternatives in conditions of the impossibility of physical movement of tourists (Vasiljević et al., 2021).

According to (Mandarić & Milovanović, 2022) cultural tourism records constant growth, with the exception of the pandemic period, attracting tourists with changing needs, which are not only related to entertainment, but also to new experiences in order to satisfy intellectual and emotional needs.

In order to achieve competitiveness in the market, it is necessary to recognize innovation. There is a high degree of dependence between innovation and brand development (Mandarić & Milovanović, 2022). Innovation increases the value of a tourist destination. The creation of management strategies and marketing activities supported by technological innovations is necessary for building a brand that will satisfy the needs and wishes of tourists for new tourist experiences.

Human resources and employee skills, technical and technological knowledge, innovation, user loyalty and the accumulation of various "invisible" resources are important for the realization of the priorities of modern management - the company's loyalty strategy (building and maintaining relations with users) (Campbell et al., 2015: 42). Resources are a source of competitive advantage and value that can improve organizational efficiency and effectiveness.

According to Richard & Zhang (2012) customer loyalty can be expressed as "a deeply committed repeat purchase of a product/service consistently repeating the same brand habit despite the marketing efforts of competitors that have a potential basis to cause behavioral change" (p. 270). Ganesh et al. (2000) point out that loyal customers most directly affect profits by providing a stable inflow. Because of their current and potential future value, Ganesh et al. (2000), loyal customers are at the heart of companies and they are most valuable (p. 66).

AI (artificial intelligence) provides insight into customer behavior that is essential to creating a marketing strategy to attract and retain customers. AI prompts the user to take the next step and redefines the entire experience. Artificial intelligence tools are useful for inferring user expectations and guiding prospects (Verma et al., 2021).

Artificial intelligence is an important resource for customer retention and communication with potential. It can guide the user in a direction that is in line with business goals by using intuitive AI chatbots, intelligent email marketing, interactive web design and other digital marketing services. The authors of Haleem

et al. (2022) outline several factors that determine the impact of artificial intelligence on digital marketing. ML, a subset of AI, deals with computer programs that access data and use it for self-learning. It collects data from a variety of places, including social media accounts, menus, online reviews, and websites.

AI then uses the information to produce and deliver content relevant to the audience. AI software enables detailed online analysis of restaurants and their customers. By applying artificial intelligence to the marketing strategy, businesses can make better use of available data and reach potential customers with attractive advertisements at a more convenient time (Haleem et al., 2022).

Globalization of the market and changes in the demands and way of life of tourists require, on the one hand, knowledge in the marketing strategy of the tourist offer, the creation of a branding strategy with the application of new technology. With the general digitization in society, the importance of the use of new technologies in tourism is growing.

With the development of new smart technological solutions and changes in the market, both in domestic and especially foreign tourist demand that visits the Republic of Serbia (tourists from European countries and especially tourists from the People's Republic of China, which leads the trend of smart tourism in the world). In modern conditions on the tourist market, competition in tourist offers between countries, regions and cities is stronger.

The development of technology and its application in the field of global communications has made it possible for geographically dislocated users of tourist services to be better informed, for tourists to perceive the tourist offer more accurately, and to strengthen the image and strength of tourist brands. A properly created branding strategy achieves differentiation, recognizability of services, destinations, concepts in relation to the competition. The development of technology has a positive effect on the competitive advantage of a tourist destination. Based on the results achieved by the application of modern technology, the contribution to tourism and all participants of the tourist offer is visible, however, not all providers are able to follow the trends.

Technological innovations in the framework of Industry 4.0, although they have a huge importance of sectoral application in tourism and hospitality, due to their complexity are often not recognized by businessmen and enterprises in tourism and hospitality. The results of individual research draw conclusions that the heterogeneous tourism offer in Serbia still does not have enough capacity to understand these global changes in terms of new technologies in tourism without additional professional help.

As the benefits of general digitization are increasingly visible, especially after the Covid 19 pandemic, the application of customized solutions can significantly

help in adapting to the needs of the smart tourism market and further digital transformation of business. In addition, on the domestic IT market, smart technological solutions are available to a significant extent, which can help in their adoption and the creation of mutual benefits, both for domestic providers of IT solutions and services, and for the tourist offer (Vasiljević et al., 2021).

According to the results of the research, the application of innovative technological solutions and the digitization of the domestic tourist offer can significantly contribute to the satisfaction of both foreign and domestic tourists who can directly or indirectly experience the benefits of the application of technological solutions and innovations before, during, and after the end of the tourist trip in his country (Vasiljević et al., 2021).

Artificial intelligence (AI) is at the forefront of digital transformation and has enormous potential in increasing the effectiveness of marketing strategies. AI can analyze, understand and make decisions. It is intended for existing user data and is used for market forecasting and user behavior prediction. It is also known as data forecasting and is used by organizations around the world to fine-tune their sales and marketing strategies to increase sales. Most AI applications in marketing today use ML, from personalizing product propositions to helping discover the most successful promotion channels, estimating churn rates or customer lifetime value, and building superior customer groups (Haleem et al, 2022).

It helps to disseminate information and data sources, improve the capabilities of data management software, and design complex and advanced algorithms. Artificial intelligence and marketing strategies have become important factors for improving business capabilities that lead to improved business performance. AI is changing the way brands and users interact with each other. For example, the marketing domain uses artificial intelligence to help analyze customer data (Direction, 2020).

Evidence also supports the potential to interact with customers and predict their behavior using chatbots, business intelligence, process automation among other tools. Greater involvement of AI in strategy formation is therefore a feasible next step. But humans retain the upper hand when it comes to imagination and creativity. Maximizing value for both the customer and the company is the ultimate goal of marketing strategy.

Based on evidence from these interviews, AI can already contribute to: collecting and analyzing data; methodically identifying important patterns and signals that humans might not detect; and helps to solve human resource constraints which is a particular problem in smaller firms (Direction, 2020).

Marketers can now focus more on the customer and meet their needs in real time. Using artificial intelligence, they can quickly determine which content

to target customers and make a choice of channel - media of communication, thanks to the data collected and generated by its algorithms. Users feel relaxed and more inclined to buy what is offered when artificial intelligence is used to personalize their experiences (Haleem et al., 2022). According to Nuseir & Rafae (2022) artificial intelligence (AI) technologies are embedded in marketing where big data is used to develop hyper-personalized customer profiles, predict consumer demand and create targeted advertisements.

Marketing strategies for tourism services are created based on understanding the demands and preferences of users and the ability to react quickly and efficiently based on that knowledge. Due to the possibilities that artificial intelligence provides, it has gained traction when creating a marketing strategy. AI ensures real-time, data-driven decisions, but marketers must be careful when deciding how best to integrate AI into their campaigns and processes.

According to the authors (Haleem et al, 2022). AI doesn't know what activities to perform to meet marketing goals. To be properly implemented, it takes time and guidance to learn about the company's goals, customer preferences, historical patterns, and the overall environment and gain expertise (Haleem et al, 2022).

Marketers use artificial intelligence to attract potential users. Users have a positive user experience through integrated applications that use machine intelligence. In terms of information technology, i.e. artificial intelligence, information technology (IT) is ubiquitous in professional activity, supporting and influencing all key procedures and operations. When information technology (IT) is incorporated into a company's environment, it can have a noticeable impact, especially on the company's relationships with its customers, prospects, and partners (Nuseir & Rafae, 2022).

It tracks purchases, including where and when they were made. It can analyze data and provide customers with customized marketing messages. When a user visits a nearby retailer, these messages contain suggestions and special offers to improve the customer's average order value. Marketing gives a company a competitive advantage by using an integrated approach to system automation. Decision making and user micromanagement are advantages of an AI marketing approach (Haleem et al., 2022).

Artificial intelligence exists in everyday life, and intelligent robots, food delivery software, etc. all use algorithms to improve service efficiency (Xie & He, 2022). An increasing amount of research on intelligent systems/artificial intelligence (AI) in marketing has shown that AI is capable of imitating humans and performing activities in an 'intelligent' manner. Considering the growing interest in AI among marketing researchers and practitioners, this review aims to provide an overview of the trajectory of marketing and the field of artificial intelligence research (Vlačić et al., 2021).

Research has shown that tourists are increasingly interested in different cultures, performing arts, crafts, rituals, gastronomy and interpretations of nature and the universe. The authors point out that tourist activities are those that already have a special treatment, because as general and indispensable segments of modern man's life, they are considered a driving factor in the development of the economy and society (Gajić et al., 2021).

In recent years, with the rapid development of artificial intelligence, tourist attractions using "smart tourism" technology can get more accurate data. Smart tourism also encourages rural areas to protect the local environment, inherit distinctive culture, develop tourist resources, develop the tourism economy and increase rural income, which has responded well to the call for rural revitalization. The lack of information resources and technology may limit some rural places and still use traditional marketing methods without the support of large databases (big data) and artificial intelligence technology (Xie & He, 2022).

4. Conclusion

In the service users are co-creators of value created through experience. In the context of tourism, a unique and memorable customer experience is of utmost importance to achieve competitiveness. Marketing strategy affects the attraction and long-term retention of users. Understood as an innovation, the application of artificial intelligence in marketing strategy improves business performance.

Quality management in tourism is important from the aspect of meeting user expectations. Management of the quality of tourist services is related to cultural heritage, and is determined by the level of satisfaction and dissatisfaction that should be reduced.

AI (artificial intelligence) in tourism destination branding enables:

- • promotes cultural diversity,
- • new market opportunities,
- • two-way communication,
- • differentiation of the offer,
- • development of AI marketing.

Cultural heritage is a valuable resource for achieving competitive advantage and developing tourism. The literature review found that cultural tourism is ranked among the ten most important and dynamic tourism branches because of its tourists who spend a third more than the average tourist.

Cultural tourism attracts tourists with its manifestations originating from the

tradition, history and culture of a city, region or country. The combination of tradition and modern technology enables the creation of a unique marketing strategy of cultural heritage.

Achieving success in the application of modern technologies or smart tourism ensures the progress of the community as a whole, viewing cultural heritage tourism as a part of sustainable tourism. Obstacles and limitations for the application of smart tourism in our region, based on the review of the literature, can be seen first of all in insufficient technological literacy and underrepresented state-of-the-art technical and technological equipment.

As according to the research results, our country is rich in human resources in the field of modern IT, it is suggested to organize training for employees in the field of tourism, strengthening of modern IT resources in the form of equipment. In this way, employees are empowered and ready to take the initiative in the application of innovations in the field of artificial intelligence.

Information from employees using artificial intelligence is of key importance and forms another important part of creating a successful marketing strategy aimed at service users. In this way, the strategy is created based on the data collected with the help of AI. These data are characteristics of the user and the tourist offer is adapted to the user. Loyal customers are the most important resource and ensure long-term profits.

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