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Usability of Artificial Intelligence Technologies in Health Tourism Services

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Abstract

The main purpose of this research is to reveal the views of healthcare professionals working in the Faculty of Medicine Hospital on the usability of artificial intelligence technologies in health tourism. This research was conducted within the scope of quantitative research management. As a model; survey model was used. The study population of the research is the staff working in the Faculty of Medicine Hospital. The sample of the research is 76 personnel working in a Faculty of Medicine Hospital in the Central Anatolia region, who participated in the research on a voluntary basis for maximum diversity. As a data collection tool in the research, the Artificial Intelligence Applications in Health Tourism Scale developed by Yalman (2023), consisting of 6 factors, 5 Likert type and 18 items, was used. Considering that the data were normally distributed, descriptive analysis and parametric analyses such as Independent Groups t Test and ANOVA were used. According to the results; it is seen that male participants have a higher perception than female participants. Healthcare professionals with 6-10 years of seniority have higher attitudes towards the applicability of artificial intelligence in health tourism. It can be said that the views of healthcare professionals towards the applicability of artificial intelligence in health tourism have changed and doctors are more moderate towards the applicability of artificial intelligence in health tourism.

Keywords: Health tourism, Technology, Artificial intelligence, Türkiye

1. Introduction

With the increase in the level of welfare and the impact of globalization, being treated abroad is no longer a luxury expenditure. According to the statistics of associations operating in the field of health tourism, reasons such as the fact that some treatments are not covered by health insurance in certain countries, long waiting times for medical tests and the increase in the elderly population have increased the interest in health tourism. In order to get a share from this growing sector, Turkey has focused on health tourism activities within the framework of the Health Transformation Project since 2006 (Adıgüzel, 2020). Health tourism brings with it a continuous increase in the number of patients who increase access to health services in different countries and benefit from these services. The growth of the health tourism sector is an important source of problems and opportunities for healthcare professionals (Elmas, 2012).

Health tourism is becoming increasingly widespread and increasing concerns about health have led to a further increase in the popularity of this sector. Health tourism is defined as travelling to a place other than the place of residence in order to protect and improve health and to treat diseases and to benefit from health and tourism opportunities (Ministry of Health, 2016). In the past, service delivery in health tourism was performed as a means of diagnosis, medical treatment or surgical intervention that required physical interaction between the patient and the doctor. However, developments in health technologies have changed this paradigm over time and a different patient-physician relationship such as telehealth has emerged. Today, technologies such as augmented and virtual reality affect service delivery in health tourism. The advantages offered by these technologies increase their use in healthcare services. It is observed that studies are increasing to integrate these technologies, which provide users with rich, lifelike interactions and experiences, with artificial intelligence (Balasubramanian, 2021).

Today, the use of artificial intelligence technologies in the health tourism sector is becoming increasingly widespread. The use of these technologies in the health tourism sector offers various opportunities, leading to an increase in service quality and higher patient satisfaction (Li et al., 2020). At the same time, the use of artificial intelligence applications in health tourism destinations supports the provision of safe, advanced and intelligent services (Crooks et al., 2011). The increasing popularity of intelligent automation leads to the improvement of the consumer experience and service quality in terms of health tourism (Tussyadiah, 2020). However, smart travel driven by artificial intelligence focuses on tourists' basic behavioral needs and

psychological emotions (Wangetal, 2018). With the help of new technologies such as artificial intelligence, medical tourism can be a greater driver for sustainable development (Li et al., 2021).

This study focuses on the question of how artificial intelligence technologies, which are new but promising in health tourism, can be used by the personnel working in the field of health tourism. The process of integration of artificial intelligence into health tourism has not yet been fully elucidated and the integration process, such as its applicability in terms of personnel, has not been fully revealed. With the research, answers will be sought to these questions about artificial intelligence and health applications on the basis of health personnel working in the Faculty of Medicine Hospital.

2. Review of Literature

2.1. Health Tourism

Health tourism involves individuals travelling to a different country to receive health services or adopt a healthy lifestyle. Health tourism usually includes health-orientated services such as medical treatments, surgical interventions, aesthetic operations, thermal treatments, spa services and general health checks. Health tourism not only offers a touristic experience but also motivates patients with factors such as affordable prices, quality services, short waiting times and access to modern medical technologies (Yardan et al., 2014). Today, health tourism is growing rapidly as a result of factors such as globalization, technological advances and increased ease of travel. People have become more aware of the importance of accessing quality healthcare services and sometimes prefer to travel abroad to access treatments that are not available or cost-effective in their own countries (Tontuş, 2018).

An important advantage of health tourism is that patients are often referred to centers that offer high standards and specialized services. This makes it possible for patients to receive services from globally recognized doctors and health institutions. In addition, many countries build special health facilities and offer special advantages to medical tourists in order to support and attract health tourism (Kostak, 2007). Another factor that is effective in the expansion of health tourism is the cost advantage. High healthcare costs, especially in developed countries, have led many people to prefer other countries that offer quality services at more affordable prices. This situation has caused medical tourists to turn towards healthcare providers in regions such as Asia, the Middle East and Eastern Europe (Barca et al., 2013). Among the

prominent countries in health tourism are destinations such as Singapore, India, Turkey, Thailand and Malaysia. These countries are known for their quality health services, competitive prices, touristic attraction and health facilities at international standards (Aktepe, 2013).

2.2. Artificial Intelligence (AI) Technologies

Intelligence is defined as the ability to take action or produce solutions by understanding and analyzing events. Artificial intelligence (AI) can be said to be intelligent systems that exhibit cognitive functions such as perception, learning, thinking, problem solving, communication and decision making specific to human intelligence (Wangvd., 2022). AI technologies involve the development of information systems through iterative information processing and learning based on algorithms. Each experience allows the system to test, measure, evaluate and evaluate solutions and thus improve itself. Data mining, natural language processing, image processing, machine learning, deep learning and robotic technologies constitute the main branches of AI (Yalman, 2023).

AI is the development of algorithms and models to extract meaningful information from large data sets and to make predictions or perform specific tasks using this information (Kaya et al., 2013).The basic components of AI include data collection and processing, model building and training, decision-making algorithms and learning processes. Machine learning is one of the most widely used components of AI and enables algorithms to learn to perform specific tasks by analyzing large datasets. Deep learning uses artificial neural networks to identify complex data sets and patterns (Crooksvd., 2011). Looking at the origin of AI, it can be associated with efforts to imitate human intelligence. Alan Turing laid the foundations of AI in 1943 by putting forward the idea that machines can think. While AI is defined as systems or machines that imitate human intelligence, today it can be analyzed in three categories: artificial narrow intelligence (ANI), artificial general intelligence (AGI) and artificial super intelligence (ASI). Artificial narrow intelligence covers narrow-scope applications specialized in certain fields, while artificial general intelligence refers to systems that can perceive and solve problems like humans. Artificial super intelligence is a type of artificial intelligence that aims to be more intelligent than the most intelligent human (Acar & Turan, 2016).

AI technologies are widely used in many sectors today. Among these, areas such as finance, production, retail, transport, security, education and health are frequently preferred (Elmas, 2012). In the finance sector,

AI algorithms are used more in areas such as credit risk assessment, fraud detection and customer service. In the manufacturing sector, AI technologies play an important role in robotic automation and quality control processes. When we look at the retail sector, AI systems are used to analyze customer behavior and provide personalized recommendations (Kaya et al., 2013).

2.3. AI Technologies in Health Sector

AI technologies have important application areas in the health sector and provide various innovations and improvements in this field. When we look at the main areas of use of AI in the health sector;

• ***Medical Diagnosis and Treatment***: AI plays an important role in medical diagnosis and treatment processes. Image processing techniques and machine learning algorithms are frequently used for early detection and accurate diagnosis of diseases in fields such as radiology, pathology and dermatology. For example, in magnetic resonance imaging (MRI) and computed tomography (CT) scans, AI algorithms can help doctors in diagnosis by detecting abnormalities (Gurbetoğlu, 2018).

• ***Patient Tracking and Management:*** AI is also used effectively in patient follow-up and management. Data collected through wearable devices and sensors can be analyzed by AI algorithms to monitor the health status of patients and help detect possible health problems at an early stage. In this way, the management of chronic diseases and emergency interventions can be carried out more quickly (Tussyadiah, 2020).

• ***Robotic Surgery and Automation:*** Robotic surgical systems are equipped with AI technologies, enabling surgical interventions to be performed more precisely and with minimal damage. These systems can mimic the movements of surgeons or perform certain tasks completely autonomously. In this way, the success rate of surgeries can be increased and the healing process can be accelerated.

• ***Analyzing and Managing Health Data:*** AI also plays an important role in the analysis and management of health data. Today, large data sets such as electronic health records (EHR), genetic data and patient reports are analyzed with AI algorithms to create clinical decision support systems. These systems can be said to improve the quality of patient care by assisting doctors in diagnosis and treatment processes.

AI technologies provide great benefits for both patients and healthcare providers in the healthcare sector. It can be said that the solutions offered by AI in areas such as improving medical diagnosis and treatment

processes, facilitating patient follow-up and management, making surgical interventions safer and more effective, and managing health data more effectively increase the quality and accessibility of healthcare services (Livd., 2021).

AI technologies have great potential in the field of health tourism and can contribute to this sector in various ways in the future. According to Tussyadiah (2020), the contributions of AI to health tourism can be explained under basic headings such as increasing service quality, reducing costs and improving patient experience. When we look at these headings;

Improving Service Quality: AI helps in improving the overall service quality by increasing the accuracy and speed of diagnosis and treatment processes in healthcare. AI-enabled systems act as an effective support system in making more accurate and faster diagnosis by analyzing patients' medical history and current symptoms. This is especially important for foreign patients and can also help overcome language barriers. In addition, by using robotic surgery systems in surgical interventions, the precision of surgeries can be increased and complications can be reduced (Livd., 2021).

Reducing Costs*:* AI technologies can reduce costs in the field by increasing the efficiency of healthcare providers. Automation and robotic systems minimize human error by performing repetitive and time-consuming tasks and can also reduce the need for staff. In addition, the ability of AI to analyze health data contributes to reducing health expenditures by helping early diagnosis of diseases and preventing unnecessary treatments (Kaya et al., 2013).

Improving Patient Experience: AI can improve patients' access to healthcare services and their overall experience. Virtual assistants and chatbots provide 24/7 counselling services to patients, helping them with services such as providing information about the treatment process and scheduling appointments. Such technologies allow patients to have easier and faster access to healthcare services. In addition, personalised treatment methods and treatment plans tailored to the individual needs of patients increase patient satisfaction (Gurbetoğlu, 2018).

2.4. Use of AI and Robotic Technologies in Hospitality Industry

AI and robotics technologies are widely used in the tourism sector to increase productivity, enhance competitiveness, improve service quality and enhance guest experiences. Especially in accommodation

establishments in developed countries, many activities such as food preparation, service delivery and room cleaning are now carried out through AI-supported systems and robots. Among the prominent applications in this field are face recognition technologies, virtual reality systems, chatbots, AI-supported map applications and language translation software (Gürbüz & Şahin, 2014).

Facial recognition technologies save time by speeding up passport control and check-in processes. Virtual reality applications offer guests the opportunity to examine the general environment and room quality of the establishment before booking, while also allowing them to visit tourist destinations in three dimensions. Chatbots serve as AI-based digital assistants that answer guests' questions. Maps integrated with artificial intelligence offer guidance enriched with live images, unlike conventional GPS systems. Language translation applications facilitate communication by quickly and accurately translating written, audio or visual content into the preferred language.

According to the Man-Robot Collaboration (MRC) (2020), robots are mechanisms that can perform specific tasks and have a certain level of autonomy. Service robots have the capacity to perform tasks that benefit people or other equipment. Robot technologies have been used in the production sector for many years in jobs that require physical strength. However, thanks to the advances in AI and learning technologies in recent years, robots have transformed from being tools that perform only mechanical functions to intelligent devices that are capable of thinking, interacting with each other and imitating human behavior (Tussyadiah, 2020). With the impact of these developments, accommodation businesses are integrating robotic systems into their service processes in order to increase guest satisfaction and make their operational processes more efficient. Service robots undertake tasks in many areas from welcoming guests to taking orders, preparing food, room service and cleaning operations. These robots, which can successfully perform human-like tasks, enrich the guest experience and contribute to the increase in service quality (Tussyadiah, 2020).

The increasing ability of individuals to use technology in daily life has led many hospitals operating in the health tourism sector to turn to innovative technologies in order to gain advantage (Balasubramanian et al., 2021). Healthcare institutions use artificial intelligence technologies in line with objectives such as communicating with patients, data analysis and reporting, patient follow-up, increasing patient satisfaction, and ensuring efficiency in operational and administrative processes (Elmas, 2012).

The use of artificial intelligence technologies in health tourism is increasing day by day and many new applications are expected to emerge in the future. These applications include technologies such as more advanced artificial intelligence algorithms, internet of things, blockchain technology and digital health assistants. The aim of this study is to examine the usability of artificial intelligence applications in health tourism from the perspective of personnel (Gürbüz & Şahin, 2014). Health tourism practices are not an action carried out only by managers or policy makers, so healthcare professionals should be at the centre of research on this issue. Hospital employees are in close contact with health tourists as direct health service providers, and therefore their opinions and suggestions are of great importance for both institutional management and country promotion (Tussyadiah, 2020). The research aims to take into account the opinions and suggestions of hospital employees in order to achieve successful results in health tourism practices and to ensure further development in this field. In the relevant literature, research on artificial intelligence applications in health tourism is quite limited. In this context, the contributions and innovations that artificial intelligence, which emerged with the advancement of information and communication technologies and rapidly spread to all fields, can bring to health tourism are an important issue.

The main purpose of this research is to reveal the views of healthcare professionals working in the Faculty of Medicine Hospital on the usability of artificial intelligence technologies in health tourism. In line with this general objective, the following specific objectives and research questions were included.

1. What are the views of healthcare professionals working in the Faculty of Medicine Hospital on the usability of artificial intelligence technologies in health tourism?

2. Is there a difference between the opinions of healthcare professionals working in different staff types on the usability of artificial intelligence technologies in health tourism?

3. Is there a difference between the opinions of healthcare professionals with different seniority on the usability of artificial intelligence technologies in health tourism?

4. Is there a difference between the opinions of female and male healthcare professionals on the usability of artificial intelligence technologies in health tourism?

3. Research Methodology

In this section, information about the population and sample of the research, the research model, data collection tool and data analysis will be given.

3.1. Research Design

This research was conducted within the scope of quantitative research management. Quantitative research is a type of research in which numerical data are collected, analyzed and conclusions are drawn by statistical methods. This type of research aims to obtain quantitative information about the general characteristics of the population or a specific topic using large data samples. Quantitative research generally uses numerical data analysis and statistical tests (Gürbüz & Şahin, 2014).

As a model; survey model was used. The survey model is a type of quantitative research. The survey model is used to collect data from a large population or sample. Basically, it is used to screen the entire population or sample in terms of a particular variable or situation and to analyze this data. This type of research is generally used to understand the prevalence of a situation or the distribution of a variable (Gurbetoğlu, 2018).

3.2. Universe and Sample

The study population of the research is the personnel working in the Faculty of Medicine Hospital. The sample of the research is 76 personnel working in a Faculty of Medicine Hospital in the Central Anatolia Region and participated in the research on a voluntary basis for maximum diversity. Demographic characteristics of the participants' seniority information are presented in Table 1.

Table 1. Seniority Information for Participants

Seniority Information for Participants			
		f	%
Seniority	6-10 years	20	26,3
	11-15 years	32	42,1
	15 and above	24	31,6
	Total	76	100,0

Table 1 shows the seniority information of the participants. While 26.3% of the participants had a seniority of 6-10 years, 42.1% had a seniority of 11-15 years and 31.6% had a seniority of 15 or more years.

Table 2. Gender Information of Participants

Gender Information of Participants			
		f	%
Gender	Woman	56	73,7
	Male	20	26,3
	Total	76	100,0

Table 2 includes the gender information of the participants. 73.7% of the participants were female and 26.3% were male.

Table 3. Occupational Information of Participants

Occupational Information of Participants			
		f	%
Profession	Nurse	35	46,05
	Secretary	25	32,89
	Doctor	16	21,05
	Total	76	100,0

The occupational distribution of the respondents is as follows: Nurses constitute 46.05% of the participants with 35 people, Secretaries 25 people (32.89%) and Doctors 16 people (21.05%). There are 76 participants in total and nurses constitute the largest group.

3.3. Data Collection Techniques

In the study, the Artificial Intelligence Applications in Health Tourism Scale developed by Yalman (2023) consisting of 6 factors, 5 Likert type and 18 items was used as a data collection tool. The dimensions of the scale are; "Artificial Intelligence in Healthy Nutrition Subdimension, Artificial Intelligence in Health Maintenance Subdimension, Artificial Intelligence in Spiritual Entertainment Subdimension, Artificial Intelligence in Tourism Transport Subdimension, Artificial Intelligence in Tourism Accommodation Subdimension and Artificial Intelligence in Tourism Shopping Subdimension". In addition, Cronbach's α value for the reliability of the scale was determined as 0.889 by the researchers who developed the instrument. This value shows that the scale is highly reliable.

3.4. Analysing and Interpreting the Data

Considering that the data were normally distributed, descriptive analysis and parametric analyses such as Independent Groups t Test and ANOVA were used.

4. Findings

The descriptive results of the information obtained from the participants with the data collection tool are presented in Table 4.

Table 4. Descriptive Results

	Min.	**Max.**	**Art.Ort.**	**SS**
SBYZ1- Based on the health database, Artificial intelligence can provide nutritionally balanced dietary recommendations.	1,00	5,00	3,6842	1,31735
SBYZ2-Artificial intelligence can automatically cook/suggest meals to meet users' needs and balanced nutrition.	1,00	5,00	3,8421	1,36612
SBYZ3-Artificial intelligence can automatically wash dishes and keep the kitchen clean.	3,00	5,00	3,8421	,94515
SSYZ1-Artificial intelligence can stimulate health measures.	1,00	4,00	2,3684	,81940
SSYZ2-Artificial intelligence can co-operate with professional medical services and assist in rehabilitation.	3,00	5,00	3,5263	,89252
SSYZ3-Artificial intelligence can offer fitness and exercise assistance.	3,00	4,00	3,5263	,50601
MEYZ1-Artificial intelligence can provide tour guide services.	2,00	5,00	3,6842	,87318
MEYZ2-Artificial intelligence can enrich leisure and entertainment activities.	2,00	4,00	3,1053	,55941
MEYZ3-AI can offer emotional values such as comfort, friendship and encouragement.	1,00	4,00	2,6316	,94214
TTYZ1-Artificial intelligence can monitor the in-vehicle air and automatically warn of dangerous factors.	2,00	5,00	3,3684	,99786
TTYZ2-Artificial intelligence can adjust the driving to improve driving comfort.	2,00	4,00	3,3158	,66191
TTYZ3-Artificial intelligence can assist in intelligent safe driving.	2,00	4,00	3,1579	,82286
TKYZ1-Artificial intelligence can adjust indoor temperature, humidity, air and other conditions according to the environment.	1,00	4,00	2,4211	1,32811

TKYZ2-Artificial intelligence can assist in simple emergency rescue, positioning and making emergency calls.	1,00	4,00	3,0000	1,13899
TKYZ3-Artificial intelligence can monitor indoor air and automatically warn of hazardous factors.	1,00	4,00	2,8947	1,13398
TAYZ1-Artificial intelligence can protect the privacy and security of users.	1,00	5,00	3,8421	1,36612
TAYZ2-AI can interact with humans to provide shopping information.	3,00	5,00	3,8421	,94515
TAYZ3-Artificial intelligence can communicate smoothly with a good attitude.	1,00	4,00	2,3684	,81940

According to the descriptive results in Table 4, the two items with the highest averages are HCAS2 and HCAS3. The item SBYZ2 states that artificial intelligence can automatically cook or suggest meals to meet the needs and balanced nutrition of users, and its mean is 3.8421. Similarly, the item SSI3 states that the AI can automatically wash the dishes and keep the kitchen clean, and the mean of this item is 3.8421. The items with the lowest mean are SSYZ1 and TAYZ3. The item SSYZ1 states that artificial intelligence can warn health precautions and its mean is 2.3684. Likewise, TAYZ3 item states that artificial intelligence can communicate smoothly with a good attitude and its mean is 2,3684.

Table 5, Table 6, and Table 7 show the changes in the participants' views according to gender, seniority and occupation.

Table 5. Difference Test According to Gender

		N	**Average**	**SS**	***t***	***df***	***p***
Gender	Woman	56	47,1429	3,78803	-3,336	75	,002*
	Male	20	51,8000	3,79473			

*p<0,01

Table 5 contains the results of the difference test according to gender. According to the evaluations of the participants on the basis of gender, the mean value of female participants' opinions on the applicability of artificial intelligence in health tourism was 47.1429, while the mean value of male participants was 51.8000. According to the t-test results, it was determined that there was a statistically significant difference between genders (t=-3,336, df=74, p<0,01). Male participants had higher perceptions than female participants. This finding indicates that gender may be a determining factor in perceptions of the applicability of artificial intelligence in health tourism and that different strategies may need to be developed on the basis of gender.

Table 6. Difference Test According to Seniority Groups

		N	Centre.	SS	F	*df*	*p*
Seniority Groups	6-10 years	20	53,2000	1,54919	,338	2	0,035*
	11-15 years	32	49,3750	6,53070			
	15 and above	24	47,6667	,49237			
	Total	76	50,3684	4,27704			

*p<0,05

Table 6 includes the results of the difference test according to seniority groups. When the average evaluations regarding the applicability of artificial intelligence in health tourism according to seniority groups are analyzed, the average value of the participants with 6-10 years of seniority is 53,2000, the average value of the participants with 11-15 years of seniority is 49,3750, and the average value of the participants with 15 and more years of seniority is 47,6667. However, according to the results of the ANOVA test, there is a statistically significant difference between seniority groups (F=0,338, df=2, p=0,035). It is seen that the attitudes of healthcare professionals with a seniority of 6-10 years towards the applicability of artificial intelligence in health tourism are higher.

Table 7. Difference Test According to Profession

		N	Centre.	SS	F	*df*	*p*
Profession Group	Nurse	35	48,6667	1,42337	,248	2	0,023*
	Secretary	25	46,3750	2,52340			
	Doctor	16	52,2000	1,52319			
	Total	76	50,3684	3,27704			

In Table 7, according to the results of the difference test according to the profession regarding the applicability of artificial intelligence in health tourism, the average scores of three different occupational groups were analyzed. The average score of nurses was 48,6667, the average score of secretaries was 46,3750 and the average score of doctors was 52,2000. The mean score of the total 76 participants was 50,3684. The F value of the ANOVA test performed to determine whether the difference between the groups is statistically significant is 0.248 and the p value is 0.023. These results show that there is a statistically

significant difference in the perceptions of artificial intelligence applicability between occupational groups. According to the Post Hoc test, it is seen that the difference is between doctors and medical secretaries and in favor of doctors. In this context, the views of different healthcare professionals on the applicability of artificial intelligence in health tourism vary. It can be said that doctors are more moderate towards the applicability of artificial intelligence in health tourism.

5. Discussions and Comments

This study reveals the differences in perceptions of the applicability of artificial intelligence in health tourism among various demographic and occupational groups. The results provide important findings on how artificial intelligence is perceived and accepted in different fields. According to the descriptive results of the study, the items of SBYZ2 and SBYZ3 have the highest mean and tend towards positive perceptions that artificial intelligence can automatically cook or make suggestions in the kitchen and wash the dishes and keep the kitchen clean. In this context, it is seen that the participants are more favorable to technologies that provide such automation and convenience. It can be said that such artificial intelligence applications are attractive especially in terms of time management and comfort.

In addition, the items SSYZ1 and TAYZ3, which have the lowest averages, are related to the ability of artificial intelligence to warn about health precautions and to communicate smoothly. The low averages of these items indicate that such functions are not yet considered reliable or effective, or that there is more skepticism and concern about these issues. Gender-based evaluations reveal that male participants have a higher positive perception than female participants. It is also seen in the related literature that men may have a more open or positive attitude towards technology and especially artificial intelligence. Men are generally more sociable in adopting and using new technologies. This is an indication that strategies for the applicability of artificial intelligence in health tourism should be differentiated according to gender.

The evaluations made between seniority groups show that healthcare professionals with 6-10 years of seniority have a more positive attitude towards artificial intelligence applications. This group, probably as a group that has both youthful dynamism and insufficient experience in terms of work experience, expresses that they can be more open to innovations. On the other hand, employees with more seniority seem to be more attached to their habits and more cautious towards new technologies. Evaluations among occupational groups show that doctors have a more positive attitude towards artificial intelligence

applications. Nurses and secretaries have a more cautious attitude. The more positive attitude of doctors can be explained by the fact that they have the capacity to better understand and evaluate artificial intelligence applications with their professional knowledge and skills. In addition, doctors think that artificial intelligence can reduce their workload and provide support in medical decision-making processes.

Research findings show that demographic and professional factors should be taken into consideration in the process of acceptance and dissemination of artificial intelligence applications in health tourism. Factors such as gender, seniority and occupational type significantly affect people's perceptions and attitudes towards artificial intelligence. Therefore, more personalized and effective strategies should be developed by taking these differences into account in the design and implementation of AI applications. Education and information campaigns should emphasize the potential benefits and safety of AI applications, especially targeting less entrepreneurial or skeptical groups. In conclusion, perceptions of the applicability of AI in health tourism vary according to personal and professional experiences. By being aware of these variables, the process of adoption of AI technologies can be managed more effectively and a wider acceptance can be achieved.

6. Conclusions and Recommendations

The following conclusions were reached in the context of the research findings. According to the descriptive results, the two items with the highest mean are AIAS2 and AIAS3. The item SBYZ2 states that artificial intelligence can automatically cook or suggest meals to meet the needs and balanced nutrition of users, and its mean is 3.8421. Similarly, the item SSI3 states that the AI can automatically wash the dishes and keep the kitchen clean, and the mean of this item is 3.8421. The items with the lowest mean are SSYZ1 and TAYZ3. The item SSYZ1 states that artificial intelligence can warn health precautions and its mean is 2.3684. Likewise, the item TAYZ3 states that artificial intelligence can communicate smoothly with a good demeanor and has a mean of 2.3684.

According to the evaluations of the participants on the basis of gender, the average value of the opinions of female participants on the applicability of artificial intelligence in health tourism was 47.1429, while the average value of male participants was 51.8000. According to the t-test results, it was determined that there was a statistically significant difference between genders. It is seen that male participants have a higher perception than female participants. This finding indicates that gender may be a determining factor in the

perceptions of the applicability of artificial intelligence in health tourism and that different strategies may need to be developed on the basis of gender.

When the average evaluations regarding the applicability of artificial intelligence in health tourism according to seniority groups are examined, the average value of the participants with 6-10 years of seniority is 53,2000, the average value of the participants with 11-15 years of seniority is 49,3750 and the average value of the participants with 15 and more years of seniority is 47,6667. However, according to the results of the ANOVA test, there is a statistically significant difference between the seniority groups. It is seen that the attitudes of healthcare professionals with 6-10 years of seniority towards the applicability of artificial intelligence in health tourism are higher.

According to the results of the difference test according to the profession for the applicability of artificial intelligence in health tourism, the average scores of three different occupational groups were analyzed. The average score of nurses was 48,6667, the average score of secretaries was 46,3750 and the average score of doctors was 52,2000. The F value of the ANOVA test performed to determine whether the difference between the groups is statistically significant is 0.248 and the p value is 0.023. These results show that there is a statistically significant difference in the perceptions of artificial intelligence applicability between occupational groups. According to the Post Hoc test, it is seen that the difference is between doctors and medical secretaries and in favor of doctors. In this context, it can be said that the views of different healthcare professionals towards the applicability of artificial intelligence in health tourism have changed and doctors are more moderate towards the applicability of artificial intelligence in health tourism.

In line with the results of this research, recommendations can be made for various stakeholders on the applicability of artificial intelligence (AI) in health tourism:

Health Tourism Institutions and Managers

• *Artificial Intelligence Assisted Services:* Artificial intelligence can automatically cook and make suggestions to meet user needs and a balanced diet (SBYZ2), as well as wash the dishes and keep the kitchen clean (SBYZ3). Such technologies can increase customer satisfaction.

• *Gender-Based Strategies:* The finding that men have a higher perception than women indicates that different gender-based strategies should be developed. For example, the promotion of artificial intelligence applications for male customers can be done more intensively.

• *Experience Based Training and Promotion Programs:* Considering that employees with 6-10 years of seniority have more positive attitudes towards AI, training programs explaining the advantages of artificial intelligence technologies can be organized for employees with lower or higher seniority.

Health Workers and Educational Institutions

• *Role of Doctors:* Doctors seem to be more moderate towards the applicability of AI in health tourism. Therefore, doctors can play a leading role in the adoption and integration of AI technologies.

• *Trainings for Professional Groups:* Informative and motivational trainings on the benefits of artificial intelligence technologies in health tourism can be organized for other professional groups such as nurses and secretaries.

• *Career Development Programs:* Considering the more positive attitudes of employees with 6-10 years of seniority, career development programs can be organized for employees in this seniority range. These programs can focus on the effective use and applicability of artificial intelligence technologies.

Artificial Intelligence Developers and Technology Companies

• *User Friendly Applications:* Developing applications that meet the daily needs of users, such as washing dishes and cooking, will increase user satisfaction.

• *Testing and Application at Various Levels*: Pilot studies can be conducted with healthcare professionals in different seniority groups to test the applicability of artificial intelligence technologies in the field of health tourism.

• *Communication and Integration Features:* Studies on the ability of artificial intelligence to communicate smoothly with a good attitude (TAYZ3) can be carried out to improve the low perception in this area.

Policymakers and Regulatory Authorities

• *Regulatory Frameworks:* Necessary regulatory frameworks and standards should be established for the use of artificial intelligence in health tourism.

• *Support Programs: Support programs* and incentives can be provided for the dissemination of artificial intelligence technologies in health tourism. Inclusive policies can be developed, especially taking into account differences in gender and seniority groups.

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