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Artificial intelligence perspective on tourism education

Turizm eğitiminde yapay zekâ perspektifi

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ABSTRACT

This study is designed with an analytical approach that compares and analyzes the views of artificial intelligence algorithms on tourism education. This study, which includes data collection, data analysis, and conclusion-drawing processes, aims to understand, evaluate, and improve the problems related to tourism education from the perspective of artificial intelligence. The questions used in the data collection phase were inspired by the 2023 theme of the 23rd National Tourism Congress, "Tourism Education." The answers obtained through four basic questions directed to ChatGBT 3.5, Jenni, Bearly, and Google Bard artificial intelligence algorithms were collected in August 2023. The average time to answer each question was between 5-20 seconds. The questions were posed in Turkish for the ChatGBT 3.5, Google Bard, and Bearly algorithms, while they were translated into English for Jenni. In the data analysis phase, the long answer texts obtained from the artificial intelligence algorithms were analyzed using the hierarchical code sub-code model of the MAXQDA24 qualitative data analysis program. The similarities and differences between the findings were interpreted. As a result of the examinations conducted, it has been observed that the most comprehensive and up-to-date data were provided by Bard and Bearly. The information provided by the ChatGBT 3.5 algorithm, being based on data up to September 2021, and Jenni's limited features being freely accessible, have been restrictive in terms of the obtained responses. When the research findings are evaluated overall, it is observed that the language used is fluent, a general-to-specific approach is adopted, and there is no significant inconsistency among the provided information.

ÖZET

Bu çalışma, turizm eğitimi ile ilgili yapay zekâ algoritmalarının görüşlerini karşılaştıran ve derinlemesine inceleyen analitik bir yaklaşımla tasarlanmıştır. Veri toplama, veri analizi ve sonuç çıkarma süreçlerini içeren bu çalışma, yapay zekâ gözünden turizm eğitimine ilişkin sorunları anlama, değerlendirme ve geliştirmeyi hedeflemektedir. Veri toplama aşamasında kullanılan sorular, 23. Ulusal Turizm Kongresi'nin 2023 teması olan "Turizm Eğitimi"nden ilham alınarak oluşturulmuştur. ChatGBT 3.5, Jenni, Bearly ve Google Bard yapay zekâ algoritmalarına yöneltilen dört temel soru üzerinden elde edilen cevaplar Ağustos 2023 tarihinde elde edilmiştir. Her bir sorunun cevaplandırılma süresi ortalama 5-20 saniye aralığında gerçekleşmiştir. Sorular; ChatGBT 3.5, Google Bard ve Bearly algoritmalarına Türkçe yöneltilirken, Jenni için İngilizceye çevrilmiştir. Veri analizi aşamasında, yapay zekâ algoritmalarından elde edilen uzun cevap metinleri MAXQDA24 nitel veri analiz programının hiyerarşik kod alt-kod modeli ile analiz edilmiştir. Elde edilen bulgular arasındaki benzerlik ve farklılıklar yorumlanmıştır. Yapılan incelemeler sonucunda en kapsamlı ve güncel verinin Bard ve Bearly tarafından sağlandığı görülmüştür. ChatGBT 3.5 algoritmasının sağladığı bilgilerin Eylül 2021'e kadar olan verilere dayanması ve Jenni'nin sınırlı özelliklerinin ücretsiz kullanıma açık olması elde edilen cevaplar açısından sınırlandırıcı olmuştur. Araştırma sonuçları genel olarak değerlendirildiğinde kullanılan dilin akışkan olduğu, genelden özele bir yaklaşımın benimsendiği ve verilen bilgiler arasında çok büyük bir bir tutarsızlığın yer almadığı gözlemlenmiştir.

1. Introduction

Every field of education not only increases the knowledge of societies but also enables individuals to develop their talents. Artificial intelligence technology has the potential to make learning processes more effective and personalized. The use of this technology can contribute to making the education system more sustainable and accessible, offering students a wider range of learning opportunities (Shieh, 2012). New technologies can provide students with customized learning experiences and greater access to distance education (Istomina et al., 2021). Therefore, the rise of artificial intelligence technology could initiate a significant transformation in education systems, improving the quality and effectiveness of education.

While education is considered one of the most important tools that shape the development of societies, the rise of artificial intelligence technology has led to a mandatory transformation process in education systems. One of the leading technological developments in recent years has been in the field of artificial intelligence and intelligent learning. This technological

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advancement aims to focus on the human-like intelligence and learning abilities of computers and robots. Artificial intelligence refers to the ability of a computer system to exhibit high cognitive functions such as visual perception, voice recognition, thinking, idea generation, problem-solving, learning, inferring meaning, retaining past experiences and decision-making (Yavuzalp & Gürol, 2017; Yıldız & Yıldırım, 2018; Altıntop, 2023).

In this context, advances in this area of technology increase the ability of computer systems to successfully perform more complex tasks (Yıldız & Yıldırım, 2018; Altıntop, 2023). Artificial intelligence-equipped robots and software have evolved from science fiction to reality and are widely used in various fields such as health, economy, security, and education. They play effective roles in many areas, including autonomous vehicles, surgical robots, AI-supported physicians, service sector robots, trainers, military and security robots and laboratory assistants (Adaş & Erbay, 2022). Similar to other sectors, the introduction of artificial intelligence technologies in the tourism sector provides advantages such as better management of business processes and the creation of personalized services for tourists (Al-Nafjan et al., 2023). For example, by using artificial intelligence, the complexity of the travel decision-making process can be reduced and customer satisfaction can increase through the facilitation of travel planning (Zlatanov & Popesku, 2019). Additionally, research on the use of artificial intelligence in marketing has shown that AI technologies contribute positively to analyzing customer information and making effective marketing decisions (Shahid & Li, 2019). Therefore, the use of artificial intelligence technology in every branch of tourism is considered important for ensuring the quality and sustainability of the sector.

This study aims to analyze the views of different artificial intelligence algorithms on tourism education in Türkiye and to assess the importance of these views for sectoral stakeholders. The starting point of the research is the diversity and consistency of the information provided by artificial intelligence algorithms. The main problem area of the study is the diversity created by different artificial intelligence algorithms providing varied opinions about tourism education in Türkiye and the consistency of these opinions. It is thought that investigating the differences in the answers given by different artificial intelligence algorithms to similar questions and issues can also guide fields such as tourism education. For example, determining which artificial intelligence algorithm offers more concrete and applicable suggestions in educational applications in the tourism sector can assist practitioners and researchers in identifying the most appropriate solutions.

The reasons for the differences in perspectives between algorithms should be clarified by considering factors such as training data sets, the design of algorithms, and the data sources used. In this context, the research focuses on how the insights offered by different artificial intelligence algorithms can be evaluated for industry stakeholders and how they can contribute to the development of tourism education programs. The research questions to be answered within the scope of the study are as follows:

- What are the opinions of AI algorithms on tourism education in Türkiye, and why are they important for stakeholders in the tourism sector?
- How do artificial intelligence algorithms such as ChatGBT 3.5, Jenni, Bearly, and Bard differentiate their views on tourism education in Türkiye, and what are the reasons for this differentiation?

2. Conceptual/Theoretical Framework

In this part of the study, the theoretical background of conversation theory will be summarized about the subject. At the same time, the concept of "Tourism Education" will be briefly explained, and the problems in the current system will be summarized. Additionally, artificial intelligence algorithms (ChatGBT 3.5, Jenni, Bearly, and Bard) will be defined in this section.

2.1. Conversation Theory

Conversation theory, developed by John Pask in 1976, constitutes a model of communication. This theory elucidates the processes individuals undergo during communication (Pask, 1976). It serves as a valuable instrument for comprehending and refining the communication process. By delving into how people communicate and nurture relationships, conversation theory significantly impacts various domains including education, psychology, and artificial intelligence, exerting ongoing influence on contemporary research (Erul & Işın, 2023). The profound connection between artificial intelligence and communication has reached an inevitable magnitude, evidenced by its multifaceted applications from expediting workflow processes to consultancy endeavors. Through tools like text-based chatbots, virtual assistants, and speech recognition systems, artificial intelligence effectively engages in communication with humans (Koçyiğit & Darı, 2023). Consequently, artificial intelligence algorithms are capable of engaging in conversations or interviews on diverse subjects. Herein, conversation theory furnishes a framework for grasping the interactions and dynamics characterizing conversations conducted by AI algorithms. In this regard, conversation theory serves as a foundational framework for assessing the significance, coherence, and quality of interaction between users and AI-generated responses. Language fluency and presentation coherence hold paramount importance in this evaluation process, as effective communication necessitates language to be comprehensible, suitable, and user-friendly. Hence, conversation theory emerges as a pivotal tool for enhancing and refining the efficacy of communication with AI.

2.2. Tourism Education in Türkiye

Tourism education endeavors to cultivate societal awareness regarding tourism and the conservation of tourism resources, fostering a commitment to equitable and hospitable service provision to tourists irrespective of economic status. It emphasizes respect and hospitality, highlighting the long-term benefits of tourism without discrimination based on race, nationality, religion, language, social status, moral values, or political views (Ağaoğlu, 1991). In Türkiye, tourism education is dispensed across various educational tiers,

including high school, associate degree, undergraduate, and graduate levels. Particularly in recent years, the proliferation of tourism faculties aims to furnish the sector with competent personnel and managerial candidates (Kozak, 2009; Aksu & Bucak, 2012; Üzümcü et al., 2015; Kılıç & Gençer, 2023). Not only does tourism education strive to meet the sector's demand for qualified professionals, but it also endeavors to address challenges inherent in the educational process. Hence, understanding and resolving encountered issues are crucial for enhancing tourism education and nurturing well-prepared individuals for the sector.

A review of the literature reveals several challenges within tourism education. One notable issue pertains to the inadequacy of professional equipment necessary for practical courses, trainers' expertise, and limited kitchen space. Internship-related challenges further compound these issues, encompassing non-standard internship durations, intern exploitation, rotation and adaptation difficulties, off-field assignments, and social rights, nutrition, and accommodation problems (Akay et al., 2018). Effectively addressing these challenges in tourism education is pivotal for cultivating competent professionals and fostering sustainable sectoral development. The 23rd National Tourism Congress, themed "Tourism Education," scrutinized various education-related challenges through diverse research methodologies employed by academicians. Comprehensive discussions among tourism enterprises, academics, and students highlighted numerous issues. From students' perspectives, challenges included frequent workplace changes, intern mistreatment, discrimination, off-duty responsibilities, internship placement difficulties, remote internship locations, excessive working hours, inadequate overtime compensation, substandard cafeteria food, lodging issues, and leave concerns (Küçük et al., 2023). Business owners raised concerns regarding students' insufficient foreign language proficiency (Özdemir & Akyürek, 2023), lack of career direction, and brief internship periods (Keskin et al., 2023). Academics highlighted issues such as insufficient funding, absence of quota limitations, and inadequate faculty-to-student ratios (Şat, 2023).

2.3. History of Artificial Intelligence

Artificial intelligence is a domain that shifts the focus of computer science towards machines endowed with the capacity to learn, marking a milestone in the digital transformation process whereby decision-making processes are executed by software and algorithms rather than humans (Frank et al., 2019). The objectives of artificial intelligence studies revolve around emulating human faculties like perception, cognition, decision-making, and mobility through computational systems. It serves as an interdisciplinary nexus where computer science converges with fields such as psychology, philosophy, tourism, and medicine. Leveraging algorithms and software, artificial intelligence endeavors to replicate human-like functionalities including natural language processing, image recognition, autonomous navigation, and decision-making (Russell & Norvig, 2010).

Artificial intelligence and smart learning technologies are effectively utilized across various fields. Particularly in the education sector, artificial intelligence algorithms offer numerous advantages, such as delivering personalized learning experiences and enhancing the enjoyment of learning. Besides education, artificial intelligence finds successful applications in diverse domains, including disease diagnosis, imaging technologies, and hospital management in the healthcare, and financial sectors. In finance, artificial intelligence is instrumental in critical processes like risk analysis, portfolio management, and supporting investment decisions (Holzinger et al., 2017; Manogna & Anand, 2023). Given its broad applicability, artificial intelligence serves as a versatile tool across different sectors. In this study, four distinct artificial intelligence algorithms employed for data collection and interviews are ChatGPT, Jenni, Bard, and Bearly.

ChatGPT, a natural language processing model developed by OpenAI, has been available online since 2020. ChatGPT possesses the capability to translate between different languages, offer suggestions, and generate texts. Its particularly notable ability to provide quick and accurate translations has positioned ChatGPT as a highly promising

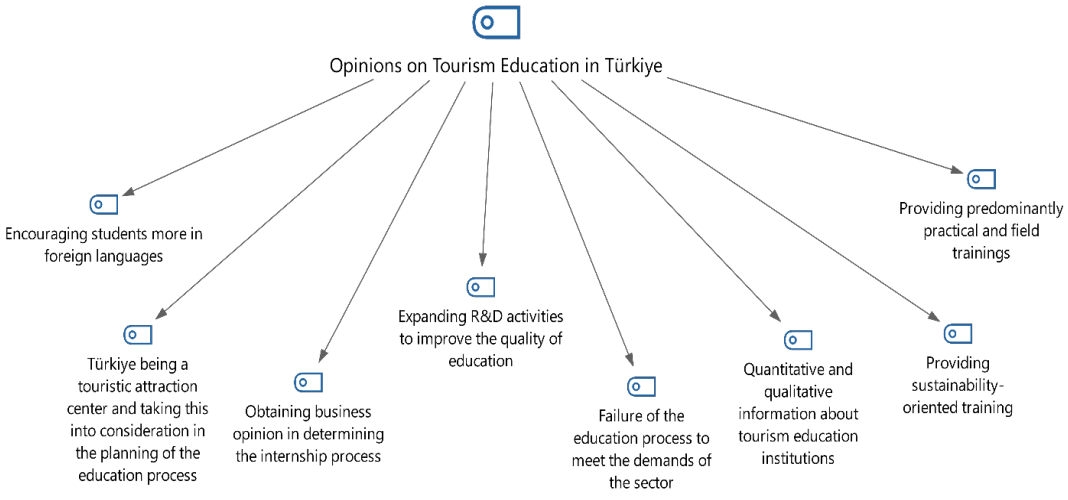

Figure 1. Opinions About Tourism Education in Türkiye
Source: *Figure created by the authors using the MAXQDA analysis program.*

language model in the realm of translation and text generation. This model finds applications across various industries and sectors, including education, healthcare, law and numerous others (OpenAI, 2023). Jenni, on the other hand, is another AI writing assistant designed to facilitate rapid content production. Leveraging a blend of AI21, GPT-4 and contemporary text analysis, Jenni aims to produce high-quality content efficiently. Despite its establishment in 2016 and initial investment, Jenni AI struggled to gain traction. However, a boost in investor confidence accompanied by a $100,000 investment propelled the company forward. In 2020, Jenni AI underwent a relaunch, initially experiencing modest growth. Subsequently, with the introduction of additional features and the aid of TikTok videos, it garnered widespread popularity. Consequently, the user base expanded rapidly, as evidenced by CEO David's Twitter messages highlighting Jenni's burgeoning fame (Gluska, 2023).

Google Bard is an AI-powered chatbot developed by Google to emulate human conversations using natural language processing and machine learning. Apart from providing search assistance, Bard offers a solution that can be seamlessly integrated into websites, messaging platforms, or applications to furnish users with realistic and natural responses to their queries. Bard's primary objective is to shift towards employing more natural language queries rather than relying solely on keywords in search processes. Trained on natural-sounding spoken text, Bard's AI aims to offer contextualized responses rather than simply presenting a list of answers. With 137 billion parameters, Bard encompasses a comprehensive understanding of the world, enabling it to deliver detailed and nuanced responses. Its functionalities include text generation, language translation, creative content creation, and informative question-answering (Patrizio, 2023). Bearly, on the other hand, is another artificial intelligence system designed to assist users in reading, writing and content creation. Powered by OpenAI's GPT-3 language model, which stands as one of the most advanced artificial intelligence models globally, Bearly provides support for swiftly and effortlessly finding information, rectifying grammar and spelling errors, summarizing text, generating new ideas and crafting various types of creative content. Bearly is accessible both as a Chrome extension and a desktop application. While Jenni is available for free with limited features, full access requires a paid subscription (Bearly, 2023).

3. Methods

In this section of the study, the methodology employed is delineated comprehensively. The research design informing the study and the interview questions utilized as data collection instruments are outlined. Furthermore, pivotal stages of the study, including validity and reliability tests and the interpretation of findings, are expounded upon in this chapter.

3.1. Research Design

Within the scope of the study, the questions directed to artificial intelligence regarding tourism education in Türkiye were formulated with descriptive and explanatory question suffixes such as "what, how, why". Hence, the case study design, a qualitative research approach, was adopted. Case studies are qualitative research designs aimed at gathering data through inquiries into current situations or problems using "what, how, and why" questions (Berg, 2001). This study, structured around a case design and analyzing the perspectives of artificial intelligence systems on tourism education, was designed with an analytical approach. Analytical studies entail processes of data collection, analysis, and concluding any given subject. They serve to comprehend, evaluate and enhance various aspects of the tourism sector (Shamaileh & Khanfar, 2014).

3.2. Validity and Reliability

The responses provided by various artificial intelligence algorithms to identical questions were compared and cross-validated. This validation aimed to assess whether similar results were obtained across different algorithms. Simultaneously, the answers were coded twice at different times and care was taken to ensure that the data obtained were valid and reliable.

3.3. Data Collection

First, the questions to be posed to the artificial intelligence algorithms were determined. The theme of the 23rd National Tourism Congress in 2023, "Tourism Education," served as the basis for formulating these questions. Four fundamental

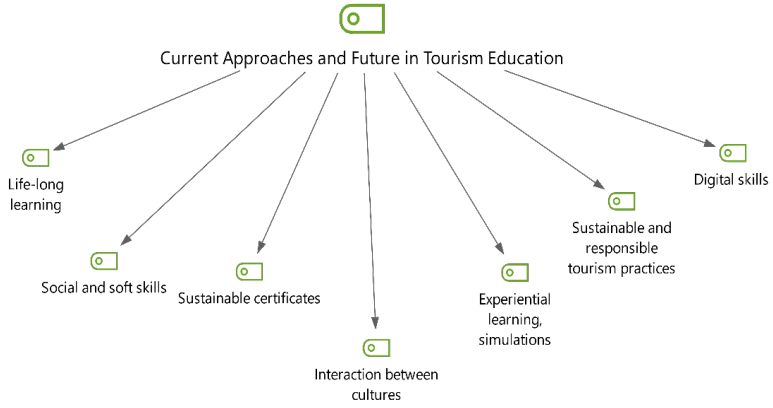

Figure 2. Current Approaches and Future in Tourism Education
Source: *Figure created by the authors using the MAXQDA analysis program.*

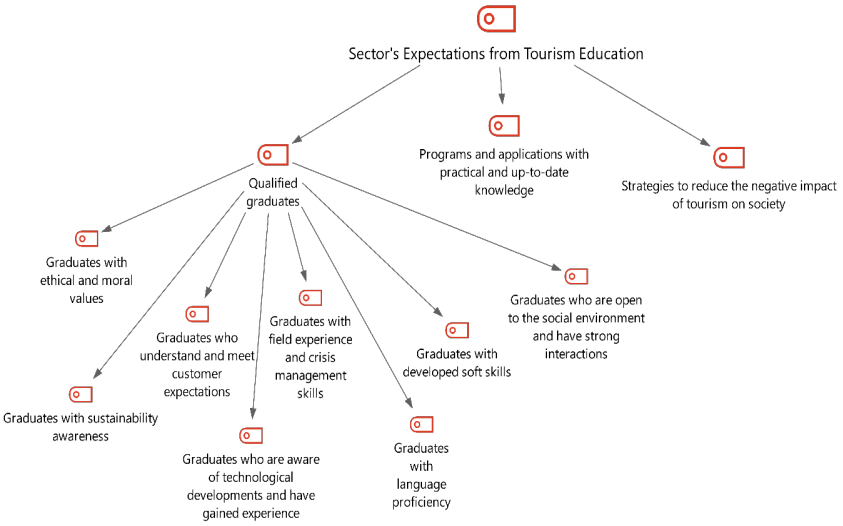

Figure 3. Sector Expectations from Tourism Education

Source: *Figure created by the authors using the MAXQDA analysis program.*

inquiries regarding tourism education were posed to ChatGBT 3.5, Jenni, Bearly, and Bard, and the responses were recorded in a word processing environment. Ensuring clarity and comprehensibility, special attention was paid to the formulation of these questions based on the congress theme. The data collection process occurred in August 2023, with each algorithm taking an average of 5-20 seconds to respond to each question. The questions were presented in Turkish for ChatGBT 3.5, Bard, and Bearly algorithms, while they were translated into English for Jenni.

3.4. Data Analysis

The responses obtained from the artificial intelligence algorithms underwent content analysis. Each algorithm's responses to each question were analyzed and interpreted individually. Throughout the analysis process, a systematic approach was employed to identify similarities and highlight differences among the responses. The answers provided by all algorithms for each question were condensed to an average of 250 words. These texts were compiled into a unified Word file and imported into the MAXQDA24 qualitative data analysis program for analysis, utilizing the hierarchical code-sub-code model.

4. Results

In this section of the study, the data collected from four distinct artificial intelligence algorithms are thoroughly analyzed. The responses to the questions presented to these algorithms were systematically coded and interpreted. The section delves into discussing the similarities and disparities observed among the obtained responses. Commencing with a broad inquiry such as "How do you interpret tourism education in Türkiye?", the data collection process initiated the analysis. Figure 1 provides a summary overview of the responses obtained.

In terms of commonalities, all artificial intelligence algorithms emphasized the importance of tourism education in

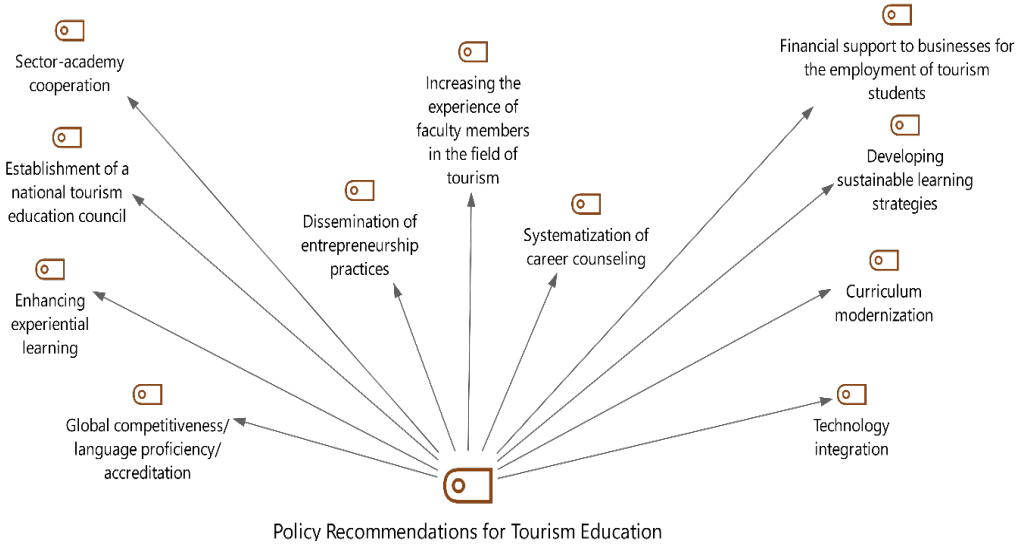

Figure 4. Policy Recommendations for Tourism Education

Source: *Figure created by the authors using the MAXQDA analysis program.*

Türkiye. They stated that training qualified tourism professionals and offering education programs suitable for the sector are crucial. There was a consensus that universities provide robust tourism programs, collaborate with the industry and strive to adapt their education programs to industry needs. Some responses underscored the necessity for critical evaluation, emphasizing the importance of analyzing and improving the system. Regarding differences, each algorithm highlighted distinct points. While ChatGBT 3.5 emphasized the significance of cultural heritage, Jenni underscored the importance of critical evaluations. Bard stressed the need to delve into problems and solutions in more detail. Additionally, Bearly drew attention to the distinctions between academic and vocational education, stating that this issue should be emphasized. For a summary of the responses to another question, "How and where are the current approaches in tourism education evolving?", refer to Figure 2.

In terms of similarities, all four AIs emphasized sustainability in tourism education, aiming to minimize negative impacts by stressing responsible and ethical tourism practices. Another shared point is the importance of technological components such as digitalization, technology, digital marketing strategies, data analytics, and e-commerce in tourism education. Additionally, there is a general consensus among the answers provided by the four algorithms that hands-on experiences, internships, and field studies are vital in tourism education to provide students with real-world experience. When examining the differences, ChatGBT 3.5 highlighted the issue of timeliness, stating that the information it provided in its answer was based on data up to September 2021. On the other hand, other AIs did not specify any date-related data on this issue. Bard emphasized digital skills, soft skills and communication skills as crucial competencies for graduates. Bearly stressed the importance of incorporating technological components such as digital marketing strategies, data analytics, and e-commerce into tourism education due to the increasing role of technology in the tourism industry, while other AIs addressed this issue from a more general perspective. For a summary of the responses to the third research question, "What are the expectations of the tourism sector from education in Türkiye?", please refer to Figure 3.

Looking at commonalities, sustainability, practical knowledge and skills, language proficiency and soft skills are the shared expectations from training in the tourism sector. However, the Bard model places greater emphasis on technical skills, flexibility and adaptability, while the Jenni model highlights expectations in human resource management. These differing emphases illustrate that the complexity and diversity of the tourism sector are reflected in the variety of characteristics expected from training. For a summary of the responses to the last question of the study, "What are the policy recommendations for tourism education in Türkiye?", please refer to Figure 4.

Policy recommendations for tourism education in Türkiye show significant similarities and differences among the ChatGBT 3.5, Jenni, Bard, and Bearly models. All four models propose common recommendations in general categories such as strengthening industry-academia collaboration, updating the curriculum, enhancing experiential learning opportunities, improving language skills, integrating sustainability principles and practices, utilizing technology, fostering cultural competence, promoting entrepreneurship, supporting professional development, ensuring quality assurance, providing career guidance, emphasizing research and data analysis, fostering public-private sector partnerships, and promoting inclusivity and accessibility for global competitiveness. However, variations are also evident among the responses, highlighting both similarities and distinctions. The Jenni model particularly emphasizes the increase in the number of teachers and trainers, while the Bard model focuses more on internationalization and opportunities for overseas education. The Bearly model, on the other hand, places special emphasis on entrepreneurship education, mentoring, and industry collaboration through internship programs. These differences indicate that policy recommendations for tourism education are approached from various perspectives and shaped based on specific priorities.

5. Conclusion and Discussion

The tourism sector is known for its service-oriented structure, which involves various complex processes such as marketing, service delivery and customer communication (Yuan et al., 2019). Utilizing the capabilities provided by artificial intelligence for the planning and management of these intricate processes can improve efficiency and confer competitive advantages across the sector. In this study, responses to similar questions and issues regarding tourism education in Türkiye were analyzed using various artificial intelligence algorithms. The objective was to identify which artificial intelligence algorithm offers more concrete and actionable recommendations for educational applications within the tourism sector. This effort aimed to contribute to the formulation of strategic plans for tourism education by integrating the insights and recommendations of artificial intelligence algorithms. The integration of smart technologies such as automation and artificial intelligence in tourism education is considered crucial for the future of the sector (Ercan, 2020; Jabeen et al., 2022). Additionally, the opinions of ChatGBT 3.5, Jenni, Bearly, and Bard artificial intelligence algorithms regarding tourism education in Türkiye were compared, and the similarities and differences in their responses were investigated. It is believed that incorporating the perspectives offered by artificial intelligence algorithms will enhance the development of strategic approaches for tourism education in Türkiye by introducing diversity.

In the context of this study, it was observed that artificial intelligence algorithms converge on common ground regarding tourism education in Türkiye, focusing on themes such as technology integration, sustainability, experiential learning, sectoral collaboration, lifelong learning, and professional development. Additionally, all algorithms emphasized the necessity of providing students with practical experience through experiential learning methods, internships, and collaborations with the industry. The results revealed that each artificial intelligence model addressed similar themes regarding tourism education in Türkiye, touching upon program diversity, industry collaboration, critical thinking, quality improvements, and sustainability-oriented issues. From this standpoint, it is believed that the perspectives

offered by artificial intelligence algorithms regarding tourism education in Türkiye could encompass recommendations and predictions that may shape the direction of the sector. Indeed, previous studies have suggested that artificial intelligence applications in healthcare will enrich professional skills and enable better healthcare services for patients (Abid et al., 2019; Öcal et al., 2020; Yılmaz et al., 2021).

It is believed that investigating the differences in responses of different artificial intelligence algorithms to similar questions and issues can be instructive within fields such as tourism education. For instance, determining which artificial intelligence algorithm provides more tangible and applicable recommendations in educational practices within the tourism sector can contribute to practitioners and researchers identifying the most suitable solutions. For example, in comparative studies where different artificial intelligence algorithms' responses to similar questions and issues are assessed, it has been found that ChatGPT outperforms others significantly. In a study evaluating responses to a specially designed question bank for oral board exams in brain surgery preparation, GPT-4 achieved a score of 82.6%, demonstrating better performance than GPT-3.5 and Google Bard (Ali et al., 2023). Similarly, in another comparison of ChatGPT and Bard's capabilities and features, ChatGPT's outstanding performance was highlighted, positioning it as a leading model (Ahmed et al., 2023).

Compared to other sectors, it can be stated that in this study, the most comprehensive and up-to-date data were provided by Bard and Bearly. The limitations of the obtained data were due to the information provided by the ChatGBT 3.5 algorithm being based on data up to September 2021, and the limited features of Jenni being available for free use. Upon examining the differences between responses, particularly in terms of the qualifications that graduates in the tourism field should possess, notable disparities emerge. While the Bard model emphasizes technical skills, flexibility, and adaptability, the Jenni model places special emphasis on expectations in human resource management. ChatGBT 3.5 underscores the importance of digital skills, social skills, and communication abilities for graduates, while Bearly highlights awareness of sustainable tourism practices. All the data obtained emphasize the importance of tourism education in evaluating Türkiye's tourism potential and training qualified professionals. Ultimately, while the comments of artificial intelligence characters on tourism education can shed light on strategies that will contribute to the sector's sustainable growth, the unique perspectives of different artificial intelligence engines will also allow for a comprehensive evaluation.

5.1. Practical Implications

Among the practical contributions that this study can offer to tourism education systems, it can be ensured through AI-powered chat systems that students keep track of current developments in the industry and rapidly adapt to innovations in this field. Simultaneously, student performance can be assessed through feedback provided by artificial intelligence, allowing for a focus on weaknesses and the creation of personalized learning experiences. AI-supported chat systems can facilitate the continuous updating of educational programs by providing real-time feedback to better understand industry demands and expectations. In this way, tourism education can evolve to be more effective, dynamic and seamlessly integrated with the industry.

5.2. Theoretical Implications

This study's theoretical contribution emphasizes the potential of using conversation theory to enhance and optimize communication skills through artificial intelligence algorithms. Communication with artificial intelligence is rapidly advancing through applications such as text-based chatbots, virtual assistants and speech recognition systems (Koçyiğit & Darı, 2023). Conversation theory can provide a crucial framework for evaluating these artificial intelligence applications concerning the clarity, consistency, and user-friendliness of language.

5.3. Limitations and Suggestions for Future Research

The scope of the study is naturally limited within the framework of the interview questions used in the research. In this context, these questions can be elaborated using the interview technique commonly used in qualitative research, and new interviews can be conducted with updated versions of the algorithms. Additionally, four artificial intelligence algorithms were used in this study. Future research could include examining responses from different algorithms. Furthermore, a study that compares the recommendations of AI models with real-world applications and the opinions of industry experts could be beneficial for the field.

Ethics Statement: This study was conducted using a methodology that does not necessitate approval from an ethics committee.

Author Contributions Statement: 1st author's contribution rate is 60%, 2nd author's contribution rate is 40%.

Conflict of Interest: There is no conflict of interest among the authors.

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