Robotics and the Future of Tourism and Hospitality: Attitudes and Perspectives of Future Employees

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Abstract
This qualitative study explores tourism and hospitality students' attitudes and perceptions toward the adoption of robotics and artificial intelligence (AI) in the sector. Semi-structured interviews were conducted with 20 third- and fourth-year students from Faculty of Tourism at Eastern Mediterranean University in Northern Cyprus to elicit views about benefits, challenges, and likely impacts on future careers. Thematic analysis identified six core themes: efficiency, service improvement, unemployment concerns, cost-saving considerations, the importance of human skills, and education/upskilling costs. Participants perceived robots as a means to improve operational efficiency and service consistency while expressing significant anxiety about job displacement, privacy, and the erosion of interpersonal service quality. Findings suggest students favor a balanced approach in which routine tasks are automated but human staff remain responsible for emotionally demanding and complex interactions. The paper contributes empirical evidence on the next generation's perceptions of service robotization and discusses implications for curriculum design, workforce upskilling, and managerial integration strategies. Limitations include a small purposive sample and single-method design; recommendations are offered for mixed-methods, longitudinal research, and policy measures to support workforce transition.

Keywords: *Artificial Intelligence, Tourism and Hospitality education, Student perception, Human-robot interaction, Technology acceptance, Job displacement, Hospitality management*

Introduction

The tourism and hospitality sector is rapidly implementing robotics and artificial intelligence to improve efficiency, service quality, and customer experience. Hotels, restaurants, and travel agencies are increasingly employing robots for activities like check-in, luggage delivery, housekeeping, and customer services (Ivanov & Webster, 2019; Klenert et al., 2023). In spite of the speedy evolution of technology in the tourism and hospitality sector, not much research has been conducted to understand how future employees, specifically university students about to graduate and enter the industry, view the use of robotics and artificial intelligence (AI) in service environments.

Understanding future employees' attitudes and perceptions of robotics and AI is crucial because they represent the next generation of the hospitality workforce. Their attitude influences how easily these technologies will be incorporated into workplaces, curricula, and services (Murphy et al., 2021; Tung & Au, 2018). The rapid growth of robotics and AI technologies within tourism and hospitality contexts has caused tourism and hospitality programs around the world to rethink

how the next generation of employees is trained. Against this backdrop, and despite the above-mentioned shift, few studies have focused on how hospitality students perceive these changes. This study extends theoretical discussions on technology acceptance and human–robot interaction by examining an understudied population, future employees, whose perceptions shape industry-level technological transition.

Literature has largely addressed consumer responses or managerial views of robotics in the tourism and hospitality industry, with much less focus on university students who are still undergoing professional preparation, including interns and pre-entry-level trainees. This leaves a critical gap in understanding how educational institutions and curricula can prepare future employees for robotized workplaces. Recent studies (Dixon et al., 2021; Devkant, 2022; Bakirtas & Baser, 2024) have concentrated on comprehending how managers and employees view communicating and working with robots.

Recent global shifts toward automation in hospitality have created an urgent need to understand workforce readiness and student preparedness for robotized workplaces. The main problems of using robotics and implementing AI in tourism and hospitality businesses are employees' reluctance, technological hiccups, services rendered without the use of humans, high operational expenses, human-robot interaction, training and maintenance expenditures, and organizational designs that are robot-friendly (Devkant, 2022). This study investigates tourism and hospitality students' attitudes toward robotics and AI, the perceived advantages and challenges of their implementation, and suggestions for their future careers.

Therefore, this study addresses these research questions: (1) What are tourism and hospitality students' attitudes toward the use of robotics and artificial intelligence in their future workplaces? (2) What are the benefits and drawbacks of robotics in hospitality operations from the perspective of students? (3) What is students' view on the combination of human capabilities and robotic tasks? (4) What are the implications of these for hospitality education and curriculum design? In addition to addressing these practical questions, the study contributes theoretically by extending technology acceptance and human–robot interaction literature to a population that has been understudied: future hospitality employees. Thus offering insights into how workforce attitudes shape technological integration processes. By answering these questions, this research hopes to contribute to understanding students' preparedness for technological change in the tourism and hospitality industry and to inform instructional leaders and educators regarding curriculum and workforce training requirements.

Literature Review

The Evolution and Advancements of Robotics

The hospitality and tourism sector has experienced tremendous growth in robotics since its early days, when robots were used for routine tasks like vacuuming and cleaning (Ivanov & Webster, 2020). Previously, robots were only capable of retrieving dropped objects (Billard & Kragic, 2019); however, with the advancement of technology, they have evolved to perform more complex tasks such as check-in and check-out procedures (Banu et al., 2025).

The majority of "robotics" advancements are just information pads or order-taking kiosks that do not move or perform physical work and are therefore not considered to be robots. For instance, the Cali-Burger chain has utilized its “Flippy” hamburger-making robot in its stores. Having opened its first “all-robot” restaurant in Phoenix, Arizona, in July 2018, McDonald’s is not actually 100% robot-staffed; humans are required to assure the proper function of the robots (Joshi, 2024; Zemke et al., 2020). When robots are more sophisticated, they can accomplish more complex tasks. Restaurants have already started using robots in the food and beverages sector to prepare menu dishes such as pizzas and cocktails (Berezina et al., 2019). Hotels have also embraced robots as concierges, giving customers information and recommendations on attractions around the area (Shin & Jeong, 2020).

The arrival of AI has led to the innovation of sophisticated robots with the ability to learn, changing consumer behavior (Davenport et al., 2020), preferences and feedback (Webster & Ivanov, 2019). As a result, businesses are now capable of providing customized products and services that suit the tastes and preferences of their customers (Bhuiyan, 2024).

There has been a rising trend in the tourism and hospitality industry in recent times to utilize robotics so as to cut costs, provide experiences, improve service effectiveness, and enhance competitive advantage (McCartney & McCartney, 2020).

Benefits of Robotics

There are several benefits to the employment of robotics in the tourism and hospitality sector. These include greater efficiency, enhanced customer service, and the ability to carry out physically demanding or dangerous tasks that humans would otherwise view as risky (Ivanov & Webster, 2021; Naumov, 2019).

Increased efficiency is one of the major advantages of using robots in the tourism and hotel industry. Robots are less expensive and productive than human employees since they can achieve tasks faster and more accurately (Mukharjee, 2024). For example, hotels can use robots to clean rooms and public areas quicker and more effectively (Lukanova & Ilieva, 2019), which enables them to host more customers and earn more (Car & Stıfanıch, 2020).

Besides, robots can help offer better-quality service (Chiang & Trimi, 2020). Robots can provide more bespoke and effective customer service, resulting in a better experience for guests (Naumov, 2019). For example, hotels can employ robots as concierges to offer customized suggestions and information regarding local attractions (Sharma et al., 2024, June), addressing each guest's individual preferences and needs (Shin & Jeong, 2020).

Challenges and Limitations

The largest drawback for the use of robotic technology in the tourism and hospitality sector is the cost (Nam et al., 2021). The expenditure required to purchase and deploy the robots may be costly, and the maintenance expense may also be substantial (Ivanov & Webster, 2019). The expense will be too great for small businesses, and hence it will not be possible to invest in the technology (Rhouiri et al., 2025).

Another major challenge in the adoption of robotics in the tourism and hospitality sector is the need for advanced knowledge and training to operate and maintain them (Nam et al., 2021). Companies that do not have the necessary competence or financial means to hire more employees to operate the technology can be at a loss in this regard (Haber & Carmeli, 2023).

Apart from this, there can be issues regarding the possible effect of robotics on jobs in the tourism and hospitality sector (Ivanov & Webster, 2020). The more competent the robots are in performing tasks traditionally related to humans, the greater the likelihood of replacement (Chuang, 2021). This can have a great impact on employees, and retraining and upskilling may be required to enable them to deal with these shifts (Morandini et al., 2023). In addition, customization can also make the implementation and maintenance of robotic systems more complex (Ivanov & Webster, 2019).

Companies might be required to employ professional technicians or engineers to design, integrate, and sustain proprietary robotic solutions, which contributes to the already high implementation and maintenance costs. The need for customization can further lead to increased implementation lead times due to the fact that companies may have to hold back for proprietary robotic solution integration and development (Soori et al., 2024).

Potential Future Developments

Robotics in tourism and hospitality is still in its infancy, but there are many ways it could change the industry, potential growth areas include robotic assistants (Bowen & Morosan, 2018). Ali et al., (2025) define in their study that as artificial intelligence technology improves, customer assistant robots may be possible. These robots could help customers navigate hotels or recommend local attractions and restaurants.

Delivery robots can also be utilized; some hotels and restaurants use delivery robots, but the tourism and hospitality industry could use them more efficiently (Ivanov & Webster, 2021). Delivery robots could transport luggage to hotel rooms or between resort areas (Hussain, 2023). Studies about customer service robots have also been conducted recently; hotel and airport robots could provide customer service. These robots could answer common questions, give directions, and translate languages (Buhalis & Moldavska, 2022).

Tourists might be amused by robots in the future at hotels and resorts (Talukder et al., 2025). Robots may sing, dance, or entertain tourists (Milman & Tasci, 2022). There are many ways that robotics can be used in tourism and hospitality (Palrão et al., 2023). Robotics and artificial intelligence will find new uses in this industry as technology continues to develop (Licardo et al., 2024).

Ethical and Societal Implications

Although there are many benefits to robotics in tourism and hospitality, there are also ethical and societal issues to consider (Lin & Lee, 2025). Key concerns include employment risks, privacy issues, and surveillance concerns (Zhu et al., 2024). This could affect industry workers and the economy. Another concern arises in Belk's (2021) study, which highlights privacy issues, noting that robots with cameras or sensors may raise privacy and surveillance concerns. Robots' privacy

impacts must be carefully considered. Robotics ethics include safety; robots should be designed and programmed to minimize customer and employee injuries. Transparency and trust are other major concerns while researching artificial intelligence and robotics in the hospitality industry. Because robots are becoming more and more common in the travel and hospitality industries, consumers must be trusted. Offering clients an honest explanation of their role and allowing them to avoid dealing with robots are two examples of this (Murphy et al., 2021).

Consider the potential role of robotics in accessibility and equality in the sector. Robots in hotels and resorts can widen industry disparities (Dasgupta & Jamader, 2024). There are several social and ethical considerations for robotics in hospitality and tourism. Businesses can use robotics effectively and ethically by respecting these factors and avoiding potential risks (Ivanov & Umbrello, 2021).

Attitudes and Perceptions of Students

For future hospitality and tourism professionals, students' attitudes towards robotics matter. Several factors influence how students perceive robotics (Palrão et al., 2023), In their research, Murphy et al., (2021), discover technology familiarity; students who are more familiar with robotics technology might be more favorable about its utilization in industry.

Contrarily, Hussain at el., (2023) continued to question job employment; according to their research, tourism and hospitality students can be concerned about the impact of robotics on industry employment, particularly if they intend to work in the sector. But there remains room for perceived benefits, such as Wirtz & Stock-Homburg (2025) found in their study; if students think robotics will improve efficiency, customer service, and safety, they may like it.

At the same time, professionals and concerned stakeholders should remain aware of ethical and societal concerns. For example, in a study by Ferhataj et al., (2025), they point out at students may also worry about the ethical and societal effects of using robotics in the industry, such as privacy, safety, and equity.

Finally, cost may affect student attitudes toward robotics in the industry. If students believe tourism and hospitality robotics technology is too costly, they will not embrace it (Wakelin-Theron, 2021). There are numerous factors that can affect students' perceptions of the utilization of robotics. Institutes can help prepare the future generation of tourism and hospitality employees to utilize robotics by being aware of these factors, mitigating issues, and fostering support (Nam et al., 2021).

Methodology

Research Design

This research employed qualitative exploratory research using semi-structured interviews to explore tourism and hospitality students' understanding of artificial intelligence and robotics within the hospitality industry. A qualitative approach was used because it facilitates rich exploration of meanings, attitudes, and expectations that surveys might not encompass. An inductive reasoning strategy was employed, with patterns and themes emerging from the students' views without testing pre-examined hypotheses (Binns & Bell, 2015).

Participants and Sampling

Participants were 20 undergraduate students enrolled in the Tourism and Hospitality Management program at Eastern Mediterranean University. Participants were aged between 19 to 26 years; 12 male and 8 female students participated. The detailed participant demographics table has been provided below (see table no. 1). Purposive sampling was employed to recruit 3rd and 4th year bachelor's university students who had gone through one internship or hotel operations, customer service, or technology management coursework. The participation was voluntary and willingness-based in terms of offering shared experiences and views regarding robotics in hospitality.

As this research is qualitative in nature and has utilized purposive sampling. Purposive sampling provides the researchers with the opportunity to choose the desired sample depending upon the researcher's personal judgment about the individuals who are considered most appropriate for the research purpose (Campbell et al., 2020). Data saturation was reached after approximately 17 interviews, with no new themes emerging in the subsequent responses.

Table No. 1: Participant Demographics

No.	Gender	Age	CGPA	Education	Related Coursework	Experience of Internship
P1	Female	22	3.85	4th year	Yes	Yes
P2	Male	21	3.24	3rd year	Yes	No
P3	Female	22	3.49	3rd year	Yes	No
P4	Male	19	3.75	3rd year	Yes	No
P5	Female	20	3.55	3rd year	Yes	No
P6	Male	22	2.80	4th year	No	Yes
P7	Male	26	2.66	4th year	No	Yes
P8	Female	23	3.90	4th year	Yes	Yes
P9	Male	20	3.50	3rd year	No	Yes
P10	Female	20	3.24	3rd year	Yes	No
P11	Male	21	3.49	3rd year	Yes	No
P12	Male	22	3.50	4th year	Yes	Yes
P13	Male	23	3.66	4th year	No	Yes
P14	Male	20	2.98	3rd year	Yes	No
P15	Female	22	3.14	4th year	Yes	No
P16	Male	22	3.39	4th year	Yes	Yes
P17	Male	21	3.70	3rd year	Yes	No
P18	Male	22	3.04	4th year	Yes	Yes
P19	Female	23	3.88	4th year	Yes	Yes
P20	Male	23	3.45	4th year	Yes	Yes

Data Collection

Data were collected between September and December 2024. The interviews were carried out face-to-face; each interview took 25 to 40 minutes. A semi-structured interview guide was used to ensure consistency while having the facility for elaboration. All interviews were audio-recorded with permission of the participants and later transcribed. The data of the study were collected

through 8 semi-structured questions. All interviews were conducted in the English language and followed the semi-structured guide provided in Appendix I.

To gather qualitative data, the most suitable method was conducting in-depth semi-structured interviews, which allowed the researcher to explore the ideas, perspectives, thoughts, behaviors, and in-depth knowledge of the participants (Kallio et al., 2016). By creating a carefree and welcoming environment throughout the interview procedure, researchers made sure that participants were able to open up about their opinions and therefore collected more precise and explanatory information. Then the data were used in the analysis phase by transcribing the audio recordings in detail (Harrell & Bradley, 2009).

Data Analysis

The analysis of the data was carried out using the theme analysis method. After transcription, responses were read repeatedly to ensure familiarity, and relevant text segments were coded manually in Microsoft Excel. Analysis of the transcripts was carried out using Braun and Clarke's (2006) six-step framework for the thematic analysis approach:

1) Familiarization: Reading and rereading transcripts.
2) Initial Coding: Identifying meaningful text segments.
3) Theme Identification: Grouping similar codes.
4) Theme Review: Refining and checking against data.
5) Theme Definition and Naming: Finalizing theme labels.
6) Reporting: Describing results with representative quotations.

To increase the credibility of findings, a second researcher checked the transcripts and codes. Conflicts were debated until agreement was reached. Researcher reflexivity was ensured through memos detailing assumptions and interpretations.

Ethical Considerations

This study was conducted following institutional ethical standards for master's student research studies. Formal clearance was not necessary based on the research guidelines of the university for non-invasive low-risk studies (Roth-Cline & Nelson, 2015). All participants were explained the purpose of the study, and verbal consent was received before data collection, such as informed consent, voluntary participation, and ensuring participant anonymity (Arifin, 2018). Data were anonymized (P1–P20), and all recordings were stored securely on password-protected devices. Identifiable details were removed to protect participants' privacy.

Results

The findings discovered six dominant themes expressed by students about artificial intelligence and robotics in the tourism and hospitality industry: 1) Efficiency, 2) Improvement, 3) Unemployment concerns, 4) Cost-reduction, 5) Human capabilities and skills, and 6) Education expenses. These emergent themes are conceptually illustrated in Figure 1, which outlines the perceived benefits and challenges. Although the majority of participants saw robotics as an incentive for operational effectiveness and productivity, they were also concerned about losing jobs and the cost of employee training.

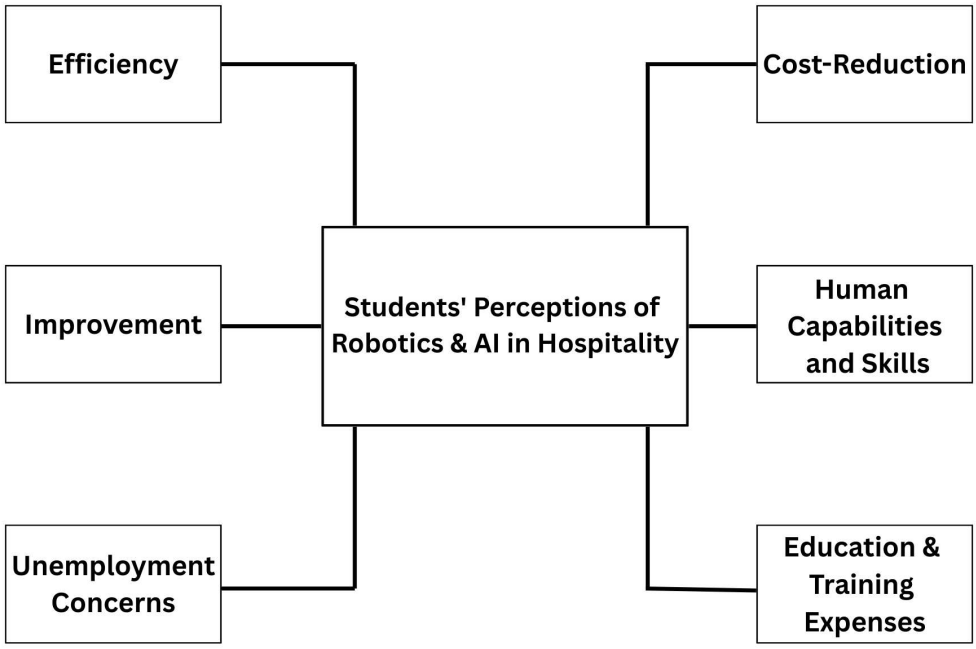

Figure 1. Student Attitudes Towards Robotics and AI

Efficiency

Efficiency was the theme most widely debated. Students underscored the fact that robots and AI had the ability to save time, do work faster, and do physically demanding work without tiring and with more consistency and stamina than humans.

"I think it's a good thing because it saves us humans a lot of time like stuff that we take time to do like let's say writing or simple tasks we can just delegate it to robots who can complete the task in like a short amount of time. So, I think it's a good thing." (P19, female, 4th year)
"The robots will have time efficiency." (P6, male, 4th year)
Furthermore, there are also concerns about robotics and AI being more powerful than humans.
"I guess the robots may be useful for the hard jobs when you're working in." (P16, male, 4th year)

"They are more powerful. They do things faster and in less time, they don't need rest time." (P11, male, 3rd year)

Participants generally agreed that technology would enhance time efficiency and productivity and automation would increase energy efficiency, enabling staff to focus on more creative and interpersonal tasks.

Improvement
Many students viewed the integration of robots and AI as a sign of technological advancement and continuous improvement in the tourism and hospitality industry.

"Robots can automate repetitive tasks, improve efficiency, and provide 24/7 service." (P10, female, 3rd year) "It is a trend that has helped to improve the industry." (P8, female, 4th year)
Improvement cannot be explained by only one time with AI and robots. One of the interviewers discussed it.

"Continuous Evaluation and Improvement - Regularly assess the effectiveness and impact of robots in different areas of operations. Gather feedback from both employees and guests to identify areas for improvement and optimize the integration of robots in the industry." (P17, male, 3rd year)

Students believed innovation would modernize service delivery and attract tech-oriented customers but stressed the importance of continuous evaluation.

Unemployment Concerns
The previous two sections discussed related positive things about robotics and artificial intelligence. However, in this section, mostly the negative side of robotics and artificial intelligence was discussed.

Most of the students thought that robotics and artificial intelligence integration into the sector will decrease human (workforce) need. Under these circumstances, people will start to lose their current jobs to robots and artificial intelligence. So, this will create unemployment in the hospitality sector. It will affect the economy as well.

"The problem is like my subjective concern is the implementing of artificial intelligence and robotics. Against it, it increases unemployment very much, like, significantly, which can create a lot of problems." (P4, male, 3rd year)
"I think the main concern would be taking over people's jobs in the future." (P14, male, 3rd year)
"It can have some kind of impact on the economy in a negative way." (P20, male, 4th year)

These views highlight students' ambivalence, recognizing benefits but fearing employment loss.

Cost-reduction
Cost saving is a significant competitive factor for companies. Especially in the tourism and hospitality sector, costs have a huge share. That being the case, businesspeople start to think of the cost savings. Of course, the most important factor affecting cost is the employees. So, interviewers were also in the same line as business people, and they mentioned those thoughts in the interviews.

"As I said before, it decreases the employee cost. You don't need to pay a salary for robotics and artificial intelligence." (P4, male, 3rd year)

"The robotics are like they're programmed to deliver a specific service. There is no feeling or emotion. There are no emotions. There are no feelings. As human beings, if our receptionist is sad at home, we may carry that same feeling to work, and this can affect our work and increase the cost, the labor cost." (P11, male, 3rd year)

"Implementing robots can lead to cost savings in the long run. Robots can reduce labor costs, minimize human error, and optimize resource allocation, resulting in improved financial performance for businesses." (P16, male, 4th year)
Students perceived automation as a way for businesses to achieve greater financial efficiency and competitiveness.

Human capabilities and skills
People are not always welcome to new versions of the things that they do. Most people have some biases for changes in every kind of system. Some of the interviewees mentioned their concerns about human capabilities and skills that cannot be replaced by robots or AI.
"I told you in the first question as well. I'm saying again that I don't think so because humans want to see the humans, I think." (P7, male, 4th year)
"I don't think it (artificial intelligence) is going to replace the humans." (P6, male, 4th year)
Students emphasized that emotional intelligence, communication, and personal connection are irreplaceable elements of hospitality service.

Education and training expenses
In this research, investigators discussed the topic of cost saving in the results and findings section. On the other hand, there will be an extra cost for companies in the tourism and hospitality sector when they start to invest money for robotics and artificial intelligence. This is the education cost. Interviewers were concerned that some of the people who work in the tourism and hospitality sector are not talented in robotics and artificial intelligence. According to this argument, those people should have an education about the topic. At the end of the day, this is going to create an extra cost for the companies under the name of education cost.

"You need to spend your money on orientation or training your staff." (P8, female, 4th year)
"I would suggest employers train their employees on how to use artificial intelligence because not all employees are educated about it, especially the low-level employees. It's going to be an extra cost for the companies." (P5, female, 3rd year)

"Provide training and upskilling programs for employees to adapt to the changing landscape. Equip them with the skills necessary to work alongside robots, such as managing and overseeing automated processes, maintaining and repairing robotic systems, and providing exceptional human-to-human interactions." (P10, female, 3rd year)

Participants noted that investment in employee education is essential for successful integration, even though it increases short-term costs.

Discussion

The use of artificial intelligence and robotics within the tourism and hospitality industry has been of great interest since it has the possibility of increasing the customer satisfaction level, simplifying work, and enhancing productivity. This qualitative study was conducted to investigate the attitudes and perceptions of prospective professionals regarding the use of artificial intelligence and robotics within the tourism and hospitality industry. The outcome of semi-structured interviews identified various themes that continued to emerge. Through the course of interviews, the issue of understanding the benefits and drawbacks of using robots and artificial intelligence in the workplace continued to emerge. The participants agreed that while robotics may accelerate some processes, e.g., check-in, data provision, and room service, they may not have the brains and people skills of human workers, particularly for processes requiring creativity and emotional intelligence. These findings also highlight the role of emotional labor and hospitality culture in shaping resistance to automation. Students' emphasis on warmth, empathy, and interpersonal service underscores cultural expectations within hospitality work, suggesting that technological resistance is not merely functional but deeply rooted in identity and service norms.

Such results are concerning in terms of risking loss of personalized service and the human element, which frequently play a role in the hospitality sector. Beyond confirming existing literature, the findings reveal deeper nuances related to emotional labor and hospitality culture. Students repeatedly emphasized that hospitality work relies heavily on warmth, empathy, and cultural sensitivity, qualities they felt robots could not replicate. This highlights a potential cultural resistance to full automation that has not been sufficiently emphasized in previous studies.

Displacement of jobs was the other significant fear among the interviewees. Robotics and artificial intelligence can automate repetitive tasks and increase efficiency, but there are concerns about how this will affect human employment opportunities (George, 2024). They complained about losing jobs due to robotics taking their human counterparts' places in various industries. It is worth noting, however, that the integration of robotics and artificial intelligence is also expected to create new possibilities, especially in areas heavily reliant on human interaction, agility, and expert knowledge (Jarrahi, 2018). In order to thrive in the new job market, individuals might have to adapt to such changes and acquire additional skills.

One of the factors of importance in the research was brought up as how to manage between using robots and human contact. Participants agreed to prioritize a human approach despite the efficiency and ease offered by robotics to ensure a harmonious and quality guest experience. Participants hinted that strategic planning could enable one to pinpoint certain jobs and areas that robotics can assist effectively without the sacrifice of the quality of customer service. Deploying an overall strategy whereby robots do repetitive or clerical work leaves human staff free to attend to personal interaction and high-value services (Writz et al., 2023). The participants acknowledged the potential advantages of robotics in the tourism and hospitality sector.

Potential benefits included increased effectiveness, improved customer experiences, cost savings, 24/7 service availability, augmented capabilities, and improved health and safety standards.

Robots can automate routine tasks and boost productivity and efficiency. They can offer individualized recommendations, language assistance, and interactive experiences to improve customer service and satisfaction. Robotics can also optimize the use of resources, reduce human error, and perform tasks consistently, all of which lead to cost savings (Ohuei & Aji, 2025).

Overall, students perceived robotics and artificial intelligence as a double-edged sword, enhancing operational efficiency and innovation while raising valid concerns about unemployment and the costs of adaptation. The balance between technological efficiency and human-centered service emerged as a central issue shaping students' attitudes towards the future of hospitality.

Theoretical & Managerial Implications

A number of theoretical and managerial conclusions can be made in light of the findings. Theoretically, in the sense that it provides an understanding of the attitudes and issues of the industry experts, this research contributes to the existing literature concerning the integration of artificial intelligence and robotics into the tourism and hospitality industry (Saydam et al., 2022). The identified themes are beneficial in offering a rich insight into this field by allowing for a thorough understanding of the potential impacts and implications in terms of the use of robotics. The study offers sound managerial recommendations to the tourism industry stakeholders.

Strategic planning becomes extremely important in the decision of what must be automated and how to balance adding robots with traditional human employees. The skills of the employees can be developed through employee upskilling and training schemes that allow employees to easily move into the changing workplace and work together with robots (Morandini et al., 2023). Guest education is required in managing expectations and creating appreciation for the advantages and limitations of robotics. Ethical practices and procedures must be set accordingly for proper and ethical utilization of robotics and customer permission, privacy, and security matters. To maximize efficiency, constant review and continuous improvement are necessary.

Limitations

The study also has its own weaknesses, such as employing few participants and a single method for the study. The research only employed 20 students, who may not be representatives of the rest of the tourism and hospitality student population. These results may not be feasible to use in other contexts or student populations. Moreover, the research concluded based on only qualitative data collected employing the use of semi-structured interviews. Although this method allowed for in-depth probing of participants' beliefs and perceptions, it may not be quantitative enough and statistically sophisticated enough to enable a nuanced appreciation of the problem.

The second limitation is the potential for discrimination in selecting the participants. The prejudiced judgment approach of purposeful sampling was employed. This could create bias and restrict diversity of opinion within the research. Additionally, the survey did not involve the opinions of industry practitioners or other tourism and hospitality industry stakeholders. A more diversified set of participants could have yielded a clearer picture of the subject matter.

Finally, the research did not explore the potential long-term implications of robotics and artificial intelligence on the future of the tourism and hospitality industries or the career paths of graduates. Overall, while the research provides some relevant considerations in relation to the attitude of hospitality and tourism students, the above-mentioned limitations must be kept in mind in interpreting the findings and inferring to other groups or settings.

Conclusion

The integration of robotics and artificial intelligence in the tourism and hospitality industry has the potential to revolutionize the organizational service model as well as consumer experience. The following study explored the student perception of the integration of robotics and artificial intelligence in the tourism and hospitality industry following the concerns ideated in the literature review, e.g., benefits, challenges, privacy concerns, and the future of the industry. The idea exhibits diverse perceptions and opinions amongst students in the context. The findings from the qualitative interviews are highly reflective of the existing literature in the field. The findings from the data highlighted the concerns and expectations of these future professionals regarding the use of robotics and artificial intelligence in their field.

The results from the interviews reflect the following application of robotics and artificial intelligence in the tourism and hospitality industry. The first major theme identified relates to the advantages of robotics and artificial intelligence in terms of improving efficiency and making tasks easier and more precise through introducing automation in services, such as check-in processes, room service, etc., The second major theme identified in the interviews is job replacement and job displacement leading to unemployment and economic issues. Such as the interviewees showed that the integration of robotics and artificial intelligence may change the labor and workforce dynamics by introducing new trends and differentiation models in the industry. The concerns are theoretically as well as managerially relevant. Thirdly, the change in interaction dynamics following the integration of robotics and artificial intelligence is suggested in the literature as well as the participants' responses. The tourism and hospitality industry aims to deliver a holistic experience in which emotional and interpersonal relations are of crucial importance.

However, as the responses suggest, the use of robotics and artificial intelligence in the tourism and hospitality industry may lack human and interpersonal relationships. The human touch and personal connection are important in the industry, and the absence of human empathy and adaptability may negatively impact customer engagement and satisfaction, which is identified under the theme of communication skills. Moreover, ethical considerations were also reflected in the themes of privacy, data, and ethical use of robots. Lastly, the pursuit of a natural balance between technology and humans as the way forward for the industry was an important major theme identified in the interviews. Such as the use of robotics and artificial intelligence, it can improve functional efficiency and has cost-saving and time-saving implications. Meanwhile, tasks that necessitate human touch must be dealt with accordingly.

In summary, the findings of the present research have broader implications for researchers, practitioners, and policymakers to develop comprehensive experience and workforce models in the tourism and hospitality industry. The evolution of modern and advanced technology and its

integration in the mentioned industry is different from any other industry and requires careful consideration. Thus, the benefits of automation and the preservation of human and emotional elements must be adhered to in theory as well as practice. Besides, the present research can guide future workforce planning strategies and the importance of evolving skill sets and training needed to work alongside modern technologies, which is suggested by the theme of education cost in the interviews. The present research provides real-world insights into the perceptions of tourism and hospitality students regarding robotics and artificial intelligence. It highlights the necessity of a subtle and balanced approach towards future workforce planning, drawing upon the concerns, expectations, and recommendations of prospective professionals.

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