

RESEARCH PROPOSAL AI IN HOTEL MANAGEMENT

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Abstract

In the dynamic landscape of the hospitality industry, the integration of artificial intelligence (AI) holds significant promise for enhancing hotel operations, guest experiences, and revenue generation. This research proposal outlines a comprehensive investigation into the perceptions and preferences of students and educators in the field of hotel management at Breda University of Applied Sciences (BUas) regarding the incorporation of AI into the curriculum. Our methodology combines qualitative and quantitative research methods, utilizing surveys and interviews to collect data from a diverse sample of at least 50 students and 5 to 10 lecturers. The study aims to understand whether generational differences, specifically students who began their studies before and after the emergence of ChatGPT and experienced educators who transitioned from the industry, influence attitudes towards AI integration. This research seeks to shed light on the readiness and receptivity of BUas students and educators to embrace AI in hotel management education and shape the future of hospitality training. The findings may provide valuable guidance for educational institutions worldwide looking to harness the potential of AI in evolving curricula.

Keywords: Artificial Intelligence, Hotel Management Education, Hospitality Industry, Student Perceptions, Educator Attitudes

1 INTRODUCTION

The hospitality is an industry which has not evolved a lot in the past 20 years. However, the rise of AI is changing all industries, including hospitality. As Hollander states: "Hoteliers who do not educate themselves about artificial intelligence (AI) risk falling behind in the hospitality industry" Hollander (2023a). To introduce AI into hospitality, our team aims to research the current interest among hospitality students/lecturers in learning more about AI, and implementing it effectively into the study and work sphere. In this research design our literature study, planned methodology and predicted outcomes are described.

1.1 Research Question

This research aims to answer the following research question.

How can AI be successfully introduced to the BUas hotel management program

To provide an answer to this research question, we have come up with the following sub-questions:

1. How are training and skill development necessary for hotel management professionals to effectively utilize AI tools and technologies?
2. How can we address unjustified negative bias towards AI that students/lecturers might have and demonstrate its benefits?
3. How can AI improve the current traditional hotel management systems?
4. How does the adoption of AI in hotel management impact the skill requirements and job roles in the industry?
5. What specific AI-related competencies and training modules are essential for hotel management professionals to proficiently harness AI tools and technologies in their roles?

2 LITERATURE REVIEW

2.1 Training and skill development of workers - why are they necessary

There are multiple reasons why it is important for hotel management students and staff to have some kind of knowledge on AI systems. According to O'Hara (2021), the integration of advanced technology and the Internet of Things (IoT) holds immense potential for enhancing workforce efficiency by relieving employees of routine tasks, thus affording them more time and resources to address more substantial responsibilities. Instead of harboring apprehension towards automation, it is prudent to view it as a valuable tool for empowering service-oriented workforces. The presence of robotic labor has its proven effectiveness upgrading operational efficiency, yet it also raises concerns among the uneducated human workers in an era marked by labor automation. As elucidated by Porter et al. (2014), the IoT represents a revolutionary force in the hospitality industry, offering the capability to "control and monitor business." Automation, moreover, possesses the potential to revolutionize every facet of a hospitality operation, ranging from guest services and administrative tasks to maintenance and security, promising a comprehensive transformation that transcends traditional boundaries in the industry. According to the findings of Zhang and Jin (2023), proved that positive (vs. negative) smart technology, automation, robotics, and algorithms (STAARA) awareness provokes lower levels of job insecurity and mobility. Also, hotel employees with low-level career progression, their negative (vs. positive) awareness of STAARA triggers higher levels of job insecurity and mobility. Therefore, i believe that with a proper education about the possibilities of the artificial intelligence tools, the workers in the hotel industry will feel much more confident in their job positions and also will be able to implement them with the aim of improving their work.

2.2 How can we change any unjustified negative bias towards AI any students/ lectures might have, and show how it can/ already does benefit them.

To gain knowledge about the researchers already done related to this question, and to make an expected outcome of the questions, a literature review has been done. In the paper by Hornung and Smolnik (2022), who conducted research about the feelings people have about AI, it was noted that there exists a "fear of job loss" through the usage of AI Hornung and Smolnik (2022). According to a review of AI in hospitality by Hollander (2023), AI is not yet widely used in this field. However, it offers a lot of possibilities (like chatbots) to help hospitality personnel focus on other things like building relationships with guests Hollander (2023b). Research by the Pew Research Center (2018) also highlighted concerns about job automation in both advanced and emerging economies Center (2018). AI is something that is getting embraced more and more in education. The release of ChatGPT made a lot of schools switch the way they teach their students. Teaching people how to use AI is slowly becoming common; however, teaching people the very basics of AI and how it works is something that is currently not being done at all. Due to the fact that the research questions are somewhat specific, it's hard to make any predictions on the outcome. With the information we have, it's assumed that there currently is not a lot of knowledge about AI among HBO hotel management students. However, it is assumed that the students are eager to learn more about the usage of AI.

2.3 How does the integration of AI in hotel management influence job roles and skills requirements

Artificial Intelligence (AI) is changing the way hotels are managed as well as the jobs and skills requirements in the hospitality sector. AI has brought significant changes to the hotel industry, making guest experiences better, streamlining operations, and automating tasks. This changing trend is happening because the tourism industry is growing, but there's a shortage of hospitality workers, pushing hotels to use more automation, even though they might have some concerns about it. (Ivanov and Webster (2019)). Automation means using AI technologies like computer programs, chatbots, robots, and self-driving vehicles to do repetitive tasks. So, what does this mean for hotel jobs? Traditional roles like receptionists, sales agents, cooks, and waiters may be impacted, and there might be fewer entry-level positions. However, there will also be new roles related to maintaining and managing automation, working with big data, learning about machines, and designing automated processes. (Ivanov (2020)) It's important to note that hospitality workers don't necessarily need to be experts in AI, but they should have a basic understanding of AI technologies and what they mean for their work. Having good social skills and being emotionally intelligent will be valuable because there are some things AI can't do well, like interacting with people. As a result, AI would allow workers to focus more on the core meaning of hospitality (human-human interaction). (Naisbitt and Philips (2001), as cited in Ivanov (2020)). While AI can boost productivity and make customers happier, there are also some downsides. Employees might worry about losing their jobs because of AI, which could lead to high turnover. (Brougham and Haar (2018) as cited in El Hajal and Rowson (2020))To make sure the hotel industry succeeds in this changing landscape, it's crucial to strike a balance. This means providing ongoing training for

staff, setting ethical guidelines, and making sure automation and human-centred customer service work together smoothly. This way, we can ensure that the hotel industry continues to grow.

2.4 How can AI improve the current traditional hotel management systems?

In response to the challenges and inefficiencies inherent in traditional hotel management systems, the integration of Artificial Intelligence (AI) technologies has emerged as a transformative solution in the hospitality industry. Recognizing the potential for automation to enhance employee performance and enable a focus on more nuanced tasks O'Hara (2021), hotels have harnessed AI-powered chatbots to revolutionize guest communication and support. These chatbots, implemented on hotel websites and messaging platforms, provide guests with rapid responses to inquiries, handle reservation requests, offer local recommendations, and even facilitate room service orders, thus delivering a seamless 24/7 guest experience Michalis (2023). Furthermore, advanced Customer Relationship Management (CRM) systems, coupled with data analytics and AI, enable hotels to effectively collect and analyze guest data, paving the way for highly personalized promotions, customized room amenities, and targeted marketing campaigns. This personalized approach not only fosters guest loyalty but also encourages repeat visits, ultimately boosting hotel revenues. As the hospitality industry continues to evolve, it is evident that AI will play an increasingly pivotal role in improving traditional hotel management systems, reshaping the landscape of hotel operations.

2.5 What specific AI-related competencies and training modules are essential for hotel management professionals to proficiently harness AI tools and technologies in their roles?

The integration of Artificial Intelligence (AI) in the hospitality industry has gained significant attention in recent years. Hotel management professionals are increasingly faced with the challenge of harnessing AI tools and technologies to enhance guest experiences, streamline operations, and stay competitive. AI's application in the hospitality industry is diverse, ranging from chatbots and virtual assistants to robotics. These technologies have been implemented to improve customer experiences, reduce manual tasks, and enhance operational efficiency Sharma (2021). The adoption of AI in hospitality is crucial to manage financial resources effectively, particularly in the face of challenges like mass tourism and changing customer preferences. AI-related competencies required for hotel management professionals extend beyond traditional hospitality skills. They need to acquire skills in areas such as data analytics, machine learning, and AI technology utilization. This adaptation is vital to effectively incorporate AI tools into various aspects of hotel operations, from front desk services to predictive maintenance. Competency development should focus on areas like data interpretation, AI implementation, and customer interaction within an AI-driven environment. AI's impact on customer satisfaction is a crucial consideration. AI tools should be leveraged to provide personalized guest experiences, improving the perception of services. The ability to harness AI for creating delightful customer experiences is directly tied to the competencies of hotel management professionals. The integration of AI in hotel management also has implications for HR departments. Hotel professionals need to understand how AI affects staffing, planning, and budgeting decisions. Training modules should include elements that help professionals adapt to these changes and leverage AI tools to optimize HR processes. Business Intelligence (BI) tools, integrated with AI, are essential for decision-making in the hotel industry. Real-time data analytics and BI solutions help professionals make informed decisions and tailor services to customer needs. Training in BI tools and real-time analytics should be a part of the competency development plan. AI and BI tools play a vital role in managing revenue and customer perception. Real-time data analytics and AI-driven insights can help hotels maximize revenue while ensuring customer satisfaction. Competencies should include a deep understanding of how AI and BI affect pricing, occupancy rates, and guest experiences.

3 METHODOLOGY

This research will employ a mixed-methods approach, combining qualitative and quantitative research methods.

3.1 Data Collection and Participants

The data collection will be conducted by survey and interviews. The team is going to collect as much as possible survey answers, with the aim of collecting a bigger amount of data. In the second stage of the data collection, the team will set up multiple interviews with both teachers and students (preferably in their third or fourth year of bachelor's degree) from the hotel management domain in BUAs.

3.2 Data Collection Procedure

Our team followed an ethical protocol in which the potential candidates of the survey and interviews were provided with a detailed information paper. The paper outlines the research aims, procedures, potential risks and benefits. Only after obtaining written informed consent from each of the participants, we are going to proceed with the data collection. Our team aims to collect survey data from at least 50 students and about 5 to 10 lecturers from the domain. Furthermore, we are going to conduct interviews with about 10 students and a couple of teachers. We are aiming to collect data from students in from all 4 years of the program, in order to get a clear understanding of their opinion and to see if there is a difference between the people who started university before the era of ChatGPT and the ones after. Also, we will interview teachers who have preferably worked in the field for a couple of years, before becoming teachers.

3.3 Further steps

After gathering the data, the team will perform analysis and come up with a plan of integration of AI into the Hotel management program. The research will be conducted in stages, allowing for iterative adjustments based on findings. Every member of the team is going to create a research paper, which later are going to be merged together into a policy paper.

4 EXPECTED OUTCOMES

4.1 Hypothesis

We hypothesize that a well-defined strategic plan for the integration of AI into the hotel management program at Breda University of Applied Sciences, based on the insights and needs of students and educators, will contribute to the enhancement of education in the hotel management domain and effectively prepare students for the evolving requirements of the industry.

4.2 Outcomes

The expected outcomes of this research project are dual. Firstly, through the comprehensive survey and interview data collection, we anticipate gaining valuable insights into the perspectives of both hotel management students and experienced educators on the integration of AI in the industry. By examining the opinions of individuals who have embarked on their educational journey before and after the advent of AI technology like ChatGPT, we aim to identify any perceptible shifts in attitudes and expectations within the field. Secondly, based on our analysis of the collected data, we intend to develop a strategic plan for the integration of AI into the hotel management program at Breda University of Applied Sciences. This plan will be informed by the needs and insights of both students and teachers, ensuring that it aligns with the evolving requirements of the industry. Ultimately, the research endeavors to contribute to the enhancement of education in the hotel management domain by harnessing the potential of AI technologies effectively.

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APPENDIX 1

Survey questions - How many years of work experience do you have in the hotel management field?

- How many years of teaching experience do you have in the hotel management field?
- Do you include AI systems-related topics in your teaching materials or curriculum?
- How would you rate your current knowledge about AI?
- AI scares me!
- Do you think AI-related topics should be part of hotel management education?
- I am afraid that AI might take over my future/current job.
- How interested would you be in getting to know how to use AI tools (eg. ChatGPT) more effectively?
- How often do you use AI tools (as in ChatGPT) in your studying/teaching?
- Using AI makes studying/teaching hotel management domain easier.
- How much potential do you believe AI has in improving the efficiency of traditional hotel management systems?
- AI chatbots and virtual assistants that can provide 24/7 customer support can improve hotels.
- Personalized guest experience can improve hotels.
- How familiar are you with the usage of AI tools in the hotel industry?
- How comfortable are you with the idea of having AI assistant which automatize repetitive and monotonous tasks?
- How much do you agree with the following statement? The job requirements in the hotel industry are going to be higher with the introduction of AI.
- What level of knowledge do you need to efficiently use the AI tools provided and feel confident with them?
- I believe that having AI knowledge will give me a competitive edge in the job market for hotel management roles.
- Will using AI in hotels make it easier or harder to get a job in hotel management industry?
- Training and skill development are crucial for hotel management professionals to effectively utilize AI tools and technologies?