Research in Hospitality Management 2024, 14(2): 219–221
https://doi.org/10.1080/22243534.2024.2395708

RHM 2024 Research in Hospitality Management

MEDIA REVIEW

The future of AI: hospitality and tourism perspectives

Georges El Hajal

Hotel Management School Leeuwarden, NHL Stenden University of Applied Sciences, Leeuwarden, The Netherlands
Correspondence: georges.el.hajal@nhlstenden.com

ABSTRACT: The Hotel Management School Leeuwarden and the European Tourism Futures Institute organised a webinar to discuss and explore how artificial intelligence (AI) will impact the hospitality and tourism industry in the future. The webinar brought together a panel of academics, including Professor Iis Tussyadiah from the University of Surrey, Professor Stanislav Ivanov from the Varna University of Management, and Frederik Jan van der Meulen from Hotel Management School Leeuwarden, to discuss the multifaceted applications of AI in the industry. The speakers shared their insights through a series of presentations, underscoring AI integration's strategic, economic and sustainability aspects. AI is presented as a critical element in enhancing customer experiences, optimising operational processes, and shaping the industry's future landscape. The speakers discussed the role of generative AI in improving the industry's resilience, the economic implications of AI's integration and the challenges and strategies for sustainable AI adoption. This webinar goes beyond traditional AI debates by analysing AI's strategic function in future-proofing hospitality and tourism businesses, its economic impact and its role in sustainability. The speakers' crucial insights can help the hospitality and tourism industry embrace AI, highlighting the delicate balance between innovation, ethics and sustainability. This webinar's extensive discussion of AI as a tool for efficiency and industry transformation makes it valuable for academics and industry professionals.

KEYWORDS: artificial intelligence, future of jobs, generative AI, strategic planning, sustainability

Introduction

Part of a series of webinars called "What's Next" about the future of hospitality and tourism, the Hotel Management School Leeuwarden at NHL Stenden University of Applied Sciences and the European Tourism Futures Institute (ETFI) organised a webinar on 18 April 2024 that brought together a distinguished academic panel – Professor Iis Tussyadiah from the University of Surrey, Professor Stanislav Ivanov from the Varna University of Management, and Frederik Jan van der Meulen from NHL Stenden – to discuss the transformative impact of artificial intelligence (AI) on the hospitality and tourism industry. The webinar, attended by more than 120 academics and professionals worldwide, generated significant attention and served as a platform for analysing the integration and evaluation of AI technologies in the industry.

Moderated by Dr. Stefan Hartman, the Department Head at ETFI, the webinar provided a comprehensive exploration of AI's capabilities in strategic enhancement, economic development and sustainable growth. In his opening statement, Hartman described how AI in the hospitality and tourism industry today improves customer service, streamlines booking procedures, optimises pricing models, and assists in predictive analytics, resulting in more customised and streamlined travel experiences. Hartman underscored the importance of AI in shaping the development of the hospitality and tourism industry.

AI in focus

Professor Iis Tussyadiah, a leading academic from the University of Surrey, opened the discussion with an insightful presentation on how generative AI (GenAI) can potentially help organisations prepare for the future. Tussyadiah described GenAI's capacity to enhance the flexibility of tourism and hospitality organisations, particularly during times of instability. In her presentation, Tussyadiah highlighted the significance of AI in strategic planning and operations by promoting efficient collaboration between humans and AI, and proposed methods for utilising human-AI cooperation to improve operational effectiveness. She advocated for the utilisation of AI to assist organisations in developing and growing, emphasising the importance of transparent and equitable AI and digital adaptability. Tussyadiah also described the possibility of using GenAI to enhance business continuity, crisis management and strategic foresight.

After that, Frederik Jan van der Meulen from NHL Stenden addressed the key elements of AI linked to sustainability concerns in the industry, focusing on the three levels of sustainability model (people, planet and profit), developed by Professor Elena Cavagnaro and George Curiel (2012). Van der Meulen shed light on how AI may advance the hospitality and tourism industry towards operational efficiency, meeting its environmental, social and economic obligations. He noted that

the high cost of AI integration and management's perception is behind the slow adoption of AI in the industry, stressing the importance of a balanced approach to AI integration.

Professor Stanislav Ivanov from the Varna University of Management, who completed the panel, presented a compelling analysis of the economic impact of GenAI in the industry. In his cost-benefit analysis of AI, he listed productivity gains, cost efficiency, stimulating innovations and improved competitiveness as benefits. Ivanov also discussed the potential costs, such as the high initial investment, technology dependency and ethical concerns, and argued that the cost of not adopting AI in the industry may exceed the expenses incurred by its implementation. In his presentation, Ivanov also explored the possibility of automating tasks and the diverse transformation effects of AI, encompassing everything from substantial industry revolution to job displacement.

Interactive insights

After the presentations, Stefan Hartman and Ian Yeoman, Professor of Disruption, Innovation and New Phenomena at Hotel Management School Leeuwarden, NHL Stenden University of Applied Sciences, facilitated a Q&A session where the speakers took questions from the webinar participants. During the Q&A, Professor Iis Tussyadiah talked about AI tools for scenario planning, bringing up a publicly available application developed by UNESCO and the EU that creates future alternative scenarios for different industries. She emphasised the accessibility of AI tools and the potential for smaller businesses to use AI for strategic initiatives. Addressing ethical and privacy concerns, Frederik Jan van der Meulen recommended using AI in the enterprise version to protect user privacy. In addition, he examined the potential adverse effects of AI integration on the environment, such as increased energy consumption in data centres. Professor Stanislav Ivanov explored the economic tipping point for AI adoption, noting that it involves a psychological shift in recognising AI's comparative advantages over human labour in specific tasks. Professor Ivanov also discussed the democratisation of AI, suggesting that widespread usage could improve the quality and competitiveness of AI technologies, leading to greater adoption and a transformation of job roles in the industry. This AI democratisation, he argued, is aligned with strategic industry goals of efficiency and innovation. Job roles are expected to shift towards more technologically integrated positions to support the industry's growth and adaptation in a digital era.

AI integration – a reflection

Reflecting on the specific examples shared by the speakers of AI deployment in the hospitality and tourism industry, specifically in managing human resources, it becomes apparent that AI technologies significantly improve recruitment precision and personalise onboarding experiences. This technology creates a highly engaged and productive work environment and highlights AI's transformative power in enhancing employee satisfaction and organisational efficiency (Özkiziltan & Hassel, 2021; Nuseir et al., 2024). For example, using explainable AI (EAI) in recruitment has significantly enhanced effectiveness and precision. EAI analyses extensive data sets from candidates' resumes and CVs, job descriptions and performance records, aligning the recruitment process with organisational objectives and employee expectations (Nosratabadi et al., 2022).

AI technologies enhance the operational aspects of hospitality and tourism, and significantly improve guests' experiences through personalised services, achieved by automating decision-making processes using advanced data analysis and machine learning (Li et al., 2021). GenAI further enhances these capabilities by automating guest interactions and personalising communications processes, crucial in supporting employee roles and connections between guests, employers and employees (Korzynski et al., 2023).

Nevertheless, adopting AI is not without challenges, such as risks of job displacement and ethical concerns. The ability of AI to automate operations that have traditionally required human intervention in the hospitality and tourism industry could potentially result in fewer jobs and increased unemployment. In addition, using AI-driven decisions can raise ethical dilemmas, privacy concerns and the potential for increased psychological stress (Moradi & Levy, 2020; Mirbabaie et al., 2022). The advancement of AI in the hospitality and tourism industry is swift. Over time, *Research in Hospitality Management* has published articles on the industry's use of AI, showcasing an interesting development curve. I recommend, for instance, the following articles for additional reading on the subject:

- Carter, E., & Knol, C. (2019). Chatbots – an organisation's friend or foe? *Research in Hospitality Management, 9*(2), 113–116. https://doi.org/10.1080/22243534.2019.1689700
- Drexler, N., & Beckman Lapré, V. (2019). For better or for worse: Shaping the hospitality industry through robotics and artificial intelligence. *Research in Hospitality Management, 9*(2), 117–120. https://doi.org/10.1080/22243534.2019.1689701
- El Hajal, G., & Rowson, B. (2020). The future of hospitality jobs. *Research in Hospitality Management, 10*(1), 55–61. https://doi.org/10.1080/22243534.2020.1790210
- Millauer, T., & Vellekoop, M. (2019). Artificial intelligence in today's hotel revenue management: Opportunities and risks. *Research in Hospitality Management, 9*(2), 121–124. https://doi.org/10.1080/22243534.2019.1689702
- van Oorschot, S. (2021). Digitalisation and temporary agencies: Impact on the business model and internal organisation. *Research in Hospitality Management, 11*(3), 241–248. https://doi.org/10.1080/22243534.2021.2006926

Conclusion and key takeaway

The webinar ended with a positive assessment of AI's potential impact on the hospitality and tourism industry, suggesting that while AI will lead to changes and require adaptations, it will also create new opportunities for creativity, efficiency and personalised services that could benefit the industry and society in the long term. The speakers agreed that GenAI would transform strategic planning in the industry and make it more accessible to organisations of all sizes, allowing them to prepare for the future effectively. Nevertheless, ethical and environmental considerations must not be ignored. This requires organisations to manage data carefully and perhaps regulate the use of AI. From an economic perspective, AI's cost-effectiveness is a transformative factor, yet it requires a reevaluation of its role alongside human labour. The speakers

argued that AI would not simply replace humans, but catalyse job evolution, fostering a collaborative future where humans and AI specialise in tasks that maximise their strengths.

Call for action

As AI continues to reshape how the hospitality and tourism industry delivers its services, a call for action for industry professionals and academics is warranted. Industry professionals should aim to integrate AI in a balanced manner that preserves the human touch essential to hospitality and tourism, advocating for ethical standards and upskilling of employees to maintain a balance and oversight of AI applications. On the other hand, academics are encouraged to focus on integrating AI technology with strategic management, emphasising sustainable practices and ethical considerations that will enhance both the theoretical and practical aspects of hospitality and tourism management.

Future research could explore the strategic applications of AI that enhance operational efficiency and uphold core hospitality and tourism values that prioritise personalised human interactions, including examining the long-term impacts on job roles and employee satisfaction, and exploring innovative AI technologies that could redefine future hospitality services.

ORCID

Georges El Hajal – 0000-0001-7929-8943

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Li, B., Zhong, Y., Zhang, T., & Hua, N. (2021). Transcending the COVID-19 crisis: Business resilience and innovation of the restaurant industry in China. *Journal of Hospitality and Tourism Management*, *49*, 44–53. https://doi.org/10.1016/j.jhtm.2021.08.024

Mirbabaie, M., Brünker, F., Möllmann Frick, N. R. J., & Stieglitz, S. (2022). The rise of artificial intelligence – Understanding the AI identity threat at the workplace. *Electronic Markets*, *32*(1), 73–99. https://doi.org/10.1007/s12525-021-00496-x

Moradi, P., & Levy, K. (2020). The future of work in the age of AI: Displacement or risk-shifting? In M. D. Dubber, F. Pasquale, & S. Das (eds), *The Oxford Handbook of Ethics of AI* (pp. 269–288). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780190067397.013.17

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