Bridging Technology and Humanity: The Impact of Digital and Emotional Intelligence on Hotel Management

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DOI: 10.29180/978-615-6886-30-9_4

Abstract

This paper examines how Artificial Intelligence (AI) and Emotional Intelligence (EQ) work together to shape decision-making in hotel management. By looking at the link between AI data processing and human emotional skills, I aim to outline a responsible leadership model that effectively combines technology with interpersonal intuition. Managing a hotel requires navigating complex social dynamics involving guests, staff, and various stakeholders. While the rise of AI for behavioural analysis (Buhalis & Sinarta, 2019) often prompts people to question whether emotional intelligence is still needed, this analysis argues that both are indispensable.

Using a cross-cultural lens focused on Hungary and the United Kingdom, the investigation examines how regional differences affect AI adoption and EQ development. Specifically, this work provides the theoretical foundation for my upcoming empirical study on the luxury five-star hotel sector, which is a field where the balance between high-tech efficiency and high-touch personal service is most critical. The proposed framework suggests that navigating digital transformation requires a dual competency in digital literacy and emotional management. This synergy is expected to enhance guest satisfaction and bolster staff commitment. Finally, the paper offers practical frameworks and ideas for education to encourage human-focused leadership in an increasingly automated hospitality industry.

Keywords: Artificial Intelligence, Emotional Intelligence, Hotel Management, Digital Transformation, Cross-Cultural Analysis, Responsible Leadership, Hospitality Industry.

JEL Classification: L83, M10, O33, D91

Introduction

The hospitality industry is currently navigating a major transition as Artificial Intelligence (AI) and Emotional Intelligence (EQ) begin to redefine how managers make daily decisions. This rapid shift towards digital tools has sparked significant academic debate over how these systems can improve operations without losing the human leadership so central to the field (Ivanov & Webster, 2019; Tussyadiah, 2020). This study synthesises existing literature and empirical evidence on AI-EQ integration, specifically comparing the hospitality sectors in Hungary and the United Kingdom (UK). By examining how these variables influence managerial choices, staff performance and guest experiences, the paper accounts for the nuances of different cultural backgrounds.

The core of the argument is that hotel managers must strike a strategic balance between AI-driven automation and the personal touch of emotional intelligence. While AI is excellent for data insights and streamlining processes, it is empathetic leadership that continues to keep staff engaged and service quality high. This balance ensures that efficiency does not come at the cost of the "human touch", which defines hospitality. In fact, current evidence suggests that combining AI with EQ is a key driver of competitiveness today. This paper establishes the conceptual framework for my upcoming comparative study targeting the luxury five-star hotel

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markets in Hungary and the UK, where the tension between high-tech efficiency and high-touch service is most prominent.

Ultimately, such integration is expected to do more than just boost guest satisfaction: it helps create a more conscious, adaptable leadership style for an increasingly automated global market. By drawing on multiple disciplines – including hospitality management, organisational psychology, and cross-cultural research – this review proposes a practical way forward for the industry's digital transformation.

Research Questions (RQ)

1. How do AI systems currently support operational decision-making for hotel managers in Hungary and the United Kingdom?
2. In what ways do hotel managers in these two cultural contexts employ emotional intelligence (EQ) to manage guest relationships and staff dynamics?
3. How do cultural differences between Hungary and the UK influence the integration of AI and EQ in hospitality management?
4. What impact is the combined application of AI and EQ expected to have on guest satisfaction and internal staff engagement?
5. Which educational frameworks and curricula are the most effective in developing the dual digital and emotional competencies required for modern hotel management?

Research Objectives (RO):

1. To investigate the extent and nature of AI technology adoption for decision-making within the Hungarian and British hotel markets.
2. To evaluate the role of emotional intelligence in managerial practices and its effect on stakeholder relationships in both countries.
3. To identify how cultural backgrounds affect the synergy between technological tools and human-centric leadership.
4. To assess the potential impact of AI and EQ integration on guest satisfaction and staff interpersonal dynamics.
5. To propose evidence-based educational approaches and curricula that foster the necessary digital and emotional skills for hospitality professionals.

Theoretical Foundations

Artificial Intelligence in Hospitality

Artificial Intelligence (AI) refers to the capacity of machines to mimic human cognitive functions, specifically learning, reasoning, and problem-solving (Russell & Norvig, 2016). Within the hospitality sector, AI has rapidly transitioned from a "futuristic concept" to a fundamental operational tool, reshaping everything from back-of-house logistics to direct guest-facing services. Current applications range from automated check-in systems and AI-powered concierges to sophisticated sentiment analysis tools that interpret guest feedback (Tussyadiah, 2020; Buhalis & Leung, 2018).

The literature suggests that AI-driven property management systems (PMS) significantly enhance operational efficiency. By streamlining reservations and housekeeping schedules, these technologies lower overhead costs while creating a more seamless guest experience (Xiang et al., 2015; Ivanov & Webster, 2019). Furthermore, AI's ability to process vast datasets allows hotels to identify intricate patterns in guest behaviour that might otherwise remain hidden, which thus enable highly personalised marketing and upselling strategies (Buhalis & Leung, 2018). Beyond service delivery, AI plays a crucial role in sustainability; for

instance, intelligent energy management systems can reduce costs by automatically adjusting environmental controls based on real-time room occupancy.

However, scholarly debate continues regarding the potential "dehumanisation" of service. A primary concern in the industry is that over-reliance on automated systems may erode the personal connection – the "human touch" – that remains the cornerstone of hospitality (Tussyadiah, 2020; Murphy et al., 2019). Moreover, implementing AI is not without its obstacles: it necessitates significant initial investment, robust data privacy governance, and continuous staff training (Ivanov & Webster, 2019). Ethical dilemmas surrounding data surveillance and job security also remain central to the academic discourse (Davenport et al., 2020). In both the Hungarian and British contexts, the challenge – and the focus of my upcoming research – is to identify the "sweet spot" where technology enhances efficiency without sacrificing the interpersonal warmth required in the luxury hotel segment.

Emotional Intelligence and Leadership

AI Application and Emotional Intelligence in Hotel Management

In an industry as people-centric as hospitality, Emotional Intelligence (EQ) is far more than a "soft skill": it is a fundamental requirement for effective leadership. Originally defined by Salovey and Mayer (1990) as the ability to monitor and manage emotions to guide thought and action, EQ has evolved into a multi-dimensional framework encompassing empathy, self-regulation, and social proficiency (Goleman, 1998; Boyatzis et al., 2013). This is particularly vital for managing "emotional labour," where leaders must maintain composure under pressure while navigating complex interactions with diverse teams and high-expectation guests (Grandey, 2000; Kim et al., 2017).

Empirical evidence suggests that managers with high EQ levels are better equipped to recognise emotional triggers, which enables them to resolve guest grievances and internal staff friction more effectively (Kim et al., 2007). This capacity directly shapes organisational branding and the overall quality of the guest experience. Furthermore, research by Wong and Law (2002) as well as Kim et al. (2017) demonstrates a clear correlation between emotionally intelligent leadership and reduced employee turnover: staff tends to remain longer when they feel trusted and empowered rather than strictly controlled through rigid, traditional methods (Boyatzis et al., 2013).

A critical dimension of this study is how EQ intersects with cultural differences. As Hofstede (2001) points out, the expression of emotion and the styles of conflict resolution vary significantly across cultures. Consequently, managers in Hungary and the UK require a flexible, culturally-attuned approach to leadership. Today, EQ is also increasingly tied to Corporate Social Responsibility (CSR) as modern leaders are expected to prioritise employee well-being and diversity alongside financial performance (Sigala, 2018). Even as AI-driven automation increases, the necessity for EQ has only intensified. Modern hospitality curricula now treat it as a core competency (Baum, 2019), which reflects a growing consensus that while AI can manage numbers, human intelligence remains the "heart" of the luxury service business.

Operational Optimisation and Predictive Analytics

In modern hotel management, AI-driven systems have become essential for maintaining operational fluidity. These tools take over high-volume, repetitive tasks such as inventory management, housekeeping scheduling, and energy consumption monitoring (Ivanov & Webster, 2019). Beyond simple automation, predictive analytics utilise machine learning to help managers forecast demand with greater precision. This enables more sophisticated revenue management and real-time room pricing that responds dynamically to market conditions (Xiang et al., 2015; Buhalis & Leung, 2018). Research indicates that hotels adopting AI often achieve

higher occupancy rates and stronger guest loyalty, primarily by using data to personalise the stay before the guest even arrives (Tussyadiah, 2020; Ivanov & Webster, 2019).

The Synergy of Personalisation and Guest Experience

The guest experience is significantly enhanced by AI tools such as chatbots, recommendation engines, and sentiment analysis. Chatbots are effective at handling routine queries, freeing human staff to focus on more personal or complex guest needs (Tussyadiah, 2020). Simultaneously, scanning digital reviews for sentiment provides managers with a rapid method to identify service failures and address them immediately (Buhalis & Leung, 2018). However, the literature suggests that hotels should not rely exclusively on AI. While "smart room" features, such as automated climate control, are a valuable addition, they are intended to support the human side of hospitality rather than replace it.

Challenges and the Interplay with EQ

Implementing AI in a hotel environment presents several hurdles, including high initial capital expenditure, complex privacy concerns, and potential staff resistance (Tussyadiah, 2020; Ivanov & Webster, 2019). Furthermore, the efficacy of these systems depends heavily on data quality, which can vary significantly across hotel categories and target demographics (Xiang et al., 2015).

This is precisely where Emotional Intelligence (EQ) becomes a decisive factor. While AI manages the data, EQ manages the people. Effective leadership remains dependent on building trust and fostering teamwork – elements that algorithms cannot replicate (Goleman, 1998; Wong & Law, 2002). In the culturally diverse settings of Hungary and the UK, emotionally intelligent managers are essential for navigating varied communication styles and resolving internal conflicts (Hofstede, 2001).

Recent studies suggest that EQ provides greater long-term value to organisational culture than technical proficiency alone. Managers who understand the emotional dynamics of their teams tend to see higher morale and reduced friction (Kim et al., 2017). This "human element" is directly linked to job satisfaction and employee retention, which presents a critical priority for the hospitality sector in the post-pandemic landscape (Grandey, 2000; Baum, 2019).

Guest Relations, Cultural Context, and Methodology

Service Recovery and Ethical Leadership

Emotional Intelligence is perhaps most critical when operational failures occur. A manager's ability to empathise with and de-escalate a frustrated guest can transform a potential service crisis into long-term loyalty (Kim et al., 2007). Beyond immediate guest relations, EQ facilitates ethical decision-making by balancing profit motives with the welfare of both employees and guests (Boyatzis et al., 2013). As AI adoption introduces new dilemmas regarding data privacy and job displacement, emotionally intelligent leaders are essential to ensure that technological integration remains socially responsible and human-centric (Davenport et al., 2020).

Cross-Cultural Analysis: Hungary vs. United Kingdom

Cultural context significantly influences how hotels adopt AI and develop EQ (Hofstede, 2001). In the United Kingdom, the hospitality sector is highly digitised, often acting as an "early adopter" of new technologies, supported by established EQ development programmes (Baum, 2019; Ivanov & Webster, 2019). Conversely, the Hungarian context reflects a more cautious digital transformation, which is often due to different resource allocations. While British

managers frequently leverage AI for rapid, data-driven decision-making, their Hungarian counterparts may place greater value on direct interpersonal relationships and group harmony (Hofstede, 2001; Ivanov & Webster, 2019). Despite these distinct paths, both regions increasingly recognise that a synergy of digital and emotional competencies is vital for modern leadership.

Educational Frameworks for Dual Competency

The rapid pace of technological change necessitates a dual-track educational approach: digital literacy and EQ training (Pizam, 2020). Digital literacy now extends far beyond basic IT proficiency: managers must be able to interpret AI-generated data, manage CRM platforms, and na vigate cybersecurity protocols (Crawford et al., 2021). Blended learning models,combining practical simulations with theoretical instruction, are proving effective at bridging this skills gap (Buhalis & Leung, 2018). Simultaneously, EQ development is essential for managing the industry's "emotional labour". Training in self-regulation, empathy, and conflict resolution is indispensable (Wong & Law, 2002; Prentice et al., 2020). Practical methods such as 360-degree feedback, professional journaling, and role-playing real-world service recovery scenarios are particularly effective for building these interpersonal "muscles" (Boyatzis et al., 2013; Crawford et al., 2021).

Proposed Mixed-Methods Methodology

To rigorously assess managerial competencies in the upcoming empirical phase of this project, I have chosen a mixed-methods methodology. This approach will allow for a deeper understanding of both measurable performance data and the more subtle leadership behaviours that define excellence in management (Pizam, 2020). The quantitative component of the study will involve structured surveys and established diagnostic tools, such as the Wong and Law Emotional Intelligence Scale (WLEIS). By implementing experimental designs with pre- and post-training assessments, the study aims to statistically validate the efficacy of these educational interventions (Crawford et al., 2021). Complementary qualitative data – gathered through semi-structured interviews – will provide deeper insights into how managers navigate the cultural nuances and ethical dilemmas that quantitative metrics might overlook.

Conclusion

This study establishes the necessary conceptual groundwork for upcoming empirical research exploring the synergy between AI and EQ within the luxury five-star hotel sectors of Hungary and the United Kingdom. It argues that the future of hotel management is not about choosing between AI and EQ, but about finding the right synergy between them. By proposing this dual-competency framework, the study provides a sustainable pathway for hospitality organisations and educational institutions to move beyond traditional silos.

For the hospitality sector to move forward, hotels and universities must stop treating technology and soft skills as separate entities. The implementation of integrated training is the only way to develop resilient, human-focused leaders. By focusing on these dual competencies, the industry can ensure that automation strengthens the interpersonal warmth and social responsibility that define luxury hospitality. Ultimately, this balanced approach provides a strategic framework for maintaining competitive advantage in an increasingly automated global market.

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