Is it the end of the Technology Acceptance Model in the era of Generative Artificial Intelligence?

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Abstract:

Purpose
The Technology Adoption Model (TAM) is a widely used framework explaining why users accept new technologies. Still, its relevance is questioned due to evolving consumer behaviour, demographics, and technology. Contrary to a research paper or systematic literature review, this critical reflection paper discusses TAM's relevance and limitations in hospitality and tourism research.

Design/methodology/approach
This paper employs a critical reflective approach, enabling a comprehensive review and synthesis of recent academic literature on TAM. The critical evaluation encompasses its historical trajectory, evolutionary growth, identified limitations, and, more specifically, its relevance in the context of hospitality and tourism research.

Findings

TAM's limitations within the hospitality and tourism context revolve around its individual-centric perspective, limited scope, static nature, cultural applicability, and reliance on self-reported measures.

Research implications

To optimise TAM's efficacy, we propose several strategic recommendations. These include embedding TAM within the specific context of the industry, delving into TAM-driven AI adoption, integrating industry-specific factors, acknowledging cultural nuances, and employing comprehensive research methods, such as mixed methods approach. It is imperative for researchers to critically assess TAM's suitability for their studies and be open to exploring alternative models or methods that can adeptly navigate the distinctive dynamics of the industry.

Originality/value

Our critical reflection paper prompts a profound exploration of technology adoption within the dynamic hospitality and tourism sector, makes insightful inquiries into TAM's future potential, and presents recommendations.

Keyword: Critical reflection; Hospitality; TAM; Technology Acceptance Model; Technology adoption; Tourism

Paper Type: Critical Reflection Paper

Introduction

The Technology Acceptance Model (TAM), introduced by Fred Davis in 1989, has been a key tool in understanding technology adoption across various sectors, including hospitality and tourism (Guo *et al*., 2023; Kucukusta *et al*., 2015; Morosan, 2014). Originally focused on individual-level technology acceptance, TAM has expanded to include diverse technologies, from point-of-sale systems to innovations like facial recognition and the metaverse (Al-Adwan *et al.,* 2023; Boo and Chua, 2022; Dwivedi *et al.,* 2023a; 2023b).

The hospitality and tourism industry's evolution, influenced by digital innovation and shifting traveler preferences for experiential travel, necessitates a reassessment of TAM's current applicability (Hussain and Malik, 2022; İlhan *et al.,* 2022; Law *et al.,* 2023). The rise of digital

platforms, AI, AR, and VR in enhancing customer experiences and decision-making processes have transformed the travel landscape (Beck *et al.,* 2019; Cho and Jeon, 2023; Foroughi *et al.,* 2023; Gaur *et al*, 2021; Huang *et al.,* 2023; Mogaji, 2023; Said *et al.,* 2023).

Given these changes, it is critical to reevaluate TAM to ensure it addresses both the profound technological shifts and evolving user competencies since its inception. This paper critically reflects on TAM's relevance in the modern context, eschewing traditional literature review and methodology sections to focus on the model's applicability and encourage dialogue on its future adaptations.

Despite newer models like UTAUT, this paper centers on TAM due to its specific applicability and sustained impact in hospitality (Guo *et al.,* 2023; Law *et al.,* 2023). The work contributes a critical perspective on TAM, suggesting future research directions and model enhancements, and advocating for integrating emerging technologies and industry-specific considerations to capture better the complexities of technology adoption in hospitality and tourism.

The emergence, growth, and evolution of TAM

The Technology Acceptance Model (TAM), rooted in the Theory of Reasoned Action (TRA), has evolved from its original form, which emphasized perceived usefulness and ease of use as key determinants of behavioral intention and actual system use (Davis, 1989; Davis *et al.,* 1989). Recognizing the social influences on technology use, subjective norms were included to reflect peer pressure's impact (Teo, 2010), transforming TAM's scope.

TAM has been instrumental in explaining technology acceptance, leading to the development of the Unified Theory of Acceptance and Use of Technology (UTAUT), which added social influence and facilitating conditions, plus consumer constructs like price value, hedonic motivation, habit, and attitude (Dwivedi *et al.,* 2019; 2020; Venkatesh *et al.,* 2003; 2012).

Researchers have further enhanced TAM by integrating compatibility, cognitive absorption, and self-efficacy, addressing the changing technological landscape and its cognitive, trust, and individual determinants.

The model's adaptability extends to collaborative learning technologies, incorporating compatibility, self-efficacy, perceived resources, sharing, and peer influence, underscoring the significance of attitude on behavioral intention (Cheung and Vogel, 2013; Dwivedi *et al.,* 2019; 2020). These additions reflect the dynamism and expansion of TAM's scope.

TAM's variations also draw from the Theory of Planned Behaviour (TPB) and Innovation Diffusion Theory (IDT), introducing perceived behavioral control and external variables that affect perceived ease of use and usefulness, respectively (Ajzen, 1991; Davis *et al.,* 1989; Yang, 2010). Information system quality, encompassing currency, relevancy, accuracy, and efficiency are pivotal in defining user satisfaction and operational efficiency (Pikkarainen *et al*., 200**4**).

TAM's alignment with Rogers' Diffusion of Innovation Theory elucidates the factors influencing adoption, bridging the gap between early adopters and the early majority (Rogers, 1995; MacVaugh and Schiavone, 2010). TAM2 and UTAUT have further advanced the model by including cognitive instrumental processes, social influence, and direct determinants of behavioral intention and use behavior (Venkatesh et al., 2003; Wang et al., 2022).

However, the challenge remains in balancing the model's complexity with its original parsimony, considering Occam's razor, which favors simplicity and the avoidance of unnecessary assumptions (Domingos, 1999). This critical reevaluation addresses the model's relevance in a drastically changed technological landscape and consumer behavior, particularly in tourism and hospitality. It prompts a reassessment of TAM's applicability amid technological and behavioral shifts, underscoring the need for a nuanced understanding of technology adoption in these sectors.

Fit for Purpose in Tourism and Hospitality Research

TAM has garnered widespread adoption across various disciplines, including marketing, hospitality, and tourism, yet concerns have surfaced, particularly within its originating field of Information Systems (IS). Scholars like Benbasat and Barki in Goodhue (2007) express reservations about TAM's intense focus on IT adoption, highlighting the need for a more comprehensive exploration of outcomes and suggesting a cautious approach to its utilization. This sentiment is echoed by Bagozzi (2007), who raises apprehensions about TAM's limitations. Schwarz and Chin (2007) call for a "reflexive pause" within the IS domain, urging a revaluation of the very concept of IT acceptance.

As the discourse shifts from the IS context to tourism and hospitality research, it becomes imperative to critically evaluate TAM's applicability and address the raised concerns. However, our paper distinguishes itself by going beyond a conventional review. While numerous studies have extensively examined the impact of Information and Communications Technology (ICT) and TAM in tourism and hospitality (Law *et al.,* 2018; Park *et al.,* 2023; Ukpabi and Karjaluoto, 2017), our objective is to provide a nuanced reflection on TAM, engaging in discussions about its ongoing adoption amid evolving theories and changing consumer behavior. This section challenges the relevance of TAM within the unique context of tourism and hospitality and to proactively address its limitations.

Limited Scope in Capturing Contextual Factors

One of the concerns with TAM is its limited scope in capturing the unique contextual factors of the tourism and hospitality industry. The model primarily focuses on individual perceptions of usefulness and ease of use (Al-Adwan *et al.*, 2023; Boo and Chua, 2022), neglecting the specific influences of the physical environment, service quality, and interpersonal interactions that are integral to the tourism and hospitality experience (Pookulangara *et al.*, 2023; Venkatesh, 2020). Moreover, the hospitality and tourism sector is characterized by unique

contextual factors that must be fully addressed. The experiential nature of services in this industry, where offerings are often intangible and subjective, is crucial in shaping consumer perceptions and decision-making (Morosan & Bowen, 2023). Furthermore, the sector's heavy reliance on online reviews, social media, and digital platforms for travel-related decision-making highlights a significant shift in consumer behavior since the inception of TAM. Sustainability concerns have gained prominence recently, influencing travelers to consider eco-friendly and socially responsible practices when selecting destinations and services. Demographic diversity adds another layer of complexity, as the hospitality sector caters to a wide range of age groups, cultural backgrounds, and travel preferences, posing unique challenges not explicitly addressed in the original TAM.

Complexity of Technology Adoption

Additionally, the rapid integration of technology into service delivery, encompassing features like mobile check-ins and virtual concierge services, reflects a notable transformation that TAM may need to consider in assessing technology adoption within the hospitality domain. Finally, the industry's susceptibility to dynamic market trends and external influences, such as global events and economic shifts, further underscores the need for a nuanced examination of technology acceptance within the evolving hospitality and tourism landscape. In light of these unique factors, it becomes crucial to critically assess whether TAM, developed in a different technological and industry context, adequately captures the intricacies of technology acceptance within the hospitality and tourism domain. The aim is to recognize and address the sector-specific challenges and considerations that may have yet to be thoroughly examined in the original TAM framework.

TAM may only partially capture the complexities and nuances in technology adoption within this industry. Adopting technology in the hospitality and tourism sector is a complex process associated with unique characteristics (Hossain *et al.,* 2022). This complexity requires

distinctive approaches in discerning various adoption behaviors, such as organizational climate and characteristics. Complexity also affects other adoption variables, such as flexibility and productivity. Lower levels of complexity will translate into higher productivity as it will enhance key variables in technology adoption, including perceived usefulness and ease of use. Generally, technology has been adopted in the hospitality sector for better service quality, operational efficiency, and cost reductions (Joung *et al*., 2022). These advantages apply to the research sphere as similar benefits are realized due to technology integration.

Individual-Centric Viewpoint

Furthermore, TAM has been commonly employed to comprehend adopting new technologies from an individual-centric viewpoint (Cai *et al.,* 2022; Cheung and Vogel, 2013). However, a need arises in the tourism and hospitality sector to assess TAM's suitability and broaden its horizons critically. This sector is characterized by a multi-stakeholder landscape encompassing tourists, hospitality businesses, employees, and intermediaries, collectively influencing technology adoption (Hossain *et al.,* 2022; Joung *et al*., 2022). TAM's concentration on the individual may not comprehensively grasp the intricate dynamics within the tourism and hospitality industry. The engagement of multiple stakeholders necessitates a holistic perspective on technology adoption that transcends individual perceptions. While TAM has been beneficial in pinpointing influential factors in the hospitality workforce's technology adoption, its scope might require expansion to accommodate the interplay among diverse stakeholders.

Role and Position Variations

Recent studies shed light on TAM's limitations in the hospitality sector. Guo et al. (2022) demonstrated TAM's moderation by job level, revealing distinctions in technology adoption between non-supervisory and supervisory employees. Non-supervisory staff prioritize technology when perceiving benefits for job performance, while managers may prioritize

different factors (Guo *et al.,* 2023; Matikiti *et al.,* 2018). Kim and Ausar (2018) explored the impact of using a virtual employee engagement platform (VEEP) on employee engagement. They found that ease of use and usefulness perceptions of a hospitality company's VEEP positively influence intentions to use the platform.

These findings highlight the need to evaluate TAM's individual-centric framework in the tourism and hospitality sector, emphasizing the importance of considering varying roles and positions. The growing importance of co-creation and collaborative technology adoption strategies is evident, necessitating a broader outlook that recognizes stakeholder interactions and collective decision-making (Tsang and Ho, 2022). Understanding the intricacies of multi-stakeholder interactions is crucial for harnessing technology's potential for innovation and growth in the hospitality industry. TAM, primarily focused on individual perceptions, may need to evolve to capture the complex dynamics among stakeholders and their collective impact on technology adoption (Guo *et al.,* 2023; Tsang and Ho, 2022).

Static Nature and Evolving Technologies

TAM, a framework conceived over three decades ago, focused on perceived ease of use and perceived usefulness as key adoption drivers. However, the surge of cutting-edge technologies like AI, AR, and mobile applications poses significant challenges to TAM's original model (Al-Adwan ***et al.,*** 2023; Dwivedi ***et al.,*** 2023b). In the hospitality sector, innovations such as facial recognition check-ins and the rise of metaverse and Generative AI demand a more dynamic TAM (Boo and Chua, 2022; Dwivedi ***et al***., 2023c). The industry's rapid evolution, seen in comprehensive system updates and new technology integrations, calls for a TAM that captures these temporal dynamics to remain relevant in analyzing technology adoption trends (Ahmad and Scott, 2019; Dwivedi ***et al***., 2023a).

Shifting demographics, like children's earlier adoption of technology, challenge TAM's traditional scope (Davis and Venkatesh, 1996). The global pervasiveness of technology

influences its acceptance, with factors like perceived usefulness and ease of use transforming (Amoako-Gyampah and Salam, 2004). TAM must now consider its applicability to younger users like Gen Z, who, despite needing to explicitly assess these factors, are influenced by early tech interactions. Their tech-savvy nature leads to more sophisticated evaluations of perceived ease of use and usefulness, maintaining the relevance of these factors in TAM for technology adoption decisions.

Furthermore, gender and marital status are emerging as moderators in technology adoption within the hospitality sector. TAM's enhancement to include these dimensions could lead to a more nuanced understanding of online purchasing behaviors, as household size and gender have been shown to significantly influence the inclination to use technology, such as online food ordering (Lock, 2021; Pookulangara et al., 2023;). Incorporating gender and marital status into TAM could involve modeling these variables as moderators or control variables, or examining interaction effects, thus enriching the framework's explanatory power in reflecting contemporary technology adoption behaviors.

Cultural and Regional Variations

Cultural and regional differences challenge TAM's effectiveness in the hospitality sector, which is deeply influenced by varying cultural values, societal norms, and regulations. Originally developed in Western settings, TAM may only partially capture the intricate factors influencing technology adoption behaviors in diverse regions. Studies such as Cai *et al*. (2022) in the USA on hotel AI voice assistants, Ozturk (2016) on cashless payments, Kim and Ausar (2018) on virtual employee platforms, Tom Dieck *et al.* (2017) in the UK on social media in luxury hotels, Kang and Namkung (2019) in Korea on mobile app personalization, and Boo and Chua (2022) in Singapore on facial recognition technology, indicate the model's localized applications but often overlook broader cultural impacts.

Acknowledging the gap, Guo et al. (2022) suggest revising TAM to reflect better the profound impact of cultural differences on technology perception. Scholars advocate for more inclusive frameworks that account for the complex interplay of cultural and environmental factors. Integrating TAM with broader theoretical models can provide deeper insights into socio-cultural factors affecting technology adoption in hospitality, potentially leading to more effective adoption strategies tailored to this dynamic sector.

Methodological Limitation - Reliance on Self-Reported Measures
TAM (Technology Acceptance Model) faces a notable limitation in its reliance on self-reported measures, posing challenges in accurately capturing users' behaviors and future adoption decisions. This methodological constraint, acknowledged by Jeyaraj et al. (2023), introduces biases, particularly through social desirability, and may need to fully grasp the intricate decision-making processes inherent in technology adoption. While TAM is well-suited for quantitative studies, its propensity for surface-level insights limits a profound understanding of consumers' experiences, motivations, and desires for technology. Recognizing these limitations, scholars increasingly advocate for mixed methods or multi-study approaches in technology adoption research within the hospitality industry. Studies by Cai *et al.* (2022), Kwak *et al.* (2023), and Au and Tsang (2023) showcase the growing trend of combining qualitative and quantitative methodologies to overcome biases and gain deeper insights into the complex dynamics of technology adoption. This shift aligns with the recommendations of Wu (2012), emphasizing the need for a more comprehensive mixed methods approach to enhance TAM's relevance in capturing the rapidly evolving nature of technology adoption in the field.

In summarizing this section, this critical reflection acknowledges the widespread adoption of TAM in tourism and hospitality research while highlighting specific concerns. These include the limited scope, individual-centric perspective, static nature, limited cultural applicability, and reliance on self-reported measures of TAM. These challenges raise doubts about its

suitability for the tourism and hospitality context. To enhance TAM's applicability and relevance, it is essential to address these concerns by incorporating industry-specific factors, considering multiple stakeholder perspectives, accounting for temporal dynamics, accommodating cultural variations, and utilizing more comprehensive measures. By taking these steps, TAM can be strengthened and better tailored to meet the evolving needs of tourism and hospitality research. The subsequent section will provide relevant recommendations to further develop the theoretical adoption of TAM.

Conclusion

While TAM has undeniably gained widespread recognition and adoption in hospitality and tourism research (Al-Adwan *et al.,* 2023; Boo and Chua, 2022; Cai *et al.,* 2022) and it has been instrumental in offering insights into the factors influencing technology adoption and contributing to knowledge advancement, its relevance faces challenges in the dynamic context of tourism and hospitality. This critical reflection becomes crucial due to the unique factors inherent in this industry, such as contextual influences, multi-stakeholder dynamics, and rapid technological advancements. Figure 1 encapsulates a coherent summary of our CRP, outlining TAM's growth challenged by emerging technologies and evolving consumer behavior, extending theories beyond TAM, and explicitly addressing its limitations. Additionally, it sheds light on the practical implications aimed at overcoming these limitations, thereby contributing to a more nuanced and informed approach in the realm of technology adoption in tourism and hospitality.
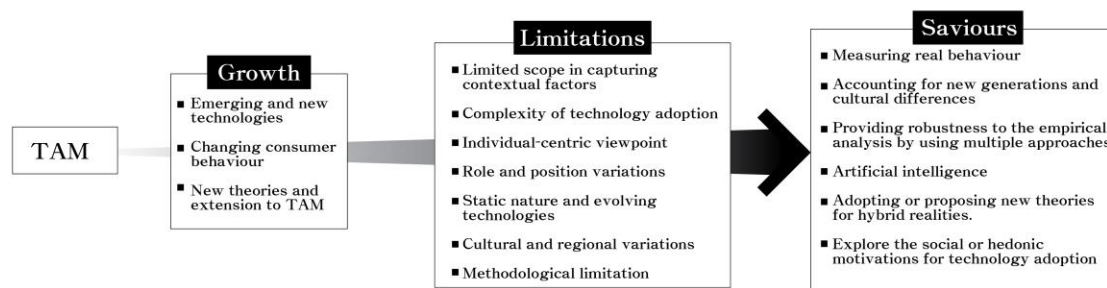
Figure 1: The growth and limitation of TAM models and ways to overcome them.
Source: Authors own creation

In conclusion, our paper serves as a catalyst for thoughtful consideration and discussion within the academic community. Its primary objective is to enrich the discourse on technology acceptance in the hospitality and tourism sector by adopting a critical and reflective lens, diverging from conventional empirical research approaches. The subsequent section unfolds the theoretical and managerial implications, accompanied by a succinct summary of the agenda for future research. We encourage scholars to extend existing models and diligently address their limitations, fostering a collective effort to advance our understanding of technology adoption in this dynamic industry.

Theoretical Implications

Given the critical evaluation of TAM presented above, it is essential for researchers to thoroughly reflect on their justifications for using TAM in their studies. To enhance the quality and relevance of research in the field of tourism and hospitality, the following theoretical implications are presented.

Contextualize TAM

Contextualizing TAM within the tourism and hospitality industry is imperative for researchers, necessitating an evaluation of its ability to capture the sector's distinctive characteristics, challenges, and dynamics. While the adoption of technology by hospitality employees is

becoming a norm (Guo *et al.,* 2023; Kim and Ausar, 2018), the integration of AI, robotics, and gig workers introduces unique considerations and challenges (Au and Tsang, 2023; Khaliq *et al.,* 2022). An enduring element is the technology's necessity to address genuine consumer issues and maintain user-friendliness, underscoring the continued importance of usefulness and ease of use. The diverse contexts within the industry, such as technology use for check-in (Boo and Chua, 2022) versus voice assistants or food delivery apps (Cai *et al.,* 2022; Kang and Namkung, 2019), contribute to variations in perceptions and motivations. Acknowledging these context-specific nuances enables researchers to better evaluate TAM's applicability, ensuring it captures the intricacies of technology adoption in tourism and hospitality.

Understanding technology adoption nuances across generations is pivotal for refining and contextualizing TAM, particularly in the context of Gen Z. Born between the mid-1990s and early 2010s, Gen Z's distinct characteristics, shaped by their exposure to technology, warrant exploration. Drawing from generational theory and sociology, the theoretical lens of generational dynamics provides insights into how Gen Z's traits influence their technology acceptance. Delving into specific instances of Gen Z interacting with technology, such as on social media, mobile applications, and emerging technologies like augmented reality, offers concrete illustrations of TAM's constructs in Gen Z's decision-making. This intersection of generational dynamics and TAM not only enhances theoretical depth but also holds practical implications for researchers and practitioners in hospitality. Understanding Gen Z's technology engagement informs the design of tech-driven services, marketing strategies, and customer experiences tailored to this demographic.

TAM-Driven Artificial Intelligence Adoption

Recognizing the significance of emerging technologies within the TAM framework, especially in the adoption of artificial intelligence (AI) and generative AI is an emerging theoretical implication. While the extended TAM has been a common choice for assessing user acceptance

of AI technologies, the rapid evolution of AI devices has challenged the predictability of the traditional TAM model. Responding to this, Gursoy *et al.* (2019) introduced the AI Device Use Acceptance model (AIDUA), which extends prior models to explore user acceptance of AI agents across different stages. Subsequent research, such as Chi *et al.'s* (2023) retesting of the AIDUA model in a different context, indicates the promising avenue of extending TAM to accommodate the unique demands of AI technologies.

Understanding user experiences with technology, particularly in the hospitality sector where AI-powered chatbots and predictive analytics are prevalent, highlights the importance of investigating the perceived usefulness of AI applications (Abdulquadri *et al.,* 2021; Sampat *et al.,* 2023). As researchers expand the TAM model by incorporating additional variables into traditional predictors, further extensions are warranted to address the specific challenges posed by AI technologies in the hospitality industry. This encompasses not only the technical aspects but also the social and cultural dimensions, such as the role of human interaction, social influence, and the digital divide. Trust, privacy, and security are critical factors gaining prominence with the increased adoption of AI, emphasizing the need for researchers to navigate concerns surrounding these issues (Mogaji and Nguyen, 2022). Investigating how trust and privacy concerns influence the adoption of AI-driven services in areas like intelligent room controls and personalized itineraries becomes pivotal. The ongoing development of AI, including Generative AI and the Metaverse (Dwivedi *et al*., 2021; Koohang *et al.,* 2023; Ooi *et al.,* 2023), underscores the interplay among academic researchers, practitioners' willingness to embrace technology, and the significant potential AI holds in the hospitality and tourism landscape.

Incorporate Industry-Specific Factors

Incorporating industry-specific factors is crucial for expanding TAM and capturing the nuances of technology adoption in tourism and hospitality. These factors encompass many

considerations, including customer expectations, service quality, personalization, trust, and the influence of online reviews. From the hotel industry (Boo and Chua, 2022) to cloud kitchens (Pookulangara *et al*., 2023) and the gig economy (Au and Tsang, 2023), the scope of the hospitality industry is vast. Researchers must consider these industry-specific factors when evaluating the adoption of TAM.

Moreover, researchers should critically examine who is adopting the technology and within which industry they operate. They need to analyze the roles of various stakeholders, such as employees, managers, customers, and industry regulators (Ahmad and Scott, 2019; Cai *et al*., 2022; Venkatesh, 2020). By incorporating and analyzing the perspectives of these different stakeholders, researchers can gain a more comprehensive understanding of technology adoption processes in the tourism and hospitality industry. This approach enables a more nuanced exploration of how technology adoption varies across different roles and stakeholders, contributing to a more holistic understanding of the adoption phenomenon.

Account for Cultural Variations

Considering cultural variations is crucial when applying TAM in tourism and hospitality research. While most studies have emerged from developed countries, exploring, and understanding technology adoption in developing countries and diverse cultural contexts is necessary. Researchers should recognize that cultural factors influence the adoption and acceptance of technology. To address cultural variations, researchers should consider the cultural roles and norms that may impact technology adoption in different societies. For example, in patriarchal cultures, men may take on responsibilities such as making food orders, booking holidays, checking family members into hotels, or using mobile payment technologies (Gbadegeshin *et al.,* 2021; Hinson *et al.,* 2021). This does not imply that women are unfamiliar with these technologies, but their willingness to adopt them may differ due to cultural factors. TAM researchers should be mindful of cultural roles, norms, and values influencing technology

adoption and ensure their studies incorporate diverse cultural perspectives. This will enable a more comprehensive understanding of how cultural variations impact technology adoption in the tourism and hospitality industry.

Employ Comprehensive Measures

Researchers should move beyond relying solely on self-reported measures and consider employing qualitative and quantitative research methods to understand technology adoption comprehensively. The rapid evolution and shorter life cycle of technology applications call for diverse research methods to ensure the validity of IT acceptance assessment in different settings.

Mixed methods research becomes essential as TAM fails to acknowledge individual differences (Agarwal and Prasad, 1999). Researchers can evaluate technology adoption behavior more effectively by integrating multiple research methods. Studies that adopt mixed methods, such as those conducted by Au and Tsang (2023), Cai *et al.* (2022), and Kwak *et al.* (2023), have demonstrated the value of including observational data, objective measures of technology usage and in-depth interviews. The use of mixed methods research allows for a more comprehensive exploration of the nuances and complexities of the adoption process.

We encourage using ethnography, focus groups, interviews, and case research to investigate technology use and evaluate the essential components that influence IT adoption. Netnography, in particular, offers valuable insights into online consumer culture and social interactions in digital communication contexts (Kozinets, 2012; 2023). By adopting mixed methods research approaches, researchers can gain more detailed explanations and insights into technology adoption across different demographics, industries, and stakeholders in the hospitality and tourism context.

Adopting or proposing new theories for hybrid realities

In light of emerging technologies such as the metaverse and devices like the Apple Pro Vision, the trajectory of technological practice and innovation is outpacing the progress of academic research. There is a need for more theoretical evidence and empirical insights concerning the adoption patterns of consumers about these novel technologies (Abdulquadri *et al.,* 2021; Buhalis *et al.,* 2022; Koohang *et al.,* 2023). Consequently, it becomes increasingly imperative to reevaluate the relevance of established models like TAM and consider their potential limitations. The evolution of technology necessitates a shift towards newer models that can better capture the complexities of contemporary tech adoption.

In this context, the call to move beyond TAM gains momentum. The need to explore and embrace newer models arises from the urgency to accommodate the multifaceted nature of technologies like hybrid realities. These newer models must offer insights attuned to the unique dynamics of technologies such as the Apple Pro Vision, Cryptocurrencies, Blockchain, Robotics, and the Metaverse. One avenue for building these models lies in the exploration of concepts proposed by scholars like Gursoy *et al.* (2019), who examined consumer acceptance of artificially intelligent (AI) devices, and Mogaji *et al.* (2023), who called for an exploration of immersive experiences and time. With newer innovations consistently entering the landscape, the role of academic research extends beyond the present to anticipate and accommodate the challenges and opportunities posed by these advancements. As the technological landscape diversifies and matures, the evolution of theoretical frameworks becomes indispensable for researchers to grasp and decipher the multifarious dimensions of these technologies comprehensively.

Explore the social or hedonic motivations for technology adoption.

The tourism and hospitality sector's unique requirements mandate considering social and hedonic motivations for technology use. In this industry, technology adoption often hinges on

its intrinsic enjoyment, not merely its utility (Chi *et al.,* 2023). For example, while service robots may offer efficiency, they can be met with resistance if they lack the engaging experiential interactions human servers provide.

TAM, with its focus on utilitarian factors such as perceived usefulness and ease of use, must expand to encapsulate the emotional and social drivers of technology acceptance. The connection patrons feel with human servers exemplifies a gap in current TAM applications, highlighting the need for a more nuanced understanding of emotional, social, and hedonic motivations.

The growing digitalization within hospitality necessitates a deeper understanding of consumer attitudes towards technology, especially robots. Perceived usefulness in this context includes the emotional rapport and overall experience associated with human service. This need for research extends to other technological interfaces like AR, VR, social media, and AI chatbots, where social and hedonic motivations significantly impact user enjoyment and social engagement.

Practical Implications

The evaluation of TAM's relevance in hospitality and tourism research offers practical implications which are presented in this sub section. Practitioners are urged to consider industry-specific factors, temporal dynamics, cultural variations, and a broader stakeholder perspective in TAM adoption.

Strategic Integration and User-Centric Approach

In implementing strategic technology integration, practitioners should meticulously consider industry-specific contexts and the unique challenges associated with technologies such as AI, robotics, and gig workers in the hospitality sector. This involves recognizing that the adoption of technology by hospitality employees is becoming a norm in their work environment.

Additionally, emphasizing the need for technology to address real consumer issues and maintaining user-friendly interfaces is paramount. The strategy should extend to tailoring tech-driven services to align with the preferences and expectations of Generation Z (Gen Z). By understanding and adapting to the distinctive characteristics of Gen Z's technology adoption behaviors, practitioners can foster a more comprehensive and nuanced approach that ensures technology aligns seamlessly with the needs and preferences of this demographic.

AI Technologies and Stakeholder Considerations

As the hospitality sector embraces AI technologies, practitioners should proactively navigate the evolving landscape. This involves a focus on enhancing customer experiences through the incorporation of AI-powered chatbots and predictive analytics. The emphasis should also extend to building and maintaining trust, addressing privacy concerns, and ensuring the security of AI-driven services. In addition, taking a holistic approach involves recognizing the diverse roles and perspectives of employees, managers, customers, and regulators within the industry. Measuring actual behavior and usage, rather than solely relying on reported intentions, becomes integral in assessing the impact and success of AI-driven services in the hospitality sector. This approach helps to ensure that the adoption process aligns with the needs and expectations of various stakeholders.

Future-Focused Adoption Strategies

To stay ahead in the rapidly evolving technological landscape, practitioners should adopt a future-focused approach. This involves staying informed about emerging technologies, collaborating with academic researchers, and considering the adoption of new models that better capture the complexities of contemporary tech adoption. The focus should be on exploring and embracing theoretical frameworks that are attuned to the unique dynamics of technologies such as the metaverse and hybrid realities. Additionally, practitioners are encouraged to recognize the importance of intrinsic value and hedonic/social motivation in

developing technology adoption strategies. This comprehensive approach ensures that practitioners are well-equipped to address the challenges and opportunities posed by emerging technologies in the tourism and hospitality sector.

Limitations and Future Research

While acknowledging the theoretical and practical implications of our Critical Reflection Paper (CRP), it is crucial to recognize certain limitations. Firstly, as a dedicated Critical Reflection Paper, our approach distinctly centers on critical evaluation rather than conforming to the structure of conventional academic papers. This divergence emphasizes our commitment to critically assessing TAM without following traditional academic norms. Secondly, it is important to note the absence of empirical evidence or data in our paper. This lack of empirical support may impose constraints on the practical applicability of the recommendations provided. Thirdly, our focus on the hospitality sector within the broader field of tourism may not encompass all dimensions of TAM adoption. Instead, our intent has been to offer a critical reflection, shedding light on specific aspects and paving the way for future research endeavors in this dynamic and expansive domain.

These limitations present a research agenda for the critical evaluation of TAM in tourism and hospitality, highlighting key future research questions. Contextualizing TAM involves exploring context-specific variations in technology adoption and understanding the influence of contextual factors within the industry. Understanding generational dynamics focuses on investigating technology adoption nuances across different generations, particularly Gen Z, with concrete illustrations of TAM constructs. Extending TAM to cover attitudes towards AI-driven technologies, and considering external variables, cultural scenarios, and organizational strategies. Incorporating industry-specific factors delves into TAM adoption in diverse hospitality sectors, analyzing stakeholder roles, and measuring actual behavior for a

comprehensive understanding. Accounting for cultural variations explores the role of cultural factors and gender-specific roles. Employing comprehensive measures advocates for mixed methods and observational data. Adopting new theories for hybrid realities encourages exploring frameworks beyond TAM for emerging technologies. Exploring social and hedonic motivations investigates intrinsic value, enjoyment, and emotional factors influencing technology adoption in the hospitality sector. By systematically addressing the outlined research agenda and embracing a holistic, contextualized approach, researchers can derive meaningful theoretical insights. This, in turn, contributes to the continual advancement of our understanding of technology adoption within the dynamic and ever-evolving landscape of the hospitality and tourism industry.

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