AIRSI2023

The Metaverse Conference

Zaragoza University

Spain

15 - 17 May 2023

AIRSI2023
The Metaverse Conference

May 15-17, 2023
Central European Time (CET) Madrid, Brussels, Paris, Rome, Berlin

CONFERENCE PROGRAM

https://airsi.unizar.es/

Monday May 15

10.45 – 11.15	Official Inauguration			
11.30 – 13.00	Competitive Papers 1.	Session 1A	Session 1B	Session 1C
15.00 – 16.15	Round table 1: Challenges and opportunities of Artificial Intelligence			
	Werner H. Kunz; Eleonora Pantano; Nisreen Ameen			
	Competitive Papers 2.	Session 2A	Session 2B	Session 2C

Tuesday May 16

09.30 – 11.00	Competitive Papers 3.	Session 3A	Session 3B	Session 3C
11.15 – 12.45	Competitive Papers 4.	Session 4A	Session 4B	Session 4C
15.00 – 16.30	Competitive Papers 5.	Session 5A	Session 5B	Session 5C
16.45	Welcome session on the AIRSI2023 Metaverse			

Wednesday May 17 – TEAMS & METAVERSE

09.30 – 10.45	Round table 2: Challenges and opportunities of the Metaverse			
	Yogesh K. Dwivedi; Pantea Foroudi; Philipp Rauschnabel			
11.00 – 12.30	Competitive Papers 6.	(METAVERSE)	Session 6A	Session 6B
15.00 – 16.30	Competitive Papers 7.	(METAVERSE)	Session 7A	Session 7B
16.45	Closing Ceremony & Awards	(METAVERSE)		

EXTENDED ACADEMIC PROGRAM

Central European Time (CET) Madrid, Brussels, Paris, Rome, Berlin, Budapest

Monday May 15

Official Inauguration. Monday, May 15. 10:45 – 11:15.

Carlos Flavián	*Welcoming remarks*
Jochen Wirtz (Recipient of the Christopher Lovelock Career Contributions to the Services Discipline Award. Professor of Marketing at the National University of Singapore)	*Opening Speech: Intelligent Automation, IA & Service Robots and Their Impact on Service Firms and Their Markets*

Competitive Papers 1A. Monday, May 15. 11:30 – 13:00. METAVERSE. Chair: Jochen Wirtz

Antecedents and consequences of metaverse presence: Empirical evidence from MICE in the metaverse-mediated environments	*Chang, Ludwig M.K. ; Cheung, Man Lai; Leung, Wilson K.S. ; TSE, Fiona S.Y.*
Exploring the Role of the Metaverse in Shaping Consumers' attitude and Expectations of Brands: Implications for Marketers	*Methlouthi, Kawther; Belaid, Samy*
EmoVox: Creation of a speech database for emotion analysis	*Etienne, Elodie; Leclercq, Anne-Lise; Remacle, Angélique; Schyns, Michaël*
Metaverse – A Novel Technology and its forecast to be impactful	*Ganapuram, Venu; Mangu, SaiSree; Kurchellapati, Vishwanadh Raju*
Immersive virtual tourism: fact or fiction? Empirical analysis through neural network analysis	*Solano-Sánchez, Miguel Ángel; Liebana-Cabanillas, Francisco; Martín Martín, José María; Prados Castillo, Juan Francisco*

Competitive Papers 1B. Monday, May 15. 11:30 – 13:00. VIRTUAL REALITY. Chair: Enrique Bigne

Extending the TAM model to study Virtual Reality Adoption by Tourists: An exploratory study in the Moroccan context	*El Andoaloussi, Zineb; benbba, brahim*
Exploring the Critical Success Factors of Virtual Reality Adoption in Hotel Industry: A Grounded Theory Approach	*Lodhi, Rab Nawaz; Asif, Muhammad; Cobanoglu, Cihan*
Configurations of tourists' acceptance and avoidance of virtual reality tourism through the embodiment perspective	*Chen, Juan*
Storytelling & Virtual Reality in Destination Marketing: The Stories of the Industry Suppliers	*Shany Habeeb, Aishath; Balasubramanian , Kandappan; Tavakoli, Rokhshad*
Stress perception in AI-based VR negotiation training vs. role-play simulation	*Kracklauer, Alexander; Semenkin, Kirill*

Competitive Papers 1C. Monday, May 15. 11:30 – 13:00. INFLUENCERS. Chair: Yioula Melanthiou

The impact of Green Leaders Certification on tourist's satisfaction and review helpfulness. A sentiment analysis.	*Ballester Chirica, Estefania ; Ruiz, Carla; Rubio Benito, Natalia*
Come Closer, but Not Too Close: Bright and Dark Sides of Virtual Influencers in the Metaverse	*Batinovic, Henrietta; Tingelhoff, Fabian; Hammerschmidt, Maik; Schöbel, Sofia*
How to get engagement on Instagram? Artificial Intelligence as a tool for tourism photo analysis	*Blanco-Moreno, Sofía; González-Fernández, Ana M.; Muñoz-Gallego, Pablo Antonio*
Human-robot collaboration in promoting an innovative hospitality service	*Belanche, Daniel; Casaló, Luis V.; Flavián, Marta*
Uncovering the drivers of authenticity in live-guided online tours at cultural sites: A netnographic approach	*Samaniego-Chavez, Carla; Shi, Fangfang*

ROUND TABLE 1. CHALLENGES AND OPPORTUNITIES OF ARTIFICIAL INTELLIGENCE. Monday, May 15. 15:00 – 16:15. Chair: Giampaolo Viglia

Werner H. Kunz (Director of the Digital Media Lab. University of Massachusetts, Boston)	*University of Massachusetts Boston (USA)*
Eleonora Pantano (Guest editor of SI More supportive or more distractive thechnology)	*University of Bristol (UK)*
Nisreen Ameen (Co-Director of the Digital Organisation and Society research centre)	*Royal Holloway. University of London (UK)*

Competitive Papers 2A. Monday, May 15. 16:30 – 18:00. METAVERSE. Chair: Nisreen Ameen

The Metaverse and Retailing: A Research Agenda	*Ueno, Akiko; Dennis, Charles*
Exploring the magnitude of Metaverse on the tourist experience journey. A multi-stakeholder view	*Venturini, Luca; Sorrentino, Annarita; Simoni, Michele*
Virtual urgency: The role of perceived exclusivity, purchase urgency, and usage barriers in driving Gen Z's purchase intention in the metaverse	*Pichierri, Marco; Petruzzellis, Luca*
Marketing and the Metaverse	*David Allan*
An overview of the scientific production on the application of AI in public transport	*Caballero Galeote, Lidia; Molinillo, Sebastian; Ruiz-Montañez, Miguel; Liebana-Cabanillas, Francisco*

Competitive Papers 2B. Monday, May 15. 16:30 – 18:00. AR/VR. Chair: Eleonora Pantano

Perceived value of VR tourism experience: A scale development	*Arroyo Lopez, Fernando; Berezina, Katerina; Ruetzler, Tanya Maren*
Trial Before Travel: The Influence of Cognitive Absorption of Virtual Reality Experiences During the Information-seeking Stage	*Reyes-Mercado, Pável; Gutiérrez-Marines, Carlos; Herjanto, Halimin*
Using VR to choose a hotel: do avatars make a difference? A behavioural, self-reported and neurophysiological study	*Andreu, Luisa; Bigne, Enrique; Sánchez, Isabel; Ruiz, Carla*
Emotional Responses and Purchase-Decision Involvement in Augmented Reality Experiences	*Soon, Pei-Shan; Louis Vincent, Racheal*
Do I want to be like you? Wishful identification with sustainable influencers as a key aspect to promote SDG-oriented behaviors	*Bretos, María; Ibázñez-Sánchez, Sergio; Flavián, Carlos*

Competitive Papers 2C. Monday, May 15. 16:30 – 18:00. SERVICE ROBOTS. Chair: Werner H. Kunz

Human-robot partners in healthcare services	*Ozturkcan, Selcen; Merdin-Uygur, Ezgi; Yılmaz, Faruk; Ince, Ozgur*
Doctors' and patients' support of automated decision-making in healthcare	*Ivanov, Stanislav; Dimitrov, Teodor*
Designing robot-friendly hospitality facilities	*Berezina, Katerina; Ciftci, Olena; Arroyo Lopez, Fernando*
Customer engagement in human-robot interactions: the role of psychological ownership, cost reduction, and service enhancement.	*Casaló, Luis V.; Ruiz-Equihua, Daniel; Romero, Jaime*
Robots and hospitality employees: examining the impact of power status on hotel employees' job attitudes	*Mahdavi, Rasoul; Talebi, Mahsa; Berezina, Katerina*

Tuesday May 16

Competitive Papers 3A. Tuesday, May 16. 09:30 – 11:00. METAVERSE. Chair: Carla Ruiz

Comparing Social Interactions in Metaverse and Video Conferencing: Preliminary Insights of a Laboratory Experiment	*Weitzl, Wolfgang; Stangl, Fabian; Riedl, René; Martin, Sebastian*
Metaverse tourism and the future of sustainability	*Rastgoo, Niloofar; Nasiri, Amirreza; Bapiri, Jafar*
Metaverse and Tourism Research	*Teerakapibal, Surat; Melanthiou, Yioula*
The use of the metaverse for marketing purposes: the view of pioneer companies	*Rodríguez-Torrico, Paula; San-Martín, Sonia; Jiménez, Nadia; Torrego Herrero, Cristina*
Affordance misalignment in immersive technologies: identifying opportunities and challenges emerging through Tourism Metaverse	*Singhal, Aishwarya; Reyes-Mercado, Pável; Perez vega, Rodrigo; Mariani, Marcello*

Competitive Papers 3B. Tuesday, May 16. 09:30 – 11:00. VIRTUAL REALITY. Chair: Sergio Ibáñez-Sánchez

Immersive technology influenced facets of feelings: The impact of AR/VR on intention towards responsible travel at natural heritage sites	*Fatma, Anam; Bhatt, Vimal*
Real in virtual: The influence mechanism of virtual reality on tourists' perceptions of presence and authenticity in museum tourism	*Qiu, Hailian; Zhu, Yu; Sun, 晓洋; Li, Minglong*
The role of embodiment and ergonomics in immersive VR technology in creating memorable tourism experiences	*Janarthanan Balakrishnan, Yogesh Dwivedi*
Travelling to the past. The impact of Virtual Reality on customer experience with heritage destinations	*Bigné, Enrique; Currás Pérez, Rafael; Andreu, Luisa; Ruiz, Carla*
Exploring the Role of Immersion in the VR Tourist Experience Journey	*Hsu, Hsuan; Tseng, Kuo Feng*

Competitive Papers 3C. Tuesday, May 16. 09:30 – 11:00. SERVICE ROBOTS. Chair: Francisco Rejón

The Smart Service Robot Augmentation Effect: How using Service Robots Helps in the Disability Inclusion in Hospitality	*Costa Pinto, Diego; González Jiménez, Héctor*
Iteratively Designing a Robotic Concierge with Different Stakeholders - A Multi-Methods Field Study	*Steinhaeusser, Sophia C.; Donnermann, Melissa; Lein, Martina; Lugrin, Birgit*
The Synergistic Effects of Digital Service Technologies, Service Robots, AI, and Cost-Effective Service Excellence Strategies	*Hofmeister, Johannes; Wirtz, Jochen; Chew, Patricia Y. P.; Ding, Xin (David)*
The importance of anthropomorphism in the intentions of revisit: an experiment in hospitality	*Callarisa- Fiol, Luis; Moliner-Tena, Miguel Ángel; Sánchez García, Javier; Rodríguez-Artola, Rosa;*
Consumer resistance to service robots: The effects of anxiety, negative emotions, and intrusion	*Wong, Jimmy; Wong, Amy*

Competitive Papers 4A. Tuesday, May 16. 11:15 – 12:45. ARTIFICIAL INTELLIGENCE. Chair: Marcello Mariani

AI-based platforms as boundary resources to resource integration processes	*Marzullo, Maria Luisa; Di Bernardo, Irene; Ranieri, Angelo; Mele, Cristina; Russo Spena, Tiziana*
Are Religion and Technology an Organizational Oxymoron? The Role of Managers' Cognition, Spirituality and Mindfulness in AI Acceptance	*Marrucci, Anna; Rialti, Riccardo; Zollo, Lamberto; Pellegrini, Massimiliano*
Artificial Intelligence to Improve the Customer Journey in Fashion Apps	*Palazon, Mariola; Sicilia, Maria; Martínez, Lorena*
Managing the challenges of data privacy from biographic to biometric data in hospitality	*Liyanaarachchi, Gajendra; Kurtaliqi, Fidan; Viglia, Giampaolo*
Co-destruction of value and intention to fully adopt digital payment methods: a cross-cultural perspective	*Dimitrova, Irina*

Competitive Papers 4B. Tuesday, May 16. 11:15 – 12:45. IMMERSIVE TECHNOLOGIES. Chair: Marta Blázquez Cano

Make it unforgettable: a strategic and customer-oriented perspective on the emergence of immersive technologies in the tourism	*Di Paolo, Francesco; Bettiga, Debora; Noci, Giuliano*
Can Immersive Technologies Boost or Damage Luxury Hospitality? Extended Reality and Need for Uniqueness	*Gonçalves, Ana Rita; Costa Pinto, Diego; Mattila, Anna; Shuqair, Saleh; Imabay, Anne*
Developing Smart Digital Immersive Systems for Cultural Heritage and Tourism Applications: A Case Study of Digitally Illuminating One Dark Archive	*Murphy, Cian; Carew, Peter J; Stapleton, Larry*
The Phygital Tourism Experience: Towards the Integration of a New Mode of Tourism Consumption in Tunisia	*Zouari, Abir; Ayadi, Sawssen*
NFTs: a win-win strategy for both brands and customers	*Boukouyen, Fatiha; Boukouyen, Mohammed*

Competitive Papers 4C. Tuesday, May 16. 11:15 – 12:45. MISCELLANEOUS. Chair: Sandra Loureiro

How could Sustainability Apps Foster Pro-Environmental Behaviors among Generation Z?	*Huang, Yinghua; Qiu, Ling*
The Effect of Video Games on Perceived Destination Image and Visit Intention of Tourists.	*Ioannidis, Stelios; Bayar, Sinan Baran*
User interface influence on information processing: effects of presence on cognitive load and understanding	*Pérez-Cabañero, Carmen; Cervera-Taulet, Amparo; Martínez-Molés, Víctor*
Are podcasts a good bet for media streaming platforms? Exploring the role of loneliness and subjective well-being in digital media products	*Langaro da Silva do Souto, Daniela; Silva, Miguel*
Can social media-driven trust and customer happiness with a car dealership increase brand love?	*Ruiz, Carla; Hashem, Mohamad; Currás Pérez, Rafael*

Competitive Papers 5A. Tuesday, May 16. 15:00 – 16:30. METAVERSE. Chair: Bernadett Koles

Conceptualization of Sustainable Dimensions for Metaverse-as-a-Service	*Rajguru, Kunjan; Brüggemann, Philip*
Meet Me in the Metaverse: How Self-Representation in Virtual Meetings Impacts User Experience and Meeting Performance	*Lennig, Leah; Tingelhoff, Fabian; Hammerschmidt, Maik; Schöbel, Sofia*
Emotions and engagement in the metaverse: evidence from the hospitality industry	*Nosi, Costanza; Sfodera, Fabiola; Gursoy, Dogan; Piccioni, Niccolò*
An investigation of participants' perceived value of events in the metaverse: application of construal level theory	*Choi, Miju; Choi, Youngjoon; Kim, Seongseop (Sam)*
The Metaverse in Higher Education: A Multi-Perspective Analysis of Opportunities, Challenges, and Future Research Directions	*Ueno, Akiko; Curtis, Lucill; Wood, Ruth; Yu, Chong*

Competitive Papers 5B. Tuesday, May 16. 15:00 – 16:30. AR/VR. Chair: Katerina Berezina

See More And Eat Less? The Influence Of Augmented Reality on Consumers' Satiety Expectations	*Noah Moonen, Sarah Croo, Jonas Heller*
Interfaces of over-tourism and tourism applications; case of GEO (A Location-based AR facility)	*Qezelbash, Amir Hossein; Makian, Sarasadat*
Exploring the impact of virtual reality experiences on intention to visit tourism destinations: the moderating effect of interactivity	*Rejón-Guardia, Francisco; Molinillo, Sebastian; Navarro-Lucena, Fernando; Anaya-Sánchez, Rafael;*
Disruptive technologies in traditional heritage tourism: how to leverage loyalty with AR	*Loureiro, Sandra; Nascimento, Jorg*
Navigating the New Norm in Restaurants: To continue (or not) with the QR-code Menus	*Ozturkcan, Selcen; Merdin-Uygur, Ezgi; Makul, Sinem; Kitapci, Olgun*

Competitive Papers 5C. Tuesday, May 16. 15:00 – 16:15. VIRTUAL ASSISTANTS. Chair: Daniela Castillo

Hey, friend! You sound human to me: Model for acceptance of virtual assistants for voice purchase	*Calahorra Candao, Guillermo; Martín de Hoyos, María José*
Investigating the Impact of Customer Service Chatbots on the Customer Journey	*Micallef, Annika; Castillo, Daniela*
What's your style? – Training chatbots conversational styles to improve engagement and experience in customer service	*Zaki, Mohamed; Blümel, Jan*
Analyzing factors that facilitate emotional attachment to virtual assistants: the role of emotional adaptation	*Saavedra Montejo, Álvaro; Chocarro Eguaras, Raquel; Cortinas Ugalde, Monica; Rubio Benito, Natalia*

Welcome session on the AIRSI2023 Metaverse. Tuesday, May 16. 16:45. Chair: Carlos Orús

Wednesday May 17 – Metaverse

ROUND TABLE 2: CHALLENGES AND OPPORTUNITIES OF THE METAVERSE. Wednesday, May 17. 9:30 – 10:45. Chair: Bart Larivière

Yogesh K. Dwivedi (Distinguished Research Professor; Editor-in-Chief of the International Journal of Information Management)	*Swansea University (UK)*
Pantea Foroudi (Guest Editor of the SI Metaverse disruption: Supernatural Transformations of Businesses and their Stakeholders)	*Brunel Business School London (UK)*
Philipp Rauschnabel (Associate Editor Journal of Business Research)	*University of the Federal Armed Forces Munich (Germany)*

Competitive Papers 6A. Wednesday, May 17. 11:00 – 12:30. IMMERSIVE TECHNOLOGIES. Chair: Alfredo Pérez-Rueda

Tourism Metaverse Accessibility	*Handayani, Bintang*
The Effect of Using Immersive Technologies on Tourist Satisfaction and Loyalty: The Mediating Role of Customer Engagement and Customer Perceived Value	*Abou-Shouk, Mohamed; Zoair, Nagoua; Abdelhakim, Ayman; Roshdy, Hany; Abdel-Jalil, Marwa*
Towards immersive virtual tourism experiences: lessons learnt from applied neuroscience	*Lamberti, Lucio; Di Dalmazi, Michele; Mandolfo, Marco; Peggiani, Gloria*
The role of somatosensory technology in inspiring intention to use mobile payment in the immersive experience	*Wang, Xiu-Qian; Huang, Tseng-Lung; Hung, Yu-Hsun; Hong, Tong-Hsin*
Will Enterprise Metaverse be the next disruption? Understanding risks associated with Metaverse adoption	*Kumar, Aman; Shankar, Amit*

Competitive Papers 6B. Wednesday, May 17. 11:00 – 12:30. MISCELLANEOUS. Chair: Sebastián Molinillo

Drivers and outcomes of AI and robots' adoption for innovation by hotel companies: An empirical study deploying an extended TOE framework	*Machado, Isa; Mariani, Marcello*
Blockchain-enabled fundraising models for tourism destinations	*Ioannidis, Stelios; Georgitseas, Panagiotis*
Emerging trends about blockchain application in the tourism and hospitality industry	*González-Mendes, Soraya; González-Sánchez, Rocío; Alonso-Muñoz, Sara; García-Muiña, Fernando*
Competing technologies in cultural service experience	*Tregua, Marco; Amitrano, Cristina Caterina; Bifulco, Francesco*
Human Image vs. Human Illustration in Social Media Advertising	*Salgado-Pinto, Sofia; Rocha, Leonor do Nascimento; Elmashhara, Maher Georges*

Competitive Papers 7A. Wednesday, May 17. 15:00 – 16:30. PRIVACY ISSUES. Chair: Francisco Liébana

Virtual Deception: The Phenomenon of Falsified Online Identities	*Sáez-Ortuño, Laura; Forgas Coll, Santiago; Huertas García, Rubén; Sánchez García, Javier*
An Extended Privacy Calculus Model: The Reflective and Impulsive Determinants of Privacy Behavior	*Moayery, Meysam; Urbonavičius, Sigitas; Prince, Christine*
Analyzing the relationship between agri-food companies' privacy concerns and intention to adopt blockchain technology	*Pino, Giovanni; Valentinetti, Diego; Pichierri, Marco*
Drivers and outcomes of Immersive Technologies' adoption for innovation by hotel companies: An empirical study deploying an extended TOE framework	*Machado, Isa; Mariani, Marcello*
Perception of Sustainable Accommodations by Tourists: An Analysis of Online Travel Reviews	*Boneta-Ruiz, Ainhoa; Aramendia-Muneta, Maria Elena*

Competitive Papers 7B. Wednesday, May 17. 15:00 – 16:15. NFTs. Chair: Riccardo Rialti

NFTs and the Metaverse: how NFTs contribute to branding outcomes?	*Blázquez Cano, Marta*
Enhanced service experience design through NFT technology	*Russo, Stefano Paolo; Russo Spena, Tiziana; Mele, Cristina*
Inclusive Tourism for Inclusive Society Powered by Metaverse	*Agarwal, Shivam; Lee, Jaehoon*
Beyond the hype: challenges and opportunities for luxury brands in the metaverse	*De Kerviler, Gwarlann and Koles, Bernadett*

Closing Ceremony & Awards. Wednesday, May 17. 16:45.

Carlos Flavián (AIRSI2023 Chair)	*Closing remarks*
Werner Kunz (Director of the Digital Media Lab. University of Massachusetts, Boston; Senior Editor Journal of Service Research)	*The Future of Work – Service Employee-(Ro)bot Collaboration.* *Special Section of the Journal of Service Management*
Best Papers Awards Winners and Metaverse Awards	

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Proceedings Book

Table of contents

1. An extended privacy calculus model: The reflective and impulsive determinants of privacy behavior

Meysam Moayery[a], Sigitas Urbonavičius[b], and Christine Prince[a]

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Type of manuscript: Extended abstract

Keywords: Privacy paradox, Calculus model, Reflective and impulsive model

Introduction

Electronic marketplaces, the most commonly used type of online platform, allow almost any product to be exchanged (Faraoni *et al*., 2018). This is supported by the fact that e-commerce sales in the United States alone amounted to $340.42 billion in 2015 and $336 billion in 2017 (Bandara *et al*., 2020; Changchit *et al*., 2019). Despite this, the privacy of personal data continues to be a major concern for online users (Gerber *et al*., 2018). However, there exists a phenomenon known as the "privacy paradox," which contradicts these privacy concerns, as consumers readily divulge their personal information.

The privacy paradox is usually described as a discrepancy between privacy concerns and privacy behavior (Gerber *et al*., 2018). In this regard, the privacy calculus theory is the most established and prominent research framework in the field of information privacy, providing insight into the underlying reasons for the privacy paradoxical behavior. The privacy calculus theory assumes that information privacy is a commodity, and therefore the decision to disclose or retain personal information is based on a rational evaluation of the benefits versus the costs (Keith *et al*., 2013). Therefore, this study tries to provide more information concerning the role of automatic, and mostly unconscious processes in information privacy related behaviors that has received little attention.

In this research, we integrate the logic of calculus model (Culnan & Armstrong, 1999) and the reflective-impulsive model (Strack *et al*., 2006). According to this model, while impulses are generated by the impulsive system, the resistance against these immediate rewards and struggling for a more valuable future is shaped by the reflective system (Moayery *et al*., 2019). Both systems are assumed to operate in parallel and influence each other (Strack *et al*., 2006). In this investigation, we consider the battle between privacy concerns and benefits, as well as the behavioral intention as the reflective system. Moreover, we introduce the impulsiveness as the impulsive system that directly influences the privacy behavior and shows moderation effects on the reflective system. This tendency leads people to make decisions that might be regretted later due to a lack of forethought and deliberation, as well as greater distractibility (Coventry *et al*., 2016). This study aims to highlight the fact that both rational and automatic processes should be considered when evaluating privacy related behaviors.

Methodology and Analysis

This research focuses on online food delivery services because there has been a tremendous increase in spending on food delivery services due to the COVID-19 pandemic (Keeble *et al*., 2020). This study is part of a larger survey conducted on 216 students at the University of Vilnius. All tools applied in this study were borrowed from prior related research and modified to fit the context of this study. Online privacy concerns were measured with a five-item scale adapted from Mothersbaugh *et al*. (2012) and Tang

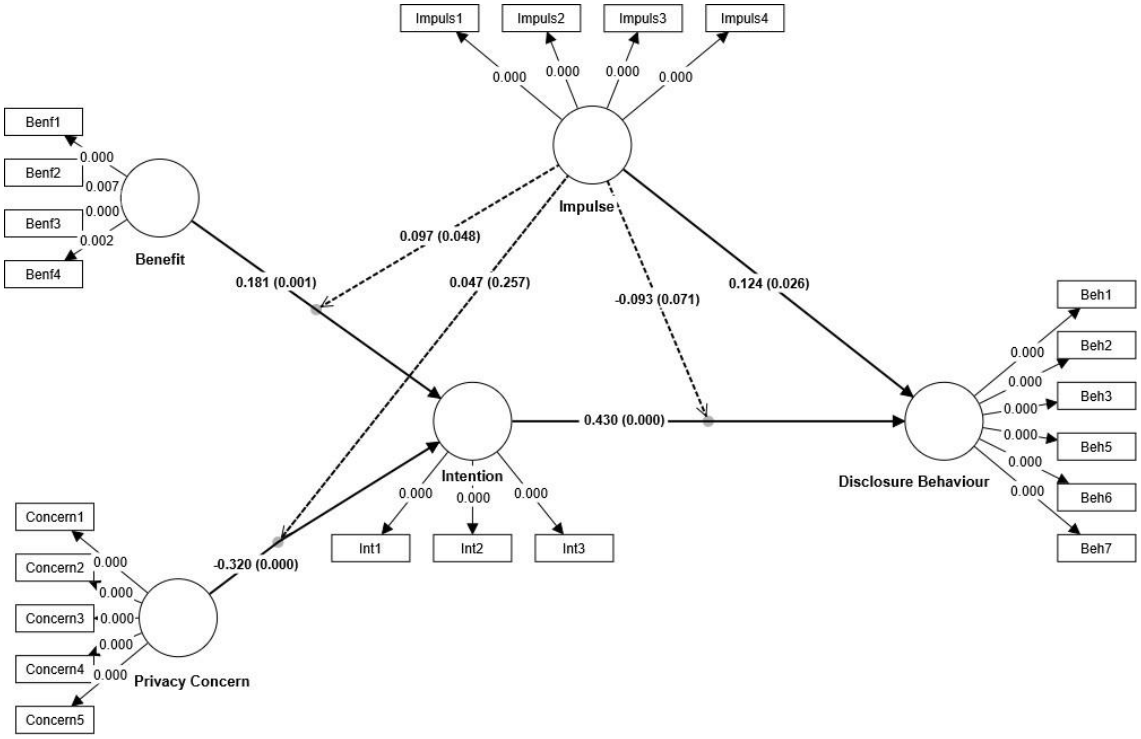
et al. (2020). The four-item perceived benefit scale was taken from Yeo *et al.* (2017). Intention to disclose personal information was measured by three items adapted from Karwatzki *et al.* (2017). Impulsiveness (motor impulsivity) was assessed via four items adapted from Coutlee *et al.* (2014). Finally, disclosure behaviour was measured by a scale adapted from Rifon *et al.* (2005). This scale included the disclosure of different personal information (e.g., online lifestyle, general financial information, and personal demographic information).

Partial least squares structural equation modelling (PLS-SEM) was utilized in this study to examine the research model. Following Hair *et al.* (2011), the internal consistency of all constructs utilized in this study is confirmed as their Alpha values exceed 0.6 and CR values exceed 0.7. We have also checked the convergent validity via AVE higher than 0.4 (Verhoef *et al.*, 2002). Moreover, we have analysed HTMT to verify the discriminate validity.

Conclusion

The SRMR value less than 0.1 corroborates the model's goodness of fit (Hair *et al.*, 2017). As expected, both reflective and impulsive paths significantly influence disclosure behavior. The result showed that both behavioral intention ($\beta = 0.430$; $t = 6.96$; $p = 0.000$) and impulsiveness ($\beta = 0.124$; $t = 1.94$; $p = 0.026$) have a positive effect on disclosure behavior. These findings support the idea that both rational and unconscious processes should be considered in determining privacy related behaviors. Our results also demonstrated that impulsiveness has a moderation effect on the reflective system. This means that even the influence of rational process is contingent on the impulsive system. The results showed that impulsiveness negatively moderates the relationship between intention and disclosure behavior ($\beta = -0.093$; $t = 1.468$; $p = 0.071$). This finding supports the notion that there is a stronger relationship between intention and behavior in low impulsive individuals. The results also showed that impulsiveness positively moderates the relationship between perceived benefits and intention ($\beta = 0.097$; $t = 1.664$; $p = 0.048$). This finding can clearly support the idea that the perceived benefits lead to higher behavioral intention for highly impulsive individuals. Finally, this study did not find evidence to support the moderation effect of impulsiveness on the relationship between privacy concerns and behavioral intentions.

Figure 1. Structural Model



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2. An investigation of participants' perceived value of events in the metaverse: Application of construal level theory

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Type of manuscript: Extended abstract

Keywords: perceived value, metaverse, construal level theory

Introduction

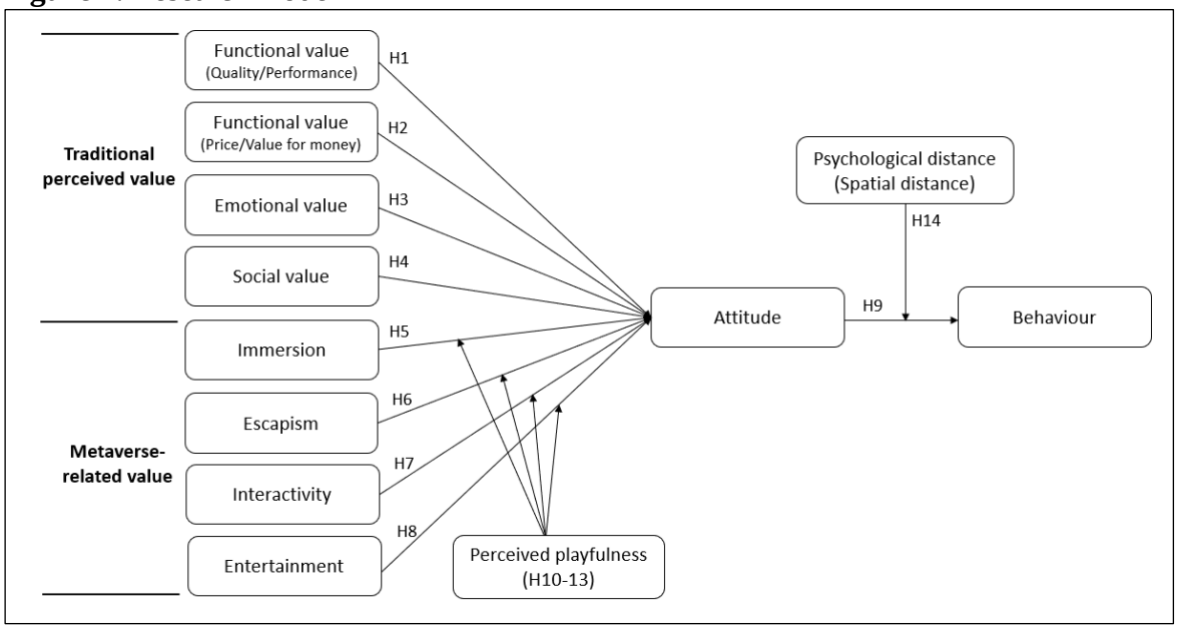
The metaverse has gained significant attention and investment in recent years, with major tech companies and start-ups developing their own metaverse platforms and ecosystems (Buhalis, Lin, & Leung, 2022). The metaverse refers to a collective virtual shared space, created by the convergence of virtually enhanced physical reality and physically persistent virtual reality (Barta, Gurrea, & Flavián, 2023; Buhalis et al., 2022; Dwivedi et al., 2023). The metaverse is reshaping the MICE (Meetings, Incentives, Conferences, and Exhibitions) industry by offering new opportunities, experiences, and ways to connect with audiences (Buhalis et al., 2022). The metaverse enables the hosting of virtual events, conferences, and exhibitions, allowing organizers to reach a global audience without the limitations of physical locations (Koo, Kwon, Chung, & Kim, 2022). This provides a more inclusive and accessible platform for participants who may not have the means, time, or ability to attend in-person events (Flavián, Ibáñez-Sánchez, & Orús, 2021; Tussyadiah, Wang, Jung, & Tom 2018). Furthermore, events within the metaverse can provide immersive and interactive experiences that promote greater audience involvement, influenced by individual's psychological distance (Dwivedi et al., 2023; Koo et al., 2022).

As the metaverse continues to evolve, it plays an increasingly important role in the MICE industry, offering new opportunities and challenges for event organisers, attendees, and sponsors alike (Buhalis et al., 2022; Koo et al., 2022). Despite these expectations, many scholars point out that consumers' actual experiences and experiences in the metaverse are different, and particularly, responses may vary depending on an individual's psychological distance (Dwivedi et al., 2023; Flavián, Ibáñez-Sánchez, & Orús, 2021). An individual's psychological distance, based on construal level theory, explains the subjective perception of how close or distant an object, event, or idea is from an individual's immediate experience (Choi & Choi, 2022). According to construal level theory, the more distant an object, event, or idea is in one or more of these dimensions, the more abstract and higher-level mental construals are used to represent it. Conversely, the closer an object, event, or idea is perceived to be, the more concrete and lower-level mental construals are used (Denizci Guillet, Mattila, Peng, & Gao, 2022). These varying levels of construal influence how people think, evaluate, and act in relation to the object, event, or idea (Choi & Choi, 2022). Consequently, identifying individual psychological distances is crucial for understanding participants' perceived value of events in the metaverse, as they provide insights into how participants perceive, evaluate, and react to

events. Despite the importance of this topic, there has been a lack of research on the perceptions of MICE stakeholders and participants towards events in the metaverse. Moreover, since the field of metaverse research is still in its infancy, conceptual and theoretical studies (e.g., Buhalis et al., 2022; Koo et al., 2022) have been predominant, leaving substantial research gaps within the hospitality and tourism context.

Thus, this study aims to investigate integrated perceptions of events within the metaverse, based on construal level theory. The specific objectives are as follows: 1) to explore the perceptions of MICE industry stakeholders regarding the metaverse and its potential impact on participant experiences; 2) to examine the influence of participants' perceived value of events in the metaverse on their attitudes and behaviours; and 3) to identify the moderating role of psychological distance (i.e., spatial distance) in the relationship between attitude and behaviour. Figure 1 shows the research model.

Figure 1. Research model



Methodology

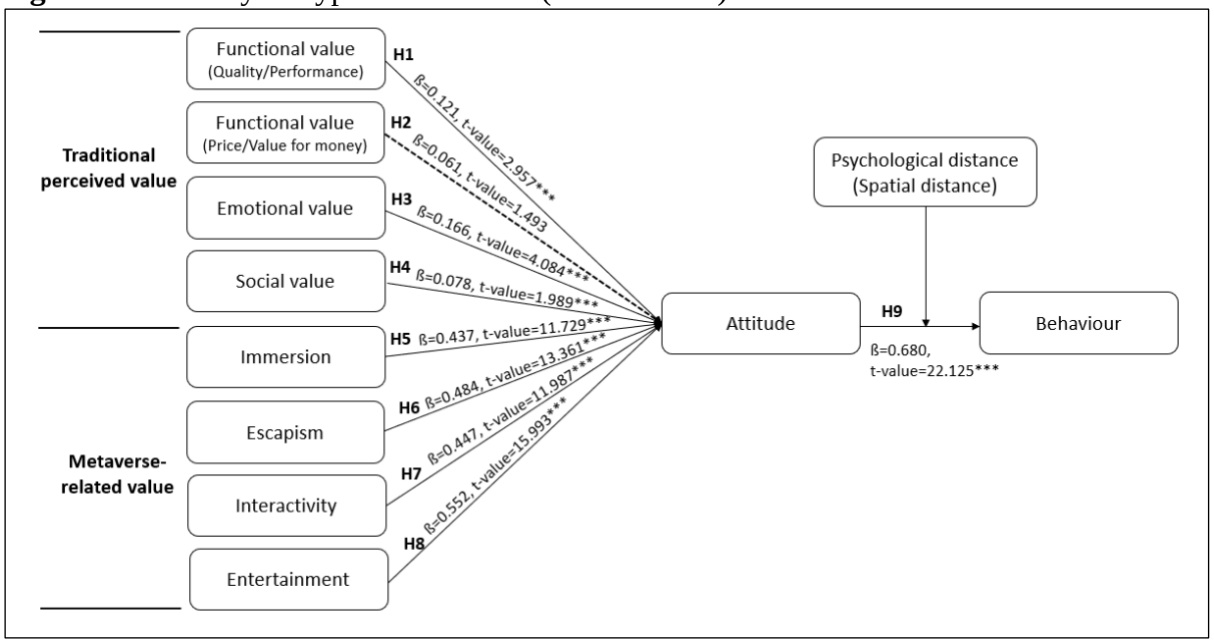
This study comprises Study 1 and Study 2. Study 1 investigates the perceptions of MICE industry stakeholders regarding the metaverse and its potential impact on participant experiences. A combination of face-to-face and Skype interviews was conducted between May and June 2022. Data from 13 MICE stakeholders were manually transcribed by two researchers, and a thematic analysis was applied. Subsequently, a survey was conducted with 585 participants who had previously attended events in the metaverse between June and July 2022. Data analysis was carried out using AMOS 23 and SPSS 28.

Findings

Study 1 identified three themes as follows: 'Immersive Experience', 'Escapism', and 'Game Changer'. The findings of Study 1 established the foundation for identifying metaverse-related value in Study 2. Figure 2 shows the results of the hypotheses (i.e., direct effects) from Study 2. All hypotheses (i.e., H1-9) were supported, except for H2. This may be attributed to the nature of the events participants attended. As most events in the metaverse are currently offered free of charge, participants may have been unable to accurately perceive value for money. As shown in Table 1, all moderating effects (i.e., H10-14) were supported. This may be attributed to the nature of events in the metaverse.

As the metaverse encompasses various interconnected digital environments and entertaining experiences, users can interact, communicate, and play through their digital avatars. Consequently, perceived playfulness might not have moderated the relationship between entertainment and attitude.

Figure 2. Summary of hypotheses results (direct effects)



Note: *** p <.01

Table 1. Summary of hypotheses results (moderating effects)

	B	SE	p-value	LLCI	ULCI	Result
H10	0.100	0.016	0.000	0.068	0.132	Supported
H11	0.061	0.019	0.001	0.029	0.099	Supported
H12	0.034	0.023	0.142	-0.080	0.011	Supported
H13	0.098	0.016	0.000	0.067	0.132	Supported
H14	-0.059	0.014	0.000	-0.086	-0.032	Supported

Originality/Value

This study provides several academic contributions and practical implications. First, findings contribute to the understanding of perceived value in the context of the metaverse, which is an emerging area of research. By applying construal level theory, findings offer a novel theoretical perspective to explore this phenomenon. Second, this study helps to identify the key factors that influence participants' perceived value of events in the metaverse, which can inform future studies and expand the existing literature on the subject. Third, by examining the perceived value of events in the metaverse, this study contributes to a better understanding of how these events are perceived and valued by participants. This can lead to a more comprehensive understanding of the metaverse. Finally, findings provide valuable insights for event organisers and marketers in the

metaverse, helping them to understand how to create more engaging and valuable experiences for their audience.

Research limitations

Caution is required when generalising the findings due to the limited sample size and study site. Future studies should consider a diverse range of samples from around the world. Secondly, the majority of participants attended events in the metaverse free of charge. Future research should recruit participants who have attended both paid and non-paid (free of charge) events in the metaverse to obtain more meaningful results.

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3. Analyzing factors that facilitate emotional attachment to virtual assistants: The role of emotional adaptation

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Type of manuscript: Extended abstract

Keywords: Virtual assistants, emotional attachment, emotions

Contextualization

Artificial intelligence (AI) and Virtual Assistants (VAs) are transforming the way we interact with technology, offering personalized and efficient experiences to users through natural language conversations. By leveraging AI, VAs streamline daily tasks, boost productivity, and provide instant access to relevant information, establishing themselves as invaluable tools in both everyday life and business settings (Bräuer & Mazarakis, 2022).

To further enhance the user-VA relationship, incorporating emotional elements into VAs' responses has proven beneficial. Although technology itself cannot experience emotions, it can effectively identify and understand emotions through natural language processing. ChatGPT, a text-based VA developed by OpenAI, exemplifies this advancement by leveraging deep learning and GPT-based language models to expand the capabilities of VAs (Dwivedi et al., 2023; OpenAI, 2023).

Literature review and research questions

Recent literature emphasizes the utilitarian benefits of VAs for users, highlighting the importance of usefulness in their adoption (Kowalczuk, 2018; McLean & Osei-Frimpong, 2019). However, limited research has focused on the emotional aspects of VA usage. As AI progresses, tools for detecting user emotions through voice or text are being developed, sparking interest in understanding the impact of emotionally adapted VA responses on users and the bond between them (Dellaert et al., 2020; Yalcin & DiPaola, 2018). The Uses and Gratifications Theory (U&GT) proposed by Katz et al. (1974) suggests that users choose and utilize media to satisfy specific needs. This theory is applicable to studying VA usage, as VAs are designed to fulfill users' informational, entertainment, and organizational needs (McLean & Osei-Frimpong, 2019). It has also proven useful in understanding the adoption and behaviors associated with emerging technologies like augmented reality (Ibáñez-Sánchez et al., 2022). Considering the active role users play in selecting and processing information on the internet, investigating the role of emotionally adapted VA responses aligns with various motivations, including utilitarian, hedonic, and social aspects.

Moreover, Bowlby's attachment theory (1982) from social psychology, initially developed to explain parent-infant relationships, holds relevance. Literature across sociology, psychology, consumer behavior, and information systems underscores the significance of human attachment to living things, objects, and technologies. As individuals interact increasingly with various technologies, including VAs, attachment

theory has found application in fields such as marketing to examine consumer attachment to products (Mamun et al., 2022; Slater, 2001). Emotional attachment to VAs has been studied and shown to positively influence their sustained use (Mamun et al., 2022). However, no research has explored how emotional attachment is influenced by the format of VA responses (voice or text) or whether responses are adapted to user emotions. Therefore, the research questions to be addressed are as follows (Mamun et al., 2022):

- How does the response format of VAs influence users' emotional attachment?
- To what extent does emotional attachment depend on whether VA responses are adapted to users' emotions?
- What factors facilitate or inhibit emotional attachment toward VAs?

Methodology and expected results

Data collection process has not been initiated as of yet, due to ongoing efforts in finalizing the methodology. We are working on refining the methodology to ensure its accuracy and effectiveness before proceeding with data collection.

This study aims to examine the impact of the VA's response format on emotional attachment and explore how emotional adaptation influences this attachment. We consider that emotional attachment will be stronger when the VA response is tailored to the user's emotions. This research will provide insights into increased usage, satisfaction, trust, and engagement. Furthermore, the business implications of our findings include differentiation from competitors and improved brand image, as well as the valuable information gathered on customer emotions and preferences to enhance products and services.

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4. Beyond the hype: Challenges for luxury brands in the metaverse

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Keywords: luxury brands, metaverse, gamification

Extended abstract

Luxury brands are often associated with a long-standing history and traditions, priding themselves in outstanding quality and craftsmanship, heritage, and personalized customer experience (Ko, et al., 2019; Cristeini, et al., 2017). Given these unique qualities, luxury is not always easily reconciled with digitalization. At the same time, luxury firms also pride themselves in leading new paths and being at the forefront of creativity and innovation (Tarquini, Mühlbacher & Kreuzer, 2022). In Metaverse, for instance, luxury brands are very active in leveraging online platforms to create an innovative blend of virtual and physical consumer experiences. Examples include the Gucci Garden on Roblox, Balenciaga skins on Fortnite, and the numerous virtual wearables and NFTs developed by companies like Jimmy Choo, Dolce & Gabbana and Louis Vuitton, among others.

While there has been a lot of 'activity' and 'buzz' around the 'Metaverse' – broadly defined as a network of interactive and collaborative virtual spaces wherein users represented as digital avatars can connect for purposes of socialization, work, and entertainment (Go, et al., 2021), there is a great deal of uncertainty as to what the future might hold for companies, consumers, and society at large. With particular attention to the luxury industry, promises of Metaverse include an opportunity for brands to engage with the new generation in an innovative fashion, providing them new touch points for value creation vis-à-vis consumers and ultimately, other stakeholders. At least for the time being, however, projects tend to be rather short-term and constrained, entailing concrete, specific and structured initiatives that rely largely on existing gaming platforms. Consequently, it remains unclear how longer-term brand building, and stakeholders' deep engagement might unfold.

To better answer these uncertainties, the purpose of the current project is to explore further the entry and potential future trajectories of luxury brands into the Metaverse, incorporating a multi-stakeholder perspective. Given the exploratory nature of this inquiry, qualitative methods seemed most suitable, and in-depth semi-structured interviews were employed. Interviews were aimed to capture and contrast the strategies, expectations and usages of different stakeholders: experts (n=40) and users (n=21, gamers and luxury consumers). Experts were targeted depending on their experience with luxury firms and/or technological innovations relevant for the Metaverse (e.g. gaming platforms). Interviews were conducted online, ranging between 35 and 120 minutes, recorded and transcribed. Analysis began with a global approach to capture the core themes (Wolcott, 1994), which was then followed by classic thematic content analysis (Patton, 2015).

Our findings are structured around three main challenges.
First, all stakeholders see new opportunities in virtual worlds, but they also recognize that expectations are very high for the luxury industry. Prestige brands are expected to offer out of the ordinary experiences, superior to other brands in terms of outstanding technology performance, aesthetically stunning environment, and immersive experience. There needs to be a way to establish a unique bridge between the digital and physical worlds, the future oriented and the heritage-oriented brand dimensions, and all that with a hyper-personalized approach. Here, it seemed that NFTs (Non-Fungible Token) can be instrumental in blending brand digital worlds (obtaining NFT), physical store visits, and real ownership (using NFT).

Second, luxury brands face the need to appear legitimate and respond to both, the desire of traditional luxury customers for maintaining the brand DNA and the needs of younger connected audiences, especially gamers. However, these two segments appear to have distinct desires. Gamers showed limited affiliation to the luxury industry and put more emphasis on their gaming experience, being very demanding when it comes to interfering with their game. Hence, any brand presence must be discrete and serve to ultimately enhance the gaming experience in terms of competitiveness, entertainment, reward, aesthetic appeal, and immersion. In contrast, luxury consumers needed to be lured into digital experiences that encourage them to engage with the brand in virtual space, get them closer to their dream, and eventually pursue new collections. The luxury consumer perspective also placed high importance on opportunities to gather as a brand 'community', for purposes of creative self-expression, co-creation and brand experimentation with different identities.

Third, experts recognized that although luxury brands were eager to venture into the new untamed field of Web 3.0 and appear as pioneers, this area is not yet mature and luxury houses have neither a deep, long held expertise in the technology, nor the knowledge of the digital behaviors of consumers. Thus, when it comes to entering virtual worlds through gamification, experts contemplate two options: in-game advertising where brands benefit from the expertise of gaming companies and from the gamers' attachment to the given platform, but without having full control nor direct customer relationship; versus advergames, where luxury brands have free reins but risk to lack audience and the necessary skills to create immersive experiences that live up to their expectations.

In conclusion, entering the metaverse requires luxury brands to resolve tensions and adjust to the distinct expectations of the gaming and luxury consumer communities. Luxury brands need to combine their tradition, craftmanship, heritage that is passed down through generations, and new storytelling. Stakes for luxury brands are high, forcing them to reinvent themselves to transform the Metaverse into an opportunity rather than a threat.

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5. Can immersive technologies boost or damage luxury hospitality? Extended reality and need for uniqueness

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Type of manuscript: Extended abstract

Keywords: artificial intelligence, extended reality, immersive technologies, luxury hospitality, need for uniqueness

Extended Abstract

By customizing services and experiences (Bleier et al., 2020; Campbell et al., 2021; Flavián et al., 2019; Hoyer et al., 2020), immersive technologies using Artificial Intelligence (AI) are revolutionizing and reshaping many industries (Acquisti et al., 2020; Shankar, 2018; van Doorn et al., 2017), creating new possibilities for businesses when used together (Harvard Business Review, 2023)and more seamless, comfortable and non-intrusive experience for users (Vorobeva et al., 2022) AI immersive applications in hospitality have shown to be promising (Shin & Jeong, 2022) and becoming a norm to satisfy their key target markets and enrich guest experience (SGEI International, 2020). For instance, Radisson Blu Hotels launched an AI assisted Chatbot Edward enabling guests to have an interactive experience with AI, such as text messages from guests seeking information about maintenance concerns, amenities, directions, and travel advice (Burns, 2016). In addition, China Airlines has used immersive technologies using AI to extend human capacities, enhance safety, and improve performance (Harvard Business Review, 2022).

Despite immersive technologies emerging trend in luxury hospitality, recent research shows mixed findings regarding its impact. On the one hand, previous studies show that using AI immersive technologies allows luxury hotels to provide personalized services, thus enhancing the customer experience and perceived competence (Nam et al., 2021; Li et al., 2021; Longoni & Cian, 2020). On the other hand, research suggests that consumers evaluate AI applications negatively in the luxury sector (Nozawa et al., 2022), suggesting that a human mixed reality is more effective (Wien & Peluso, 2021).

This paper builds upon the extended reality framework (Rauschnabel et al., 2022) and need for uniqueness (NFU) (Abosag et al., 2020; Snyder & Fromkin, 2012; Ruvio et al., 2008) to examine immersive technology effects on consumers' willingness to accept luxury recommendations. NFU is an essential driver of consumer behavior in the luxury setting (Bian & Forsythe, 2012; Ruvio et al., 2008). Consumers with high needs for uniqueness tend to avoid popular choices or similarities with other consumers (Tian et al., 2001). In the digital age of AI assisted proliferation, prior research suggests that consumers might resist AI recommendations (Longoni et al., 2019). Specifically, AI assisted (vs. human mixed) reality might be less effective in conveying the uniqueness of their offerings. Despite advances in AI capability over the years, it continues to

underperform humans in various tasks, such as feeling and interpersonal skills (Huang, Rust, and Maksimovic 2019; Rust and Huang 2021; Vorobeva et al., 2022). Consequently, consumers are averse to relying on AI to perform tasks typically done by humans, especially if they seem subjective in nature (Castelo et al., 2019). Customers tend to prefer human mixed realities when they are concerned about the unique attributes of the products or services (Longoni & Cian, 2020, Wien & Peluso, 2021). These results are especially salient in the context of symbolic consumption due to strong uniqueness motives and their perception that humans are better at satisfying their need for uniqueness (Granulo et al., 2021).

In four experimental studies, we tested in which circumstances using AI assisted (vs. human mixed) reality are more effective in providing luxury experiences and when it increases consumers' willingness to accept them. Study 1 shows that AI assisted (vs. human mixed) reality reduce consumers' differentiation motives. Findings further reveal that AI's detrimental effects have downstream effects causing decrease in unique self-brand connection. Consistent with our theoretical account, consumers' differentiation motives mediate these effects, and, therefore, we focus our theorizing on the need for uniqueness (i.e., differentiation motives). Study 2 shows that highlighting differentiation (vs. assimilation) motives reduces consumers' willingness to accept AI assisted (vs. human mixed) reality. Study 3 further advances prior findings by considering a new stimulus, namely, uniqueness cues. The study indicates that consumers are willing to accept luxury hospitality recommendations provided by AI when uniqueness cues are not salient. However, when the unique differentiation characteristics are salient, it decreases their preferences towards AI assisted (vs. human mixed) reality.

By doing so, the current research makes three significant contributions to the literature. First, we bridge the extended reality (Flavián et al., 2019, Rauschnabel et al., 2022) and NFU literatures (Abosag et al., 2020; Snyder & Fromkin, 2012; Ruvio et al., 2008) to explain when immersive technologies can boost or damage luxury hospitality. Second, we add to recent studies on luxury consumption (e.g., Dubois et al., 2021; Kim et al., 201) by showing that differentiation motives are the underlying mechanism of the detrimental effect of AI assisted reality on consumers' willingness to accept luxury recommendations. In contrast, when assimilation motives are salient, AI assisted (vs. human mixed) reality increases acceptance of luxury recommendations. Third, this research contributes to recent studies on AI-human interactions (e.g., Ahn et al., 2022; Belk et al., 2023; Longoni & Cian, 2020b; Wien & Peluso, 2021) to explain how the use of AI assisted reality in the luxury hospitality landscape can result in brand dilution, but only when differentiation motives are salient. Finally, the findings provide strategies for the luxury hospitality sector through the application of immersive technologies. The use of AI assisted (vs. human mixed) reality depends on the characteristics that the service is enhancing (e.g., unique cues of luxury consumption) – i.e., personalized luxury offers signaling differentiation or uniqueness should be delivered through human mixed (vs. AI assisted) reality.

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6. Can social media-driven trust and customer happiness with a car dealership increase brand love?

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Keywords: brand love, social media, emotions, service quality, automobiles

Extended abstract

Brand love is the most emotionally intense consumer–brand relationship. Loved brands exert many strong, positive effects on consumer behaviour, including greater brand loyalty, positive word of mouth, resistance to negative information, and increased willingness to pay for loved brands (Batra et al., 2012; Carroll & Ahuvia, 2006; Ahmad & Guzman, 2023). Although brand love is acknowledged as an important construct of consumer–brand relationships (Batra et al., 2012), research on its drivers and consequences for such relationships remains limited, as does research on the variables that moderate these relationships. This study fills this research gap by analysing the drivers and outcomes of brand love derived from the consuming experience in the automobile industry.

This study makes three contributions to literature. First, to explain brand love, we follow the sequence cognition, affection, conation, which has been widely used to explain diverse consumer behaviours. To be precise, we consider three beliefs: the first one related to the brand perceptions, perceived brand uniqueness, and consumer's beliefs related to the car dealership, trust and perceived service quality and customer happiness. Secondly, we expand the knowledge of the effects of brand love on customer behaviour. Specifically, the study focusses on three crucial behavioural intentions, willingness to pay more, positive electronic word of mouth and customers' resistance to negative information. Given the increasing competition in the automobile industry, it is important to understand the drivers of customer happiness and brand love, as these variables has considerable influence on customer behavioural decision- making processes (Ahmad & Guzman, 2023). The third contribution is to analyse the moderating effect that personal characteristics may exert in explaining brand love. To be precise, we consider a specific characteristic: consumer susceptibility to online influence, because is one of the most important aspects that influence consumer's behaviours (Casaló et al., 2011).

The cognition-affection-conation (C-A-C) framework (Hilgard, 1980) presents the sequential linkages of cognition-affection and conation in a human decisional process: cognitive factors lead to affective outcomes that consequently impact conation, which ultimately motivates actual behaviours. Cognition refers to a person's thoughts, beliefs and values regarding an object; affect involves a person's feelings or emotions toward the object; and conation represents the development of individuals' behavioural intentions and actual behaviours toward that object. It has been widely used as a background theory to examine human behaviours in various contexts including information systems (see Qin et al., 2021 for a revision). This framework illustrates how consumers can transfer their experiences, learning

and perceptions into behaviours through affect, which is precisely in line with our objective to understand the behaviours of car brand loving clients.
Based on the Cognition-Affection-Framework we posit the following hypotheses:

- *H1. Happiness evoked by the purchase of a car at the dealership increases brand love.*
- *H2. Trust towards the car dealership influences car brand love.*
- *H3. If consumer susceptibility to online informational influence increases, the positive influence of trust in the car dealership and car brand love increases.*
- *H4. Service quality influences trust towards the car dealership*
- *H5. Service quality provided by car dealership evokes customer happiness.*
- *H6. Car brand uniqueness perceptions evokes customer happiness.*
- *H7. Brand love influences resistance to negative information in social media.*
- *H8. Brand love influences positive eWOM.*
- *H9. Brand love influences willingness to pay more.*

The empirical study taking place March-April 2023 has been carried out in collaboration with The Leading Vehicles Company (Abu Khader Automotive), the leading automobile dealership in Jordan. Automobile dealerships merit investigation because of the automobile product category has strong consumer involvement and great economic importance. In addition, the automobile industry is highly competitive where brand love is vital to marketing efforts (Dwendi et al., 2018). The automobile industry in Jordan is a growing sector experiencing significant development in recent years. According to the Jordan Investment Commission (2021), the automotive sector is one of the most important sectors for the Jordanian economy, contributing around 7% to the country's GDP.
We conducted a quantitative method by distributing an online questionnaire. Questionnaires were distributed to a sample of 1,300 respondents who purchased a vehicle in Abu Khader between the years 2020-2022 for the brands (Cadillac, GMC, Chevrolet and Opel). Customers received a URL that they could visit over a one-month period. The questionnaire was developed in English and was then translated into Arabic. We operationalized the study constructs using multi-item scales captured by five-point Likert scales, ranging from 'strongly disagree' (1) to 'strongly agree' (5) except from happiness that was measured by a single-item scale asking respondents how happy they feel after their purchasing experience at the car dealer. Brand love was measured with a 10-item scale adapted from Caroll & Ahuvia (2006). Respondents self-reported brand uniqueness perceptions were measured using a 4 item-scale adapted from Dwivedi et al., 2018; trust was measured with a 3-items scale adapted from Flavian et al., (2006); service quality was measured as a second-order construct adapted from Andaleeb & Basu, 1994; willingness to pay more was measured with a 3-item scale adopted from Dwivedi et al., 2018; intention to spread positive eWOM was measured with a 2 item scale from Bigné et al., (2020) and resistance to negative information was measured based on a 3-item scale adopted from Eisingerich et al. (2011). Susceptibility to online influences was measured using a 3-item scale adapted from Fernandes et al., (2021).
This research contributes to existing literature on brand love and provide implications for the automobile industry. The recent literature on brand love explains its importance in enhancing positive emotions toward the brand. Understanding which factors generate brand love and how it is related to willingness to pay more, positive eWOM and resistance to negative information will help automobile retailers to gain a competitive advantage and respond to consumers' demands. Service quality and perceived brand uniqueness may also have the indirect benefit to the consumer in making the shopping process more efficient and pleasurable.
This research also extends the cognition-affection-conation (C-A-C) framework (Hilgard, 1980). To the authors' best knowledge, this study is one of the first attempts to investigate the moderating role of consumer susceptibility to online influences in the generation of brand love.

Combining brand perceptions with the perceptions towards the car dealership and social influences provides further insights to create an optimal experience in a retail environment.

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7. Comparing social interactions in metaverse and video conferencing: Preliminary insights of a laboratory experiment

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Extended abstract

Collaboration between team members increasingly occurs online, where digital technologies enable individuals to share their thoughts and ideas with others to make a joint decision – for instance in the field of marketing (Barrera & Shah, 2023). The *metaverse*, which is a computer-mediated environment in which humans can act and communicate in a multisensory way in real-time with each other via avatars (Davis et al., 2009; Miao et al., 2022), is often regarded as one of the most promising ways to facilitate such decisions. The virtual worlds of the metaverse can be accessed through different technologies, including augmented reality (AR), virtual reality (VR), and mixed reality (MR). However, VR is nowadays considered to be the main interface technology (e.g., Kannan & Sing, 2021). VR glasses grant individuals access to multisensory social interactions (e.g., seeing, hearing), which should lead to better team experiences (Hennig-Thurau et al., 2022). Yet, it is still questionable whether the 3D capabilities of the metaverse really provide more value to employees and companies than 2D computer-mediated environments such as Microsoft Teams, Skype, or Zoom. This question becomes even more critical when considering the extensive investments in the hardware (e.g., VR headsets) necessary to make the benefits of virtual worlds completely accessible to the metaverse users.

Recently, researchers have made several conceptual contributions to identify the critical value-creation opportunities of VR and associated technologies (e.g., AR) (e.g., Grewal et al., 2017; 2020). For example, VR has also been conceptually compared with other digital contexts (e.g., social media) in various terms including the nature of the communication (Moffett et al., 2021). In this context, media naturalness theory (Knock, 2005; 2009) provides a promising framework for identifying the differences between alternative forms of computer-mediated communication for information exchange. However, empirical research on the role of the metaverse to better facilitate social interactions in comparison to other digital channels is still sparce. A few researchers, though, have begun to investigate the impact of other computer-mediated environments including the 2D internet (e.g., video conferencing). As an example, it was found that as compared to face-to-face meetings, teams are less productive and interact less frequently in a video conferencing setting (Andres 2002). Yet, when it comes to a direct comparison between the VR metaverse and video conferencing, empirical insights are extremely limited. One notable exception is the work of Hennig-Thurau et al. (2022), who pioneered by introducing a conceptual framework, which regards (a) social presence, (b) mobility, and (c) exhaustion as the key mediators between the type of computer-mediated environment and several interaction outcomes including performance (e.g., creativity, productivity), evaluation (e.g., quality perception, group atmosphere), and

emotions (e.g., positive affect). They tested this framework based on a series of online field experiments, which led to mixed results.

The aim of this research is to replicate the findings of Hennig-Thurau et al. (2022) and extend them by shedding light on the role of additional explanatory variables (mediators) and outcomes. To this end, we conducted a controlled laboratory experiment in which we used a between-subjects design with two conditions: digital collaboration (i) via the metaverse using VR headsets and (ii) via Microsoft Teams. Data for the first phase of data collection was obtained from 40 participants ($n_{Metaverse}$ = 18; n_{Teams} = 22), who were recruited from a pool of undergraduate business students at a university located in Central Europe. All respondents (M_{age} = 24.08; SD_{age} = 5.14; 63% female) received course credit for their participation and were randomly assigned to the experimental conditions. The study was conducted on the university campus in separate laboratories. Upon arrival, the experimental procedure was explained to the participants followed by an introduction to the used tools (Horizon workrooms or Microsoft Teams whiteboard). After a 30-minute marketing-related creative task (i.e., development of a new product), the participants filled out a standardized online questionnaire, which included several psychometrically validated multi-item measures taken from academic literature to quantify the collaboration outcomes (e.g., satisfaction with task outcomes, satisfaction with the task process, perceived creativity, positive/negative emotions) as well as the theorized mediators (e.g., stress, flow, cognitive effort, social co-presence, communication ambiguity, interaction quantity/quality).

Preliminary results show that concerning the key *outcomes*, no significant difference between the two conditions could be found. For instance, there was no difference in participants' *satisfaction with the outcome* in the metaverse (M = 3.65, SD = 0.97) vs. the video conferencing condition (M = 3.92, SD = 0.84; $t(38) = 0.96$, $p = 0.171$). The same was true for the *perceived creativity* ($M_{Metaverse}$ = 2.83, $SD_{Metaverse}$ = 0.97; M_{Teams} = 3.14, SD_{Teams} = 0.89; $t(38) = 1.03$, p = 0.155) as well as a series of outcome emotions (i.e., fun, disappointment, anger). This implies that similar (perceived) outcomes can be achieved across the two collaboration forms.

However, our current research status suggests that the two digital channels affect individuals differently in terms of the perceived exhaustion (i.e., stress). For participants, using the metaverse is more stressful (M = 1.86, SD = 1.02) than collaborating via video conferencing (M = 1.13, SD = 0.22; t(38) = 3.27, p < 0.001). However, *stress* levels were relatively low in both conditions and situational stress could not be identified as an important mediator between the collaboration type and the investigated outcome variables. Parallel to this insight, we did not identify any significant differences in the used *mediator* variables implying that the two digital channels do not vary in a great variety of often-cited variables including, for instance, *cognitive effort* ($M_{Metaverse}$ = 1.44, $SD_{Metaverse}$ = 0.86; M_{Teams} = 1.32, SD_{Teams} = 0.66; $t(38) = 0.53$, $p = 0.301$). There was a weakly significant difference in terms of *flow*: Here, participants rated the Teams condition better (M = 4.26, SD = 0.67) than the metaverse condition (M = 3.83, SD = 0.94; $t(38) = 1.62$, $p = 0.052$).

Overall, the first findings imply that value creation in the metaverse (at least for a creative team task) can be problematic. This finding is supported by the work of Hennig-Thurau et al. (2022) (study 1) – in a less controlled experimental setting. This pioneering research also indicated the same differences in the perceived stress levels. Further analyses are required to better understand the consequences of perceived user exhaustion.

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8. Developing smart digital immersive systems for cultural heritage and tourism applications: A case study of digitally illuminating one dark archive

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Type of manuscript: Extended abstract

Context and Purpose

The emergence of Industry 5.0 offers many exciting opportunities for the hospitality and tourism industry. In place of the homogenous, static and arguably stagnant experiences and content that permeate many traditional tourist and cultural heritage sites, visitors can instead experience highly personalised, heterogonous, dynamic, reactive, and fluid immersive journeys in digital and technology-augmented cyber-physical spaces (Murphy *et al.*, 2022). Beyond improved and serendipitous visitor experiences, the availability of real-time information on visitor interactions and mobility in a digitally immersive space may also offer invaluable data for hospitality logistics, operations management, and strategic planning.

Industry 5.0 is founded on the areas of "*environmental stewardship, human-centredness and social benefit*" and is supportive of personalised services that reflect user preferences (Akundi *et al.*, 2022). However, the rarefied opportunity offered by Industry 5.0 in the cultural heritage space remains ethereal and unharnessed. It is, therefore, imperative to understand how to realise and reify Industry 5.0 applications in tourism and cultural heritage spaces in a way that reflects its core human-centred values. However, there is a paucity in the extant literature regarding immersive technologies and systems in tourism and cultural heritage that ostensibly reflect the human-centred spirit inherent in Industry 5.0. Serendipitous encounters can benefit both tourists and organisations, with organisations potentially benefitting from "*observing and learning from unexpected interactions*" (Reviglio, 2019). Serendipity can support repeat business and wider recognition amongst the target audience through an entertaining and engaging user experience that provides opportunities in escapism and adventure.

A smart digital immersive system developed in compliance with the philosophy of Industry 5.0 and supported by Artificial Intelligence (AI) technologies can provide the hospitality and tourism industry with the tools required to exhibit a customised approach with the provision of real-time responsiveness. The hospitality and tourism industry can benefit from real-time data analytics by acquiring more information regarding the preferences of their visitors to enhance their experience. Any element of dissatisfaction can be mitigated by gaining an understanding of how each user chooses to interact during their experience on site potentially allowing a business to take advantage of commercial and marketing opportunities.

The proposed paper will present a new, unpublished case study that uses a novel human-centred manifesto for developing an Industry 5.0 prototype smart digital immersive system in a physical cultural heritage space.

Provisional Methodology

Using participatory action research (PAR) (cf. McIntyre, 2007), the researchers will develop a prototype smart digital immersive system for a single cultural heritage case study, namely, the physical archives (or parts thereof) of preeminent Irish engineer, trade

union leader, writer, and Right Livelihood Award laureate Professor Mike Cooley. The "*Cooley archive*" is currently a dark (non-digital, physical) archive housed at the Luke Wadding Library at the South East Technological University, Waterford, Ireland. Professor Cooley's family donated it to the University shortly before his death in 2020 (Stapleton *et al.*, 2019).

The PAR study will adopt an interpretivist epistemology and use both qualitative and quantitative data to induce a rich understanding of developing a smart digital immersive system from a dark cultural heritage archive. The evaluation process will involve ongoing communication and dialogue with the participants involved in the study (including librarians, curators, and exhibition visitors) as well as analysis of the data returned from the digital immersive system itself. The data returned from the system will include visitor-artefact interaction data and system-induced visitor profiles from planned exhibitions of selected Cooley archive artefacts. In line with PAR, and the interpretivist tradition, the analysis will be ongoing, reflective, iterative, and suitably critical in nature. All valuable insights will be documented during the implementation and evaluation phase of the project. Data will be collated for each attendee that details their preferences and used to determine how their user journey will unfold in all future visits. It is key that the environment is adaptive, and the user is empowered with the ability to control their experience.

A novel 13-principle manifesto (hereinafter "the Manifesto") for smart digital immersion in cultural heritage spaces will be used as the guiding theoretical framework (Murphy *et al.*, 2023). The Manifesto strongly valorises the human-centred systems engineering tradition and philosophy and seeks to encapsulate and promulgate broad and societal values that permeate contemporary society, such as fairness, empathy, inclusion, symbiosis, support, and empowerment. It is hypothesised that the developed prototype digital immersive system can and will demonstrably uphold and reify all 13 principles of the Manifesto.

The case study will run over approximately a 3-month period during 2023, starting in April and concluding in July.

Anticipated Findings

The anticipated findings will include:

1. A cogent and credible interpretation of the case study experience of developing and deploying the prototype smart digital immersive system.
2. Manifesto validation or refinement.

- Testing the hypothesis that the developed prototype digital immersive system can uphold and reify all 13 principles of the Manifesto.

3. Transferable lessons to developing other immersive technologies and experiences in other tourism and cultural heritage spaces.

- Making a dark (non-digital, physical) archive smart digital immersive is a potentially typical scenario in GLAM (galleries, libraries, archives, museums) settings.
- Lessons learned could involve the technologies used, processes followed, participant stakeholder cooperation and behaviour, organisational culture, and enablers and barriers experienced in general.
- The data gleaned from visitor exhibition interactions, and how this might be analysed and visualised for logistics and profiling applications, could also prove to be insightful for other tourism and cultural heritage sites.

4. The beginnings, or foundations, of a generic technology-oriented framework for developing future smart digital immersive systems in tourism and cultural heritage spaces.
- The bricolage of technologies used could work in a similar fashion for similar cultural heritage and tourism applications.

Contribution

The main contribution made by the paper will be twofold. Firstly, it will test the novel Manifesto; this will help validate the current (theoretical) Manifesto or suggest refinements to it in systems development practice. Secondly, it will offer an original interpretive account of the development of a smart digital immersive experience in a cultural heritage space using a bricolage of contemporary technologies (such as Internet of Things, Artificial Intelligence, Non-Fungible Tokens, micro-services, etc.). Such accounts are rare in the literature, and a new account will help redress this scarcity.

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9. Disruptive technologies in traditional heritage tourism: How to leverage loyalty with AR

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Type of manuscript: Extended abstract

Keywords: Heritage tourism, augmented reality, mixed reality, awe, destination loyalty, authenticity

Introduction

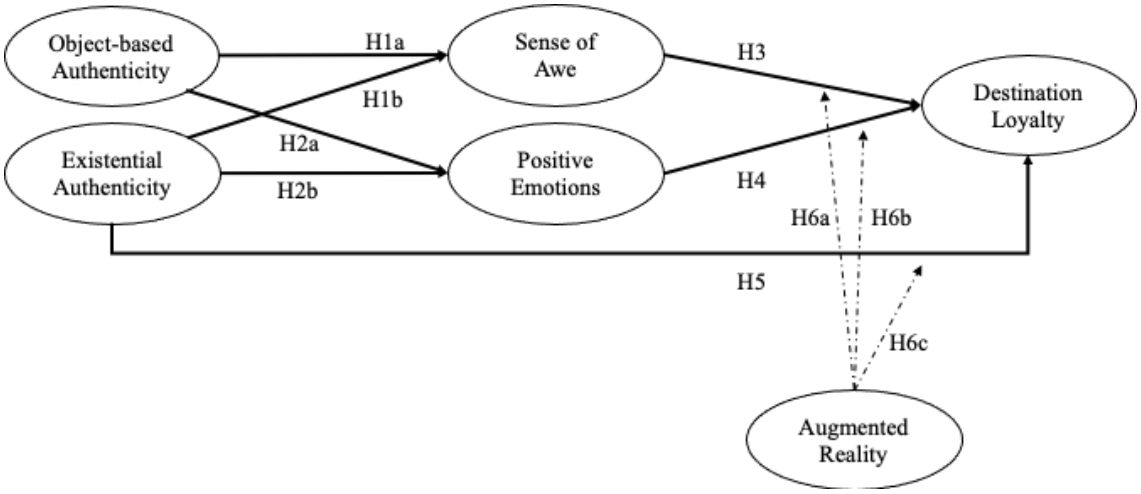
Technologies are disrupting all areas of economy and society (Flavián et al., 2019; Loureiro & Nascimento, 2021), with an increasingly notable presence in hospitality and tourism (UNWTO, 2022). Considered essential nowadays to attract and engage digital-native generations towards touristic destinations (Floros et al., 2021), interactive touristic experiences constitute major opportunities to meet the sector's challenges and provide more impressive, memorable experiences (del Vecchio et al., 2018), such as provided by augmented (AR) and virtual (VR) reality, location-based services, or artificial intelligence, which have become emerging themes in literature (del Vecchio et al., 2018; Nascimento & Loureiro, 2023). In particular, AR applications are becoming more common in varied settings such as national parks and landmarks, and art galleries (tom Dieck et al., 2018). Scholars demonstrated how AR can enhance the touristic experience, even in traditional heritage sites, by facilitating learning (tom Dieck et al., 2018), or promoting enriched interactions (Graziano & Privitera, 2020).

Traditional heritage and religious tourism sites are among the most visited worldwide, where a sense of Awe is experienced by visitors, similarly what is felt in impressive natural landscapes (Chung et al., 2018). Facing *awe* is one of the most desirable experiences both for tourists and tourism providers (Coghlan et al., 2012), which is central when experiencing religion, nature, and arts. Under the lens of social psychology, is frequently linked to the arousal of altered emotional states and increased satisfaction (Keltner & Haidt, 2003; Piff et al., 2015). Yet, the mechanisms by which destination loyalty can benefit from visitors' interaction with immersive technologies, and the role of emotional states are still under- explored topics (Balakrishnan et al., 2021). To those ends, the present study aims to investigate the following research questions:

(*RQ1*) What is the role of awe and other emotional responses for driving destination loyalty?

(RQ2) Can AR technologies amplify such outcomes?.

Figure 1. Proposed model.



Methodology

In order to achieve the research aims, two exploratory pre-studies were first conducted, with the purpose of: (a) gaining a better understanding on the nature and intensity of emotional responses towards awe- inspiring touristic experiences, (b) collecting insights on *if* / *how* immersive technologies were involved in those episodes. Subsequently, a quantitative study was completed for testing the hypotheses. Data were collected from visitors of a traditional, highly acclaimed heritage site. A total of 316 valid responses were obtained, 45% of which were exposed to an immersive AR experience.

Results

The model yielded an overall satisfactory fit with a second-order Awe factor (Yaden et al., 2019) captured by the most representative dimensions elicited from the pre-studies. The constructs' internal consistency was adequate with acceptable levels of reliability and validity. Results suggest that Awe was significantly ($p<0.001$) determined by both Object based ($\beta = 0.51$) and Existential Authenticity ($\beta = 0.28$). As expected, Positive Emotions were also affected significantly by Authenticity (OA: $\beta = 0.89$, $p<0.001$; EA: $\beta = 0.08$, $p<0.05$). With regards to driving loyalty, three significant determinants were confirmed: EA ($\beta = 0.59$), Awe ($\beta = 0.07$), and Positive Emotions EA ($\beta = 0.34$). Moreover, the influence of AR was uncovered with important moderation effects on all three direct predictors of Loyalty, implying that the consequences of emotional (Awe: $\beta = 0.14$; Positive Emotions: $\beta = 0.28$) and cognitive mechanisms (EA: $\beta = 0.15$) are significantly stronger for those that experienced AR.

Contributions

This study presents several important managerial implications with regards to how technology can enhance business perspectives for tourism. New theoretical considerations will be presented by demonstrating how cognitive and emotional processes shape behavioral outcomes in awe-inspiring experiences, and specifying how awe differs from other emotion types.

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10. Emerging trends about blockchain application in the tourism and hospitality industry

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Type of manuscript: Extended abstract

Keywords: blockchain; tourism industry; bibliometric analysis; research agenda; emerging trends

Extended abstract

The Covid-19 pandemic has accelerated digitalisation processes using technologies such as blockchain, a distributed ledger that generate trust among the stakeholders, improving customer satisfaction (Zhang et al., 2021). It allows to generate secure transactions by changing the business models (Aghaei et al., 2021) creating an impact in the tourism industry by cryptocurrencies, smart contracts and decentralised applications (Nam et al., 2021).The creation of smart contracts with an integrated reservation system allows to eliminate commission fees and reception costs by combining blockchain technology with smart services and IoT devices (Demirel et al., 2022). Whilst, using blockchain applying smart contracts, the management of the agri-food supply chain is improved. This guarantees transparency, efficiency and reliability of food from a certain smart tourist region attracting tourists (Baralla et al., 2020). Among the barriers to the adoption of blockchain for operations management (BCOM) are psychological barriers -information, use and functional risk-, system-related barriers -security and privacy, compatibility and interoperability and system quality- (Wong et al., 2020). Highlighting that creating profiles on tourism crowdsourcing platforms using blockchain improves the quality and transparency of recommendations (Leal et al., 2022).

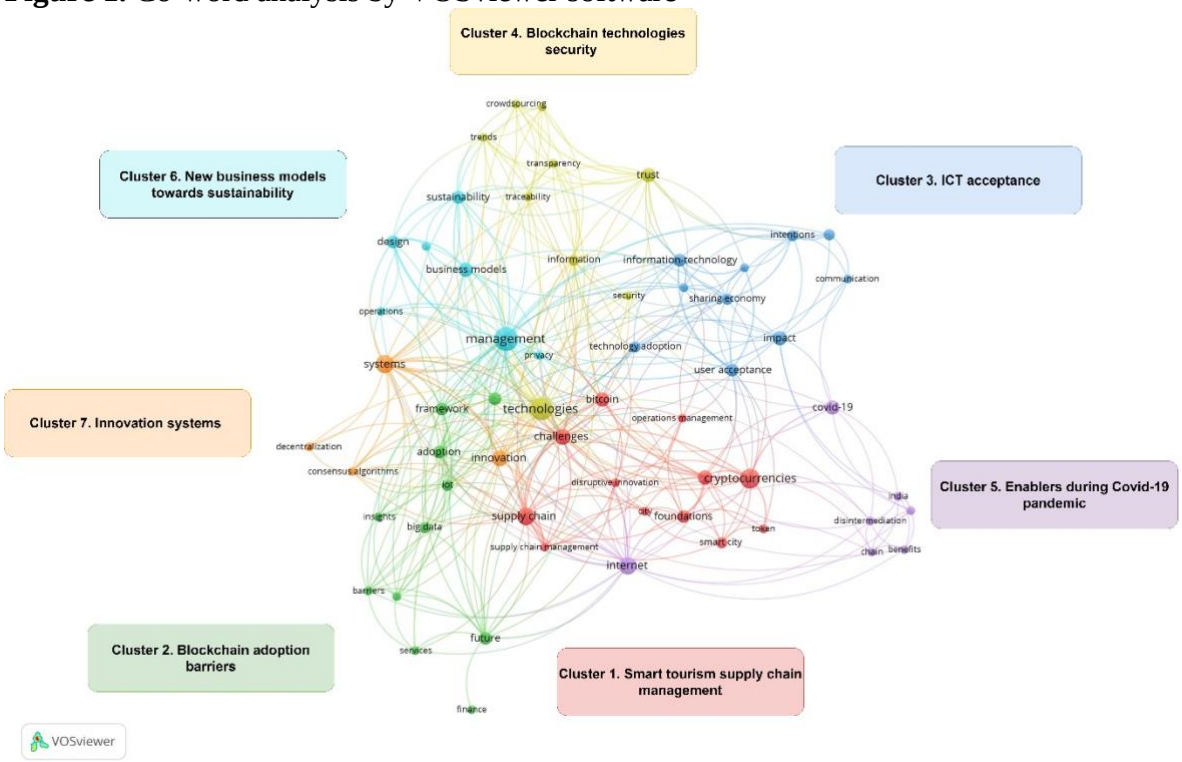
The aim of this bibliometric overview is to analyse the knowledge structure of blockchain and the tourism and hospitality industries. This paper provides valuable information about the research hotspots in the field and a research agenda as future guidelines for both scholars and practitioners. Hence, the following research questions are formulated: RQ1) What is the historical evolution of the literature on blockchain in the tourism and hospitality industry? RQ2) What are the main dynamics of the conceptual structure? RQ3) What are the research trends and gaps in this field?

The number of studies on blockchain within the tourism and hospitality industry has been published since year 2018, presenting a high growth between years 2020-2022. Sustainability, Current Issues in Tourism and Information Technology Tourism are the most representative journals in this field. Bibliometric analysis permits to visualise scientific maps to evaluate a research field development (Cobo et al., 2011). A total of 66 articles on blockchain and tourism or hospitality from the Web of Sciences Science Core Collection database were incorporated. Considering years 2018 up to February 2023. The sample was filtered by topic –including title, abstract and author keywords-, considering Science Citation Index and Social Science Citation of WoS. The search stream was ("blockchain" OR "block chain" OR "distributed ledger*" OR "smart contract*") AND ("tourism" OR "tourism industry" OR "hospitality" OR "hospitality industry")).

Bibliometric analysis was carried out using VOSviewer software to detect research trends and gaps of this field.

To identify research trends topics in the field, a co-word analysis based on the occurrences between terms is performed (figure 1). This study obtains seven clusters focused on 1) smart tourism challenges regarding supply chain management, 2) blockchain adoption barriers, 3) Information and Communications Technology (ICT) acceptance, 4) Blockchain technologies security, traceability and trust, 5) enablers during Covid-19 scenario, 6) new business models towards sustainability and 7) innovation systems focused on consensus algorithm.

Figure 1. Co-word analysis by VOSviewer software



This paper provides an analysis of the growing evolution of the publications and detects research gaps about the impact of the application of blockchain in the tourism and hospitality industry. Since the Covid-19 pandemic took place, companies in the tourism sector seek to digitalise their new business models through new technologies such as blockchain using smart contracts, cryptocurrencies or decentralised applications. With the application of blockchain the trust of stakeholders has been improved through the secure transactions. But there are still challenges to address such as diverse barriers for the adoption of blockchain -focused on desinformation or energy costs-. This study contributes identifying emerging trends in the field of blockchain and tourism, providing valuable information to scientific literature. In relation to future research lines, there are a necessity to conduct more empirical research to analyse the opinion of tourists about blockchain technologies (Nam et al., 2021). Further research about information improvement in the application of blockchain in smart tourism cities is also required.

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11. EmoVox: Creation of a speech database for emotion analysis

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Type of manuscript: Extended abstract

Keywords: speech database, emotions, training, deep learning

Extended abstract

This work is based on a doctoral thesis in progress.

Public speaking is prevalent in various fields, particularly in business and marketing, encompassing activities such as pitching products or services, delivering progress reports, presenting proposals, and interacting with customers. Training in public speaking is of paramount importance, yet providing effective training can be challenging. The Metaverse and Virtual reality (VR), in general, have emerged as promising technologies for training, offering an immersive and interactive learning experience that enhances skills, knowledge, and confidence when interacting with others. In this context, emotions play a significant role, necessitating an automated decision-support solution to improve participants' performance according to their emotional state (e.g., joy, sadness, anger). Accurate detection of emotions allows virtual avatars in the training environment to react appropriately to the speech and emotional state of the speaker, increasing the sense of presence and intervention effectiveness. Furthermore, it will enhance communication in the Metaverse (Daneshfar and Jamshidi, 2023). However, the importance of emotion detection goes beyond Virtual Reality and can have many benefits when dealing with robots, chatbots, virtual assistants and smart speakers in general. Artificial Intelligence (AI) techniques, such as machine learning and deep learning, can be employed to detect emotions effectively. Data is crucial to the development and effectiveness of AI algorithms (Abbaschian *et al.*, 2021; Lieskovská *et al.*, 2021). Indeed, the algorithms are designed to learn from data, recognise patterns, and make predictions based on that data. Without sufficient and high-quality data, AI models cannot accurately learn and make accurate predictions. Good oral production databases with thousands of sound data labelled according to emotions are thus required.

This research aims to develop a high-quality emotional speech dataset in French and English and validate the dataset through subjective evaluation experiments assessing human accuracy in recognising the intended emotion.

The motivation for creating the database is the need for a publicly available high-quality emotion recognition database. Existing databases, such as IEMOCAP (Busso *et al.*, 2008) or CREMAD (Cao *et al.*, 2014), do not contain sufficient data for deep learning approaches. Hume's databases (https://hume.ai/solutions) could be utilised, but their limitations include the nature of the proposed texts and their costs. Moreover, these databases are primarily in English. Although several French databases exist, such as The French Emotional Speech Database – Oréau (Kerkeni *et al.*, 2020) or the Canadian French Emotional speech dataset (Gournay *et al.*, 2018), a Canadian database in French), they are too small for machine learning exploitation.

In this paper, emotions are treated as discrete states (categorical model), utilising the six basic Ekman emotions (Ekman, 2013) and other common emotions during public speaking (These corpora contain 72 lists of 10 phonetically balanced sentences. We will use one of the lists. We will ask each speaker to record ten sentences with the different emotions (6 basic Ekman emotions (anger, disgust, joy/enthusiasm, fear, surprise sadness) as well as four others useful in the context of public speaking (anxiety/embarrassment, confusion, contempt, shyness). The research methodology comprises two studies. The first involves creating audio recordings using either professional actors (approximately sixty French native speakers and 60 English native speakers) or Text-to-Speech software capable of generating emotional samples (e.g., https://www.texttovoice.online/). The second study is a subjective evaluation experiment assessing human accuracy in recognising the intended emotion.

For the first study, actors will be recruited from French-speaking regions in Belgium or England. Sentences will be derived from phonetically balanced corpora, such as the *Harvard Sentences* in English (Rothauser, 1969) and the *Fhavard corpus* in French (Aubanel, 2020). These corpora contain seventy-two lists of ten phonetically balanced sentences. We will use one of the lists. We will ask each speaker to record ten sentences with the different. Each speaker will record ten sentences with different emotions, and each sentence will be interpreted by twelve different speakers (Gournay *et al.*, 2018). Audio recordings based on Text-to-Speech software will be created using a website API. The second study involves validating the emotion in each audio recording through evaluations by 25 judges (determined based on a power analysis). These judges, naive listeners participating in citizen science, will listen to the recordings and assign emotional valence. Each participant will judge 90 statements, evaluating the emotion in the audio clip by selecting from the ten proposed emotions. Participants will listen to audio clips using headphones and answer numerical scales to judge the chosen emotion's intensity and evaluate the performance's artificial level. They will also complete a questionnaire with socio-demographic data.

Sentences created with the Text-to-Speech software are already available. Actor recordings will begin in April, with the validation of the first recording to be completed by the end of April. Mid-May expects preliminary results.

This paper is original in its aim to create and validate an emotional speech dataset in two phases for use in VR public speaking training environments. It addresses the limitations of existing datasets by providing a high-quality dataset in both French and English, and it includes a validation process involving subjective evaluation experiments.

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12. Exploring the magnitude of Metaverse on the tourist experience journey. A multi-stakeholder view

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Type of manuscript: Extended Abstract

Keywords: Metaverse; tourist experience; tourist journey

Introduction

Boosting the tourist experience environment represents a key challenge for companies to attract and keep customers satisfactorily and compete effectively (Jang et al., 2021). This study responds to calls to explore the magnitude of the Metaverse as a touchpoint to improve the experience perceived by tourists and create new business opportunities for companies (Koohang *et al*., 2023). The leisure experience is significant for investigating this phenomenon as the three moments of the journey are well defined, and the opportunities deriving from the Metaverse can be explored in each. The challenge will be to understand how the Metaverse will serve consumers and businesses in the tourism sector by enhancing different steps of its experience, from pre-departure to after-traveling. The study aims to contribute to the conceptual and practical understanding of the Metaverse's application domains in tourism and its potential for value innovation in experience-driven businesses.

Theoretical Background

Although there is no consensus on the definition of the term "Metaverse," it generally refers to an immersive virtual environment that allows individuals to interact with others through customized avatars. This aligns with the definition proposed by Buhalis et al. (2023) in the tourism literature, which emphasizes that the Metaverse will combine physical and digital dimensions to create a seamless experience that offers new opportunities for attracting, engaging, and retaining consumers. In this paper, the concept of the Metaverse is considered as suggested by Dwivedi *et al.*(2022) and Barrera and Shah (2023), who affirm that "the Metaverse has the potential to extend the physical world using Extended Reality (XR), allowing users to seamlessly interact within real and simulated environments using avatars and holograms". The integration of the Metaverse into the tourism industry has the potential to significantly impact the Customer Journey (CJ), as it can play a relevant role at each stage, from pre-departure to post-traveling (Buhalis et al., 2023; Flavián et al., 2021; Godovykh & Tasci, 2020)

Methodology

We used an initial qualitative analysis to understand the application domains of Metaverse in the tourism experience (Myers, 2019). Based on the theoretical framework of the CJ, 35 players operating across the key stages of the tourist experience (pre-, during, and post-

experience) were interviewed using semi-structured questions. The interviews have been designed to be structured into two different parts. Firstly, we asked them to define Metaverse and their thought about the topic. Secondly, to better understand the opportunities they see using the Metaverse, we provided a more precise definition based on the one chosen for this research to fill the gap in their knowledge about the topic. (Braun& Clarke, 2006; Clarke *et al*., 2015; Miles & Huberman, 1994)

Preliminary findings and discussions

Stakeholders hardly explained the concept of Metaverse, showing confusion around its definition and application. Mainly, they related the Metaverse as a virtual recreation of a physical environment. Many needed clarifications on the differences between Augmented reality (AR), Virtual Reality (VR), and Mixed Reality (MR). Three aggregate dimensions resulted from the codification. First, the first aggregate dimension found has been named *"immersive trailer"* to explain the use of the Metaverse as a virtual experience preview to boost the pre-experience stage as a sort of "try before you buy". The second dimension has been coded as *"experience from home"*. This dimension is related to the Metaverse as an opportunity to experience the digital tween of a certain 3D reproduction of a destination, hotel, or museum. It may seem like a virtual *mini vacation* experienced from home, in which tourists (by their avatar) can participate without replacing physically but using Oculus comfortably from their living room. As a result of the interviews, this meaning might have a positive impact on people with disabilities. Specifically, findings suggest how using the Metaverse would allow this target audience to visit from home distant destinations that are not conveniently accessible. The third dimension has been named "*on-site virtual integration"* and it is related to the possibility of integrating the on-site physical experience of excursions and guided tours. For example, Metaverse can assist tour guides in their duties in improving the overall user experience by leveraging MR devices to expand physical spaces virtually, providing tourists an augmented guide for a more comprehensive understanding of the places they are visiting. This last dimension also shows how the Metaverse helps the physical visits to live *experiences without limits*. For example, parts of archaeological sites or museums that are generally not accessible or due to ongoing renovations might be reproduced virtually. The results have also found that applying Metaverse technology for the post- experience phase is challenging unless it is considered a mere evolution of social networks.

Research implications

By conducting an empirical study on the impact of the Metaverse on the tourist experience, this research makes a significant contribution to the existing literature, which has primarily focused on conceptual studies. It contributes to the ongoing debate on the role of the Metaverse in improving experiences and provides insights for academics and practitioners alike on the potential of the Metaverse for enhancing the overall tourism experience. The study is in line with the research of Flaviàn *et al.* (2019), which highlights the strong influence that immersive technologies can have on CJ, especially during the pre-experience and the experience stages. Findings reinforce previous research by Buhalis and Karatay (2022), who found that XR can significantly improve the cultural heritage sites experience by providing real-time information, time travel experiences, and

personalized recommendations. From a managerial perspective, considered as technologies that could potentially offer unlimited and boundless experiences, it has the potential to provide always new and more engaging experiences for visitors, which can benefit tourism businesses in the long term. Moreover, the ability to offer from-home experiences can allow tourism businesses to reach a broader target audience. Lastly, the potential of the Metaverse to create accessible virtual experiences for individuals with disabilities presents an opportunity for businesses to reach a previously underserved market and build a reputation for being socially responsible and inclusive.

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13. How to get engagement on Instagram? Artificial Intelligence as a tool for tourism photo analysis

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Type of manuscript: Extended abstract

Keywords: engagement; Instagram; visual computing

Extended abstract

Instagram currently has more than 1.3 billion users (DataReportal, 2023). Specifically, it is one of the most influential platforms for those who are looking for what to do while traveling, exploring experiences and seeing what is possible to do on their trips, instead of reading lengthy travel reviews and descriptions (Hosteltur, 2023). Discovering and deciding how to prepare their trip with Instagram is a new behaviour of young and not so young travellers, and directly affects the travel industry, especially the creators of tourism tours and experiences. Tourism professionals must integrate this information into their marketing and content strategy (Hosteltur, 2023).

There is an important research gap with information from Instagram and tourism, since researchers do not usually use it so much due to its complexity of access to information (GWI, 2023), however, Instagram offers the highest penetration rates among users between 18 and 50 years old and whose main motivation for use is the publication of tourism photographs (DataReportal, 2023). Therefore, Instagram, being the main social media platform focused on images of tourism experiences, plays a fundamental role in the engagement of tourists with the destination (Aramendia-Muneta, Olarte-Pascual, & Ollo-López, 2021).

While there are several studies that have examined the impact of the tourism industry on social media such as Facebook and Twitter, or on communities such as TripAdvisor, few studies have examined Instagram from the perspective of tourist generated content (TGC) (Ribeiro, Costa, Ferreira, & Freire, 2023), mainly because of the difficulty it has with the naked eye to know if a photo has been posted by a tourist or by a resident, but with techniques such as web scraping and artificial intelligence, and with large amounts of data such as big data, it is possible to easily know if the shared photos are of tourists or residents.

Because of that, this study seeks to contribute to the literature on Instagram from a tourism perspective, since tourism managers need to analyse and control the images that are shared about destinations, which also become viral through the likes and comments they receive (engagement), and that can directly affect potential tourists that are looking at this content (Aramendia-Muneta et al., 2021).

This research is also framed under the stimulus-organism-response (SOR) model (Mehrabian & Russell, 1974), which implies that Instagram images (stimulus) generate engagement in users (organism), and this leads to a response from users, that affects them in their decision to travel to a new destination (response) (Aramendia-Muneta et al., 2021).

Considering the review of the literature mentioned above, and the existing gaps in the academy, the following research questions are proposed:

RQ1. What are the key destination image attributes (stimulus) that can be extracted with techniques such as artificial intelligence?
RQ2. What are the key destination image attributes (stimulus) influencing the engagement (organism)?
To do this, this research has applied the web scraping technique to download 150,000 Instagram posts from a cultural and gastronomic destination that belongs to the Camino de Santiago, World Heritage Site by UNESCO. The use of big data has made it possible to distinguish between tourists and residents, by having photographs taken between 2010 and 2022, and also knowing the anonymous key identifier of each user.
To investigate what affects users viewing content on Instagram, artificial intelligence technique has been applied to extract the main features displayed by images and analyse what makes users like or comment on that content.
The presentation of the results begins with the identification of the differences between the key attributes of destination image and the differences between the types of photography: (1) whether the number of people affects likes and comments, (2) whether the scene of photography affects likes and comments.
For this purpose, several Kruskal-Wallis nonparametric tests were applied to independent samples, using a type I error probability of 0.05 and, as a clustering variable, the types of photographs (1) and (2) previously developed for this study. For a significance level of 95%, the results obtained allow us to conclude that both types of photographs (1) and (2) lead to different engagement. Related to the RQ1, the key destination image attributes that promote the stimulus are related to the people in the photograph. In addition, it is considered that there are significant differences in the means obtained, both in comments and likes, if the number of people changes. Photos without people have fewer comments and fewer likes than photos with people. Specifically, by groups of people, fewer people, less engagement. Related to the RQ2, photos in selfie format have more comments but not likes. Related to the different scenes, entertainment-related scenes get more comments than heritage or interior scenes. Scenes related to historical and old heritage receive fewer comments than scenes with people and outdoor scenes. In the case of a gastronomic and cultural stay, if Instagram users want to get more likes, they should share photographs related to heritage (old and new) and not photographs related to gastronomy.
This study makes an important contribution to the literature on destination image but has some limitations. First, this study has focused on one destination. Secondly, it is important to dig deeper into which specific contexts get more comments the selfie format. Finally, a future line of research is the analysis of the content using artificial intelligence techniques that allow analysing the profile of all tourists, together with their posts and comments.

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14. How could sustainability apps foster pro-environmental behaviors among Generation Z?

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Keywords: sustainability app; pro- environmental behavior; generation Z

Extended abstract

The ubiquity of smartphones has paved the way for innovations to address pressing global challenges such as sustainability. Many sustainability apps (e.g., AWorld, JouleBug, Good on You, EcoHero, etc.) have emerged in recent years for cultivating pro-environmental behaviors among individuals (Isensee, Teuteberg, & Griese, 2022; Cellina, Bucher, Mangili, Veiga Simão, Rudel, & Raubal, 2019). The various features of sustainability apps include social sharing, team building, information education, visualization, behavior tracking, reward system, and so on (Mulcahy, Russell-Bennett, & Iacobucci, 2020; Brauer, Ebermann, Hildebrandt, Remané, & Kolbe, 2016). While sustainability apps have the potential to promote a sustainable lifestyle, the effectiveness of these apps remains uncertain. Limited research has examined the effectiveness of those app features in promoting users' pro-environmental behaviors (Montiel, Delgado-Ceballos, & Ortiz-de-Mandojana, 2017; Douglas & Brauer, 2021). And rare studies have evaluated the impacts of sustainability apps on younger generations' actual pro-environmental behaviors.

To address this knowledge gap, this study investigates the impacts of sustainability apps as an innovative way to foster pro-environmental behaviors among Generation Z college students. The AWorld app, developed by United Nations, is selected as an example for evaluating app functions and effectiveness in enhancing students' awareness and engagement in fighting climate change. The objectives of this study are threefold. First, this study examines the patterns of college students' self-reported carbon footprint across four major areas: food consumption, home energy, shopping, and transportation. Second, this study explores participants' experience of using the sustainability app. Third, this study probes students' perspectives of the app functionality and areas for improvement so that the findings could provide valuable insights for app developers to improve the effectiveness of sustainability apps.

Due to the exploratory nature of this qualitative study (Ivankova, Creswell, & Stick, 2006), a qualitative approach with online focus groups and descriptive analysis was adopted. A total of 90 participants, born between 1997 and 2012, were recruited from a public university in the west coast of the United States. The age range of the participants was 18 to 23 years, with 42 females (47%) and 48 males (53%). First, the participants were asked to install the AWorld app on Day 1 of participating in the study. Then, they used the app on a daily basis for a week to evaluate its functionality and influence on their own pro-environmental behaviors. Participants also completed the lifestyle carbon footprint survey within the app.

Next, participants were divided into six online focus groups to share their user experience and perspectives on the effectiveness of the app. The SPSS 29 and Nvivo 12.0 software were used to analyze the data.

The results show that the participants generated 8.66 CO2 emissions on average, based on their food consumption, home energy, shopping, and transportation. This footprint level is 81% higher than the world average in tons of CO2. Home energy consumption accounts for 39.3% of the participants' overall lifestyle carbon footprint, followed by food consumption (24.5%), transportation (18.8%), and shopping (16.6%).

Most participants commented that the app was helpful in enhancing their awareness of environmental issues and encouraging them to take pro-environmental actions. When using the app, a variety of pro-environmental activities were reported by the participants. Some participants shared that they reduce heating and cooling at home, drive less, eat a plant-based meal, cut food waste, buy local food, and bring their own bottles/bags to stores. Some mentioned that they turn off the smartphone camera when not needed, use links rather than attach files in emails, listen to music offline, turn off the tap while brushing teeth, take a 5-minute shower, unplug electronic appliances, recycle plastic, and so on.

Regarding app features, participants appreciated the app's guidance on tracking carbon footprints and making sustainable choices on a daily basis. However, there are other aspects that the app needs more improvements. For example, incorporating gamification elements like rewards and challenges could boost motivation and engagement. Participants also recommend adding features that enable users to track progress towards specific sustainability goals and receive feedback, as well as setting reminders for sustainable actions and receiving notifications upon completion. Furthermore, integrating more personalized feedback and recommendations based on users' past behaviors and preferences could improve user experience. Participants also suggest social support features foster connections among like-minded individuals.

Overall, this project addresses the United Nations' sustainable development goal #12, responsible consumption and production, by exploring a new way of engaging generation Z students to take action against climate change. The study provides empirical evidence on the effectiveness of sustainability apps in fostering pro-environmental behaviors. The findings offer valuable implications for app developers to improve app functions and user experience. It also sheds new light on how educators could utilize these apps for sustainability education.

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15. Human-robot partners in healthcare services

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Extended abstract

Frontier robot teams that worked for the manufacturing and defence industries were often based in remote locations far removed from daily social life. With the onset of the COVID-19 pandemic, human-robot teams increasingly co-exist, co-provide and co-form social interactions in servicescapes. Even though robots can function with a significant degree of autonomy in their perception, thinking, and action thanks to recent breakthroughs (Schepers et al., 2022), many still need humans to supplement and maintain them (Choi et al., 2020; Schepers & Streukens, 2022). Recent conceptual works in the service sector have noted the dependency between robots and workers as a topic of growing attention (de Keyser et al., 2019).

Our context of inquiry is healthcare services, and we examine the dynamics of human-robot teams at hospitals in-depth. Only a handful of previous studies investigated the healthcare context from a service perspective. For example, Nyholm et al. (2021) investigated the sense of security with humanoid robots in healthcare by interviewing a sample of ordinary consumers. However, complex and hybrid human-robot partnerships play a significant role, among others, in healthcare settings. For example, in a hospital setting, service robots would analyse symptoms and compare them to knowledge bases to find probable diagnoses, while humans would make final recommendations and choices to handle social and emotional activities such as counselling, informing and convincing patients (Wirtz et al., 2022).

Background themes from the literature

- Robots as equipment or co-workers: Similar to human-to-human partnerships, human partners` attitudes towards their robotic partners vary according to role perceptions. Latikka et al. (2021) showed that respondents' attitudes regarding robots as tools compared to coworkers were indeed more favourable, and overall, they preferred non-autonomous robots over autonomous robots in their work settings. In a similar vein, Xiao and Kumar (2021) contend that rather than being perceived as substitutes, service robots are still at the stage where they are perceived as complementary to humans. Their conceptual argument further elaborates that robots are only better at simple, repetitive, algorithm-based tasks that do not call for a lot of knowledge, creativity, or social skills and that they should not be used for novel or creative tasks that demand higher-order human mental processes that go beyond algorithmic articulation (Xiao & Kumar, 2021). Wirtz et al. (2018; 2022) further argue that tasks that are particularly difficult and emotionally taxing are still better left to human service personnel. Service robots, on the other hand, can efficiently provide services that call for strong cognitive

and analytical abilities, such as in finance. Healthcare providers' attitudes tended to be more favourable when robotics could minimise the needed effort to improve user experience (Boman & Bartfai, 2015).

- Team communication: It is impossible to exaggerate the importance of verbal communication in establishing and preserving a team together. Recent research demonstrated that humans expect the same conversational style from human service staff and service robots but not from service kiosks (Choi, Liu, & Mattila, 2019). The cobotic teams employ verbal communication akin to ordinary language in terms of its richness, as opposed to a pre-set of commands to support other linked technologies in service situations. The revisited new normal appears to link robots with human actors rather than machines in a servicescape in this regard. During the Covid-19, patients treated reported that robotic psychiatry was also easier to disclose (Yoshikawa, Kumazaki & Takahiro, 2022).
- Leadership roles: With this pace of progress, the role of "cobotic" (Peshkin & Colgate, 1999) tribes in allowing robots to assume leadership roles seems crucial for research (Shanks et al., 2021). During the Covid-19 pandemic, robot-led cobotic teams were used to combat the risks to humans from airborne infectiousness. Moreover, another factor bolstering robot leadership has been the increasing diagnostic capabilities and accuracy of AI-powered medical robots (e.g., IBM Watson), which are readily threatening traditional decision-making (Loh, 2018). On the other hand, robot team members are perceived as agents to reduce prejudice by emphasising commonalities among all humans (Jackson et al., 2020).

Method

We implemented a grounded approach to conduct in-depth interviews to unpack the relevant mechanisms. A total of eleven semi-structured interviews were conducted with the medical staff consisting of surgeons (5), nurses (3), anaesthetists (1), and physicians (2), working in close collaboration with robots at hospitals to provide health services. We applied a combination of purposeful and snowball sampling in order to collect data from healthcare workers ranking at different levels as well as with different amounts and types of experiences with healthcare robots. Apart from one participant, all interviews were recorded, but all were transcribed. When appropriate, photos of the robots-at-work were taken by the interviewing researcher with permission.

Before collecting data, we prepared a tentative interview guide with the following questions:

- What are the strengths and opportunities of robots (i.e., Da Vinci) in healthcare processes? In which specific contexts do they work especially well?
- What are the weaknesses and limitations of robots? In which specific contexts do you encounter problems?
- How have the possibilities provided by robots affected your work experiences? Can you give an example of success?
- How have the limitations of robots affected your experience? Can you give an example of failure?
- Are there any situations where the robot restricts/hinders you in surgery / does not obey the orders, or cause delays? Did the robot make a mistake?
- What are your thoughts/feelings about humans and robots working together (regarding the level, form, design, and roles of the relationship)?

- What are the extra burdens (training, preparation, etc.) brought to healthcare providers by choosing robotic services?
- To what extent do you think human-robot collaboration will reach in the future, and how do you think this will affect the future of healthcare?

Through analysing the transcribed interview data using qualitative content analysis, a list of themes that are prevalent for human-robot employees in healthcare services will be revealed. Contrasted with previous literature, we aim to contribute to the relevant theoretical progress concerning the hybrid healthcare teams in healthcare services consisting of human-robot partners.

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16. Immersive virtual tourism: fact or fiction? Empirical analysis through neural network analysis

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Type of manuscript: Extended abstract

Keywords: virtual tourism; artificial neural network; tourists' profiles; willingness to pay; metaverse

Introduction
Technology has opened up new possibilities for exploring tourist destinations without the need to travel physically. Images and photos used to be the only way to experience a remote place visually. However, virtual reality and other technologies have transformed this experience into more immersive and exciting. Immersive virtual tourism can help select destinations to travel to complete the tourist experience at the destination, or even replace some trips. In addition, virtual tourism can significantly impact the tourism industry, allowing travellers to immerse themselves in visual environments recreated from natural landscapes and experience the feeling of being there in person.

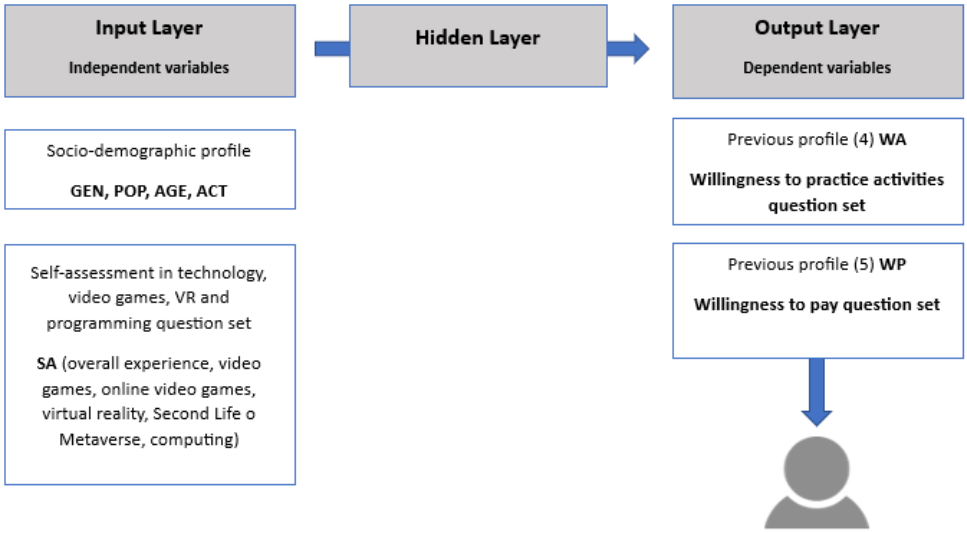
Purpose
The aim of this research is to:

- To provide evidence to help determine predictors of tourists' willingness to pay for this new way of visiting tourist destinations.
- Determine the socio-demographic profile of potential tourists wishing to access this immersive experience.
- To identify the factors that influence tourists' decision-making when choosing between an immersive experience and a traditional tourist experience.
- To assess the role of previous experience with similar technologies (online or immersive video games and virtual reality) in the willingness to pay for immersive virtual tourism services.

Design/methodology/approach
To meet the research objectives, an online questionnaire was designed using a convenience sampling of a sample of potential users of this technology between May and October 2022. The final sample was 415 users, of which 57.35% were women and 42.65% were men, with an average age of 25.
The methodology used to analyse the data obtained was Neural Network Analysis; this methodology consists of developing an artificial neural network (ANN) using SPSS Statistics v.23 software from a dataset that includes input values corresponding to the

profile and self-assessment in technology, video games and VR, and output values corresponding to estimates of tourists' willingness to pay for new forms of immersive virtual tourism. The ANN adjusts the weights and connections between neurons through training to minimise the prediction error between predicted and actual outputs. Once trained, the neural network can make predictions on new input data. ANN methodology is used in many fields, including data science, artificial intelligence, computer vision, robotics, economics, engineering and biology, among others. It helps model complex problems, making accurate predictions and data-driven decisions.
Neural network methodology allows for the analysis of complex data and the modelling of non-linear relationships between variables. It helps make accurate predictions and data-driven decisions. In addition, this methodology enables the identification of patterns and trends in large data sets, which facilitates understanding and decision-making in different fields.

Figure 1. Description of the work methodology and results obtained.



Findings

The results will allow us to evaluate the user profile and willingness to pay for this immersive tourism experience. Within this profile, previous experience in technology, online or immersive video games and virtual reality are essential.
Implications for management
Based on the estimated model, the practical application of this research allows estimating the willingness to pay for immersive virtual tourism activities as a function of the subject's socio-demographic profile and previous experience with similar technologies, such as online or immersive video games and virtual reality.

Specifically, the practical applications of this research are:

- Development of products and services adapted to immersive virtual tourism. The results of this study can help tourism companies to build an ideal profile of potential consumers willing to pay for immersive virtual tourism experiences.
- Identification of potential customers. Companies can use this information to identify the most suitable potential customers and effectively target their marketing efforts.

- Developing pricing strategies. Knowing the willingness to pay for immersive virtual tourism activities can help businesses develop appropriate pricing strategies.
- Development of new products and services. The results of this study can inspire the development of new products and services related to immersive virtual tourism.

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17. Investigating the Impact of Customer Service Chatbots on the Customer Journey

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Type of manuscript: Extended abstract

Keywords: artificial intelligence; chatbots; customer journey

Introduction

The advent of Artificial Intelligence (AI) has led to the automation of services within a multitude of industries (Flavián *et al.*, 2022; Schepers *et al.*, 2022). The popular uptake of chatbots by businesses has disrupted the traditional communication pattern between a company and its customers. Chatbots are now assisting customers throughout the customer journey (Davenport *et al.*, 2020). During the individual stages of the customer journey, customers experience a range of emotions that influence their purchase decision (Grewal & Roggeveen, 2020). An analysis of the customer journey within an AI context is essential since chatbots interact with customers along the various touchpoints within the customer journey (Davenport *et al.*, 2020). Chatbots have the potential to reimagine the customer journey by changing the way customers search for information, consider their choices, make their purchase decision, consume their products, and respond through post-purchase behaviour (Libai *et al.*, 2020).

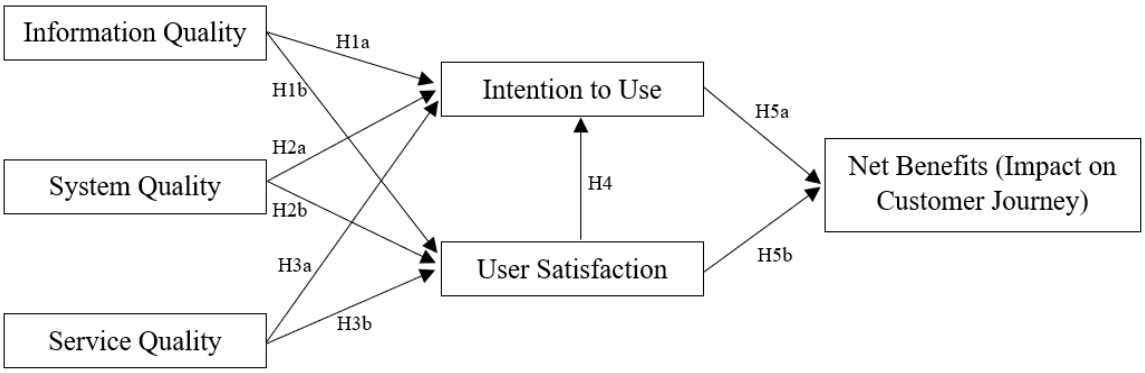
Albeit the various developments in the field of AI-powered technologies, research has predominantly focused on physical service robots. However, chatbots differ significantly from service robots, and thus, necessitate their own study. Følstad *et al.* (2021) recognise the need for researchers to step away from generic chatbots studies, and focus on particular demographics, domains, or contexts. This study addresses this call by focusing on the use of chatbots in the individual stages of the customer journey, within a customer service context and exploring the motivations that encourage consumers to use chatbots.

The Information Systems Success model was adapted for this study, since the model encapsulates the dimensions regarding user behaviour as well as other elements that influence the overall customer experience. As shown in Figure 1, the model suggests that the information quality, system quality, and service quality offered by information systems, such as chatbots, influence the intention to re(use) an information system and the user satisfaction with an information system (DeLone & McLean, 2003).

Following a review of the literature, the model constructs were linked with the stages of the customer journey. The information quality dimension represents the usefulness of the information generated by chatbots and was therefore associated with the pre-purchase stage of the customer journey since the quality of the information offered at this stage determines whether users proceed with the customer journey (Hoyer *et al.*, 2020). System quality was associated with the purchase stage since the usability and availability aspects of chatbots determine whether users are able to successfully purchase the product or service offered (Urbach & Müller, 2012). Finally, service quality was linked to the post-purchase stage since this construct assesses the chatbot's ability to assist the customer (Gorla *et al.*, 2010). Altogether these three constructs impact the user's satisfaction, and hence, their intention to re-use chatbots. Ultimately, these success measures represent the

overall user satisfaction, and thus, the impact on the customer journey which is represented by net benefits (LaRose, 2015).
The application of this model to a chatbot context, enables an understanding of the overall impact of chatbot use for customer service through an assessment of the net benefits construct, as explained in Figure 1.

Figure 1. Graphical representation of the conceptual framework adapted from the Information Systems Success Model (DeLone and McLean, 2003).



Methodology

A self-administered survey, which included a screen-recorded video of a chatbot interaction, was distributed online where respondents were recruited via convenience sampling. This allowed respondents to visualize the type of chatbots that were considered for the study (virtual and disembodied). The critical success factors and the success measures were assessed by a Likert style rating scale ranging from 1- 'Strongly Disagree' to 7 – 'Strongly Agree'. The data was analysed using IBM SPSS 28 and SmartPLS software.

Results

The sample of 203 respondents was mostly composed of Gen Z and Millennials who had utilised chatbots before responding to the survey. As shown in Table 1, seven of nine hypotheses were accepted, thereby partially validating the IS Success Model in a chatbot context.

Table 1. Hypothesis testing results

Hypothesis	Path	Path Coefficient	T-Value	P-Value	Significance	Status
H1a	INFQ→INT	0.205	1.977	0.048	Significant	Accepted
H1b	INFQ→USAT	0.287	3.317	0.001	Significant	Accepted
H2a	SYSQ→INT	0.282	3.231	0.001	Significant	Accepted
H2b	SYSQ→USAT	0.206	3.243	0.001	Significant	Accepted
H3a	SERVQ→ INT	-0.177	1.563	0.118	Not significant	Rejected
H3b	SERVQ→USAT	0.467	6.250	0.000	Significant	Accepted
H4	USAT → INT	0.474	3.744	0.000	Significant	Accepted
H5a	INT → NET	0.063	1.142	0.253	Not significant	Rejected
H5b	USAT → NET	0.834	18.328	0.000	Significant	Accepted

The findings revealed that system quality had a significant impact on the intention to use chatbots. Similarly, information quality was found to have a positive impact on intention to use. Furthermore, the results show that service quality has no significant impact on the intention to use, thus contradicting the IS Success model. Although this relationship was verified by numerous studies (Ameen et al., 2019; Baabdullah et al., 2019; Ojo, 2017; Shahzad et al., 2021), this study, along with other studies (Al-Fraihat et al., 2020; Seta et al., 2018; Veeramootoo et al., 2018), did not have the same results. This result suggests that the respondents of this study are not affected by one or more service quality measures within the questionnaire.

Additionally, the model also tested whether user satisfaction had a significant impact on the (continued) intention to use. This relationship was found to have the highest impact on the intention to use chatbots. This is in line with earlier studies in different countries (Ashfaq *et al*., 2020; Lee & Choi, 2017; Seta *et al.*, 2018; Veeramootoo *et al.*, 2018), suggesting that user satisfaction is a strong determinant of intention to use.

Discussion and Future Research

The study proved the utility of the IS Success Model within the context of chatbots for customer service, by identifying service quality, information quality, and system quality (by order of importance) to have a strong impact on net benefits and thus on the overall customer journey.

The results also showed that chatbots are most welcomed by customers during the post-purchase stage, implying that businesses should implement chatbots as part of their customer service strategy. Companies must ensure that their chatbot can provide a reliable service and adequate information throughout the customer journey, most especially during post-purchase where customers seek after-sales service such as queries related to the product or service or giving positive and negative feedback. The chatbot may also be able to provide order and tracking information depending on its technological capabilities. It is within a company's best interest to improve and add new features to the chatbot to support customers throughout their journey, thereby improving customer satisfaction via this medium and, hence encouraging its use.

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18. Iteratively designing a robotic concierge with different stakeholders - A multi-methods field study

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Type of manuscript: Extended abstract

Keywords: social robot; hospitality; robot concierge

Introduction

In the hospitality industry Human Resources (HR) is one of the most prominent and persistent issue worldwide (Enz, 2009; Qiu Zhang & Wu, 2004). Some organizations are looking for technology enhanced solutions (Kaipainen et al., 2018), but the hospitality industry strongly depends on the human factor and direct contact with customers (AlBattat et al., 2014). Thus, the technology should be able to provide human-like and hospitable customer contact. Social robots are one outstanding group of technology to potentially overcome these shortcomings with their physical embodiment, humanoid appearance, and their ability to show social behavior (Wirtz et al., 2018). As already shown in other domains, they can provide a satisfactory customer experience in simple and repetitive tasks, thus support human staff by freeing up time for issues that are more complex (Kaipainen et al., 2018).

Theoretical Background

Social robots are designed to interact with humans in a natural, interpersonal way and communicate with people using both verbal and nonverbal signals (Breazeal et al., 2016). They are often used in settings, which include social interaction and communicative tasks such as education, health or entertainment (Lugrin et al., 2022). Research with social robots with customer contacts is rare, particularly in the hotel domain. Exceptions include, for example, a social robot as a receptionist to support employees in customer service (Vishwanath et al., 2019), as a hotel assessment tool (Lein et al., 2023) or to perform heartwarming interaction towards guests and staff (Nakanishi et al., 2020). Overall, results were promising, but the application of social robots in customer service needs further exploration in the field (Tung & Au, 2018), not only from the guests' perspective but also from the perspective of staff working alongside the robot. To this end, we conducted two subsequent field studies with a mixed methods approach in a hotel – utilizing questionnaires, interviews, and observational data – and applied a social robot as a robotic concierge to support hotel staff caring for the guests e.g., by answering FAQ.

Implementation of a Robot Concierge

We chose the social robot Pepper (see Figure 1) as an autonomous robotic concierge. On its chest, the robot has an integrated tablet which ca be used to visually display information as well as receive touch input by the user to trigger the robot's behavior. We choose touch on the tablet as a simple and solid way of interaction because voice recognition is still prone to errors, especially in the noisy setting of a hotel lobby.

The robot gives information about the hotel, its restaurant, destinations and activities in the area. Moreover, the robot explains further information about itself, if asked. In addition to the German version, we added an English version of the robot concierge to be able to communicate with the hotel's foreign guests.

The robot responds to the guests' requests in a multi-modal way using various communicative channels such as speech, gaze and gesture, thus scaffolding the social component of the interaction. Furthermore, we integrated face tracking which allows the robot to focus on the person it is currently talking to, maintain eye contact during the interaction, or invite guests passing by the robot to start an interaction by looking at them. Furthermore, we added idle behavior such as blinking animations and slight breath movements.
We validated a first prototype in a pre-study and used an improved version of this prototype in the present studies.

Figure 1. Experimental set-up in the hotel lobby.

Two iterative Field Studies
Following an iterative and multi-methods approach using both quantitative and qualitative but also subjective and objective measures, we conducted two sequetutive field studies evaluating our robotic concierge within a multi-stakeholder focus and analyzing the potential of working alongside with the human receptionists. The robot was placed in the lobby of the hotel for one week in each study.
In the first study, we focused on the guests – using questionnaires and click data – and the hotel manager – using interviews. In the second study, we also paid attention to the receptionists working alongside with the robot – and got further insights by conducting interviews with them. Additionally, we observed guests' interactions with the robot in terms of attention, actual usage, and emotions shown using a preset codebook.

Preliminary Results
In the first study, guests' perception of the robot was in the middle range with, e.g., a perceived usefulness of 3.29 (*SD* = 1.25, on a 5-point scale). The assessment of the hotel manager was basically positive but with suggestions for further improvement which were implemented for the subsequent study.
In the second study, the interviews with the hotel staff revealed first potentials for work relief due to working alongside with the robotic concierge. However, guests often needed help from the staff to interact with the robot. The manager gave a positive assessment of the intervention, but sees need for expanding the functionality and tasks of the robot to

be worthwhile. The observations of guests reveal throughout positive emotions towards the robot and about half of the guests passing by the robot started an interaction.

Discussion

In a preliminary analysis, we indicated potentials of receptionists working alongside with robots in terms of work relief but also positive emotions of hotel guests. Also, we identified practical implications for improving side-by-side working of robotic and human receptionists, such as simplification of operating the robot and additional features to implement, but also practical implications for future research conducting field studies in the hotel industry, for example the preferableness of unintrusive methods such as observations in comparison to methods such as questionnaires.

Conclusion

Overall, the positive feedback and openness of all stakeholders revealed in our two field studies shows the great potential of robots working alongside human receptionists. Thus, future research is needed to continue the investigation of these potentials. The full version of this paper will contain additional analyses of related work, more details on the implementation, study design and evaluation, and an extensive discussion.

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19. Marketing and the Metaverse

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Type of manuscript: Extended abstract

Keywords: marketing; metaverse; NFTs

Introduction

The metaverse began as science fiction.

"Where humans, as programmable avatars, interact with each other and software agents, in a three-dimensional virtual space that uses the metaphor of the real world" (Stevenson, 1992).

Thirty years later the Metaverse became more defined.

"A massively scaled and interoperable network (Appendix 1) of real-time rendered 3D virtual worlds that can be experienced synchronously and persistently by an effectively unlimited number of users with an individual sense of presence, and with continuity of data, such as identity, history, entitlements, objects, communications, and payments" (Ball, 2022).

Businesses took notice.

"Some of the world's biggest companies are starting to set up shop in the so-called metaverse, sketching out an early blueprint for how people might eventually make real money in the much-hyped digital realm. For fashion brands, toy makers and others, this online world where users interact in their digital guise of avatars, not unlike in the movie "Ready Player One" or the online game "Second Life," is emerging as a new frontier for commerce. Some of those marketing efforts come with moneymaking opportunities for the companies as well. American clothing retailer Gap Inc. in January started selling digital hoodies, in the form of NFTs—an early test of what doing business in the metaverse could look like for the company (Appendix 2). An NFT hoodie is something the purchaser's avatar could wear someday as he or she explores the different corners of the metaverse. For the moment, however, Gap NFTs don't offer such an option, which would require Gap either to develop its own virtual realm or find a way to make its NFTs compatible with existing realms (Needleman & Brobrowsky, 2022).

Budgets followed.

"Businesses' and consumers' annual global spending related to the metaverse could reach $5 trillion by 2030 and E-commerce in the metaverse will comprise some $2 trillion to $2.6 trillion of the total, while virtual advertising endeavors will make up another $144 billion to $206 billion according to a new report from consulting firm McKinsey & Co." (Alcantara and Coffee, 2022).

Is the metaverse marketing's next big thing? (Faridani, 2021). And if it is, how should marketers unlock it? (Appendix 2). The following extended abstract provides a basis for future consideration.

Literature Review (Sestino, et al., 2022)

A review of the marketing and NFTs scholarship reveals three levels of concentration.

1) Intellectual Property
2) Lifestyles
3) Entertainment

Timeline (Chow, 2022)
Interesting that so much of the metaverse began as science fiction in print literature.

- 1935 – The science fiction story "Pygmalion's Spectacles," by Stanley Weinbaum, dreams up magical VR-like goggles
- 1981 – Philosopher Jean Baudrillard coins the term hyperreality
- 1986 – The Lucasfilm video game Habitat becomes home to the first large-scale virtual communities
- 1992 – Neal Stephenson coins the term metaverse in his novel Snow Crash
- 2007 – The virtual world Second Life booms in popularity, with hundreds of thousands of active residents
- 2011 – Ernest Cline's novel Ready Player One brings a dystopian and thrilling conception of the metaverse to mainstream audiences
- 2013 – Google releases its ill-fated Google Glass, which introduces the public to augmented reality (AR) technology. It never catches on widely
- 2014 – A virtual reality arms race ignites, with Sony and Samsung announcing headset prototypes after Facebook acquires Oculus
- 2020 – Some 27 million Fortnite players attend a virtual concert by the hip-hop star Travis Scott
- 2020 – The pandemic brings millions of new comers into virtual worlds such as Roblox and Animal Crossing. Chinese Minecraft players re-create 1.2 million sq. ft. of Wuhan hospitals as a tribute to health care workers
- 2021 – A real estate frenzy hits blockchain-based worlds like Decentraland and the Sandbox, as investors pay millions for virtual plots
- 2021 – Mark Zuckerberg changes Facebook's name to Meta and says he would like the company to transition from "primarily being a social media company to being a metaverse company.

Best Practices (Sundararajan, 2022)
Tactically, brands should start small and be authentic.

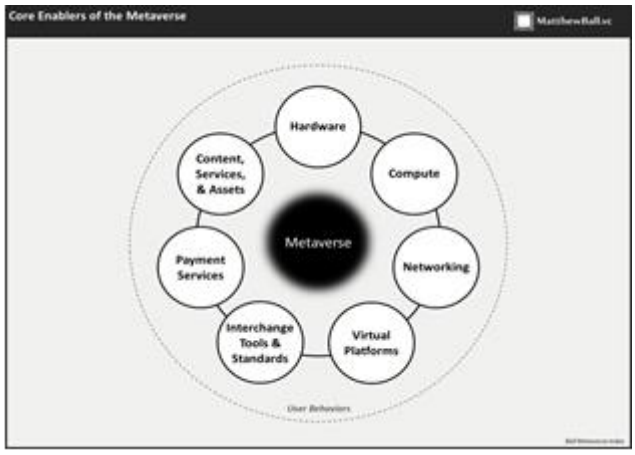
1) Start with smart digital collectibles
2) Tie your NFT collection to your brand and core product
3) Experiment, but with authenticity and an eye on the future

Recommendations (*Leighton, 2022*)
Strategically, brands should integrate the metaverse across multiple platforms.

1) Incorporate the metaverse into your marketing strategy
2) Create your own digital spaces
3) Immersive experiences
4) Digital collectibles
5) Traditional marketing with a digital twist

Conclusion
It is clear that brands will need more than "an address in the Metaverse" (Stephenson, 1992, p. 22). The best advice may be that "much like the early days of the Web, it is critical for brands to simultaneously ensure that they don't fall behind, while also not succumbing to misguided choices that look like checking off the NFT box" (Sundararajan, 2022). So, brands should start slow, but start. Be authentic and be committed. It is time for *all* Marketers to enter the Metaverse.

Appendix 1.



Appendix 2.

Appendix 3.

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20. Metaverse tourism and the future of sustainability

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Type of manuscript: Extended abstract

Keywords: metaverse; tourism; sustainability; metaverse tourism

Introduction

Metaverse tourism (MT) is the product of the third wave of internet expansion and development (Park & Stangl, 2020). This immersive 3D digital world has the potential to dramatically transform tourism industry, and therefore impact the sustainability of tourism activities at the destination, firm, and individual levels, and in a wide variety of ways (Koo *et al*., 2022). However, research investigating MT and its impacts on sustainability is still in its infancy. To this end, this study conceptually explores the implication of MT for the future of sustainability.

Metaverse tourism

The outbreak of the Covid-19 pandemic has accelerated digital disruptions in tourism. One of these disruptions is the 'metaverse'. Metaverse is an "interactive, immersive and social" 3D digital environment where actual and virtual worlds converge (Kim, 2021). It has the potential to revolutionize tourism industry by offering innovative ways for travelers to explore and experience the world (Buhalis & Karatay, 2022). MT can enhance accessibility, affordability, diversity, and creativity of travel experiences (Allam et al., 2022). Travelers can explore tourist locations without ever leaving their homes, and connect with people from across the world (Gursoy *et al*., 2022). Their experience can be also tailored based on their interests and previous interactions in the metaverse (Dilraj, 2022).

Metaverse tourism and sustainability

MT is expected to have significant negative and positive impacts on sustainability (Allam *et al*., 2022). It can provide a new source of revenue to diversify the local economy and create new job opportunities for locals (Koo *et al*., 2022). Small tourism businesses can reach a wider audience and offer their products and services digitally (Inder, 2023). This phenomenon can also increase access to often underrepresented destinations (Fiala, 2022). MT can reduce carbon emissions, and stress on popular tourist destinations and sites by minimizing the need for physical travel *(*Monaco & Sacchi, 2023). Furthermore, metaverse-based content can raise awareness and encourage pro-environmental behavior (Hui *et al*., 2023). MT can be a platform for cultural exchange and social cohesion (Gursoy *et al*., 2022), and offer a means for those who have physical restrictions to travel (Schiopu *et al*. 2022). However, MT can exacerbate economic disparities, as stakeholders with greater resources and skills will benefit most and possibly leading to the exclusion of destination micro-entrepreneurs (Gursoy *et al*., 2022). The development and operation of MT can require significant energy use and resource consumption (Allam *et al*., 2022). It can also have social implications such as digital divide, social isolation, addiction, and

cyberbullying (Koohang et al., 2023), and raise ethical concerns about privacy, security, authenticity, and ownership of virtual content and data (Wang et al., 2022).

Conclusion

MT is an emerging phenomenon with significant implications for sustainability. Tourism stakeholders must leverage the potential of MT while mitigating its negative impacts. Developing standards for responsible MT practice, establishing collaborations among public and private sectors to foster innovation and regulation of MT, enhancing digital literacy to facilitate access and participation in MT, creating synergies between MT and physical tourism to offer hybrid travel experiences, and promoting awareness about the benefits and challenges of MT for sustainability are recommended.

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21. Navigating the new norm in restaurants: To continue (or not) with the qr-code menus

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Extended abstract

This study investigates why restaurant managers decide to reverse their digital transition by abandoning QR-code menus and reintroducing traditional physical print menus. Menus are considered essential restaurant tools, particularly in directing customers' attention to the most profitable food services (Kochilas, 1991). The associated deeper meaning of the menus is also reflected as part of the "atmosphere" of a restaurant. The atmosphere is defined as the environment that surrounds the customer (Kotler, 1973), and it directly impacts perceived quality. As a result, restaurant menus are one of the few marketing tools in the food and beverage industry, with previous research indicating that they impact the dining experience (Hansen et al., 2005; Kokko, 2005; Gustafsson et al., 2006). Menus have multi-layered associations with the restaurant atmosphere, complementing ambient (e.g., sound, light, and temperature), social (e.g., employee-employee, employee-guest, and guest-guest relations), and design (e.g., architectural decor, symbols, spatial order, and aesthetics) factors (Heide and Grnhaug, 2006).

Various uses of technology were found to be contributing to the restaurant atmosphere in the past. For example, imaging technologies are reported to positively affect the perceived quality and their impact on shortening waiting times (Wakefield and Blodgett, 1994). In recent years restaurants have benefited from the virtues of technology, especially in helping to circumvent the increasing demand by transferring some service tasks to the customers. By implementing multiple channels such as websites, mobile applications, messaging, and phone services, the restaurants' revenues increased as customers got used to handling various tasks involved in ordering and payment. Additionally, the perceived risks of the COVID-19 pandemic forced restaurants to undergo some rapid digital transformation (Brewer and Sebby, 2021). Since restaurant menus were common surfaces with many individuals touching them, the virtue of digital transformation to minimise the risk of contamination was also accelerated. Most restaurants worldwide adopted alternative digital menus, such as placing QR codes on the tables, whereby the guests access the menus on smartphones instead of the traditional print menus.

Simultaneously, the limited visualisation available in print menus was also a topic of discussion. Print menus were seen as a hindering factor regardless of the pandemic, where alternative suggestions pointed to the possible positive impact of photographs on customers' purchase intentions (Reynolds et al., 2002; Gómez-Carmona et al., 2021). Thus, there was an increasing trend to adopt digital menus by implementing QR codes, web services, or tablet menus, even pre-pandemic, due to the involved opportunities to

include and update more vivid digital visuals. Along the same lines, past research also reported consumer preference towards e-tablet menus associated with information quality, menu availability, and order satisfaction (Beldona et al., 2014).

We focus on restaurants that chose to revert to their previous decision to digitalise their menus. Our study seeks to comprehend the motivations of the involved restaurant managers in reversing their decisions on implemented QR menus only to reintroduce traditional print menus, which are more expensive, less environmentally friendly, and rather unsanitary given the pandemic conditions. Our findings contribute to a better understanding of the complex dynamics and effects in the food and beverage industry. Specifically, we aim to identify potential facilitators and/or impediments to the techno-social factors involved with digital experiences to inform policymakers and decision-makers on possible approaches to facilitating the implementation of more environmentally friendly, healthy, and cost-effective solutions.

We focus on the Antalya region, a tourist hub in the Mediterranean region as an essential food and beverage destination, with purposeful sampling to include restaurant managers who initially adapted QR-coded menus but chose to reverse their decision only to reintroduce traditional print menus during the pandemic, particularly after the relevant restrictions were eased. We use a qualitative design toward a comparative case study to comprehend and interpret the sampled cases with comparative analysis (Merriam, 2013). Semi-structured in-depth interviews with managers, employees and customers are used to collect primary data. Field visits and desktop research on the available information about the sampled cases are used to collect secondary data.

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22. NFTs: a win-win strategy for both brands and customers

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Keywords: NFTs; customer experience; metaverse.

Extended abstract

Non-Fungible Tokens or NFTs is a concept that refers to a digital certificate proving the ownership of a particular item. Since 2020, NFTs have become a marketing trend and iconic companies have used them like Nike that launched its NFT platform called Swoosh. Louis Vuitton which offered 30 NFTs to its customers via its own game called Louis: The Game. Gap gave its customers the opportunity to own an exclusive edition of Gap hoodie. BMW turned 19 original BMW M engines' sounds into an authentic NFT collection called "Museum of Sound". NFTs have played a key role in brands' marketing decisions since they offer a variety of opportunities and create value for both brands and customers (Boukouyen & Boukouyen, 2023).

There are a variety of NFTs, namely, collectibles, artworks, videos, music, gaming, trading cards, events, virtual worlds (Rodeck, 2022). They are characterized by verifiability, transparent execution, availability, tamper-resistance, usability, atomicity, and tradability (Wang *et al.*, 2021). One of the NFTs that caught the attention of celebrities, brands, and customers is the Bored Ape, which are unique digital collectibles. The appearance of metaverse revolutionized marketing and fueled the use of NFTs since brands can offer NFTs to their customers in terms of creating their avatars or virtual environments built in this new digital universe. According to Simeon (2022), 80% of Nike's customers affirm that they can own NFTs in metaverse.

NFTs are secured by a specific blockchain technology called Ethereum that stores and preserves all transactions and data linked to NFTs as well as aids in verifying their authenticity. However, there are some challenges that should be framed like security and privacy issues, plagiarism, and fraud (Bao & Roubaud, 2022; Regner *et al.*, 2019). Previous studies defined NFTs, their opportunities, and challenges but they have not shed light on their role in elevating customer experience and benefiting brands. Therefore, our research aims to address the following research question: **why are NFTs considered as a win-win strategy ?**

To address our research question, we opted for a qualitative approach based on a document analysis (Bowen, 2009). Thus, we gathered over 150 documents from different online sources (e.g., Bloomberg, Mckinsey, etc.) and we conducted a thematic content analysis. Three main data analysis steps were followed (Miles *et al.*, 2014; Spiggle, 1994). Firstly, *data management* consisted of preparing collected data in separate files for coding. Secondly, for *data condensation*, we opted for inductive coding since we did not have prefixed categories and we expected the emergence of new themes. Thirdly, *interpretation* was drawn upon an iterative back-and-forth process to provide an in-depth understanding of our research topic. Therefore, two preliminary results emerged.

- A new way of rethinking marketing: by using NFTs, brands can stand out, boost their awarness, and make difference by creating newness as well as outstanding

experiences to their customers. Furthermore, they have the opportunity to create their own marketplaces dedicated to different NFTs (e.g., exclusive clothing edition). Through these digital platforms, brands leverage customer engagement. In fact, collectors (i.e., the buyers of NFTs) and creators are brought together, interact, make transactions, buy, sell, resell, and co-create to have an exclusive access to particular items. Through these platforms, brands wow their customers who live and experience new things. Brands can even make collaborations with artists to attract new customers and hence create a strong community around it and around its products and services which allows them to generate lasting benefits. Therefore, NFTs as a strong marketing tool enable brands to wow, engage, retain their customers, gain their trust and loyalty. NFTs can whether be offered (e.g., Louis : The Game), given as rewards to customers, or being part of a loyalty program. Thereby, brands can generate economic benefits through making and increasing profits and gaining royalties every time NFTs are resold by their new owners.

- Elevating customer experience: customers can generate a variety of benefits that can be classified as follows: *economic* (i.e., possibility to sell NFTs and make money), *hedonic* (i.e., having exclusive access to and living memorable experiences), *personal* (i.e., being identified through owning NFTs, self-promotion, self-representation through digital self (i.e., avatars), having exclusive items and enhancing their status), *social* (i.e., interacting and connecting to others in new innovative ways, engaging with brands, being part of a particular brand community, and unlocking premium access to exclusive membership).

The current research contributes to the literature by digging deep into an interesting research stream and providing an in-depth understanding on how NFTs can benefit both brands and customers.

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23. Perception of Sustainable Accommodations by Tourists: An Analysis of Online Travel Reviews

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Keywords: user-generated content, online travel reviews, sustainable hotels

Introduction

In recent years, sustainability has become a crucial consideration in the hospitality industry. This is due to the increasing awareness of the impact of hotels on the environment, society, and economy. Hotels that incorporate sustainable practices into their operations not only benefit the environment, but also improve their image and brand value. However, the implementation of sustainability initiatives in hotels may not be effective if consumers do not perceive them positively (Zhang et al., 2010). Thus, this research aims to examine the relationship between hotels and sustainability and consumers' perception of these initiatives.

Hotels and Sustainability

Hotels can have a significant impact on the environment, such as water and energy consumption, greenhouse gas emissions, waste generation, and depletion of natural resources. Therefore, sustainable hotels aim to minimize their environmental impact by adopting various practices, such as reducing energy and water consumption, using renewable energy sources, waste reduction and recycling, and sourcing local and organic products (UNWTO, 2022). Sustainable hotels also contribute to the social and economic development of the local community by creating jobs and supporting local businesses (Kasimu et al., 2012).

Consumers' Perception of Sustainable Hotels

Consumers' perception of sustainable hotels is crucial for the success of sustainability initiatives in the hospitality industry. Several studies have examined consumers' attitudes and preferences towards sustainable hotels. A study by Manaktola and Jauhari (2007) found that consumers' willingness to pay for eco-friendly hotels is positively related to their environmental concern and perceived benefits of sustainable practices. Moreover, consumers' perceptions of the environmental and social impact of hotels positively influence their intention to stay in sustainable hotels (Chen and Tung, 2014).

Furthermore, consumers' personal values and demographic characteristics may influence their perception of sustainable hotels. For instance, consumers with high levels of environmental concern and education are more likely to prefer eco-friendly hotels (Tzschentke et al., 2004). Similarly, consumers' age, income, and travel experience may affect their perception of sustainability initiatives in hotels (Masa'deh et al., 2017).

Conclusion

After examining online travel reviews by user-generated content of several hotels in the world, the results reveal a lack of awareness among tourists regarding the sustainability of the hotels. Therefore, there is a need to improve the marketing strategies of sustainable accommodations to effectively communicate their sustainable initiatives.

Sustainability is becoming an essential aspect of the hospitality industry. Thus, consumers' perception of sustainable hotels is crucial for the success of sustainability initiatives in the hospitality industry. However, promoting sustainable hotels to consumers requires effective communication and education about the environmental and social impact of hotels and the benefits of staying in sustainable hotels.

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24. Serving with style: Exploring conversation styles for enhanced personalization and affective customer experience in social media customer service

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Extended abstract

Customer service is one of the most critical touchpoints for personalized interactions, as customers are vulnerable and proactively seek help (Brown & Yates, 2020). The interpersonal interaction is at the heart of customer service and therefore needs to be managed carefully for enabling a pleasant customer service experience (Groth et al., 2019). However, intensified digitization and declining human contact in customer service are making it increasingly difficult to personalize interactions and facilitate a personal touch (Huang & Rust, 2021; Miao et al., 2022). The nature of the interpersonal interaction is very different in digital text-based customer service compared to in-person communication as relevant cues for providing a personal touch are not transmitted and inhibit building a relationship with the customer (Walther et al., 2005). This causes challenges not only for the customer service agent but also when companies begin using conversational AI to automate customer service interactions. In digital and automated customer service interactions, previous research has investigated social presence theory or social response theory to understand the role of anthropomorphic design cues such as identity or visual cues (Go & Sundar, 2019), communication delays (Schanke et al., 2021), use of chatbot's name (Crolic et al., 2022) or emoticons (Li & Shin, 2022). Besides design cues imitating social presence, language has a vital impact on affective customer service experience (Jagodziński & Archer, 2018). This is echoed by research on the effect of humor (Shin et al., 2023), sympathy (Lou et al., 2022), or chatbot greetings (Kull et al., 2021) on customer satisfaction. Our research extends these previous findings and focuses on conversation styles throughout the entire conversation and their effect on affective customer service experience. Specifically, we identify conversation styles for delivering the personal touch required for building lasting relationships. Drawing from a social media customer service study we address the question of how personalized conversation styles improve affective customer experience in text-based customer service? We aim to utilize these findings to inform how customer service agents should interact in digital text-based interactions as well as the design of conversational AI for building relationships.

We first build on the theory of relational personalization (Fan & Poole, 2006) and social information processing (Walther, 1992) to identify three relevant conversation styles, namely empathy, small talk, and response similarity, for building relationships in digital text-based customer service interactions. We further build on the social information processing theory's concept of understanding the customer's psychological makeup to

develop the ability to personalize communication. As a result, we consider the previous customer experience, the customer's initial emotions, and personality traits to personalize the conversation styles to improve the affective customer service experience. We test our hypotheses using over 34k customer service conversations on Twitter across 15 companies and four industries. To measure the expression of conversation styles used by customer service agents along the conversation as well as identify the customer's psychological makeup, we developed deep learning-based natural language processing models. Improvements in the affective customer service experience were measured using a pre-trained RoBERTa model for sentiment analysis, whereas both expressions of small talk and empathy were identified using pre-trained BERT-based classifiers. The lexical response similarity was measured using the cosine similarity of term frequencies between customer service agent responses. We conducted a linear regression analysis to examine the effect of personalized conversation styles on the affective customer service experience, taking into account the moderating effects of the customer's psychological makeup.

Our initial findings show that each of the conversation styles we analyzed has a noteworthy impact on the customer service experience, although the extent of this impact varies depending on the customer's profile and the position within the conversation (beginning, middle, end). For example, the preliminary results show that standardized responses (a higher level of response similarity) have a negative effect on the affective customer service experience. However, for the initial customer service agent response, a standardized response has no negative effect. On the other side, our results show that the amount of social information expressed (more small talk) has a significant positive effect on the affective customer service experience, regardless of the position in the conversation or the service outcome of the conversation. In terms of empathy, when customer service agents communicate an understanding of the feelings and experiences inferred from the customer at the beginning of the conversation, the customer service experience improves. However, this is interestingly not the case if the customer service agent expresses emotions, they themselves feel.

The preliminary findings have both contributions to theory and valuable managerial insights. The contributions to theory are multifaceted. For example, our results replicate findings from different customer service settings such as call centers with regard to service scripts and standardized responses (Szymanski et al., 2020). However, our results also highlight differences of digital customer service settings as they are contrary to (Victorino & Bolinger, 2012) findings, which show that scripts are perceived positively when they are focusing on task-related outcomes. Further, our findings extend the work on anthropomorphic design of chatbots (e.g., Crolic et al., 2022; Go & Sundar, 2019; Schanke et al., 2021) in that social presence expressed with small talk improves the affective customer experience. While there is wide agreement that empathy is beneficial in customer service (Bahadur, 2020), we provide a detailed picture of when and what type of empathy improves the affective customer experience. In addition, we highlight the use of advanced natural language processing methods with zero-shot learning approaches to improve customer service interactions on an affective level. Our findings also offer valuable managerial insights into how to guide employees and conversational AI solutions to provide a personal touch during intensified digitization and declining human contact in customer service. The findings can serve as guidelines for implementing different stages of conversational AI such as customer analytics, conversational coaching, or automated chatbots. The nuanced analysis uncovers that more attention to detail is

required when instructing agents or training chatbots to be empathetic or resolve customer issues. Fourth, our study draws upon a novel dataset of customer service conversations across four different industries on social media, providing relevant insights for a wide range of scholars and practitioners.

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25. The impact of Green Leaders Certification on tourist's satisfaction and review helpfulness. A sentiment analysis

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Keywords: sentiment analysis, user-generated content, smart cities

Extended abstract

Environmental awareness has played a significant role in the operations of hotels, resulting in the increased implementation of green practices (Nimri et al., 2020). By adopting green practices, hotel chains gain a competitive advantage and encourage such pro-environmental actions among their guests, have stepped into the green innovative process based on a win-win situation – namely, 'green and competitive' (Galeazzo et al., 2021). Researchers have recommended that the hospitality industry establish its own certification standards for green practices to encourage firm participation (Kim et al., 2017). Several certifications have emerged as a result, being GreenLeaders (GL) program one of the most prestigious green certificates in the hospitality industry (Yu et al., 2017). Considering the hospitality industry's characteristics, it becomes essential to be responsible towards the environment to fulfill these sustainable competitive advantages. Thus, in recent years, managers and researchers have worked in, and with, the lodging sector to help it be more eco-friendly by putting into place a broad range of green practices (Salem et al., 2022), and by communicating this environmental strategy through social media to enhance the green images of the lodgings and motivate customers to go green. In this context, considering that consumers rely on user generated-content (UGC) for their purchase decision, tourist co-creation, defined as post online tourist reviews in TripAdvisor providing their experiences, is crucial for hospitality firms (Nunkoo et al., 2020).

Many researchers have focused on analyzing co-creation in the hotel industry through customer surveys (e.g., Lee and Cheng, 2018), however, only a few have used hotel online reviews (e.g., Kim and Kim, 2022). To fill in this research gap, this study proposes to explore the factors reflecting customer experiences and measure customer's satisfaction, contributions, and reviews' helpfulness through UGC on social media. The main purpose of the research is to explore whether GreenLeader certification contributes to tourist satisfaction and reviews' helpfulness. More specifically, this study aims to:

To explore the relationships between the GL-Level awarded by TripAdvisor and tourists' satisfaction.

To examine the effect of the GL-Level awarded by TripAdvisor on perceived review helpfulness.

To revel the relationships between tourist cocreation and perceived review helpfulness.

The case study is based on opinions shared online by customers of NH GL hotel, because due to the growth of environmental consciousness among consumers, a green practice has

become a critical competitive advantage in hospitality (Arici et al., 2023). The case selection process includes three steps. First, the selection of the hotel chain. The NH hotels was chosen as the context of this research because (1) It is recognized as one of the 3 most sustainable companies in the world in its sector in the Sustainability Yearbook 2021; (2) Hotel chain have been addressing environmental concerns for years, such as TripAdvisor GreenLeader Certified. Second, considering that NH operate in 33 countries, we focus on the two most relevant smart cities in Europe, Amsterdam and Berlin (The Cities in Motion Index, 2020). Amsterdam and Berlin are two territories with similar characteristics of a smart city with distinctive attractions for visitors; and the only two from the five Western European Smart Cities where NH Hotels have the GreenLeaders certified. Third, we select the most suitable website for this case. TripAdvisor travel-related platform was chosen because: (1) It is the largest source of UGC in the tourism domain; (2) TripAdvisor launched the GreenLeaders Programme to evaluate Hotels' green practices. The standards of the TripAdvisor GreenLeaders programme categorises hotels into five levels – Platinum, Gold, Silver, Bronze and GreenPartner – based on their eco-friendly practices. Taking all this points into account, as case of study, we have chosen NH hotels with TripAdvisor GreenLeaders certification located in Amsterdam and Berlin were chosen.

To carry out the research, the UGC was compiled in the form of the OTRs collected on TripAdvisor about NH GreenLeader hotels in Amsterdam and Berlin. The information was retrieved in February 2023; it consisted of all the English-language reviews of the green hotels posted online from 2018 to 2022. According to TripAdvisor, there are 13 NH hotels in Amsterdam, seven of them without GreenLeader Certified and 7 NH hotels in Berlin, one of them without GreenLeader Certified. Therefore, the total OTRs for 12 NH hotels were collected. Reviews were downloaded through a website copier with appropriate filters, so 19052 OTRs (3206 Platinum , 1096 Gold , 8729 and 6021 Bronze) were obtained.

We carried out an automatic sentiment analysis using deep learning, a class of ML technique applied to natural language processing (Timoshenko and Hauser 2019). We used MeaningCloud software. In this research, the variables used are three: tourist satisfaction, tourist co-creation and helpfulness. The sentiment polarity of the reviews was used as a proxy of tourist satisfaction: very dissatisfied (N+), dissatisfied (N), neutral (neu), satisfied (P) and very satisfied (P+), we coded each review considering the satisfaction, being 1 is very dissatisfied and 5 very satisfied. The second variable is helpfulness of reviews, that refer to the helpful votes that receive each review. Based on terciles, we coded the reviews helpfulness in three groups: high (more than 282 helpful votes), medium (between 44 and 282 helpful votes) and low (until 43 helpful votes). Lastly, the tourist co-creation, measured as the number of reviews that reviewers post in TripAdvisor was also coded in three groups by terciles: high (more than 143 reviews posted in TripAdvisor), medium (between 31 and 143 reviews posted in TripAdvisor) and low (until 30 reviews posted in TripAdvisor).

The present study makes three contributions to the body of knowledge of online reviews and online consumer behavior. First, the present study assess how the level of GreenLeader certified (Platinum, Gold, Silver and Bronze) affects tourism satisfaction with is reflected by the sentiment polarity of the reviews. Our results show that the level of certification affects the sentiment of the reviews, showing that tourists staying at NH Platinum hotels are more satisfied. The second contribution concerns how standard in general, and guest education in particular, affects reviews helpfulness. This study evidence that the perceived helpfulness of the reviews depends on the level of GreenLeader certification, being the reviews form Bronce NH Hotels the less helpfulness.

The third contribution refers to the relationship between tourist co-creation and reviews helpfulness. This study demonstrated that the reviews from tourist with high level of co-creation are perceived as more helpfulness that the reviews form those who have low co-creation. Finally, the results of this study also address sustainable development by pointing out actions undertaken by one most important hotel chains of the sector (NH hotel), they can serve as an example and be replicated by other firms, thus increasing sustainability practices and improving understanding of GreenLeader Certified importance.

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26. The synergistic effects of digital service technologies, service robots, AI, and cost-effective service excellence strategies

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Type of manuscript: Extended abstract

Keywords: digital; service robot; AI; service excellence; productivity; modularization; focused service factory; dual culture; organizational ambidexterity.

Extended abstract

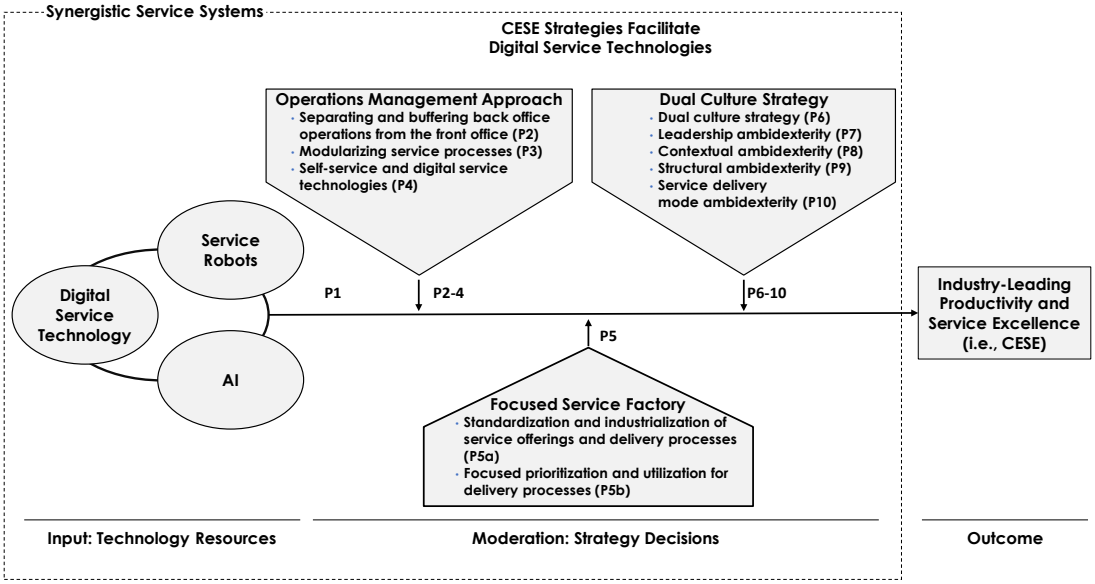
The implementation of digital service technologies, service robots and artificial intelligence (AI) in customer service is frequently viewed as a reduction in personal touch, loss of interaction opportunities, and move towards self-service and therefore may not always be welcomed by customers. Relatedly, marketing research has long supported the notion that there is a trade-off between customer satisfaction and productivity since either requires "distinctive organizational systems, structure and cultural underpinning" (Rust *et al*., 2016, p. 156). Similarly, operations management and health policy researchers support the trade-off between quality and cost (Boyer & Lewis, 2009; Häkkinen *et al*., 2014).

However, there is evidence that trade-offs do not always have to be made as there are organizations that have managed to achieve cost-effective service excellence (CESE). These organizations are some of the best performers in their respective competitive sets in terms of both customer satisfaction and productivity (Wirtz & Zeithaml, 2018). In our article, we advance that the three strategic pathways towards CESE (i.e., the operations management approach, focused service strategy, and dual culture strategy) are also excellent enablers for the implementation and use of digital service technologies, service robots, and AI (subsequently also referred to as "digital service technologies" or simply "digital technologies"). Further, we develop a set of propositions and formalize a conceptual model (see Figure 1) to explain how the strategic pathways towards CESE support organizations with the implementation and use of these technologies.

By offering a nuanced perspective on how firms can overcome numerous idiosyncratic challenges in their implementation of digital technologies, our study makes several theoretical contributions to the literature on digital service technologies (e.g., Mithas et al, 2020), service robots (Belanche *et al*., 2020; Wirtz *et al*., 2018), AI (Huang & Rust, 2021; Marinova *et al*., 2017, Mithas *et al*., 2020, Rust & Huang, 2014), and CESE (Hofmeister *et al*. 2022, 2023; Wirtz & Zeithaml, 2018). First, while research on CESE and digital service technology has generated new and important insights, both research streams have been separated in the past. This article bridges the two streams and develops a model that features CESE strategies as critical enablers of the successful implementation and operation of new technologies. As such, we contribute a new set of

propositions that link both research streams and inform research on their relatedness. Second, akin to Payne *et al*. (2017), we follow resource-based theory to combine the digital service technology and CESE literatures in one theoretical model (e.g., Jaakkola, 2020). Because resource-based theory is important for explaining a firm's competitive advantage (Kozlenkova *et al*., 2014) it provides an apt theoretical lens considering the fact that digital service technologies, service robots, and AI are implemented with the aim to gain a competitive advantage, at least initially if a firm is a first or early mover. Moreover, by taking a service systems perspective (Hull, 2004), we specify the interdependencies between our propositions. That is, we systematically integrate digital service technologies (the model's input factors) and CESE strategies (the model's moderators) into the same theoretical model because we advance that both are multiplicative predictors of how organizations can achieve industry leading productivity and service excellence (the model's output, i.e., CESE).

Figure 1. Proposed theoretical model



In sum, we contribute to the literature on digital service technologies and CESE by connecting the two research streams within a cohesive model. Such an integration has not been developed before. The model shown in Figure 1 helps researchers to bridge the gap between the previously separated streams. In terms of practical relevance, the propositions presented in this paper deal with how managers can use the CESE strategies to improve the implementation of digital service technologies. By identifying the challenges associated with the three CESE strategies, our article aims to help managers focus on key areas of improvement in the light of current rapid technological advancements. We argue that management action has a great effect on the ease of implementation of digital service technologies. Structured alongside the three CESE strategies, we therefore make the following recommendations for practitioners: First, managers should sufficiently reduce service process variations to leveraging technology and further automate processes. Second, where appropriate, the focused service factory strategy enables managers to scale volumes of service transactions while at the same time they can minimize customer-induced variability. Third, the dual culture strategy (Wirtz, 2020) ensures that digital technology is both cost-effective as well as customer centric.

Conclusively, we propose that future research tests the herein developed propositions using qualitative and quantitative empirical research. Qualitative empirical research, such as case-study research (e.g., Hofmeister *et al*., 2022; Wirtz and Zeithaml, 2018), can provide a more granular understanding of the relationships between digital service technologies and CESE strategies. Furthermore, quantitative empirical research can help to support our propositions and identify boundary conditions, such as moderations (e.g., service industry or firm age) and non-linear relationships (e.g., how service productivity and service quality outputs change with varying inputs for each of the digital service technologies). Hence, it is crucial to develop appropriate measurement instruments and scales to empirically test the propositions. Furthermore, longitudinal studies that study the underlying process in different phases during the lifecycle of digital service technology will advance our understanding of how different firm configurations (e.g., service design principles or organizational arrangements) influence our propositions.

Finally, we did not differentiate between different domains of service firms (e.g., incumbents versus new market entrants, or different business models). As such, further research should study how service domains that differ in their degree of intangibility (high service intangibility typically makes it difficult for customers to evaluate the service), the degree of customer coproduction (high customer coproduction typically increases the complexity of the service offering), or whether business-to-business services (which are typically more "pull" based and customized) or business-to-consumer services (which are typically more "push" based and less customized when offered at high scale) affect our model. Thus, domain related differences in the characteristics of digital service technologies not only shape the dynamics among innovating firms but likely also affect our propositions. We encourage researchers to continue investigating these differences.

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27. The use of the metaverse for marketing purposes: the view of pioneer companies

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Keywords: Metaverse; companies; expectations.

Introduction and background

Commonly understood as a space for interacting with other users in a virtual world like the real world, this conception of the metaverse simplifies a bigger phenomenon that implies environment, interface, interaction, and social value (Dwivedi et al., 2022). Keeping in mind the complexity of the metaverse, Barrera and Shah (2023, p. 5) define the metaverse as "a technology-mediated network of scalable and potentially interoperable extended reality environments merging the physical and virtual realities to provide experiences characterized by their level of immersiveness, environmental fidelity, and sociability."

Although there is still no clear consensus on the definition of the metaverse, and some authors recognize the difficulty of defining this ample concept (Dwivedi et al., 2022), including the metaverse in the marketing and business area presents a clear potential. According to Nikolovska (2022), the market size of the metaverse is over $38.5 billion, and the monthly active users surpass 400 million. Scholars also show clear implications of the metaverse for firms. For instance, Dwivedi *et al.* (2022) affirm that the metaverse will offer marketers numerous opportunities to interact with customers and other stakeholders. Moreover, in their extensive research agenda, these authors expose several potential contributions of the metaverse to the marketing field (and other fields). Likewise, Barrera and Shah (2023) mention that one of the implications for marketing practice regarding the metaverse is to propose new channels to create and spread brand marketing content because this new space will hyper-connect users, devices, and platforms. The hyper-connection in the metaverse is expected to boost the dissemination of brand information, firm-customer touchpoints, and brand cocreation (Swaminathan *et al.*, 2020). For example, De Regt *et al.* (2021) have already shown that when brands do direct marketing communications in a Virtual Reality (VR) context, it enhances consumer-brand relationships through brand engagement and advocacy.

Moreover, the literature affirms that the metaverse will rapidly evolve into a seamlessly interconnected space that will modify how consumers, brands, and firms interact since it provides new ways and channels to interact with consumers (Barrera & Shah, 2023). Furthermore, it is also expected to assist firms in integrating their offline activities into the virtual world (Bian *et al.*, 2021).

Although the potential is clear, adopting this new virtual retail space (i.e., metaverse) is also challenging for retailers. In this regard, scholars call for exploring the motivations and goals of firms to engage in such virtual space (Barrera & Shah, 2023). As a result, we aim to contribute to knowledge by exploring firms' views regarding the metaverse's potential for marketing purposes. Concretely, we focus on three themes:

1) The conceptualization of the metaverse.
2) The current experience using the metaverse for marketing purposes.
3) The perception about the potential of the metaverse.

Research method

This work follows a qualitative approach to explore firms' perspectives regarding the metaverse's potential for marketing purposes. As a result, four semi-structured in-depth interviews were conducted in December 2022. The sample consisted of 6 professionals from 4 international firms already working on strategies that include the metaverse as the main element. Sample details are provided in Table 1.

Table 1. Sample characteristics.

Firm	Type	Sector	Respondent position	Respondent Gender
A	Group	Telecommunications	Product Manager Web3 & Metaverse	Female
			Strategic Design Lead-Web3 & Metaverse	Male
			Product Manager Web3 & Metaverse	Male
B	Personal	Pharmaceutical	Innovation Manager	Female
C	Personal	Production studio	Immersive Creative Director	Male
D	Personal	Airline	Disruptive and Open Innovation Specialist	Female

The interview is composed of different questions that aim to address the three main topics previously proposed: (1) conceptualization; (2) their current experience; and (3) the potential and future of the metaverse.

We performed an inductive content analysis to examine firms' perceptions regarding the use of metaverse for marketing purposes. We transcript the interviews, and two researchers analyzed the transcripts and codified them independently. Then, the findings were compared, and the disagreements were discussed.

Preliminary results

Regarding the *conception of the metaverse*, we find some diversity of opinions. The members of firm A almost agree that it is a big possibility to link the physical and virtual worlds to communicate with customers. The idea of the member of firm D is similar, but she adds the possibility of creating immersive experiences. It is also considered as a digital space that can be used by the business and break physical barriers, both with employees and customers (firm B). Finally, the interviewee of firm C sees it as a moment in which people's digital lives have the same or more value than their real lives.

Regarding their e*xperience using the metaverse,* they generally see their incursion as incipient but consider the presence necessary to prepare for emerging opportunities. Some examples in which firms work are the commercialization of NFTs and the collaboration with other companies to develop joint projects (firms A and D). Firm B uses it as a

"remote meeting space exclusively for internal employees" and expects to expand it for learning and training activities; firm C is currently working on a long-term project (2-3 years) "focused on using VR and gaming to improve the mental health of gen Z."
They agree that nowadays, the metaverse is not for all businesses because there are companies that "work perfectly without the Metaverse" (firm C), but they should "look for their opportunities and see if they are interested in developing it or not" (firm D). However, they clarify that it is critical for some sectors, such as technology, marketing, and entertainment.
Concerning *the potential*, all the interviewees generally state that the metaverse will change customer relationships. However, they guess this is not a reality and this change "will not be as fast as we think." Moreover, they believe the contact with the consumer will be optimized (in terms of time), but it would require a good connection between the physical and digital worlds and the combined use of these channels.
The forecast is generally optimistic since the metaverse is expected to be a new purchase channel and a way to create, paradoxically, a more human relationship. Nevertheless, this is still in its infancy and needs to work on several points, such as the digital divide, acceptance barriers, and quality content.
Table 2 summarizes the perceptions of the metaverse's present benefits and future challenges to firms interviewed.

Table 2. Benefits and challenges of the metaverse.

Firm	Benefits	Challenges
A	Geographical barriers removal	Security Lack of standards Adaptation to this world
B	Geographical barriers removal	Adaptation to this world
C	Creation of personal and interactive experiences More data about consumers.	Psychological impact
D	Creation of personal and interactive experiences	Adaptation to this world

All in all, the preliminary results of this work allow us to propose some considerations regarding the firms' use of metaverse. First, the conceptualization is still not clear and needs more consideration. The current experience is in its infancy, but innovative firms are entering this space, at least with simple activities. Moreover, they predict the development of several complex activities. Regarding marketing challenges, we find it crucial to pay attention to the created content and consider its role in the omnichannel context since it is expected to be an important communication channel, purchase, and payment method, and consumers will use it combined with other channels. The consumer experience will be critical in this space, in line with the previous idea.

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28. Travelling to the past. The impact of Virtual Reality on customer experience with heritage destinations

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Extended abstract

This research explores how co-creation and engagement with content style of tourist information (text vs. pictorial) in an immersive context, lead to a better tourist experience and behavioural intentions towards a heritage destination. Previous literature on Virtual Reality (VR) (see Bec, 2019; Bideci & Bideci, 2023; Guttentag, 2010) has acknowledged the relevant role of VR in heritage tourism because of (i) it may contribute to heritage preservation; (ii) serve as an educational tool and (iii) can be a stimulus to more in situ visits. Virtual reality makes consumers feel transported to physical environments, which is critical in heritage tourism (Prados-Peña & Del Barrio-García, 2021): (i) to the place where the tourist attraction is located and (ii) cognitive transportation close to a mental imagery process for recreating how the attraction was at ancient time.

VR settings of heritage attractions enhance customer experiences, transporting them to the past (Atzeni, et al., 2022; Bideci & Bideci, 2023). Based on the paradigm of the experiential economy proposed by Pine & Gilmore (1999), Loureiro et al. (2020) point out a gap in the relationship between customer experience and engagement. Since customer experiences relate to emotional responses, neurophysiological tools can address the experiential value of an ancient attraction by means of a VR recreation. As Tian et al. (2021) points out, the effects on emotional arousal by using immersive technologies have not been comprehensively investigated. Most of the previous research on heritage tourism based on VR has addressed tourists' reactions through self-reported methods, but the literature lacks neurophysiological-based studies (Loureiro et al., 2020). To overcome such gap, and build upon the experience paradigm, this study aims to analyze tourist neurophysiological experiential responses in a heritage attraction simulated in a VR setting. The aims of this research are (i) to develop a conceptual framework to identify the types of consumer experiences in VR tourism settings; (ii) to analyze the impact of co-creation responses and consumer engagement on the consumer experience and behavioral intentions in VR settings.

Inspired by the four main dimensions of experiences along two paths suggested by Pine & Gilmore (1999): the customer's participation level (active versus passive) and the customer's engagement (high vs. low), we propose a specific framework for customer's experience on a VR heritage attraction. The first axe refers to the co-creation level captured using clickstream data (number of user's interactions with the VR setting). Clickstream data provides a record of a website visitor's journey on the site that can be used to predict future behavioural intentions (Gu & Sismeiro, 2020). The second level captures the engagement with the VR setting and can be associated with the perceived immersion generated by text and pictorial content, and the arousal generated by VR environments. Thus, we posit,

- RQ1: Does the number of interactions with the content of a VR setting (i.e., co-creation) and customer engagement (high vs. low) determine a better experience?
- RQ2: Does the number of interactions with the content of a VR setting (i.e., co-creation) determine higher/lower perceived immersion?
- RQ3: Are text information cues more influential than pictorial cues (pictures, videos) on future tourist behavioral intentions (intention to revisit and recommend)?
- RQ4: Is arousal generated by pictorial cues higher than arousal generated by text information cues?

We conducted a one-factor between-subject experimental design using a sample of Spanish tourists who visited a a heritage destination through an immersive Virtual Reality tour. We selected a heritage tourist destination that was highly known (i.e., Egypt), to mitigate the possible effects of the low familiarity on the prior perceptions and the tourist's responses to the destination (Ruiz et al., 2020). The Giza Project at Harvard University is one of the most relevant informative projects on archaeological excavations of Ancient Egypt, offering various public virtual tours based on high-quality archaeological research. These virtual visits can be carried out using a VR device and include extra-information points (i.e., tags) throughout the virtual visit that the visitor can freely select or not. We selected the virtual visit of the Tomb of Queen Meresankh III to perform our empirical study (see Figure 1), which provides an immersive tour throughout the tomb, including 28 extra information tags of with different creative styles: (i) only text, (ii) text and pictorial elements, in English (see Figure 2).

61 Spanish residents recruited by a professional market research company participated in the laboratory study. Participants met the following criteria, aged 30-60 years, Internet users, and reflecting the town's population where the study was conducted (omitted for a blind review) regarding age and gender. Further, we collected the galvanic skin response by using an Empatica device for all participants. As measure of co-creation level, me captured the number of extra-information tags (interactivity) viewed for the participants, and the type of tag used (textual vs. pictorial). As measures of arousal (i.e., proxy of engagement), we used galvanic skin conductance and heart rate variability. Once participants finished the visit, they completed a questionnaire that included scales previously employed in literature to measure overall assessment of the experience (Yim et al., 2017), perceived immersion (Kyrlitsias & Michael-Grigorio, 2022), and intention to visit in situ and intention to recommend the destination (Mishra et al., 2020).

To carry out the data analysis, we will group the individuals into two groups using the number of extra-information tags (i.e., co-creation: low vs. high). We will also identify the type of extra-tags most viewed (textual vs. pictorial). Then, we will use ANOVA tests to determine the mean differences in overall experience, immersion and behavioral intentions among the two groups of individuals. The data is being processed now. During the conference, full results will be presented.

This work makes three contributions to the tourism marketing literature. First, we explore customer experience in immersive VR heritage destinations, using clickstream data. Second, we investigate the effects of creative style of the content (pictorial vs. text) on arousal and behavioural intentions. Third, this paper combines neurophysiological (arousal measured by galvanic skin response, GSR and heart rate variability, HRV), click stream data and subjective (self-reported) measures of future behavioural intentions, to explain the customer experience in VR heritage destinations.

Figure 1. Screenshot of the virtual visit of the Tomb of Queen Meresankh III in Giza, Egypt

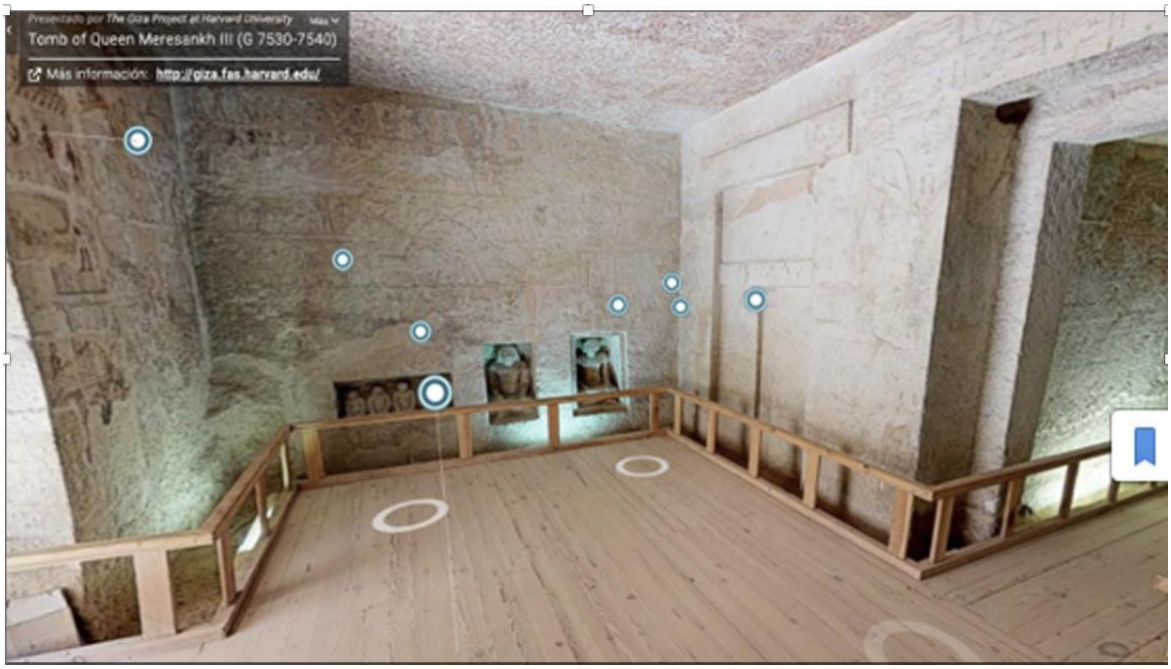
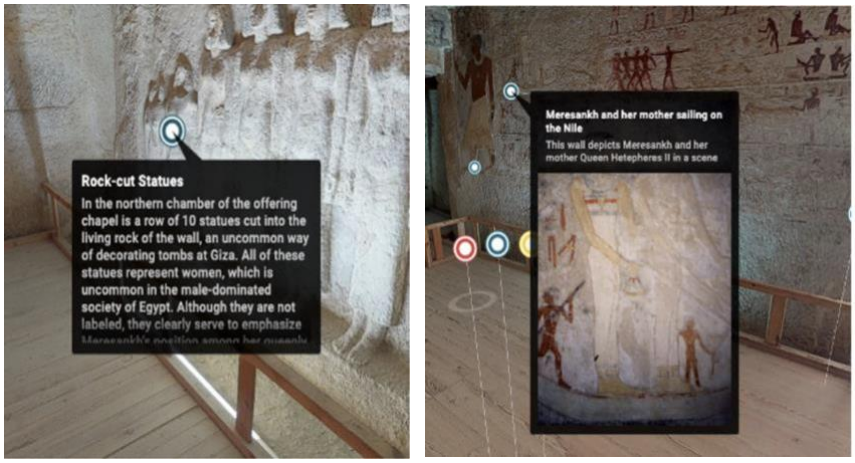


Figure 2. Example of different creative styles in the extra information tags in the virtual visit

Textual context Pictorial content (picture+text)



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29. Using VR to choose a hotel: do avatars make a difference? A behavioural, self-reported and neurophysiological study

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Extended abstract

Immersive technologies such as virtual reality are having a profound impact in hospitality and tourism practices and are attracting increasing attention from academics and practitioners. Virtual Reality (VR) is considered an interactive computer-generated environment that simulates the physical world with real-life scenarios and enables individuals to interact with objects and feel a sense of presence (Alyahya & McLean, 2022; Flavián et al., 2019; Tussyadiah et al., 2018; Wedel et al., 2020).

The application of VR in travel and tourism has been increasingly popular (Bigné & Maturana, 2022; Fan et al., 2022; Lee et al., 2020; Tussyadiah et al., 2018; Zeng et al., 2020). According to Bigné and Maturana (2022) VR has potential as a channel to make bookings. VR has been considered as one of the most important technological developments to impact travel and tourism (Bogicevic et al., 2021; Tussyadiah et al., 2018) and the significant developments is an interesting chance for the hotel industry (McLean & Barhorst, 2021). A comparative study between two electronic platforms (VR and traditional web-based platforms) found that VR generated a higher sense of presence, driven by immersion, that was apparent on the traditional websites (Bigné & Maturana, 2022).

Despite the growing interest in VR among academics and practitioners, there are research gaps that need to be addressed. First, there is a call for research on incorporating "neuroscientific metrics to analyze participants' emotional reactions and the visual attention they pay to content to identify the relationships between navigation patterns and product choice" (Bigné & Maturana, 2022, p. 18). Second, previous research on VR suggests the interest to collect both objective (e.g., eye tracking) and self-reporting (e.g., aided recall) measures (Orús et al., 2021). Third, Zeng et al. (2020) suggest the need to examine the effects of the various design elements of VR (i.e., presence, enjoyment) in conjunction with the various design elements of the tourism service website (i.e., hotel rooms, facilities, location, price) and other formats of user-generated context (online reviews). It increases the perceived realism towards simulated environments. Fourth, in a study of self-service technology in the hospitality industry, Shin and Perdue (2019) suggested that future studies need to analyze human-computer interactions. Choi et al. (2020) found that the presence of an avatar had a positive intention to use a check-out application.

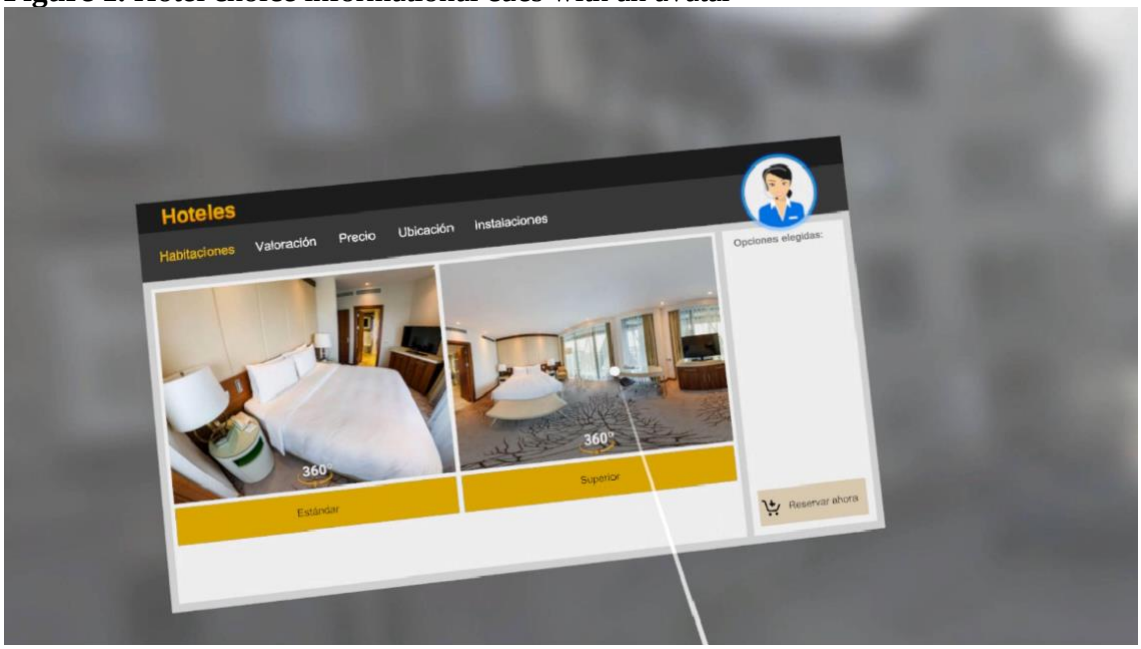
This research enriches our understanding on the hotel choice by conducting a lab-based experiment to analyze the travel journey of a consumer using VR for making a booking decision. Specifically, our research objectives are: (1) To analyze the customer

experience in the VR hotel choice and customer behavioral intentions with and without an avatar to detect if there are significant differences. (2) To find out how many and which informational cues (rooms, facilities, location, price, online reviews) are used by the consumers to make the hotel choice and analyze if there are differences with/absence of an avatar. (3) To evaluate visual attention in VR environment and analyze if there are differences with/absence of an avatar. (4) To evaluate unconscious measures through EEG signals and electrodermal activity during the hotel choice and analyze if there are differences with/absence of an avatar.

A total of 50 participants were recruited from a market research company. The population were individuals from 18-65 years, male and female (50%), travel experience in the last 3 years and previous use of Internet to book tourist services in the last 3 years. Participants were representative of the place where the study took place. Regarding the travel experience it was considered that due to COVID-19 restrictions it was necessary to extend it up to three years. We had to discard 3 participants because of missing data and so, the final sample is 47 (57.4% females, 42.6% males) aged between 18 and 65 years (mean = 42.36, SD = 10.54).

A one-factor between-subject experiment with two levels (absence or presence of avatar) was conducted. The experiment was carried out in a neuromarketing lab of a large European university in May-June 2022. In our study, 23 participants were exposed to a VR experience for hotel choice with an avatar and 24 were exposed to a similar VR experience for hotel choice without avatar. A hotel VR environment, named "Hotel Choice", was developed for this study, and used as a stimulus (see Figure 1).

Figure 1. Hotel choice informational cues with an avatar



This work in progress has addressed hotel choice using VR comparing two conditions: with and without avatar. The main goal is to ascertain if the presence of an avatar affects choice experience, behavioral intentions, navigation behavior and visual attention. One of the main contributions of this study consists of the combined use of clickstream data, neurophysiological measures, and self-reported measures. Preliminary results show that hotel choice experience worsens when an avatar is used. For this reason, tourism providers that use VR in their search processes are discouraged from using an avatar. However, the rest of the variables do not present significant differences

between the avatar and non-avatar conditions. Next steps in this ongoing research involve analyzing EEG signals and electrodermal activity during the hotel choice and analyze if differ with the presence of an avatar.

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