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MICE IN METAVERSE: LINKING UTAUT 2 AND EXPERIENCESCAPE

Aleksandar RADIC
Independent researcher, Croatia
ORCID: 0000-0001-7760-5495

Wei QUAN
Faculty of Hospitality and Tourism, Prince of Songkla University, Thailand
ORCID: 0000-0002-1174-6209

Jongsik YU
Division of Tourism and Hotel Management, College of Business, Cheongju University, South Korea
ORCID: 0000-0002-1921-491X

Antonio ARIZA-MONTES
Social Matters Research Group, Universidad Loyola Andalucía, Spain
ORCID: 0000-0002-5921-0753

Heesup HAN [1]
College of Hospitality and Tourism Management, Sejong University, South Korea
ORCID: 0000-0001-6356-3001

ABSTRACT

In an era where fourth industrial revolution is unfolding before our eyes and digital workplace is making its advancements into everyday life, the international Meetings, Incentives, Conferences, and Exhibitions (MICE) industry is transforming under the influence of metaverse. The present study unearths performance expectancy (PE), effort expectancy (EE), social influence (SI), facilitating conditions (FC), price value (PV), cognitive (C) and affective (A) responses (R) as the antecedents of behavior intention to use MICE in metaverse. From theoretical perspective, the novelty and originality of current study dwells in portraying the conceptual framework for the consumer behavioral intentions (BI) towards MICE in metaverse based on the stakeholder-centric approach. The practical implications demonstrate that MICE in metaverse can offer end-users remote interaction with meaningful, immersive experiences where consumers can organically interact with each other without losing the sense of belonging within the community as they engage and navigate through various virtual worlds that mirror the best versions of the physical world.

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[1] Address correspondence to Heesup Han (Ph.D.), Professor, College of Hospitality and Tourism Management, Sejong University, Seoul, South Korea. E-mail: heesup.han@gmail.com

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INTRODUCTION

Over the last four years, the hospitality and tourism sector has experienced evolutionary change under the extreme events of COVID-19 pandemic, global inflation, risk of recession followed by the massive layoffs, and technological progress of Web 3.0 and metaverse. The influence of such forceful events has not spared the MICE industry. Nevertheless, as the hospitality and tourism sector proved to be resilient and adaptive to changes (Radic et al., 2022a), the future looks bright for the international MICE industry as Dinesh et al. (2021) estimate that the market capacity of the MICE market could reach $1,337.4 billion by 2028. Furthermore, Ghose et al. (2022) estimate that the maximum potential of the metaverse will be between $8 to $13 trillion per annum by 2030, while Gursoy et al. (2022) and Dwivedi et al. (2022) outline that the rapid expansion of metaverse is affecting the hospitality and tourism sector including the MICE industry. Accordingly, the MICE industry stakeholders are exploring new and innovative business models in order to adapt to this evolutionary change. Subsequently, despite the fact MICE in metaverse is just beginning to adopt technology, it is appealing to consumers due to its potential to reduce their traveling time and other expenses. Thus, as science fiction prototyping assist business to re-assemble their vision for future (Bell et al., 2013), we can expect that in not so distant future the metaverse will allow consumers to stay in the comfort zone of their homes while being immersed in MICE.

The MICE industry is part of hospitality and tourism sector, and it refers to a group of tourism stakeholders that plan, book and organize conferences, seminars and other events (Esen & Kocabas, 2019) that contribute to the advanced economy that inspires the intelligent usage of the cultural past and natural leisure resources (Aburumman, 2020). The recent research on MICE industry and MICE tourism in general explored the value chain (Rojas Bueno et al., 2020; Rojas-Bueno et al., 2023), personal data privacy (Esen & Kocabas, 2019), technology usage (Talantis et al., 2020; Hur et al., 2022), MICE destination image during crises (Rittichainuwat et al., 2020), crisis management (Aburumman, 2020), learning experiences (Sangpikul, 2020), Muslim-friendly services (Teerakunpisut et al., 2023), and loyalty and intention to attend MICE in metaverse (Heo et al., 2022). Moreover, in similar study, Heo et al. (2022) concluded that smoothness, being present, and the financial aspects have an evident impact on users' retention, whereas being present and the financial aspects have a reliable impact on the desire towards the event. Furthermore, Heo et al. (2022) study employed SPICE (Seamlessness, Presence, Interoperability, Concurrence, Economy) model while recent study by Ariza-Montes et al. (2023) employed

modified Extended Unified Theory of Acceptance and Use of Technology (UTAUT 2) to describe conferences and meetings in metaverse, and it is to the authors' best knowledge the only studies on this topic. Hence, there is an obvious void in current body of knowledge on the metaverse technology adoption within the MICE industry and consumer experiences in MICE in metaverse. Furthermore, our study has accepted a call from Koo et al. (2022), Gursoy et al. (2022), Dwivedi et al. (2022) and Ariza-Montes et al. (2023) in addressing the following research questions:

- What are the essential aspects that are influencing the adoption of MICE in metaverse?
- What are the core determinants that are shaping the MICE metaverse-scape?

The current study sets to provide theoretical value through revealing the robust relations within the constructs of Venkatesh et al.'s (2012) UTAUT 2 with Pizam and Tasci's (2019) experienscape model build on Mehrabian and Russell's (1974) Stimulus-Organism-Response (S-O-R) paradigm. In addition, this study intended to 1) compose a theory-based model according to the extended Venkatesh et al.'s (2012) UTAUT 2 that would elucidate the adoption of MICE in metaverse, 2) objectively test the adoption of MICE in metaverse, 3) objectively test the Pizam and Tasci's (2019) model in metaverse, 4) disclose the mediating role of C and A R within the framework of MICE in metaverse.

The novelty and uniqueness of this study is in portraying the conceptual framework for the consumer behavioral intentions toward MICE in metaverse based on the stakeholder-centric approach. In practical terms, this study can assist the tourism and hospitality sector stakeholders, Web 3.0 developers and the metaverse Decentralized Autonomous Organizations (DAOs) in understanding the underlying mechanism associated with the adoption of MICE in the new, emerging world– the metaverse.

THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

The UTAUT 2, S-O-R Paradigm and MICE in Metaverse-Scape Research Framework

The recent technological evolution and the uprising of Web 3.0, blockchain technology, cryptocurrencies and metaverse has captured the interest of hospitality and tourism researchers and practitioners. Although metaverse

per se is not a novel concept, its applications indicate it will reshape the sector with disruptive outcomes in the near future (Dwivedi et al., 2022; Gursoy et al., 2022; Koo et al., 2022). Hence, the metaverse is a conception of the next looping of the internet and the creation of a post-reality universe where humans can pursue limitless experiences in a single entity, collective, captivating, and tenacious, 3D virtual space that bridges physical reality and digital virtuality (Mystakidis, 2022). Accordingly, Gursoy et al. (2022) illustrate the hospitality and tourism metaverse-scape as a co-creation process where consumers wander through the "stream of engagement" that leads to their immersive experiences. In this study, the MICE metaverse-scape is established on the extended platform between Venkatesh et al.'s (2012) UTAUT 2 and Pizam and Tasci's (2019) model.

Previous studies related to the adoption of metaverse technologies in various sectors gave us novel perspectives on decentralized sustainable management (Sze et al., 2024), Internet of Value (IoV) in the travel and hospitality industries (Radic, 2024), marketing, brand experience and customer engagement (Barrera & Shah, 2023; Mogaji et al., 2023; Park & Lim, 2023), consumer behavior (Kaur et al., 2023; Hadi et al., 2024), social interactions (Hennig-Thurau et al., 2023; Ghali et al., 2024), educational purposes (Kalınkara & Özdemir, 2024) and conferences and meetings (Ariza-Montes et al., 2023). In recent structured content analysis approach, Sze et al. (2024) have identified five key attributes: a creator economy, a persistent synchronous virtual environment, decentralization, an interoperable network, and a digitalized mindset. Aforementioned authors highlight that metaverse is novel technology that could enhance sustainable management practices, however, authors call upon additional empirical research in order to understand how metaverse technologies adoption, social interaction and psychological well-being shape metaverse experience (Sze et al., 2024). Similarly, Radic (2024), in his critical reflection, concluded that metaverse technologies offer a virtual reality platform, on which end users can engage in experience co-creation with possibility of monetization of metaverse experience. Thus, Radic (2024) outlines a lack of empirical studies based on robust frameworks that are grounded in well-known models and theories in order for metaverse technologies to unlock the experience and IoV across the leisure industry. Moreover, Barrera and Shah (2023), in their systematic literature review and a content analysis of metaverse viewpoints, have highlighted an insufficient comprehension of the metaverse implications for marketing practice and research. Hence, aforementioned authors call upon empirical studies based on 'consumer experience' and/or empirical studies that could combine metaverse user

experience and metaverse technology adoption (Barrera & Shah, 2023). Subsequently, Barrera and Shah (2023) argue that the aforementioned future empirical studies could help in the production of various models for companies and use cases that will support businesses that produce, promote, and sell various metaverse experience based products and services. Similarly, Dwivedi et al. (2023) employed multiple perspectives from the various expert contributors in their comprehensive study, and concluded that metaverse within tourism and hospitality industry holds great potential of delivering immersive hospitality experiences. However, aforementioned authors outline that an apparent gap exists in academic literature with lack of understanding on the nexus between adoption of metaverse technologies and metaverse experience (Dwivedi et al., 2023). Accordingly, Dwivedi et al. (2023) argue that future empirical studies should address supply and technical sides of metaverse adoption and the driving factors of metaverse experience and its effects on purchasing patterns and general competitiveness of tourism organizations. Moreover, Park and Lim (2023), in their study based on a thematic analysis approach, recognize the importance of metaverse experiences related to brands, and the authors propose three marketing strategies that have an impact on the consumer metaverse experience with the possibilities for brand equity enhancement. Thus, Mogaji et al. (2023) argue that today's consumers seek experiences that surpass the actual world. Subsequently, the metaverse serves as a nexus for immersive time (ImT), where consumers consciously and deliberately dedicate their time to escaping the real world (Mogaji et al., 2023). Analogously, Kaur et al. (2023) adopted a qualitative approach in pursuit of exploring the behavior of Generation Z metaverse end-users. Thus, the authors concluded that consumers undergo a concurrent decision-making process when assessing their metaverse experience while actively seeking engagement (Kaur et al., 2023). Furthermore, Hadi et al. (2024) conclude that end-user behavior in the metaverse is immersive, with characteristics of temporal and spatial dynamism. Hennig-Thurau et al. (2023) have integrated comprehensive field-experimental investigations with theoretical reasoning, and results of their study showed the significance of multisensory social interactions in real time in metaverse experience. Moreover, Ghali et al. (2024) conducted research based on a multi-study approach and concluded that Generation Z metaverse consumers value spending their time in the metaverse to increase the number of friends while at the same time using virtual places to promote their social presence. Lastly, in recent study by Ariza-Montes et al. (2023) employed modified UTAUT 2 with moderating impact of human values, gender, and age to uncover the behavioral intention to use the

metaverse in MICE. They concluded that PE, FC, SI, HM, and a lack of anxiety had a positive influence on BI to use the metaverse in MICE, while EE, in contrast, had no significant effect (Ariza-Montes et al., 2023). However, conservation as a human value had a moderating effect on SI impact on BI, while openness to change had a moderating effect on FC impact on BI (Ariza-Montes et al., 2023). Moreover, gender had a moderating effect on PE, EE, FC, and SI on BI, while age had a moderating effect on PE, FC, HM, and a lack of anxiety impact on BI (Ariza-Montes et al., 2023).

At the beginning of the new century, Venkatesh et al. (2003) created the UTAUT model by combining the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), Theory of Planned Behavior (TPB) (Ajzen, 1991), Technology Acceptance Model (TAM) (Davis et al., 1989), motivational model (Vroom, 1964), innovation diffusion theory (Rogers, 1962), and social cognitive theory (Bandura, 1986). The UTAUT model successfully explained 70% of the variability in BI by employing four principal components of BI, specifically - PE, EE, SI, and FC. Nevertheless, under the influence of important breakthrough technologies in 2010, Venkatesh et al. (2012) added HM, PV, and habit (H) as specific constructs that would resonate with technological advancements that have triggered changes in society. Accordingly, the UTAUT 2 compared to the UTAUT put forward advancements in enlightening the variance in BI as it reckoned 74% of such variance (Venkatesh et al., 2012). Moreover, with the inception of blockchain technology and cryptocurrency payments in hospitality and tourism (Radic et al., 2022b), flexibility of the preventive medicine (Ćwiklicki et al., 2020) and adoption of telemedicine cabins (Baudier et al., 2020), aforementioned authors have demonstrated that Venkatesh et al.'s (2012) UTAUT 2 can serve as an collaborative platform for adding various components from other models and premises as such endeavor excels the explained variability in end-users' BI in contrast to the initial UTAUT 2.

The majority of theories of consumer behavior are in one way or another in harmony to S–O–R paradigm (Müller & Wittmer, 2023). In a nutshell, aforementioned paradigm is based on perspective that specific environmental cues boost emotions, which leads to the behavior approach. However, as the travel and hospitality industry changes under the influence of emerging technologies, consumers' behavior is adopting a more progressive role (Pizam & Tasci, 2019). Thus, an answer on hospitality and tourism consumers' behavioral changes comes in a form of Pizam and Tasci's (2019) model that has its foundation on the Mehrabian and Russell's (1974) S–O–R paradigm. Pizam and Tasci's (2019) model is a stakeholder-

focused strategy with its relevant stimuli (S), such as sensory (S), functional (F), social (So), naturalistic (N), cultural (C), and hospitality culture (HC) elements that serve as precursors to either positive or negative cognitive and affective organisms (O), and behavioral approach reactions (R) toward products and services related to hospitality and tourism. However, the recent studies (Meng & Cui, 2020; Huang et al., 2021; Radic et al., 2021; Yu et al., 2021; Chen, 2022; Zhang et al., 2022) have not fully exploited the aforementioned model and the model has not been used in any prior research in the context of metaverse or MICE in metaverse. Thus, this study demonstrates originality by presenting significant theoretical contributions.

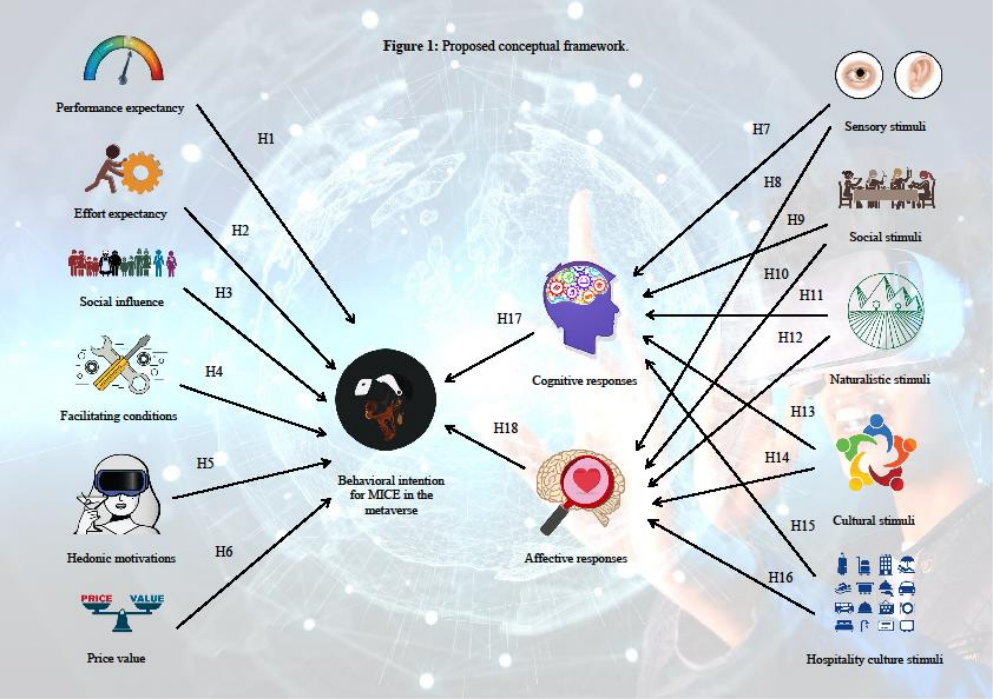

Figure 1: Proposed conceptual framework.

Supported by published studies, it is clear that there is a complete absence of empirical studies that offer a conceptual framework based on well-established theories and models that has robust explanatory power for the adoption of metaverse technologies with driving factors towards behavioral intention for MICE in the metaverse. Hence, the authors of this study propose a conceptual framework (Figure 1). More precisely, Figure 1 depicts specific relations of Venkatesh et al.'s (2012) UTAUT 2 constructs which include PE, EE, SI, FC, HM and PV, and Pizam and Tasci's (2019) model that encompass S, So, N, C, and HC stimuli (S), C and A R (O) that fundamentally configure the end-users' approach or avoidance response (R) behaviors toward MICE in metaverse. Thus, by combining aforementioned models, our study met the criteria for the theoretical contributions set forth by Shaw and Costanzo (1982) as: a) the proposed model can be effectively incorporated into current, widely recognized

theoretical bodies and extended in contexts that pertain to the public at large; b) the proposed model provides a greater range of the theory; c) the proposed model is logically consistent and is rich in scope. Furthermore, our study's proposed model fits the standard for research originality set forth by Jaccard and Jacoby (2020) as it is both creative and novel, and as such, it meets the criteria for good theory since it offers novel insights into an interesting and emerging phenomenon.

PE, EE, SI, FC, HM, PV and Metaverse-Scape

PE has robust influence on behavioral intention toward metaverse as consumers can benefit from user interactivity, artificial intelligence, blockchain technology features and Internet-of-Things (IoT) as services for cloud and frontier computing can enhance the application performance and customer experience (Lee et al., 2021). Thus, Ariza-Montes et al. (2023) argue that academics and/or professionals who use the metaverse for MICE are recognizing the benefits of using such virtual platforms, and those individuals have a favorable BI to use the metaverse, as the metaverse assists them in enhancing their job performance. Similarly, Radic (2024) argues that in the metaverse, end users' digital identity is completely within their authority, which increases professional camaraderie, improves collaboration, speeds up learning processes, reduces the need for physical space, and makes for joyful collaboration where end users own their data. Accordingly, in the context of cultural heritage tourism, metaverse can integrate virtual and real environments, where consumers can engage in immersive, extraordinary experiences which are appealing as they allow them to perform various economic activities and capitalize on cultural heritage resources (Fan et al., 2022). Moreover, Muhammad et al. (2020) outlined the influence of the novel technologies in their literature review on the MICE industry key success factors while Buhalis et al. (2022) pointed out that metaverse is a novel technology in marketing and management of hospitality and tourism that enables experience co-creation and thereby that transforms consumer experience in MICE industry and their services. Accordingly, Dwivedi et al. (2022) argue that the advantages of performance expectancy in the form of almost limitless freedom in the absence of realistic constraints has a strong impact on BI toward the metaverse. Therefore, the following hypothesis is proposed in light of the aforementioned findings:

Hypothesis 1. *PE has positive influence on the BI to use MICE in metaverse.*

The metaverse combines various technologies based on an intuitive interface that has the potential to bridge the digital and physical universes while empowering consumers to integrate different assets through holistic experiences (Buhalis, 2020). Thus, EE demonstrated positive influence towards consumer BI and engagement with cultural contents created in metaverse as visitors are enabled to take part in cultural tourism attractions such as concerts, exhibitions and museums (Erol & Ülkü, 2022). Moreover, as metaverse is slowly but surely penetrating the hospitality and tourism sector (Topsakal et al., 2022), the EE clearly demonstrates positive impact on the consumer BI toward metaverse since consumers can easily engage in exhibition and sales of tourism artifacts through Non-Fungible Token (NFT) and even take a part as spectators in various organized events (Cannavo & Lamberti, 2021). Accordingly, due to the metaverse's potential to serve as an inclusive interface, it holds the possibility of lowering EE as end users can interact in their native language through images and videos and digital replicas of real spaces (Hadi et al., 2024). Moreover, as the perceived ease of use of the metaverse enhances the user experience, additionally, it aids in expanding the variety of use cases and business models. (Barrera & Shah, 2023). It is likely that some portion of this new digital experience will utilize blockchains that incorporate NFTs or other forms of tokenized assets where royalty proceeds are given to end users to own the content they create and have partial ownership in the digital worlds in which they spend a significant portion of their time (Barrera & Shah, 2023). Thus, the effort expectancy in a form of virtual immersive experience and value co-creation through the NFTs are one of the driving forces of consumer behavioral intentions toward metaverse adoption (PricewaterhouseCoopers [PwC], 2022). Consequently, the below hypothesis is proposed:

Hypothesis 2. *EE has positive influence on the BI to use MICE in metaverse.*

The recent technological advancements have made metaverse as a realm for both work and play. Since metaverse can offer mesmerizing consumer experiences, consumers gladly interact with their significant others with whom they have shared beliefs about their ability to co-create and share the value they generate (Dwivedi et al., 2022). Thus, the SI is essential in BI to use metaverse as early adopters are excited about the broadened horizons to interrelate with families and friends, ameliorate hands-on experience and create additional opportunities to socialize (Klynveld Peat Marwick Goerdeler [KPGM], 2022). Hence, as society integrates the metaverse into daily life, end users in the metaverse have the potential to acquire additional new ways to spend time and satisfying social

imperatives, as metaverse SI shapes various aspects of human behavior and culture (Ghali et al., 2024). Accordingly, metaverse social influences are multifaceted, as they range from entertainment to education (Dwivedi et al., 2023). Thus, metaverse SI facilitate new ways to collaborate and communicate, creating communities that are only accessible digitally (Dwivedi et al., 2023). Furthermore, Generation Z e-commerce is characterized by socializing, live streaming and willingness to try anything special/new including metaverse. Thus, adoption of metaverse within Generation Z is driven by the SI as aforementioned consumers are creating various communities where they can enjoy socialization through virtual avatars (AYO Innovation Consulting and Daxue Consulting, 2022). Hence, the essence of MICE has traditionally been associated with benefits of networking between the members of a shared community, and the recent technological advancements of 4.0 industry including metaverse allows the MICE industry to pave the way to MICE 5.0 and its human-centeredness (Hur et al., 2022). Consequently, the below hypothesis is put forward:

Hypothesis 3. *SI has positive influence on the BI to use MICE in metaverse.*

A frictionless merger of virtual and physical environments depends on the FC which have positive impact on consumers' BI toward MICE in metaverse (Buhalis et al., 2022). Thus, from the perspective of FC, 3D and virtual reality methods offer immersive experiences that have a positive effect on the metaverse adoption as consumers recognize the social utility of metaverse (Dwivedi et al., 2022). Moreover, FC in the form of augmented reality and computing platform are essential for adoption of the metaverse tourism as consumers are searching for social interaction through NFTs collection (Koo et al., 2022). Accordingly, FC must provide frictionless experiences and technical interoperability based on the strong network infrastructure where data seemingly flows between hardware and software as it delivers immersive consumer experience (World Economic Forum and Accenture, 2023). Hence, the metaverse thrives on interoperability, where end users can unleash their creativity to generate original content and boost their economic prosperity by utilizing social activities across different platforms (Radic, 2024). However, as the metaverse advances, it must remain an interoperable, synchronous, and accessible environment where everyone may work and have fun (Huynh-The et al., 2023). Nevertheless, to achieve general adoption of metaverse, facilitating conditions must secure a positive climate, inclusion, safeguards for mental well-being, civil conversation and democratic society as such facilitating conditions set forth by the government regulations would mitigate potential negative externalities as they bring benefits to all metaverse stakeholders

(Kulasooriya et al., 2022). Thus, the presented hypothesis resulted from the previously described rationale:

Hypothesis 4. *FC have a positive influence on the BI to use MICE in metaverse.*

The hospitality and tourism consumers, driven by HM toward the adoption of metaverse, are undertaking metaverse experiences for amusement and delight, whereas consumers with utilitarian motives are fulfilling their functional or pragmatic needs (Gursoy et al., 2022). Similarly, as online platforms activities are transferring toward metaverse, it is argued that emphasize on practical exchange will decrease while the hedonic aspects that provoke stronger emotional responses and shape us as humans (instead of consumers) will increase as metaverse can act as an extension of ourselves as humans (Dwivedi et al., 2022). Moreover, within the hospitality and tourism sector a newly emerged phenomenon of the metaverse tours is gaining momentum as its' hedonic features are positively impacting BI toward a tourism destination in metaverse (Tsai, 2022). Thus, in recent study by Yang et al. (2022), the authors posit that the HM relates to the consumers' self-fulfillment, thus, HM has an advantageous influence on the BI toward metaverse. Similarly, the individuals believe that they will enhance the degree of pleasure, fun, and enjoyment as they participate in MICE in the metaverse (Ariza-Montes et al., 2023). The HM towards the metaverse is essentially based on the pleasure or fun that comes from being able to share various activities such as conversing, shopping, playing games, learning and developing (Radic, 2024). However, even though certain users enjoy the pleasure of escaping reality consciously and entering the metaverse (Park & Lim, 2023), the study by Kalınkara and Özdemir (2024) showed that in the education context, the students of anatomy did not derive pleasure and enjoyment from using the metaverse. Similarly, Yang et al.'s (2022) study in the sport education context showed that HM has a favorable impact on students' viewpoints on learning via metaverse technology; however, HM was insignificant towards BI. Consequently, the authors put forward the following hypothesis:

Hypothesis 5. *HM have positive influence on the BI to use MICE in metaverse.*

The PV aspect has a favorable outcome on the BI toward metaverse as metaverse can lower consumers' overall costs while boosting the value co-creation (Arpaci et al., 2022). Moreover, the positive impact of PV on the adoption of metaverse with business and leisure travelers is growing as consumers can enjoy and co-create value in immersive experience while they reduce their traveling time and other expenses (Dwivedi et al., 2022). Accordingly, Vidal-Tomás (2023) outlines that economic governance and

metaverse commerce will play an important role on the overall PV and its impact on the BI toward metaverse. Thus, Park et al. (2023) concluded that the PV of digital apparel had a positive influence on BI for digital fashion products in the metaverse. Similarly, the PV of the metaverse concert platform improves engagement and BI in the tourism and entertainment industries, with a robust moderating effect of gender in the relationship between PV and flow state (Cha et al., 2024). Moreover, Momtaz (2022) argues that metaverse will proliferate human activities and value co-creation by decreasing the operating costs since blockchain technology, smart contracts, and NFTs can provide frictionless, cheap transactions, where PV has a positive impact on the metaverse adoption. Consequently, since metaverse is enhancing the physical hospitality and tourism sector, immersive experiences in metaverse will effectively enable and diversify certain aspects of hospitality and tourism products, where value perception will play an important role on the adoption of metaverse (Gursoy et al., 2022). Thus, based on the abovementioned studies the below hypothesis is put forward:

Hypothesis 6. *PV has a positive influence on the BI to use the MICE in metaverse.*

Sensory Stimuli (SS)

Metaverse includes a multisensory environment where visual and auditory stimuli have an advantageous effect on the end-users' C and A R which results in the enhanced experience within metaverse (Dwivedi et al., 2022). Moreover, as a sensory-rich environment has advantageous effect on the end-users' C and A R, it is of the utmost to incorporate 3D rendering technologies and broadband capacity to the metaverse design as such technologies would lead to immersive experiences (Laukkanen et al., 2022). Thus, although metaverse can offer a digital sensory stimulation that has an advantageous effect on the end-users', current technology might not be able to elicit a complete immersion that end-users experience during the real-life kinesthetic thrills and proprioceptive pleasures (Spence, 2022). Hence, to build and operate a metaverse that can provide digital sensory stimulation that has an advantageous effect on end-users' C and A R, it is of paramount importance to replicate a broad spectrum of data related to the physical world and human interactions (Zhao et al., 2024). Thus, it is sensory stimulation that plays a critical function in translating kinesics into virtual actions, permitting clients to have C and A R with the metaverse (Radic, 2024). Bringing novel technologies related to digital sensory stimulation will ultimately enhance the metaverse user experience, creating a captivating experience (Dwivedi et al., 2023). The stronger the digital

sensory stimulation impacts C and A R in metaverse experiences, the more potential applications the metaverse will have (Mogaji et al., 2023). Nevertheless, metaverse is certainly an innovative technology that can produce multisensory stimuli which favorably impacts the MICE end-users that lead to their favorable BI toward metaverse (Mohanty et al., 2020). In turn, the below hypotheses are proposed:

Hypothesis 7. *SS have a positive influence on CR.*

Hypothesis 8. *SS have a positive influence on AR.*

Social Stimuli (SoS)

The SoS of metaverse demonstrate solid influence on the end-users' C and A R as consumers expect that metaverse will serve as nexus which connects the real and virtual world through social fabric (Suanpang et al., 2022). Hence, as metaverse stimulates a sense of sociality, it is the end users' C and A R that are leading to the immersive experiences and BI toward metaverse adoption (Shen et al., 2021). Furthermore, Kozinets (2023) outlines that avatar-based social interactions provoke consumers' C and A R that eventually result in the immersive service experiences. Accordingly, metaverse provides immersive experiences that are founded on the robust social interaction of its consumers (Buhalis & Karatay, 2022). Socializing in the metaverse is exciting, as the future of networking, where social stimuli have influence on end-users' C and A R, is almost unlimited. In the metaverse, people are guided by SoS to meet and connect with other people worldwide by breaking any potential social media boundaries (Hennig-Thurau et al., 2023). One can argue that the metaverse will set up the new social media era, which is driven by SoS that impact consumers' C and A R (Han et al., 2023). As humans explore the metaverse, SoS will enable them to connect with people cognitively and emotionally (Park & Lim, 2023). Accordingly, RMSIs' based on SoS's influence on end-users' C and A R will be the focal point of the metaverse, as this novel computer-mediated environment will overcome national borders (Hennig-Thurau et al., 2023). Thus, metaverse can offer greater social value as it can serve as a powerful tool to enhance everyday life through interchange of various experiences and co-creation of valuable insights among its consumers (Dwivedi et al., 2022). As a result, the authors proposed the following hypotheses:

Hypothesis 9. *SoS have a positive influence on CR.*

Hypothesis 10. *SoS have a positive influence on AR.*

Naturalistic Stimuli (NS)

The NS of metaverse are to a large extent an imaginary landscape build on various visual narratives that offer glimpses of stunning natural sceneries for end-users' activities which can elicit their C and A R in a space where financial markets and the economy are aligned with nature (Dozio et al., 2022). Moreover, in metaverse, end-users can purchase virtual lands and develop their own natural scenery made of trees and wildlife as such NS are enhancing their interaction with other end-users through the collaborative act of creation which ultimately provokes their C and A R (Murray, 2020). Thus, metaverse provides possibilities for end-users to create deep and meaningful links among humans, other species, and natural environment where NS encourage C and A R that lead toward end-users' desire for the protection of wildlife and ecosystems (Shah & Boudinot, 2022). Similarly, the metaverse, founded on spatial computing, can offer a novel interaction with nature by combining real-time mapping of the physical environment with virtual worlds, where end-users' activities can elicit their C and A R in a highly immersive manner (Jaung, 2022). Moreover, digital NS have the power to influence how people view, understand, and interact with nature (Chan et al., 2023). Hence, digital NS, with their impact on users' C and A R, could provide an immersive experience in the metaverse (Radic, 2024), where people can challenge conventional perceptions and question the depths of human collective nostalgia (Radic et al., 2024a). Lastly, metaverse brings together consumers who enjoy the presence of natural scenery around their communities as NS positively impact their C and A R as they engage in the interchangeable experience co-creation (Buhalis et al., 2022). Consequently, the below hypotheses are offered as alternatives:

Hypothesis 11. *NS have a positive influence on CR.*

Hypothesis 12. *NS have a positive influence on AR.*

Cultural Stimuli (CS)

Metaverse integrates offline and social network service experiences into one where diverse audience can meet and share their similar interest in cultural life without being limited by spatial capacity and time (Dwivedi et al., 2022). As metaverse evolves, the CS influence end-users' C and A R of their perception and creation of art itself (Zhang et al., 2022). Moreover, metaverse's positive CS impact is exhibited in a way that it expands access to education, knowledge and experience co-creation as consumers are engaged both cognitively and affectively in an immersive and interactive

way (Buhalis & Karatay, 2022). However, the CS embedded in metaverse often differ from the end-user's geographical location, thus end-users' C and A R will have a spillover effect on their physical world as cultures from smaller regions will get under strong pressure on the subconscious levels from the dominant regions which can lead to various deviations against fairness (Henz, 2022). Nevertheless, the metaverse can create digital CS of a country's culture, history, and philosophy, impacting end-users' C and A R in the comfort of their homes (Hutson & Ratican, 2023). Hence, users through metaverse avatars can experience cultural archetypes, motifs, art, and architecture based on captivating storylines centered around history and folklore (Radic, 2024). The innovative use of the metaverse is a trend that merges technology with cultural phenomena on a global scale while celebrating cultural richness through digital landscapes in immersive experiences of a country's art, culture, and architecture (Ariza-Montes et al., 2023). Thus, the following hypotheses resulted from the above described rationale:

Hypothesis 13. *CS have a positive influence on CR.*

Hypothesis 14. *CS have a positive influence on AR.*

Hospitality Culture Stimuli (HCS)

The tourism sector is built on organizations' culture of hospitality, where HCS of metaverse promotes an experience co-creation by allowing consumers to be engaged both cognitively and affectively in an immersive and interactive way through services within extended geographical regions, and without spatial and temporal constrictions (Gössling & Schweiggart, 2022). Moreover, as consumers interact through the metaverse features in an immersive and fun environment, the HCS play a significant part as it impacts the end-users' C and A R in evolving hospitality and tourism sector (Koo et al., 2022). Hence, HCS of metaverse provide an experience with collaborative spatial structures intensified by the end-users' C and A R in bringing together physical and virtual environments (Go & Kang, 2022). The HCS in the metaverse have the possibility to transform the leisure industry by co-creating guest experiences on a C and A level (Radic, 2024). Hence, digital hospitality culture stimulates the opportunity to co-create memorable virtual experiences and transcend traditional physical offerings (Ashton et al., 2024). The metaverse is providing HCS and opportunities for consumers and travelers to visit attractions, attend events, and engage with leisure products that they may not be able to interact with in the physical world (Chen, 2023). One can

argue that HCS proposals take place within the framework of experiences and events (Ashton et al., 2024). Hence, HCS put forward personalized service while enhancing organizational performance and co-creating memorable experiences (Radic, 2024). Accordingly, as marketers are transcending real-life experiences to metaverse, the HCS influence end-users' C and A R, ultimately influencing their decision-making behaviors (Gursoy et al., 2022). As a result, the authors proposed the following hypotheses:

Hypothesis 15. *HCS have a positive influence on CR.*

Hypothesis 16. *HCS have a positive influence on AR.*

Cognitive (C) and Affective (A) Responses (R)

The MICE in metaverse provides a unique opportunity for tourist destination resilience and crisis readiness as it enables immersive virtual experiences (Lui & Goel, 2022) that are driven by the end-users' cognitive responses related to trust and confidence which in return have a robust influence on the end-users' behavior approach in cases where mobility barriers such as pandemics are present (Yung et al., 2022). End-users C and A R lead towards ephemeral experiences (Radic et al., 2024b), and such experiences can be designed to improve empathy and human connection (Visconti et al., 2023). Hence, end-users' C and A R in the metaverse possess the capacity to unleash infinite levels of human ingenuity and output, ultimately leading towards favorable behavioral intentions (Suh, 2024). However, various stakeholders of MICE in metaverse need to be mindful about potential consumers' inequalities when creating the infrastructures of virtual worlds based on immersive experiences as privileging certain social stratum could negatively impact the overall end-users' C and A R and subsequently end-users' behavior approach toward MICE in metaverse (Yung et al., 2022). Moreover, the success of MICE in metaverse adoption is heavily depended on the end-users' C and A R that are influencing end-users' behavior approach, thus, the system quality of metaverse has to be designed to deliver immersive experience and end-user overall satisfaction (Lee, 2022). Similarly, Gursoy et al. (2022) outline that metaverse possesses the capacity to be a disruptor of hospitality and tourism sector including the MICE industry as the adoption of MICE in metaverse is driven by the end-users' C and A R that are ultimately shaping customer behavior approach. Furthermore, Allam et al. (2022) outline that human characteristics and moral values derived from the end-users' C and A process must be considered as they have robust influence on the

consumer behavior and metaverse adoption. Lastly, Müller and Wittmer (2023) outline that in the post-COVID world MICE industry is undergoing through fundamental changes due to various factors as more and more companies are embracing cost savings strategies. Nevertheless, in order to keep high fidelity, work engagement and positive emotions among its' employees, it is of paramount importance that the end-users' C and A processes are considered as they have robust influence on the technology adoption including metaverse (Müller & Wittmer, 2023). Hence, based on the abovementioned studies the following hypotheses are suggested:

Hypothesis 17. *CR have a positive repercussion on BI to use MICE in metaverse.*

Hypothesis 18. *AR have a positive repercussion on BI to use MICE in metaverse.*

RESEARCH METHODOLOGY

Measures for Study Variables

For this study, a self-reported survey was designed which contains a combination of multi-item measures. Moreover, all scale items for the purpose of the present study were taken from measurement items that had already been evaluated and tied on a 7-point Likert-type scale. Accordingly, PE, EE, SI, FC, HM, and PV scales were adopted from Venkatesh et al. (2012). SS, SoS, NS, CS, and HCS were appropriately developed and amended for the study's premise from Pizam and Tasci's (2019) scale. Furthermore, CR, AR, and BI were taken and customized for the study's conditions from Tasci and Pizam (2020).

The reduction of a common method bias (CMB) was accomplished by adhering to the methods of Jordan and Troth (2020). Looking at the procedural tactics, all of the respondents were aware of the purpose of the study and how the findings will be applied. The measurements were not broad, the questionnaire utilized was not enormous, the item phrasing was cautious, the measures originated from multiple sources, and the inquiries were straightforward and easily understood (Radic et al., 2022a). The previously mentioned a group of procedural solutions has been verified in the tourism and hospitality studies by Calder et al. (2022) and future technology studies by Singh et al. (2024). Therefore, it is unlikely that this research will raise issues with the common method bias. Additionally, Harman's (1967) one-factor test was utilized from the statistical method, given that Jordan and Troth (2020) emphasize Harman's one-factor test as arguably particularly prevalent statistical techniques for assessing CMB. Harman's one-factor test highlights concerns with CMBs,

which results from the applied method (Fuller et al., 2016). The questionnaire was further pilot tested by a committee embodied of faculty members and undergraduates/postgraduates in the travel and hospitality industry.

Data Gathering and Statistical Findings Regarding the Participants' Personal Information

This study used an online survey through a professional survey agency located in South Korea. Random links to the questionnaire were distributed to the potential participants through November and December of 2022. The beginning of the questionnaire stated the purpose of the study with all instructions related to this study. Participants were requested to thoroughly read the description of the purpose and content of the study as they completed the questionnaire. To be certain that the participants comprehended completely the subject matter of the questionnaire, the following screening question had to be confirmed "I have heard about the metaverse". Individuals who responded "Yes" were deemed qualified to take part in the survey. Participants who answered "No" were disqualified from participation in the survey. Accordingly, the purposive sampling approach was employed to collect the sample. The purposive sampling is a non-probability sampling technique that delivers comprehensive details on particular phenomena in specific contexts (Tashakkori et al., 2020). The aforementioned sampling in this study provided participants that meet the research population's inclusiveness (Berget & Kvikne, 2022). Furthermore, by adopting purposive sampling technique, we have fulfilled the prerequisites for the diversity of survey considering the factors as described by Ochsner (2021), as accuracy of such sampling gives assurance that the results of the study are trustworthy (Barratt & Lenton, 2015). Following the selection process and the completion of the questionnaire, a total of 364 questionnaires were collected.

The authors analyzed the collected participant data through frequency analysis in SPSS. The results of the data analysis are presented in Table 1. The detailed demographic characteristics are as follows. Of the 364 surveys that have been collected, 60.16% were male and 39.84% were female. The average age of participants was approximately 37 years old. Participants that have heard about metaverse through electronic word-of-mouth (eWOM) communication accounted for 50%. The Internet was the main source of information about metaverse for 32.14% while 9.07% participants heard about metaverse through broadcast news. Moreover, 5.77% participants heard about metaverse through print media while

traditional word-of-mouth (WOM) communication was primary source for the 2.47% of participants. Lastly, only 0.55% of participants heard about metaverse through other means. The annual income of participants was evenly distributed. The percentage of participants with annual income of $40,000 ~ $54,999 was 22.25%. 18.41% reported annual income of $25,000 ~ $39,999, followed by 15.93% who had annual income of $55,000 ~ $69,999 while 12.36% had annual income of $70,000 ~ $84,999. The 12.36% of participants had annual income of $85,000 ~ $99,999, where 12.36% of participants earn between $85,000 ~ $99,999 per year. Finally, participants who have earned $100,000 or higher was 11.54% while only 5.22% of the participants had an annual income of below $25,000. Looking at the education level of participants, 70.33% had a college degree, 16.76% had a graduate degree, 7.42% had a 2-year degree / community-college degree, and 5.49% had a high school degree. In response to the question "Have you ever attended MICE through metaverse?", 52.75% of the participants answered "Yes" and 47.25% answered "No". Furthermore, those who responded that they had attended MICE through metaverse, 45% had such experience 2-3 times and 38% had only 1 time, while the percentage of participants with 4-5 experiences was 9% and 5% had 5-9 experiences. Lastly, only 3% of the participants had an experience with more than 10 MICE experiences through metaverse (see Figure 2).

Table 1. *Profile of participants*

		Frequency	Percent
Gender	Male	219	60.16%
	Female	145	39.84%
Where have you heard about Metaverse?	Broadcast news (e.g., TV, radio)	33	9.07%
	Internet (e.g., YouTube, online newspaper, news blogs)	117	32.14%
	Print media (e.g., newspapers, newsmagazines)	21	5.77%
	Electric word-of-mouth (eWOM) communication (e.g., blogs, online reviews, social media posts, messages posted to online groups)	182	50.00%
	Traditional word-of-mouth (WOM) communication (e.g., friends, family, or others)	9	2.47%
	Other	2	0.55%
Salary	Under $25,000	19	5.22%
	$25,000 ~ $39,999	67	18.41%
	$40,000 ~ $54,999	81	22.25%
	$55,000 ~ $69,999	58	15.93%
	$70,000 ~ $84,999	52	14.29%
	$85,000 ~ $99,999	45	12.36%
	$100,000 or higher	42	11.54%

Education	Less than high school degree	0	0.00%
	High school degree	20	5.49%
	2-year degree / community-college degree	27	7.42%
	University degree	256	70.33%
	Graduate degree	61	16.76%
Have you ever attended a conference/meeting through Metaverse?	Yes	192	52.75%
	No	172	47.25%
Average age	37 years old		

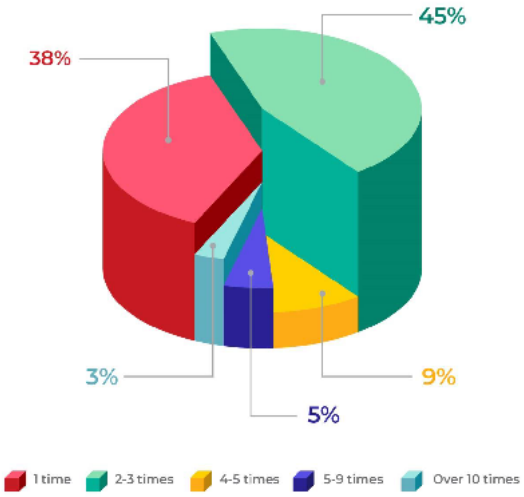

Figure 2. *Frequency of 192 participants attending conference/meeting through the metaverse*

RESULTS

Measurement Model Assessment

A confirmatory factor analysis was applied in this study to test the adequacy of the constructed measurement model through AMOS 26.0. The results are shown in Table 2. The measurement model demonstrated satisfactory model fit metrics ($\chi 2$ = 2958.563, df = 1234, $\chi 2/df$ = 2.398, $p < 0.01$, NFI = 0.916, IFI = 0.925, CFI = 0.924, RMSEA = 0.056). Firstly, to ensure that there is no common method bias in the data, we derived a total variance of 49.376% which was below the threshold criterion of 50% (Podsakoff et al., 2003) for a single factor. Then, factor loading values were equal or greater than 0.659 for all 14 constructs, except for the third measure of FC, which had a factor loading of 0.512 and was removed (please see Appendix A). Cronbach Alphas' indicator is between 0.814 and 0.960. It is higher than the 0.8 suggested by Bonett and Wright (2015). The average variance

extracted from the derived factor loading values ranged from 0.635 to 0.892. The composite reliability ranged from 0.837-0.961, both above the critical values of 0.500 and 0.700 recommended by Hair et al. (2017), which implied a high support for the convergent validity and internal consistency of the measured items. We also found that the square root values of AVE calculated from the mean variance extracted scores exceeded the correlation coefficients following successive pair of constructs (Fornell & Larcker, 1981). The adequate discriminant validity of the data sample was verified.

Assessment of Hypotheses Testing and Indirect and Total Effects of Structural Model

The constructed structural model and hypotheses were tested using the AMOS 26.0. The fit of the structural equation model showed satisfactory indicators ($\chi2$ = 2832.336, df = 1292, $\chi2$/df = 2.192, $p < 0.01$, IFI = 0.938, TLI = 0.917, CFI = 0.937, RMSEA = 0.056). The findings of the hypothesized analyses revealed significant effects of PE ($\beta = 0.244$, $p < 0.01$), EE ($\beta = 0.108$, $p < 0.05$), SI ($\beta = 0.299$, $p < 0.01$), FC ($\beta = 0.170$, $p < 0.01$), PV ($\beta = 0.153$, $p < 0.01$), CR ($\beta = 0.179$, $p < 0.01$), and AR ($\beta = 0.381$**, $p < 0.01$) on the BI to use MICE in metaverse. There was no significant relationship between the HM and BI to use MICE in metaverse ($\beta = -0.053$, $p > 0.05$). SS (CR: $\beta = 0.329$, $p < 0.01$; AR: $\beta = 0.346$, $p < 0.01$), SoS (CR: $\beta = 0.159$, $p < 0.01$; AR: $\beta = 0.330$, $p < 0.01$), NS (CR: $\beta = 0.087$, $p < 0.05$; AR: $\beta = 0.106$, $p < 0.01$), CS (CR: $\beta = 0.330$, $p < 0.01$; AR: $\beta = 0.366$, $p < 0.01$) and HCS (CR: $\beta = 0.541$, $p < 0.01$; AR: $\beta = 0.279$, $p < 0.01$) had significant effects on the CR and AR. Thus, all hypotheses, except H5, were statistically supported. Furthermore, the outcomes of the total variance explained values for the BI showed that all antecedent constructs explained 54.3%, 65.4%, and 85.3% of the CR, AR, and BI toward MICE in metaverse.

A significant indirect effect of sensory component on the BI was tested for indirect effects (SS→ CR→ BI: $\beta = 0.059$, $p < 0.05$; SS→ AR→ BI: $\beta = 0.132$, $p < 0.01$). The indirect effect of SS on the BI was significant only when factored through the affective responses (SS→ CR→ BI: $\beta = 0.028$, $p > 0.05$; SS→ AR→ BI: $\beta = 0.126$, $p < 0.01$). CS had a significant indirect effect on the BI (CS→ CR→ BI: $\beta = 0.059$, $p < 0.05$; CS → AR→ BI: $\beta = 0.139$, $p < 0.01$). There was a significant indirect relationship between the HCS and BI (HCS → CR→ BI: $\beta = 0.097$, $p < 0.05$; HCS → AR→ BI: $\beta = 0.106$, $p < 0.01$). In contrast, there were no significant indirect effects of NS on the BI through C and A R. The results of the detailed data analysis of the indirect and total effects were displayed in Table 3.

Table 2. *Correlations and data quality testing*

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
[1]	PE	**0.858**													
[2]	EE	0.488**	**0.861**												
[3]	SI	0.719**	0.462**	**0.925**											
[4]	FC	0.395**	0.729**	0.499**	**0.797**										
[5]	HM	0.699**	0.432**	0.615**	0.374**	**0.944**									
[6]	PV	0.736**	0.399**	0.715**	0.444**	0.616**	**0.822**								
[7]	SS	0.663**	0.365**	0.640**	0.302**	0.634**	0.688**	**0.825**							
[8]	SoS	0.699**	0.328**	0.640**	0.342**	0.642**	0.684**	0.767**	**0.855**						
[9]	NS	0.559**	0.189**	0.515**	0.160*	0.509**	0.585**	0.726**	0.706**	**0.867**					
[10]	CS	0.684**	0.570**	0.671**	0.603**	0.586**	0.667**	0.663**	0.768**	0.606**	**0.825**				
[11]	HCS	0.696**	0.419**	0.645**	0.433**	0.590**	0.709**	0.711**	0.747**	0.673**	0.825**	**0.839**			
[12]	CR	0.816**	0.463**	0.673**	0.394**	0.712**	0.778**	0.741**	0.727**	0.647**	0.766**	0.825**	**0.845**		
[13]	AR	0.730**	0.399**	0.650**	0.361**	0.734**	0.710**	0.739**	0.760**	0.649**	0.747**	0.738**	0.822**	**0.836**	
[14]	BI	0.768**	0.521**	0.740**	0.518**	0.648**	0.742**	0.680**	0.678**	0.522**	0.760**	0.726**	0.794**	0.792**	**0.877**
	AVE	0.737	0.742	0.856	0.635	0.892	0.675	0.681	0.730	0.752	0.680	0.703	0.714	0.699	0.768
	CR	0.918	0.920	0.947	0.837	0.961	0.861	0.895	0.890	0.901	0.864	0.876	0.926	0.948	0.909
	Cronbach Alphas	0.917	0.919	0.946	0.814	0.960	0.857	0.889	0.889	0.897	0.864	0.880	0.924	0.948	0.908

Extraction Sums of Squared Loadings: % of Variance = 49.376%

Note1. Goodness-of-fit statistics for the baseline model: $\chi 2 = 2958.563$, df = 1234, $\chi 2/df = 2.398$, $p < 0.01$, NFI = 0.916, IFI = 0.925, CFI = 0.924, RMSEA = 0.056.
AVE: Average variance extracted, CR: Composite reliability
Coefficient in **BOLD**: $\sqrt{AVE}$.
*p < 0.05 and **p < 0.01.

Table 3. *Hypotheses testing*

				β	*t*-values	p values
H1	PE	→	BI	0.244	5.218**	0.005
H2	EE	→	BI	0.108	2.406*	0.043
H3	SI	→	BI	0.299	6.431**	<0.001
H4	FC	→	BI	0.170	3.558**	0.003
H5	HM	→	BI	-0.053	-1.204	0.159
H6	PV	→	BI	0.153	3.294**	0.007
H7	SS	→	CR	0.329	7.307**	<0.001
H8	SS	→	AR	0.346	7.712**	<0.001
H9	SoS	→	CR	0.159	3.817**	0.002
H10	SoS	→	AR	0.330	7.588**	0.001
H11	NS	→	CR	0.087	2.143*	0.046
H12	NS	→	AR	0.106	2.603**	0.008
H13	CS	→	CR	0.330	7.275**	0.005
H14	CS	→	AR	0.366	8.042**	<0.001
H15	HCS	→	CR	0.541	10.985**	<0.001
H16	HCS	→	AR	0.279	6.456**	0.006
H17	CR	→	BI	0.179	3.341**	<0.001
H18	AR	→	BI	0.381	6.904**	<0.001

Indirect Path	β	Lower	Upper
SS→ CR→ BI	0.059*	0.015	0.099
SS→AR→ BI	0.132**	0.061	0.173
SoS→ CR→ BI	0.028	0.003	0.062
SoS→ AR→ BI	0.126**	0.048	0.163
NS→ CR→ BI	0.016	-0.001	0.034
NS→ AR→ BI	0.041	0.001	0.067
CS→ CR→ BI	0.059*	0.013	0.107
CS→ AR→ BI	0.139**	0.057	0.183
HCS→ CR→ BI	0.097*	0.025	0.133
HCS→ AR→ BI	0.106**	0.030	0.150

Total variance explained: R^2 for CR = 0.543, R^2 for AR = 0.654, R^2 for BI for MICE in the metaverse = 0.853.

Total impact on BI for MICE in the metaverse: $\beta_{PE} = 0.244^{**}$, $\beta_{EE} = 0.108^{*}$, $\beta_{SI} = 0.299^{**}$, $\beta_{FC} = 0.170^{**}$, $\beta_{HM} = -0.053$, $\beta_{PV} = 0.153^{**}$, $\beta_{SS} = 0.191^{**}$, $\beta_{SoS} = 0.154^{**}$, $\beta_{NS} = 0.056$, $\beta_{CS} = 0.198^{**}$, $\beta_{HCS} = 0.203^{**}$, $\beta_{CR} = 0.179^{**}$, $\beta_{AR} = 0.381^{**}$.

Note1. Goodness-of-fit statistics for the baseline model: $\chi 2 = 2832.336$, df = 1292, $\chi 2/df = 2.192$, $p < 0.01$, IFI = 0.938, TLI = 0.917, CFI = 0.937, RMSEA = 0.056.

*p < 0.05 and **p < 0.01.

DISCUSSION AND IMPLICATIONS

The MICE in metaverse connect end-users in novel, authentic and profound ways as consumers engage in experience co-creation as they share information in real time, instantly from various remote places. Moreover, MICE in metaverse provides immersive consumer experiences, and its impact on the hospitality and tourism sector is disruptive as it changes the very nature of how end-users work and play, and how customers and brands interact and engage. Thus, the aim of the present study was to

evaluate the consumer behavior intention to use MICE in metaverse. To measure consumers' perspective, the study encompassed the following variables: PE, EE, SI, FC, HM, PV, SS, SoS, NS, CS, HCS, and C and A R. The study's summary results are compatible with the progressive theoretical framework's interpretation of the influencing dependent variables, BI to use MICE in metaverse (85.3%), C R (54.3%), and A R (65.4%).

Regarding the antecedents of the BI to use MICE in metaverse, the present study suggested the relationship between PE, EE, SI, FC, HM, PV, C and A R with BI to use MICE in metaverse. Accordingly, AR exhibited as the superb antecedent ($\beta = .381$, $p <. 01$), followed by SI ($\beta = .299$, $p <. 01$), PE ($\beta = .244$, $p <. 01$), CR ($\beta = 179$, $p >. 01$), FC ($\beta = .170$, $p <. 01$), PV ($\beta = .153$, $p <. 01$) and EE ($\beta = .108$, $p <. 05$). However, this study showed that the effect of HM on BI to use MICE in metaverse is insignificant ($\beta = -0.053$, $p > 0.05$).

The aim of the present study was to unearth key factors which determine the consumers' BI to use MICE in metaverse. This research displayed that the end-users' A R have a positive influence on the BI to use MICE in metaverse. The A R are elicited through immersive experience of metaverse where end-users experience freedom and fulfillment through opportunities to be what they choose to be in a world of their choice. Thus, MICE in metaverse is essentially build on the pop culture where people can escape from the real-world issues such as energy crisis, financial crisis, fear of recession and poverty, pandemics and even threats of World War III and nuclear apocalypse. Accordingly, the ARs' positive influence on the BI to use MICE in metaverse is shaped by end-users needs to be a part of the better world, a world without inequalities or privileged social stratums (Yung et al., 2022) that is built on the humanistic centered characteristics and socially accepted moral values (Allam et al., 2022). As to the SI, this study showed that consumers prefer MICE in metaverse as it offers them the integration of social media and big data where end-users have the opportunity to build communities where they can engage in collaborative problem solving without harassments and bullying. Moreover, positive effect of SI on the BI to use MICE in metaverse is wrapped around gamification that offers an immersive and dynamic workplace that encourages employees to engage in problem solving. Thus, MICE in metaverse offers work and play consumer experiences (Dwivedi et al., 2022) where consumers are excited about the broadened horizons to interrelate with families and friends, and create additional opportunities to socialize (KPGM, 2022). With regard to the PE, this study exhibited that consumers believe MICE in metaverse possess an advanced, user-friendly infrastructure that enables a sort of hyperbolic opportunities where end-

users can smoothly and in frictionless way exploit limitless freedom of their choices. Subsequently, the PE has a positive influence on the BI toward metaverse is founded on the benefits from user interactivity that enhance the application performance and customer experience (Lee et al., 2021) where virtual environments provide immersive, extraordinary experiences (Fan et al., 2022). Concerning the cognitive responses influence on the BI to use MICE in metaverse, the research revealed that consumers have trust and confidence while they engage in libertarian learning within MICE in metaverse. To consumers coming from the industries that deal with physical objects and where problem solving depends on trust and confidence, MICE in metaverse offers endless possibilities where end-users can learn, work, socialize and play while keeping their social responsibilities through activism and sharing of information. Accordingly, this study finding mirrors the reasoning put forward by Yung et al. (2022) who argue that MICE in metaverse provides a unique opportunity for immersive virtual experiences driven by the end-users' CR, where high fidelity and work engagement build on trust boosts consumers CR that ultimately shape their BI (Müller & Wittmer, 2023). Furthermore, this research demonstrated that the FC positively influence BI to use the MICE in metaverse. Thus, since MICE in metaverse is built on the infrastructure where end-users can participate in the experience co-creation in an enthusiastic, simple and easy way, consumers can enjoy instant entertainment as they meet new people in a virtual world that is the image of the best of real world, however, in much brighter and vivid way. Consequently, the FCs' positive influence on the BI to use MICE in metaverse is a direct result of frictionless merger of virtual and physical environments (Buhalis et al., 2022) where 3D and virtual reality methods offer immersive experiences through social utility (Dwivedi et al., 2022). Similarly, regarding the PV, our study displayed that the immersive environment of metaverse is an elegant concept that provides workplace productivity at low costs as MICE built on the cloud-based platform offers a great value for money. Hence, MICE in metaverse lowers consumers' overall costs (Arpaci et al., 2022) while economic governance and the metaverse commerce strengthens the PV aspect of the positive impact on the BI to use MICE in metaverse (Vidal-Tomás, 2023). Furthermore, this research demonstrated that the EE positively influences the BI to use MICE in metaverse as immersive experience is offered at glance even on smart phones that are compatible with metaverse technology. Thus, the level of ease of MICE in metaverse usage solves the issue of space where empowered consumers can exhibit their ideas, interact and communicate on various topics in a place without creative limits. Consequently, MICE in

metaverse is an intuitive interface with a potential to bridge the digital and physical universes in a holistic way where empowered consumers can easily integrate different assets in the experience co-creation (Buhalis, 2020). Lastly, this study showed that consumers of the MICE in metaverse are guided by the utilitarian rather than HM. Thus, at least in the context of BI to use MICE in metaverse, it appears that consumers are driven by the utility of virtual world as they engage with each other in the experience co-creation. Accordingly, the study findings are supported by Gursoy et al. (2022) who outlined that certain hospitality and tourism consumers are driven by the utilitarian motives as they search to fulfill their functional or pragmatic needs.

This study suggests the relationship between SS, SoS, NS, CS, and HCS with C and A R positively affects BI to use MICE in metaverse regarding the antecedents of C and A R. HCS are exhibited as the most significant antecedent (CR: $\beta = 0.541$, $p < 0.01$; AR: $\beta = 0.279$, $p < 0.01$), which are followed by CS (CR: $\beta = 0.330$, $p < 0.01$; AR: $\beta = 0.366$, $p < 0.01$), SS (CR: $\beta = 0.329$, $p < 0.01$; AR: $\beta = 0.346$, $p < 0.01$), SoS (CR: $\beta = 0.159$, $p < 0.01$; AR: $\beta = 0.330$, $p < 0.01$) and NS (CR: $\beta = 0.087$, $p < 0.05$; AR: $\beta = 0.106$, $p < 0.01$).

The results of present study demonstrated that the HCS of MICE in metaverse are built on the collaboration between touristic destinations, technology companies, hospitality and tourism sector and various innovators who jointly work toward the optimization of the consumer experience co-creation within metaverse-scape. Thus, the HCS ensure consumers' confidence by engaging them to cognitively and affectively take a part during the booking process, price evaluation, 3D tours and interactions within the larger community of MICE stakeholders. Accordingly, the study findings are supported by Gössling and Schweiggart (2022) who outline that culture of hospitality promotes experience co-creation in metaverse by enhancing the consumer interaction both cognitively and affectively in an immersive way through services within the extended geographical regions. Moreover, the research demonstrated that the CS bridge fact and value dichotomy as consumers socialize, interact, communicate, progress and navigate between real and virtual worlds as they cognitively and affectively engage in MICE in metaverse. This finding is supported by Dwivedi et al. (2022) who outlined that metaverse integrates consumers' experiences where diverse audiences meet and share their similar interest in cultural life. With regard to the SS, our study exhibited that realistic digital textures of MICE in metaverse lead to immersive experiences inspired by the artistic aesthetics which directly impact how consumers reason, feel, contemplate and introspect. Thus,

MICE in metaverse encompass what Laukkanen et al. (2022) described as sensory-rich environment that has a positive effect on end-users' C and A R which ultimately lead to their immersive experiences. Concerning the SoS of MICE in metaverse, this research revealed that consumers meet, communicate and connect with each other not to escape from real life, but rather to find themselves as part of a larger community built on the social network where they can cognitively and affectively participate in the experience co-creation. The results of the study reflect the idea that was put forward by Suanpang et al. (2022) who argue that SoS of metaverse have a robust influence on the end-users' C and A R as metaverse can serve as nexus that connects the real and virtual world through social fabric. Lastly, our study showed that the NS in form of the artistically designed natural objects within MICE in metaverse positively influence end-users' C and A R as NS are foundation for the immersive consumers' experiences. This finding is supported by Dozio et al. (2022) who argues that NS of metaverse are an imaginary landscape build on the various visual narratives with the intention of eliciting end-users' C and A R.

Theoretical Implications

Firstly, the present study intended to examine behavioral intentions toward MICE in metaverse based on the conceptual framework built on the specific relations within the constructs of Venkatesh et al.'s (2012) UTAUT 2 with Pizam and Tasci's (2019) experienscape model. Respectively, the proposed model explains 85.3% of the variance of BI toward MICE in metaverse. Moreover, CR (explained 54.3% of the variance) and AR (explained 65.4% of the variance) had a robust mediating role with significant explanatory power for behavioral intentions toward MICE in metaverse. Hence, the present study demonstrated that the modified UTAUT 2 offers an important advancement in variance explained in the behavioral intention in comparison to the original Venkatesh et al.'s (2012) UTAUT 2 and Ariza-Montes et al.'s (2023) modified UTAUT 2 (85.3% versus 74% versus 82.4%).

Secondly, this study is a pioneering endeavor that combines SS, SoS, NS, CS, HCS, C and A R, PE, EE, SI, FC, HM and PV with BI toward MICE in metaverse. Even though there is a growing number of companies that are working on designing various metaverse platforms, to the best of authors' knowledge, it is still theoretically unknown and empirically invalidated what are the key factors that are driving the adoption of MICE in metaverse. Furthermore, there is an evident knowledge gap in the academic literature on the topic of the nexus between technology adoption and MICE in metaverse. Thus, results of the present study reveal that end-users' C and

A R, PE, EE, SI, FC and PV have a significant and positive influence on BI toward MICE in metaverse. Accordingly, present study results can serve as a baseline for various forthcoming studies on topic of MICE in metaverse or topics related to the experience co-creation and marketing of metaverse in tourism and hospitality sector in order to genuinely understand end-users' BI.

Thirdly, the results of this study showed that within MICE in metaverse there is an insignificant impact of HM on consumers' BI. Thus, the aforementioned result offers novelty and originality by providing a theoretical contribution in support of Bentham's (1789/2012), Mills' (1861/2018), and Hume's (1758/2020) philosophy of utilitarianism and directly opposing Spenglers' (1918/2020) philosophy of "Faustian" culture. More precisely, this study finding shows that consumers of MICE in metaverse are not unconditional individualists driven by HM in the pursuit of pleasure as the ultimate good. Quite oppositely, this study's findings showed that consumers of MICE in metaverse through novel technology adoption and metaverse-scape are aiming for the betterment of society as a whole. Accordingly, consumers of MICE in metaverse prefer metaverse technology and metaverse-scape that benefits all equally, not just the elite. Lastly, this finding is supported by Kalınkara and Özdemir (2024) and Yang et al. (2022).

Finally, present research provides a holistic approach toward understanding the nature of MICE in metaverse-scape. This research has outlined that end-users' BI toward MICE in metaverse are guided by their C and A R as end-users' expression under the influence of metaverse offers immersive experiences. Hence, the BI toward MICE in metaverse is driven by unique and refreshing symbolic connotations.

Practical Implications

MICE in metaverse has the potential to provide immersive consumer experiences founded on the human centric end-user's interaction. However, it is up to MICE in metaverse stakeholders to create and maintain community build on a social network platform where end-users are provided with the opportunities that enable their positive AR which lead to the immersive consumer experience. One of the avenues to create such social network platform is to embrace DAO that run on a blockchain as DAO offers consumers freedom and confidence that are based on transparency without central leadership. Moreover, MICE in metaverse stakeholders have to implement bottom-up community organization on the

democratically voted set of rules that runs on a blockchain as such community would enhance consumers' CR while they engage in libertarian learning. Thus, as MICE in metaverse offers endless possibilities where end-users can learn, work, socialize and play, MICE in metaverse stakeholders should not lose sight of the gamification aspects.

MICE in metaverse stakeholders should offer gamification within business concept where consumers can have the ownership of their in-game and perhaps even MICE assets that are built on social contracts within the MICE ecosystem. In such MICE ecosystem, it would be MICE in metaverse stakeholders' responsibility to bring together consumers, developers and touristic destinations in a shared workplace where they can engage in incentives value co-creation build on shared responsibilities. Moreover, MICE in metaverse can transfer these incentives to its consumers in a form of NFTs that are governed by DAO. Hence, in that way MICE in metaverse stakeholders would address the consumers' price value aspect as they would deliver an elegant concept that provides workplace productivity at low costs built on the cloud-based platform that offers a great value for money. The MICE in metaverse stakeholders can unlock consumers' experience co-creation as they can offer social platform where end-users can freely navigate between the communities and engage in various dialogs and community building without leaving their homes. Accordingly, the MICE in metaverse stakeholders must provide the facilitating conditions that are built on infrastructure where end-users can participate in experience co-creation in an enthusiastic, simple and easy way, as they enjoy in an instant entertainment by meeting new people in a virtual world that is the best image of the real world. Furthermore, MICE in metaverse stakeholders have to address the language barriers for its end-users by creating real time on-demand translations. Thus, once the MICE in metaverse stakeholders enable social platform that removes language barriers for its end-users, the performance expectancy of consumers would be fulfilled as consumers would have the user-friendly infrastructure at glance that enables hyperbolic opportunities where end-users can smoothly and in frictionless way exploit limitless freedom of their choices.

MICE in metaverse stakeholders should also explore opportunities to offer nexus of virtual and real-life experiences built on socialization as there are consumers who prefer the best of both worlds. Hence, the nexus between virtual and real world would enhance social influence, where the MICE in metaverse stakeholders would offer to end-users the opportunity to build dynamic workplace that encourages employees toward the engagement in problem solving. Moreover, the MICE in metaverse

stakeholder should seize the opportunity to address the consumers' effort expectancy by solving consumers' physical location home obligations. The MICE in metaverse stakeholders can achieve the aforementioned task as they could offer immersive experience at glance on smart phones that are compatible with the metaverse technology. Thus, the MICE in metaverse stakeholders could solve the issue of space where empowered consumers, without leaving their homes, can exhibit their ideas, interact and communicate on various topics in a place without creative limits.

Limitations and Future Research

This study comes with several limitations, however, those limitations are opportunities for upcoming research. The first limitation is the conceptual framework. Even though this research is established on the specific conceptual constructs and theory associated with Venkatesh et al.'s (2012) UTAUT 2 and Pizam and Tasci's (2019) experienscape model, authors of this study were not able to include moderators who were a part the aforementioned models. Thus, regardless that present study demonstrated that UTAUT 2 can be extended since it can function as an open platform that allows incorporation of other conceptual elements and ideas, forthcoming studies should include moderators who are associated with the aforementioned models. More specifically, future research should build on this study's findings by determining and understanding the boundary conditions of consumers sociodemographics, consumer psychographics, and consumers' familiarity within the comprehensive model offered in this study. The second limitation is the self-administered online survey questionnaire itself. Accordingly, potential self-response biases should be considered in generalizing the conclusions of the present study. Nevertheless, the authors applied procedural methods set by Jordan and Troth (2020) to lessen the possible influence of self-response bias. The third limitation is the research design, which was cross-sectional. Thus, as Wang and Cheng (2020) argue in such studies, casual relations among variables cannot be confirmed, group effects are not perceptible, and frequencies are not resolved. Upcoming analyses could utilize a longitudinal study design to surpass this limitation of the current study. Even though the results of this study are credible and data were gathered from a variety of sources, generalizability and transferability should be carefully considered. Future research should therefore include qualitative methodologies and mixed methods, which may yield different results, as this study is limited to a quantitative approach.

CONCLUSION

In an era where the fourth industrial revolution is unfolding before our eyes and digital workplace is making its advancements into everyday life, the MICE industry is transforming under the influence of metaverse. Thus, MICE in metaverse can offer end-users remote interaction with meaningful, immersive experiences where consumers can organically interact with each other without losing the sense of belonging within a community as they engage and navigate through various virtual worlds that mirror the best versions of the physical world.

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Appendix A. *Confirmatory factor analysis assessment*

	β	AVE	CR	Cronbach Alphas
Performance expectancy				
I find Metaverse would be useful in conferences/meetings	0.853			
Using Metaverse for conferences/meetings would increase my chances of achieving things that are important to me.	0.844	0.737	0.918	0.917
Using Metaverse would help me accomplish conferences/meetings more quickly	0.864			
Using Metaverse for conferences/meetings would increase my productivity	0.872			
Effort expectancy				
Learning how to use Metaverse for conferences/meetings would be easy for me.	0.919			
My interaction with Metaverse for conferences/meetings would be clear and understandable.	0.904	0.742	0.920	0.919
I would find Metaverse easy to use.	0.777			
It would be easy for me to become skillful at using Metaverse for conferences/meetings.	0.838			
Facilitating conditions				
I would have the resources necessary to use Metaverse for conferences/meetings.	0.878			
Metaverse for conferences/meetings should be compatible with other technologies that I use.	0.959	0.856	0.947	0.946
I could get help from others when I have difficulties using Metaverse for conferences/meetings.	0.937			
Social influence				
People who are important to me think that I should use Metaverse for conferences/meetings.	0.659			
People who influence my behavior think that I should use Metaverse for Metaverse conferences/meetings.	0.885	0.635	0.837	0.814
People whose opinions that I value would prefer that I use Neuralink for conferences/meetings.	0.830			
Hedonic motivations				
Using Metaverse for conferences/meetings would be fun.	0.928			
Using Metaverse for conferences/meetings would be enjoyable.	0.977	0.892	0.961	0.960
Using Metaverse for conferences/meetings would be very entertaining.	0.927			
Price value				
Metaverse will be reasonably priced.	0.891			
Metaverse will be value for the money.	0.845	0.675	0.861	0.857
At the current price of physical conferences/meetings, Metaverse would provide a good value.	0.719			
Sensory stimuli (2 senses)				
Background sounds in Metaverse for conferences/meetings are nice.	0.791			
Colors in Metaverse for conferences/meetings are in harmony.	0.818	0.681	0.895	0.889
NFT's in Metaverse for conferences/meetings are attractive	0.870			
High-resolution in Metaverse for conferences/meetings is pleasant.	0.820			
Social stimuli				
The crowd level in Metaverse during conferences/meetings is comfortable	0.890	0.73	0.890	0.889

People seem to be enjoying themselves in Metaverse during conferences/meetings.	0.883			
People are interacting with each other in Metaverse for conferences/meetings.	0.788			
Naturalistic stimuli of virtual world				
The landscape in Metaverse for conferences/meetings reflects the natural flora.	0.835			
Plants in Metaverse for conferences/meetings are used effectively in overall design.	0.933	0.752	0.901	0.897
Natural elements make the Metaverse for conferences/meetings attractive.	0.829			
Cultural stimuli				
Cultural symbols in Metaverse for conferences/meetings are familiar to me.	0.833			
People in Metaverse for conferences/meetings act similar to me.	0.810	0.680	0.864	0.864
In Metaverse for conferences/meetings I can interact with other participants easily.	0.830			
Hospitality culture stimuli				
Metaverse for conferences/meetings meets all stakeholders' needs	0.903			
Conferences/meetings in the Metaverse are detail-oriented.	0.827	0.703	0.876	0.880
Metavrese for conferences/meetings develops and maintains positive relationships with all stakeholders	0.781			
Cognitive responses				
Metaverse is a good place to be for conferences/meetings.	0.849			
Metaverse has a positive image.	0.876			
Metaverse offers good quality products and services for conferences/meetings.	0.864	0.714	0.926	0.924
Metaverse for conferences/meetings offers good value for money	0.807			
I trust Metaverse.	0.827			
Affective responses				
I would feel excited in Metaverse.	0.903			
I would have pleasant in Metaverse.	0.912			
I would feel happy in Metaverse.	0.896			
I would feel safe and secure in Metaverse.	0.760	0.699	0.948	0.948
I would forget about everything in Metaverse.	0.666			
I would feel immersed in Metaverse.	0.727			
I would feel satisfied with my experience with Metaverse.	0.880			
I would love Metaverse.	0.906			
Intention to use Metaverse				
I intend to use Metaverse for conferences/meetings.	0.863			
I plan to use Metaverse for conferences/meetings when they become available.	0.895	0.768	0.909	0.908
I predict that I will use in near future Metaverse for conferences/meetings.	0.872			