1 **Metaverse customer journeys in tourism: Building viable virtual worlds**

2

3 **Abstract**

4 **Purpose –** This research examined the use of the metaverse in tourism and hospitality to

5 comprehend better how the technology might shape customer journey management,

6 especially relative to information provision, experiences, and customer benefits.

7 **Design/methodology/approach** – This explanatory research used a two-stage approach of

8 media analysis and practitioner interviews to analyse the interactions among tourism

9 information provision, customer experiences, and customer benefits in the metaverse. It

10 conceptualized and mapped the consumer journey of the emerging metaverse experience,

11 focusing on the ideas and practices of metaverse design pioneers in tourism and hospitality.

12 **Findings –** Based on the media analysis and interviews with 27 designers, the MIEB model was

13 proposed, containing three parts (information characteristics, customer experiences, and

14 customer benefits) and 31 supporting items grouped into nine components.

15 **Originality/value –** One of the unique contributions of this research is the Metaverse –

16 Information – Experiences – Benefits (MIEB) model for applying the metaverse in customer

17 journey management (pre-, during-, and post-trip). The findings contribute to the current

18 literature with this model based on the practical perspectives of metaverse designers and

19 provide insights on how to incorporate the MIEB model in applying the metaverse in tourism

20 and hospitality management. The findings also address existing literature gaps of insufficient

21 research on metaverse management and design through all stages of the customer travel

22 journey and by paying attention to stakeholders' viewpoints, including the media and

23 designers of metaverse applications. Engaging in semi-structured interviews with pioneers

24 of the metaverse in order to gain insights into the design of tourism experiences was also

25 different from other metaverse tourism research, although this is not claimed as a significant

26 point of innovation.

27 **Keywords -** Metaverse; customer journey; MIEB model; interviews; content analysis

28 **Paper type** Research paper

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1. Introduction

New technologies encourage novel experiences (Pine and Gilmore, 2011). The metaverse has set the business world abuzz with its potential to reshape an ecosystem for new products, services, and emerging synthetic customer experiences (Golf-Papez *et al.*, 2022). However, there is a substantial knowledge gap in the metaverse and its opportunities for practitioners and academia (Buhalis, Leung, *et al.*, 2023). Metaverse utilization has significant business potential and will affect tourism and hospitality in various ways(Baker *et al.*, 2023). What was once intangible is becoming more tangible in virtual environments where all types of smart technologies, including AI (artificial intelligence), VR (virtual reality), MR (mixed reality), XR (extended reality), and NFTs (non-fungible tokens) are integrated to create immersive experiences (Dwivedi *et al.*, 2022a). While these technologies involve virtual experiences, the metaverse encompasses a comprehensive and interconnected virtual universe that transcends individual platforms and experiences (Baggio and Ruggieri, 2023; Lee *et al.*, 2021).

Considering the metaverse in tourism and hospitality is at an infancy stage, more needs to be known about the potential impacts on management and marketing (Baker *et al.*, 2023; Filimonau *et al.*, 2022; Giang Barrera and Shah, 2023; Monaco and Sacchi, 2023; Yang and Wang, 2023). Researchers have begun to conceptualise and predict the potential influence of the metaverse (Buhalis *et al.*, 2023a; Buhalis *et al.*, 2023b; Koo *et al.*, 2022). Dwivedi *et al.* (2023) and Gursoy *et al.* (2022) reviewed the impacts of the metaverse on the customer journey that involves a stream of purchase stages (pre-purchase, during-purchase, and post-purchase) and touchpoints through the consumption process (Lemon and Verhoef, 2016). The traditional five-step customer journey from awareness to purchase probably no longer applies with the arrival of the metaverse (Barta *et al.*, 2023; Flavián, 2019; Gursoy *et al.*, 2022). Instead, the metaverse experience journey delivers a "stream of engagement" in which customers interact with a metaverse-scape and have immersive experiences. There is a need for more empirical studies on the impact of the metaverse on the customer journey, and these future investigations should include the viewpoints of tourism and hospitality practitioners (Buhalis

et al., 2022). This research examined the future use of the metaverse in tourism and hospitality, aiming to comprehend better how the technology will transform customer journey management, especially relative to customer experience design. The research questions were: 1) How is the metaverse transforming the customer journey in tourism and hospitality? and 2) what are the implications for customer journey management?

In-depth interviews with metaverse practitioners in tourism and hospitality were conducted to address the research questions. The research employed grounded theory and content analysis, a classic qualitative method for under-explored topics that advocates contextualized understanding of phenomena. A model was established for applying the metaverse in customer journey management (pre-, during-, and post-trip). The findings contribute to the current literature with this proposed model derived from practical viewpoints and provide insights on incorporating the framework in adopting the metaverse in tourism and hospitality management.

2. Literature review

2.1. The metaverse in tourism

The metaverse is a parallel and virtual universe (Buhalis and Karatay, 2022) that merges physical and digital virtuality, first used in Neil Stephenson's novel *Avalanche* in 1992. Virtual environments and immersive games (such as *Second Life*, *Fortress Night*, *Roblox,* and *VRChat*) are described as the precursors of the meta-universe (Dwivedi *et al.*, 2022; Oh *et al.*, 2023). It is a "mash-up" of technologies that enable multisensory interaction among virtual environments, digital objects, and people, such as virtual reality (VR) and augmented reality (AR) (Mystakidis, 2022). The tourism and hospitality sector is facing unprecedented challenges post-pandemic and urgently needs digital technology to improve service experiences and storage security. The discussion of the metaverse in tourism and hotels has experienced an unprecedented surge, leading to heightened promotion and exploration (Go and Kang, 2023). Immersion is an essential element that induces people to participate in the

88 metaverse and maintain a continuous world (Jaynes et al., 2003). Interactions in the

89 metaverse are divided into social networks, collaboration, and role dialogue. The interest in

90 creating value through collaboration beyond personal VR experience is increasing (Zhang *et*

91 *al.*, 2018). Significant research has been conducted on meta-universe technology, and Wang

92 *et al.* (Wang, Su, *et al.*, 2022) proposed that security and privacy are critical issues, just as

93 they are on social media platforms. Bushell (2022) explored using the metaverse as a

94 marketing and brand tool to provide insights into how enterprises and individuals can

95 expand their influence in the virtual world and connect with others. Zhang and Quoquab

96 (2023) focused on the metaverse discussion of urban destinations, based on evidence from

97 China on information provided by online materials, including the official websites of tour

98 organisers and news media.

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100 *2.2. The customer experience in tourism*

101 The concept of customer experience was conceived in the mid-1980s. The customer

102 experience encompasses every aspect of a company's offering — the quality of customer

103 care and advertising, packaging, product and service features, ease of use, and reliability .

104 Individuals are learning to make the most of technology in their areas of interest. For

105 example, travellers use smartphone apps and software to choose destinations (Meyer and

106 Schwager, 2007). The most advanced technology application is to experience travel activities

107 at home, including the metaverse, with the help of technology (Roman *et al.*, 2022). This

108 definition may depend more on the characteristics of the technology, given that most

109 supporting technologies (AR, VR, MR) are some of the most prominent new developments in

110 information systems (Xi *et al.*, 2022). The quality and characteristics of tourism information

111 directly affect expectations, interest, and satisfaction with destinations, thereby indirectly

112 influencing tourism experiences (Narangajavana *et al.*, 2017). Information search is essential

113 to purchasing behaviour and forms part of the travel experience (Buhalis and Law, 2008).

114 The value of destination information is equally important. Accurate and detailed content is

115 valuable to travellers, making them more confident when planning their trips.

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2.3. The customer journey

Tourism is a sector where intensive contact between customers and service providers

constitutes an experience. The journey originates from Shostack's service blueprint and

service mapping work (Shostack, 1984). Customer journey management (CJM) and

understanding the role of the customer experience at each journey stage are critical for

tourism enterprises (Grewal and Roggeveen, 2020). There are three stages of customer

decision-making: pre-purchase, purchase, and post-purchase (Puccinelli et al., 2009). Virtual

customer communities enable firms to establish distributed innovation models that involve

varied customer roles in new product development. Nambisan (2002) used a multi-theoretic

lens to examine the design of such virtual customer environments, focusing on four underlying

themes (interaction pattern, knowledge creation, customer motivation, and virtual customer

community-new product development team integration) and derived implications for virtual

customer environment design. Contact with people on the customer journey is a learning

opportunity for companies. By engaging customers and having experiential discourse, people

become participants and better establish personal relationships (Yachin, 2018). Veréb and

Azevedo (2019) mapped innovation perception and pinpointed innovation opportunities

along the tourism experience journey with different online scenarios resembling distinct

experiences. Organizations must create trouble-free journeys to meet customer needs, ensure

success in competitive markets, and build customer loyalty (Hussadintorn Na Ayutthaya and

Koomsap, 2018; Jafar and Ahmad, 2023). They must introduce methods to embed

unforgettable experiences into customer journeys by incorporating the 4Es (entertainment,

educational, aesthetic, and escapist) (Pine and Gilmore, 2011).

2.4 Challenges and criticisms of the metaverse

Several previous authors have identified challenges and hindrances or put forward criticisms

of the metaverse. These challenges include issues related to privacy and data security (Huang

et al., 2023; Wang, Su, et al., 2022), the digital divide (Wang, Yu, et al., 2022), potential

negative impacts on physical tourism destinations (Allam et al., 2022), and ethical

considerations (Monaco and Sacchi, 2023). Prolonged immersion might also lead to a blurred

146 line between virtual and reality, causing disconnection from the physical world and

147 potentially fostering feelings of isolation (Kuntsman and Miyake, 2019).

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149 It is essential, therefore, to have a balanced viewpoint on the metaverse for tourism and

150 hospitality, acknowledging there are positive and negative aspects. Gathering designer

151 perspectives is particularly important in determining how the metaverse will be presented

152 and controlled. Their expertise and insights can help ensure that the metaverse is designed in

153 a user-friendly and engaging manner, while also considering ethical and responsible practices.

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155 *2.5 The research gaps*

156 Although rapidly expanding, the existing literature needs more research on metaverse

157 management and design through all stages of the customer journey in travel(Gursoy *et al.*,

158 2022). While the concept of the metaverse is gaining momentum and attracting significant

159 attention, there is still a need to delve deeper into various aspects of its management and

160 design, particularly as it relates to the customer journey within the tourism and hospitality

161 industry.

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163 It is essential to investigate how the metaverse can be effectively managed and designed to

164 enhance the customer experience at each stage of their journey. This includes understanding

165 how the metaverse can be utilized to inspire and engage potential travellers during the pre-

166 trip stage, enabling them to explore virtual destinations, accommodations, and activities.

167 Research should focus on identifying the most effective strategies and techniques for

168 improving the experience and providing valuable benefits.

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170 Furthermore, attention should be given to the viewpoints of all stakeholders involved in the

171 metaverse ecosystem (Chen et al., 2023). Involving metaverse application designers can shed

172 light on the technical and design considerations necessary for creating intuitive and user-

173 friendly virtual worlds.

174

175   In conclusion, while the existing literature on metaverse management and design in the

176   context of the customer journey in travel is expanding, further research is needed to address

177   various gaps and explore new avenues. Focusing on all stages of the customer journey and

178   considering the viewpoints of stakeholders can contribute to a more comprehensive

179   understanding of the metaverse's potential in enhancing the travel experience.

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181   **3. Methodology**

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183   *3.1. Research background*

184   The metaverse is an emerging phenomenon with a potentially dramatic impact on tourism

185   and hospitality. A two-stage approach of media analysis and executive interviews was followed

186   to investigate the role of the metaverse and its implications and consequences. First, news

187   articles were collected from Google Search for the top 30 global media outlets (Table 1). Using

188   the keywords "tourism" and "metaverse", the filter was the type of results chosen as "news".

189   Some 6,231 news articles were retrieved from September 2021 to July 2023., when there was

190   a large volume of news coverage about metaverse applications in tourism and hospitality.

191   Excluding news coverage unrelated to the metaverse, this research yielded 5,959 newspaper

192   articles for analysis, among which a surge of news coverage occurred in October 2021 (Figure

193   1). A content analysis was conducted on the news coverage to understand the applications

194   and   consequences   of   the   metaverse.   Data   were   encoded   using   DiVoMiner

195   (https://www.divominer.cn/), and themes were systematically identified (Hsieh and Shannon,

196   2005).

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204 **Table 1.** Top 30 media sources with the largest number of news reports.

No.	Media source	Number of news reports	No.	Media source	Number of news reports
1	PR Newswire	558	16	TimeOut	49
2	ARPost	286	17	BW Businessworld	44
3	ZAWYA	207	18	The Drum	43
4	The National	177	19	Daily Sabah	42
5	Investment Monitor	176	20	WAM EN	41
6	Outlook India	143	21	Nikkei Asia	39
7	The Financial Express	138	22	The Guardian Nigeria	39
8	Bizcommunity	99	23	Capital News	38
9	Gulf News	86	24	Arabian Business	37
10	Modern Diplomacy	71	25	Yahoo Finance	37
11	Bangkok Post	68	26	China Briefing	36
12	Canada Newswire	59	27	PR Daily	36
13	Al Arabiya	58	28	Global Cosmetics News	35
14	ArchDaily	54	29	Consultancy-me.com	34
15	Macau Business	54	30	Asahi Shimbun	33

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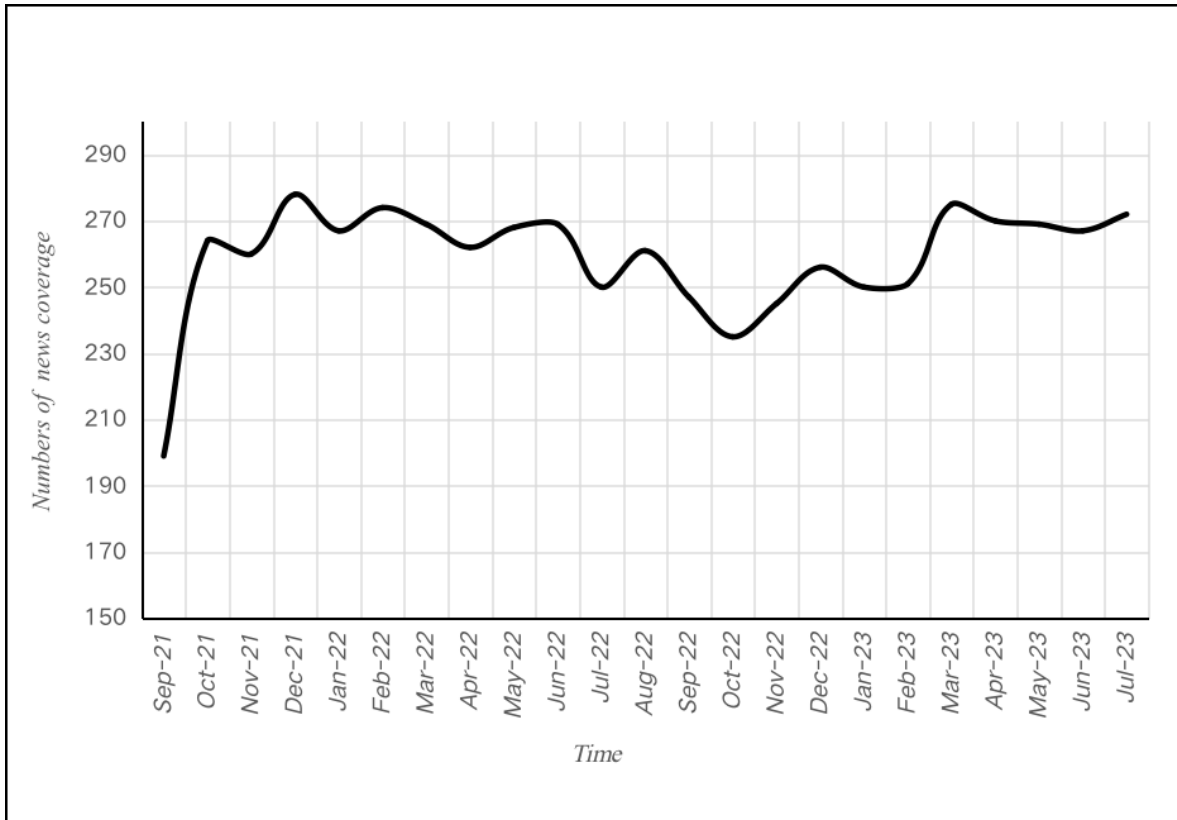
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Figure 1. Frequency of news coverage on tourism and metaverse from September 2021 to July 2023.

Semantic network analysis was applied to identify the major themes in the text of the news reports. Four clusters in the news were identified as "overview of tourism metaverse", "core and main characteristics of tourism metaverse", "economic attributes of tourism metaverse", and "exploration of tourism metaverse" (Figure 2).
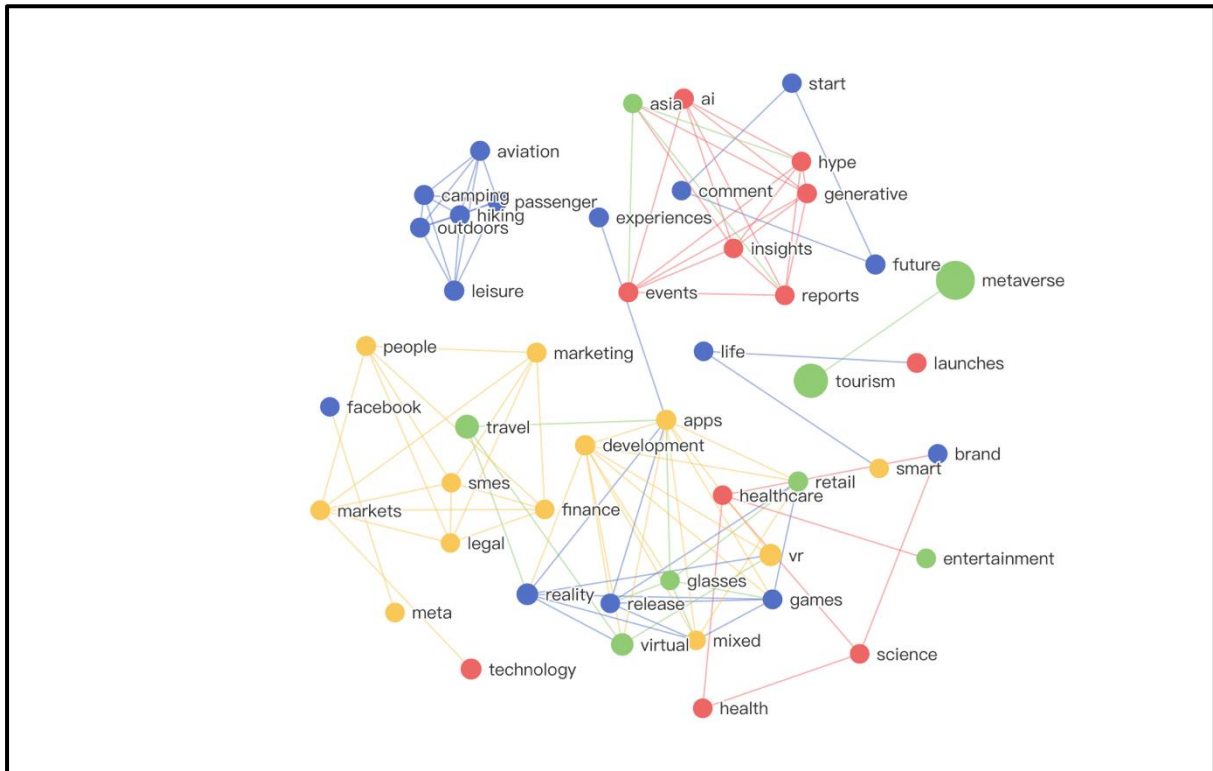
Figure 2. Semantic network analysis of tourism metaverse news reports.

The findings from the analysis of media reports informed the second stage of the research. Since technology-driven characteristics demand creativity in metaverse design and delivery, in-depth interviews were conducted with practitioners in tourism and hospitality about the metaverse. Given that the media is more concerned about the metaverse and tourism tends to be concentrated in the Asia-Pacific region (Table 2), Mainland China and Macau were chosen as the data collection locations for interviews. Also, China and its SARs (Macau and Hong Kong) are the world's most significant national Internet markets, and the metaverse is rapidly advancing there (Zhang and Quoquab, 2023).

3.2. Data collection and respondents

Interviews were completed from September to November 2022 and August 2023. A list of newly established and existing Chinese companies producing metaverse products and projects in tourism and hospitality was compiled through information available on the Internet. The relevant persons of each company were invited to participate in interviews. The selection criteria were that the company used the most advanced metaverse technology and

comprehensively understood its application and development in tourism and hospitality. Respondents from 27 companies accepted the interview invitations (Table 2). The interview questions were created based on the customer journey theory, and the current research gaps were considered. After the last two interviews, no new themes emerged, saturation was considered to have been reached, and data collection stopped. Interviews lasted an average of 47 minutes and were recorded via virtual meetings and transcribed verbatim for anonymity. The data were then read to extract parts that were most relevant or interesting to the topic and coded by two researchers (a master's student and a Ph.D. majoring in tourism management) with the assistance of NVivo 12. Interviews were analysed to construct a preliminary crowdsourcing framework.

Table 2. Demographic characteristics of interview participants.

ID	Location	Position	Age	Business type
P1	Shanghai	Co-Founder	40-45	Consultancy
P2	Beijing	Director	30-35	Tech company
P3	Qingdao	CEO	35-40	Creative company
P4	Beijing	Founder	40-45	Tech company
P5	Shanghai	Developer	50-55	Tech company
P6	Beijing	Head of R&D	25-30	Tech company
P7	Beijing	Dean of Research Institute	30-35	Tech company
P8	Beijing	Founder	30-35	Culture company
P9	Guangzhou	Director of Marketing	30-35	Tourism service
P10	Guangzhou	Director of Operations	30-35	Tourism service
P11	Harbin	Manager	35-40	Tech company
P12	Beijing	Angel Investor	30-35	Investment
P13	Beijing	Executive Director	35-40	Government
P14	Hangzhou	CEO	35-40	Tech company
P15	Hangzhou	Manager	30-35	Tech company
P16	Beijing	Director of Marketing	25-30	Tourism service
P17	Nanjing	Founder	35-40	Tech company
P18	Shanghai	Manager	40-45	Tech company
P19	Qingdao	CEO	35-40	Tech company
P20	Shenzhen	Co-Founder	30-45	Hospitality
P21	Chengdu	Manager	40-45	Scenic area

P22	Chengdu	Manager	35-40	Scenic area	251
P23	Macau	Director of Marketing	30-35	Tech company	252
P24	Macau	Designer	25-30	Tech company	
P25	Macau	Consultant	35-40	Government	253
P26	Macau	Director of Operations	40-45	Tourism service	254
P27	Macau	Director of Operations	35-40	Tourism service	255

3.2. Data analysis

The researchers used the grounded theory method to guide interview response analysis. There were three basic types of coding: open, axial, and selectively defined.

3.2.1. Open coding

This included labelling concepts and defining and developing categories based on their properties and dimensions (Thomson, 2011). The process was divided into two steps. The first step was to label the sorted data, initially conceptualize them, and create concepts that best reflected the essence of the data from the interviewee statements and academic literature. The second step was classifying and refining the concepts (Manning, 2017). In this research, the content was aligned according to the customer journey. The sentences with similar meanings were summarized and sorted, and 31 initial categories were extracted (Figure 3).

3.2.2. Axial coding

Open coding abstracts and generalizes the data, but the relationship between categories needs further exploration. Axial coding produces dimensions and examines the correlations and differences between established concepts and generic categories (Khalil, 2014). The nine dimensions were identified through axial coding, including information search, information quality, information interactivity, experience improvement, experience augmentation, experience creation, and epistemic, social, and emotional benefits. Figure 3 shows the proposed Metaverse – Information – Experiences - Benefits (MIEB) model. The purpose of this model is to indicate the essential items (n = 31) of metaverse design for tourism and hospitality, representing the three broad parts of information characteristics (I), customer experiences (E),

280 and customer benefits (B). The model was employed to report the detailed results from the

281 semi-structured interviews which follow.

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Metaverse information characteristics (I)	Metaverse customer experiences (E)	Metaverse customer benefits (B)
Information search • Credibility • Accessibility • Seamlessness • Complexity • Integrity	**Experience improvement** • Immersion • Timelessness • Differentiated enjoyment • Hyper-reality • Diverse needs	**Epistemic benefits** • Novelty satisfaction • Cultural learning • Knowledge • Understanding
Information quality • Differentiation • Richness	**Experience augmentation** • Vivid storytelling • Privacy and security • Diversity and selectivity • Expectation confirmation	**Social benefits** • Relationship maintenance • Place recollection
Information interactivity • Gamification • Entertainment	**Experience creation** • New forms of companionship • New social spaces • Multisensory • New customer-earned touchpoints	**Emotional benefits** • Memory recollection • Reminiscing • Emotional transfer • Word of mouth

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284 **Figure 3.** Metaverse – Information – Experiences - Benefits (MIEB) model.
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287 **4. Results**

288 This section explains the results concerning the factors that reflect customer metaverse

289 experiences from practitioners' perspectives. The experiential stimuli and composition of the

290 metaverse experience design dimensions are identified. Information search, information

291 quality, and information interactivity as metaverse information characteristics trigger

292 metaverse experiences, including experience improvement, augmentation, and creation,

293 which shape epistemic, social, and emotional benefits.

294

295 *4.1 Metaverse information characteristics*

296 During the pre-trip stage, collecting essential information about destinations is crucial (Choi

297 *et al.*, 2018). Regarding metaverse information characteristics, the results highlighted three

298 factors: information search, quality, and interactivity, which are experiential cues for customer

299   metaverse experience design.

300

301   *4.1.1 Information search*

302   Consumers actively gather information during the information search phase to facilitate more

303   informed purchasing decisions (Schmidt and Spreng, 1996). During the pre-trip stage, active

304   information search (Ho *et al.*, 2012) and passive word-of-mouth spread (Pourfakhimi *et al.*,

305   2020) are the main factors that create important metaverse factors for motivation (Preko *et*

306   *al.*, 2020). Introducing new media formats like social media adds a fresh dimension to the

307   information search process. It has been demonstrated that social media influences consumer

308   satisfaction during the information search and alternative evaluation stages (Voramontri and

309   Klieb, 2018). The metaverse has further empowered information search compared with the

310   Web 2.0 era, including information credibility, accessibility, seamlessness, complexity, and

311   integrity. Information accessibility cultivates an environment where people can obtain

312   information at this stage event more efficiently.

313

314   A significant advantage of the metaverse is that it provides credible information

315   (Balasubramanian *et al.*, 2022). Consumers are enduring the consequences of information

316   pollution on social media for an extended period, with intentional (fake news and claims) and

317   unintentional contamination. It often takes much time to verify the authenticity of the

318   information. This problem is avoided when travelling in the metaverse:

319

320   *"The person in the metaverse does not need to be played, and he is the real expression*

321   *of the tourists. You do not need to distinguish between true and false"* (P1).

322

323   Information seamlessness is another advantage in the metaverse world (Dwivedi *et al.*, 2022b;

324   Yang *et al.*, 2022):

325

326   *"We have established a scenic metaverse system to integrate information from various*

327   *platforms to facilitate tourists to make travel plans. For example, tourists can use VR*

328   *for sightseeing, and the browsing content will be integrated in the personal centre, and*

329   *changing mobile terminals will not affect the promotion of transactions.*" (P3).

330

331   There is little difference between the virtual and physical worlds; people quickly get involved

332   in the virtual 3D world and realize zero distance from the real tourism scene.

333

334   *"Not only through this intuitive two-dimensional introduction, but it can also directly*

335   *penetrate the three-dimensional display of our scenic areas. Especially with the*

336   *promotion of VR technology, we can fully realize three-dimensional immersion at*

337   *home before arriving"* (P2).

338

339   Several respondents stated that information complexity and integrity are crucial

340   characteristics in information search. The complexity of tourism information is high, mainly

341   because tourism involves multiple aspects, including a destination, transportation,

342   accommodation, catering, attraction tickets, and activity arrangements, each of which has its

343   details (Fodness and Murray, 1999). The complexity of metaverse tourism information is

344   higher than that of traditional tourism information because it involves the combination of the

345   virtual and real worlds, and more new factors and issues need to be considered:

346

347   *"When doing scene design, metaverse tourism needs to consider the complexity of the*

348   *virtual world, such as space limitations and technical limitations of the virtual world"*

349   (P6).

350

351   Metaverse tourism also needs to consider the complexity of the natural world, such as

352   weather, traffic flow, and safety. Most importantly, metaverse tourism also needs to consider

353   the combination of the virtual and real worlds. Considering how to combine the virtual with

354   the experience is necessary.

355

356   Information integrity emphasizes blockchain's contribution and ensures information's ethical

security (Bermejo and Hui, 2022). The construction of many virtual identities and the exchange and storage of information must be secure and private.

"Our company has a dedicated department responsible for data cleaning, deduplication, error detection, and repair to maintain data integrity and ensure that the information provided to customers is complete and verified." (P16)

4.1.2 Information quality

Quality information produced by suppliers and consumers improves the usefulness of the information and builds trust. It also helps to comprehend better and meet their needs (Fodness and Murray, 1999). The dimensions of information quality include information authenticity and richness. Quality information saves people time, avoiding the tedium of sorting through true and false content. Accurate information is available in the pre-trip stage. Customers can book hotel rooms and buy NFTs in vivid detail in advance in the metaverse world.

There is an opportunity to have rich information in advance to make travel decisions, including gaining realistic details of scenic areas and hotels.

"For scenic areas, it has absorbed some tourists in advance, and for tourists, it has more detailed tips" (P10).

This function is similar to trying before you buy; it provides quality assurance for travellers.

4.1.3 Information interactivity

Gamification is the design of activities or tasks to resemble a game to increase user engagement and enjoyment. In the metaverse, gamification is a critical concept. By designing the tasks and activities in the metaverse in a game-like form, more users are attracted to participate.

"To attract children's attention, we have designed a question-and-answer session, and you can get rewards for correct answers. These designs also give them a deeper understanding of tourist destinations" (P11).

Entertainment is a product of interaction and also the purpose of tourism. Tourists prefer to travel for fun and recreation (McKercher and du Cros, 2003). The metaverse will likely reshape tourism and entertainment scenes (Ananya Babu and Mohan, 2022) Using Web 4.0 to obtain information creates a new digital entertainment experience" (P17).

4.2 Metaverse customer experiences

The advent of virtual, augmented, and hybrid reality technologies can enrich the customer experience and create novel experiences throughout the customer journey(Flavián, 2019). Metaverse experiences were identified as the second theme encompassing three categories (experience improvement, augmentation, and creation) driven by metaverse applications.

4.2.1 Experience improvement

The findings suggest that adopting the metaverse enhances customer experiences through immersion, timelessness, differentiated enjoyment, hyper-reality, and meeting diverse needs. Virtual reality, augmented reality, and other technologies are used to create richer, immersive, and personalized travel experiences for tourists. Metaverse travel can bring many potential advantages and opportunities to enhance the travel experience (Buhalis, O'Connor, *et al.*, 2023).

"After wearing the VR, you can directly experience beautiful scenery immersively" (P3, P4, P5).

"In the metaverse, everyone can have an atmosphere of activity and communication in the space" (P11).

"One-to-one replica, parallel to the real world. Of course, there must be some scene differences" (P12).

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4.2.2 Experience augmentation

Customer experiences can be augmented in various ways, such as with vivid storytelling, privacy and security, diversity and selectivity, and expectation confirmation. Tourism's authenticity, participation, and interactivity provide people with unique and unforgettable experiences, enriching the content and fun of tourism.

"With AR technology, a vivid story can be told" (P2).

"Blockchain combines many technologies to ensure the privacy of access" (P6).

4.2.3 Experience creation

Metaverse adoption has prompted respondents to believe they can create new experiences, especially as the technology matures. The metaverse can provide new forms of companionship and social spaces, multisensory experiences, and customer-earned touchpoints. For example, avatar design has been adopted in museums, and the avatars can accompany and interact with customers, such as information search, tour guiding, and gamification. The respondents reported that customers can also interact with each other in the metaverse world.

Customers obtain multisensory experiences in the metaverse world, for example, through olfactory cues such as electronic scent. New customer-earned touchpoints will be created in the metaverse, defined as direct or indirect contact episodes with customers in the metaverse(Lemon and Verhoef, 2016), e.g., NFTs.

4.3 Customer benefits

Customers can continue to benefit from metaverse experiences after trips, where benefits signify the desired outcomes from consumption (Choe and Kim, 2018; Kim and Choe, 2019; Park *et al.*, 2023) . The third theme of customer benefits encompasses three categories (epistemic, social, and emotional) driven by metaverse applications.

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4.3.1 Epistemic benefits

Customers gain epistemic benefits such as novelty satisfaction, cultural learning, and knowledge understanding. They can enter the metaverse world to acquire cultural knowledge about destinations guided by avatars. The customer's sense of gain may be material or spiritual.

> *"We conducted interviews with children who came to study in the Metaverse Museum. They all said that "it is new and fun, and we feel that they have learned new knowledge"* (P21).

> *"The ability of the metaverse to act on various industries, including museums, science and technology venues, ancient cities and towns. At the same time, it can satisfy all age groups, regarding children's knowledge education and elderly accompanied tours"* (P12).

> *"In addition, tourists should also try to make them feel that they have learned knowledge and understand the power of culture"* (P13).

4.3.2 Social benefits

The social benefits from metaverse experiences include relationship maintenance and place recollection. Post-trip memories are vividly shared with family and friends through digital footprints and NFTs. Customers can also create their personalized metaverse to recall memorable experiences. Life journey visualization in the metaverse connects people with the scenery they have seen in the places they have visited.

> *"On the one hand, you can share your digital journey with more friends around you. On the other hand, you can communicate with people who have been to common scenic areas and have common preferences to build a social network"* (P5).

4.3.3 Emotional benefits

The emotional benefits from metaverse experiences consist of memory recollection,

473 reminiscence, and emotional transfer. Emotions are crucial dimensions of MTEs (Kim *et al.*,

474 2012). The recollection of the tourism experience is a decisive factor in future behaviour and

475 destination choice (Kim *et al.*, 2022). The respondents suggested that memory is the most

476 precious wealth, and digital tourism collections are equipped with the characteristics of

477 permanent preservation in the metaverse. Emotional valence and benefits with social

478 functions can increase the willingness to share, generate a chain of word-of-mouth

479 communication, and make the entire journey a closed loop. The logical chain after travel is

480 also transparent: the connection and attachment with the scenic areas, the sharing and

481 maintenance with fellow travellers, and the sharing and dissemination with friends.

482

483 *"Our cultural and creative products may be consumed when we buy them at home,*

484 *but digital groups are different; they can be stored permanently. This allows customers*

485 *to return to any beautiful virtual journey anytime"* (P3).

486 "Creating an open metaverse in virtual space, sharing and discussing with friends to

487 create emotional transmission and enhance each other's emotional experiences"

488 (P21).

489 "A good experience creates a new word-of-mouth communication, forming a positive

490 cycle of traffic fission concept" (P27).

491

492 Based on the analysis of interview findings, a metaverse customer journey map was prepared

493 (Figure 4). For each of the three stages, essential components were identified – pre-trip

494 (metaverse information characteristics, I), during-trip (metaverse customer experiences, E),

495 and post-trip (metaverse customer benefits, B). The purpose of identifying these components

496 in Figure 4 was to highlight the critical features of metaverse design for hospitality and tourism

497 and to guide future scholars using quantitative research approaches.

498
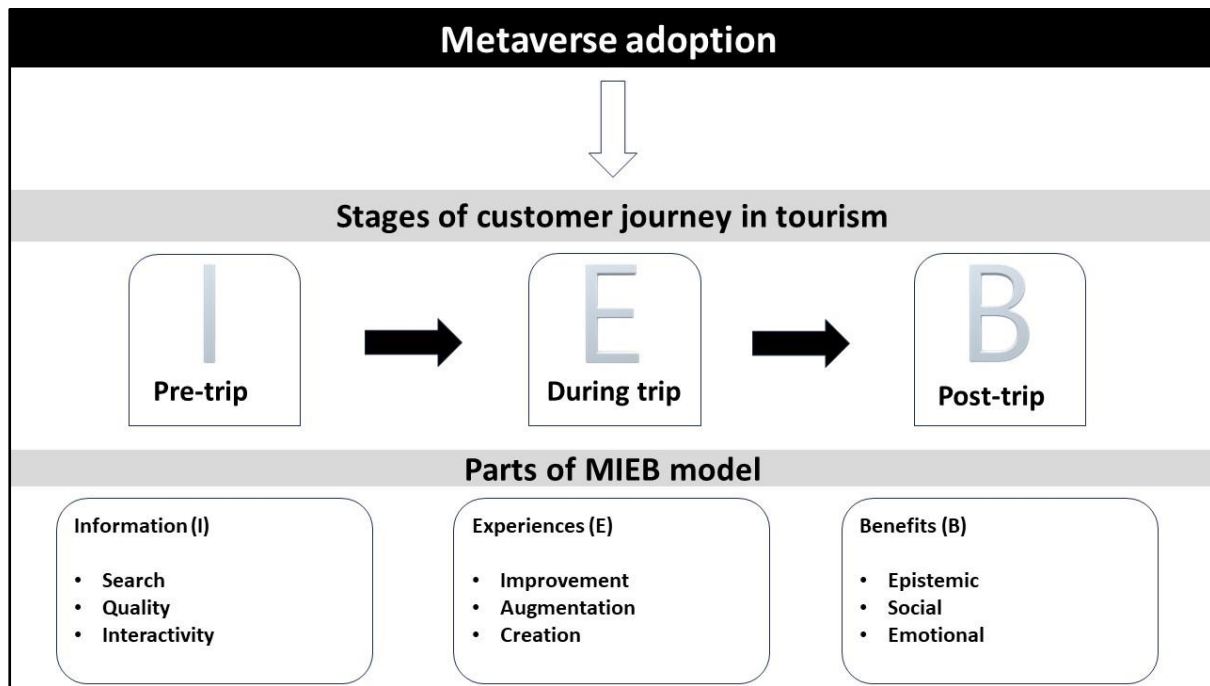
Figure 4. Metaverse customer journey map based on the MIEB model.

5. Conclusions, discussion, and implications

5.1. Conclusions and discussion

Metaverse intervention will introduce significant market changes, particularly by creating new customer experiences. This research examined the application and impacts of the metaverse in tourism and hospitality. Practitioner perspectives on the metaverse were determined in the context of the customer journey. Several research questions were addressed that have yet to be answered in previous studies. There was a focus on determining the scenarios, products, and emerging experiences that managers intend to shape and how these experiences will meet people's needs and generate satisfactory customer journey management through metaverse experience encounters.

This research examined the emerging metaverse's effects on tourism experiences from a managerial perspective. Initially, drawing upon the theoretical foundation of the customer journey model, a research framework was proposed to investigate the influence of the metaverse in creating appealing and unforgettable tourism experiences. This impact was analysed across the various stages of the customer journey, including the attraction,

518   experience process, and value generation phases. Consequently, three parts of a Metaverse –

519   Information – Experiences – Benefits (MIEB) model were proposed. A unique customer

520   journey map consisting of nine components and 31 supporting items. An exploratory study

521   was conducted in China, recruiting 27 qualified pioneers of the metaverse in tourism for semi-

522   structured interviews. The interview findings were used to confirm the metaverse-driven

523   customer journey map.

524

525   This research confirmed other researchers' claims that the metaverse will be different from

526   and replace the traditional buying process model. For example, Gursoy *et al.*(2022) coined the

527   concept of the metaverse experience journey and said it must be a "stream of engagement".

528   Buhalis *et al.*(2023) described the hospitality experience customer journey and divided it into

529   the same three stages as used in this research. This explanatory study differs from these

530   previous viewpoint papers in deriving a fine-grained model (MIEB) based on the perspectives

531   of metaverse designers.

532

533   *5.2. Theoretical implications*

534   This research was explanatory. The findings provide new insights by analysing the stages of

535   the customer journey within the metaverse and contributing to the tourism, hospitality, and

536   customer experience literature. They address existing literature gaps of insufficient research

537   on metaverse management and design through all stages of the customer travel journey and

538   by paying attention to stakeholders' viewpoints, including the media and designers of

539   metaverse applications.

540

541   This research followed a two-stage approach of media analysis and designer interviews to

542   analyse the interactions among tourism information, customer experiences, and customer

543   benefits in the metaverse. The findings provide a fuller understanding of what shapes

544   consumer behaviour in metaverse tourism. Pursuing value affects travel choices, and positive

545   travel experiences influence sharing and word-of-mouth communications. Metaverse benefits

546   generate satisfaction that promotes repurchasing; past customer experiences provide

547   information and promote future trips.

548

549   The generation of a new conceptual framework (the Metaverse - Information - Experiences -

550   Benefits model) deepens the understanding of the consumer journey in using the metaverse.

551   Smart technologies, including the metaverse, are facilitating travel experiences, overcoming

552   the intangibility of tourism and fulfilling contemporary demands. Participation in the

553   metaverse creates new opportunities for experience co-creation in tourism as consumers and

554   suppliers interact (Buhalis, Leung, *et al.*, 2023). The MIEB model shows precisely where and

555   how these interactions can take place in the metaverse.

556

557   The proposed MIEB model consists of three parts, and nine components with 31 dimensions.

558   These indicators will be of use to scholars interested in further exploring and developing a

559   scale for metaverse tourism and to designers and marketers measuring metaverse

560   performance.

561

562   *5.3. Practical implications*

563   This research offers management insights on integrating the metaverse into tourism and

564   hospitality. The MIEB model and metaverse customer journey management map clearly chart

565   what is involved in metaverse tourism design and consumer participation. They highlight the

566   potential critical success factors in metaverse application and where management should

567   place its emphasis.

568

569   This study emphasises the importance of information in tourism. Managers must shape good

570   experiences by ensuring the accuracy and convenience of information search, improving

571   information quality, and enriching the consumer's interaction with information. Metaverse

572   technologies can positively impact the three-stage travel experience journey, making trips

573   more attractive and memorable. Metaverse tourism provides sensory information by

574   integrating physical and virtual environments (Go and Kang, 2023) and offers experience co-

575   creation opportunities to management. These experiences have unique characteristics at the

576   three stages of the consumer travel journey. Tourists have increasingly high demands and

577   expectations for the quality of their experiences. Part of these expectations are technology-

578   driven and enhanced by technological advances, including the metaverse. Managers must

579   conduct research to determine the expected metaverse experiences of their particular

580   customers at each stage of the consumer travel journey.

581

582 The MIEB model and metaverse customer journey management map should be applied in

583 enterprise and destination marketing, and in framing future research. Several recent

584 research studies have discussed the new marketing potential of using the metaverse (Chen

585 *et al.*, 2023; Rather, 2023; Sánchez-Amboage *et al.*, 2023), while also mentioning that

586 metaverse marketing is not yet fully understood and appreciated. The findings of this

587 research elucidate the consumer journey in using the metaverse and provide guidelines for

588 future marketing and research studies.

589

590 *5.3. Limitations and future research directions*

591 The limitations of this research include the focus on practitioners' viewpoints through

592 interviews. Other relevant information for developing the metaverse is needed from customer,

593 tourism, and hospitality business perspectives. The interviewees were from China, limiting the

594 results' potential generalization. Future research should gather data from multiple world

595 regions and sources.

596

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