

Surabhi Singh

An Empirical Study on Metaverse Tourism Marketing in Emerging Markets

Abstract

The metaverse presents new opportunities for tourism marketing, but its implementation requires a viable service innovation business model. This study aims to develop a metaverse-based tourism marketing model and to deepen the research on this contentious issue. A survey method is employed to collect data and develop models that transform tourism management and marketing in emerging markets. The study examines the fundamental changes that the metaverse introduces to tourism destinations and organisations, identifying key components of metaverse tourism. This research addresses unresolved questions in theoretical discourse and the practical relevance of tourism in contemporary contexts, potentially redefining the broader concept of tourism.

Keywords: metaverse, tourism, emerging market, technology

1. Introduction

1.1. Metaverse

Metaverse is predicated on presence, interactivity, and immersion. It facilitates comprehensive immersion through mixed, virtual, and augmented reality. Based on the development of knowledge claims, this research encapsulates potential responses regarding how Metaverse Tourism reshapes tourism destinations and organisations by delineating elements relevant to core components with study questions and objectives (Buhalis et al., 2023). The transformative effects of virtual reality (VR) and augmented reality (AR) are key to this shift. VR situates a user within a simulated three-dimensional environment that mimics real-world experiences. AR enhances the immersive quality of Metaverse by "adding a layer of virtual content on top of an end user's environment" (Zhu et al., 2022). The concept of combining "Meta" and transforming it into "Metaverse" was primarily popularised by Neal Stephenson (1992) in his novel *Snow Crash*, which describes an online world in which consumers interact (Huggett, 2020).

The study asserts that metaverse technology has emerged as a novel solution to create employment opportunities, mitigate poverty, enhance public health, address climate change, and ultimately improve the quality of life of future generations (Dorostkar & Najarsadgehi, 2023). Artificial intelligence (AI) advancements have prompted individuals to transition their lifestyles into virtual realms (Dwivedi et al., 2022). The metaverse is a digital domain that combines spectatorship with an interactive, immersive virtual environment, connecting online audiences. Individuals engage in living, working, and socialising in the metaverse, utilising highly personalised custom avatars created for these unique digital spaces (Duan et al., 2021). Although Metaverse is commonly described as a groundbreaking technological product, it functions more as an evolution of technology adoption in everyday life (Lee, 2021). Users are also more likely to experience a diminished sense of their physical bodies in VR, which can affect their perception of time (Duan et al., 2021; Arpaci et al., 2022). Nevertheless, the new reality associated with social and psychological issues indicates that one should be prepared to perceive it. Although metaverse technology poses substantial risks to organisations, it also offers numerous opportunities that management must consider.

Surabhi Singh, IIMT College of Engineering, Greater Noida, India;
ORCID ID: <https://orcid.org/0000-0002-8565-7348>; e-mail: surabhi777@gmail.com

For technophiles, the Metaverse presents a realm of possibilities (Dwivedi et al., 2022). Nevertheless, the implementation of novel technologies inevitably entails a certain degree of risk. The interconnected nature of Metaverse poses significant challenges to data privacy because information can be readily compromised via complex systems that are otherwise inaccessible (Dwivedi et al., 2022). However, this does not prevent Metaverse from gaining traction with prominent technology companies. These platforms and content providers, such as Roblox and Zepeto, constitute the foundation of the Metaverse, along with feature providers (many of which are mentioned above), including avatar technologies. Competition in the e-commerce market has been disrupted by the accelerated adoption and integration of metaverse, artificial intelligence (AI), and blockchain technologies (Dwivedi et al., 2022). Furthermore, market changes are driven by the COVID-19 pandemic (Zaman et al., 2022; Polas et al., 2022). Similarly, a select few businesses merely replicate business frameworks without innovation (Kim, 2021; Dwivedi et al., 2022). Artificial Intelligence as a Strategic Asset: For Small and Medium-Sized Enterprises (SMEs), blockchain technology (BT) can be readily applied for manufacturing, order/reservation, and payment processes in conjunction with AI. Although they represent the largest share of enterprises globally (Polas et al., 2022), SMEs are sometimes inadequately equipped with the knowledge needed to implement AI effectively.

The competitive business environment requires SMEs to compete with established and emerging competitors while also serving increasingly demanding consumers (Polas et al., 2022). Even within the SME literature, more empirical studies have examined BT adoption behaviour and business sustainability. Metaverse, Web 3.0 pertains to the modification of our digital reality experience. As it is a complex phenomenon, it lacks a clear, agreed-upon definition. The elements that constitute the metaverse include avatars (embodied selves), synchronization, three-dimensional and virtual space, real-time interaction, interoperability, and immersive social experiences (Zhu et al., 2022). In metaverse environments, individuals utilise avatars to interact synchronously in interoperable, persistent virtual environments (Zhu et al., 2022). As the metaverse evolves, its definition can change.

1.2. Emerging markets

Tourism plays a significant role in the economies of numerous nations. It has emerged as a promising strategy for fostering development in developing countries, particularly those endowed with renowned natural landscapes and rich cultural diversity (Baimai & Daniel, 2009).

Emerging markets have gained prominence for their rapid modernisation, vibrant popular culture, flexibility, affordability, and secure environment, rendering them increasingly appealing to tourists. The rapid growth of digital social media and the proliferation of personal narratives on blogs have enhanced the appeal of tourist destinations. Approximately 39 economies are classified as "advanced" (IMF et al.), with high per capita income, diversified exports of goods and services across several sectors but typically not all, greater energy intensity in domestic consumption, and more considerable specialisation within GFI transactions than in low-income countries. The remaining 24 per cent of the countries are categorised as emerging markets and developing economies. According to the IMF Fiscal Monitor, while they approach income levels closer to the lower threshold of "high-income" markets, 40 falls within this range. It is essential to acknowledge that various definitions, concepts, and platforms claim legitimacy. Although the metaverse will not entirely replace the internet, it is expected to become an integral part of individuals' digital lives.

1.3. Proposed research questions

Potential research questions include the following:

1. How are emerging market businesses attributed to Metaverse Tourism?
2. How does metaverse tourism marketing contribute to Emerging Markets?
3. How is the business model of Metaverse Tourism proposed in emerging markets?

Two hypotheses were derived from the literature review.

Advertising is expected to remain a significant component of society, as Zuckerberg postulated. As this domain evolves, it is crucial to understand that businesses are modifying their offerings in metaverse areas. However, further research is required on theorisation and practice in this field. The extent to which the meta-verse has examined meta-theoretical concepts remains to be determined. The objective of the Special Issue (SI) is to investigate business evolution and change from transition or transformation perspectives through both inductive and deductive research. Consequently, it has been posited that there will be no clear delineation between the pre-metaverse and post-metaverse eras. The factors identified by Demie (2019) encompass seasonality factors, government support, political issues, and the tourism product mix, and the construct tested is tourism marketing demand.

H1: There is a mediation effect of Metaverse Technology on Government Support and Tourism Marketing

H2: There is a mediation effect of Metaverse Technology on Seasonal Impact and Tourism Marketing

Ramírez et al. (2023) indicate that technology is significant for tourism marketing. It is essential to comprehend how businesses adapt their offerings to the metaverse as this domain continues to evolve. This area has been largely underexplored, both theoretically and practically (Zhu et al., 2022).

This led to the investigation of the following hypothesis –

H3: There is a mediation effect of Metaverse Technology on Product Mix and Tourism Marketing

Nogueira and Carvalho (2024) demonstrated that technology and digital media play significant roles in promoting tourism destinations.

H4: Metaverse Technology moderates the relationship between product mix and Tourism Marketing

Tourism Marketing: Concepts, Definitions, and Dimensions According to the World Tourism Organisation, tourism is defined as the activities of individuals travelling to and staying in places outside their usual environment for leisure, business, or other purposes. The tourism industry is predicated on several fundamental elements that can be categorised into three main groups:

Natural determinants

These include geographical location, landscape, climate, terrain, flora, water bodies, protected areas, and biodiversity. Human determinants include social and cultural heritage, historical aspects, and traditions.

Infrastructure determinants

This category encompasses transportation, development in industrial and commercial sectors, banking services, urbanisation, and the availability of complementary services such as hotels, cafes, and entertainment centres.

Tourism marketing essentially refers to the creation and delivery of value to tourists. The utilisation of more sectors of the market is feasible through immersive interactions and novel sensory features, such as haptic feedback, which presents numerous opportunities for marketers (Dwivedi et al., 2022).

Businesses and consumers are continuously evolving in contemporary, dynamic environments. Organisations of all sizes and sectors adapt to these changes through infrastructure development and strategic

transformations (Tabrizi et al., 2019). Tourism is a crucial and expanding sector in both national and global economies, and the metaverse is anticipated to revolutionise travel and tourism management and marketing.

Digital transformation is both advantageous and challenging for both business scholars and practitioners. This represents a significant change in collective culture that impacts how value is delivered to customers and other stakeholders (Tabrizi et al., 2019). Businesses and consumers are their rapidly evolving counterparts in today's dynamic world. Organisations of all sizes and scales are adopting this transformation, commencing with infrastructure development, followed by appropriate strategies to capitalise on these advancements. One of the most significant transitions was the transformation, as numerous organisations adopted digitalisation to standardise their operations and branding. From a theoretical perspective, transformation can be observed in the more digitalised dimension, where it relates to what Osmundsen, Iden, and Bygstad (2018) also express: Digital Innovation, over time, affects fundamental changes in business operations within organisations or even the entire industry. Scholarly discussions have predominantly focused on digital transformation (Reis et al., 2018; Tabrizi et al., 2019), and the literature attributes customer experience success to digital adoption (Kumbhojkar & Menon, 2022; Schoeman et al., 2021; Sahu et al., 2018).

This phenomenon is not solely attributable to scholars; it engenders debate over whether the Internet is merely another level and cannot transcend human desires. South Asia, facilitated by the Internet platform, disrupts technology adoption across multiple sectors, from OTT services to education, transportation, telecom, advertising, retailing, and renting. The last two decades (2000 – 2020) have demonstrated the trajectory of South Asia's international dimensions. Concurrently, they have also precipitated highly contested debates and struggles to govern what often became pejoratively labelled the informal economy, marginalised populations, or low-income segments of this region.

There is a notable absence of a universally accepted definition of the virtual world as various complementary terms and acronyms have emerged, indicating the existence of and interest in the construct (Nevelsteen, 2018). All these technological breakthroughs converge to form a metaverse known as Web 3.0 (Zhu et al). In addition, this study proposes testing the hypotheses regarding demographic effects.

H5: There is a mediation effect of Gender on Product Mix and Tourism Marketing

H6: There is a mediation effect of Occupation on Product Mix and Tourism Marketing

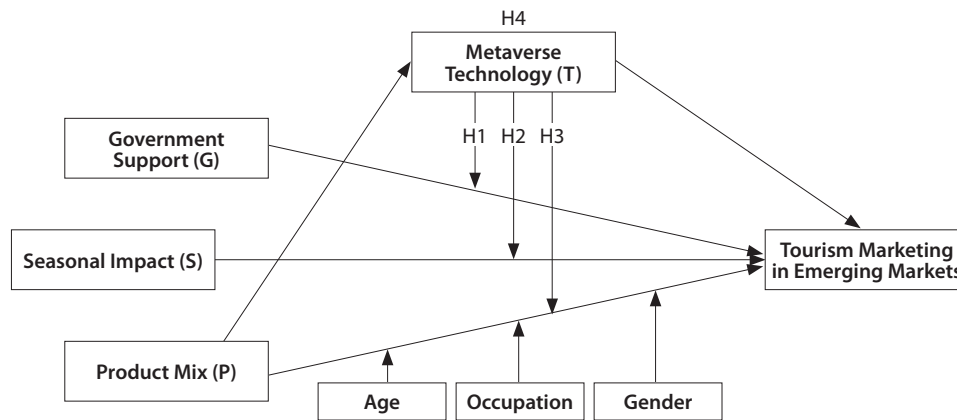
H7: There is a mediation effect of Age on Product Mix and Tourism Marketing

The metaverse is anticipated to become a significant domain for marketing opportunities. Substantial growth is expected when an extensive layer of relatively large regional and local brands is reached beneath these significant global brands (Hollensen et al., 2022). The mediating and moderating role of metaverse technology in tourism marketing: Prior studies. This metaverse landscape will present unprecedented experiences, investments, and outcomes for both consumers and organisations.

Two factors, social and environmental, are present in emerging markets in their initiatives, which provide additional financial benefits. These are initiatives for sustainable marketing. Marketing must address the challenge of sustainability, and leveraging the metaverse can help enhance it. The study suggests that the three attributes of Smart Tourism Technology (STTs)—informativeness, interactivity, and personalisation—are key factors affecting tourists' experiences, satisfaction, and revisit intentions (Jeong & Shin, 2020). Metaverse technology incorporates all three attributes into its platform.

The objectives of this study were to identify factors that enhance the effectiveness of tourism markets in emerging countries, explore their impact on tourism marketing, and propose a model (see Figure 1) for metaverse tourism marketing. Figure 1: Conceptual Framework of the study developed by the authors.

Figure 1
Conceptual framework



Source: Developed by the authors.

1.4. Metaverse tourism marketing

The metaverse enables travellers to virtually experience tourism destinations and organisations through immersive experiences prior to their physical arrival (Buhalis et al., 2023). The metaverse is a technological platform that facilitates tourism. This study establishes and formulates the potential of the metaverse to enhance customer experience and foster collaborative value creation in the hospitality industry. Tourism is defined as the provision of arranging holidays and services to individuals visiting a destination. The COVID-19 pandemic has demonstrated one of the vulnerabilities of the tourism industry; the metaverse can help by enabling customers to take virtual tours from their homes. Participants emphasised that the Metaverse has the potential to positively impact and enhance the tourism industry by driving sales and marketing, promoting inclusivity for disadvantaged groups, creating new employment opportunities, providing education, and offering virtual experiences that closely approximate reality. Augmented Reality (AR) can facilitate the comprehension of real-world surroundings. Recently, the concept of metaverse tourism has emerged, wherein tourism in the Virtual Reality World is gaining prominence. The devices utilised to facilitate metaverse tourism include mobile phones, computers, and virtual reality (VR) headsets. Furthermore, online trade shows can be organised. This suggests that businesses in the industry can differentiate themselves from their competitors by demonstrating their optimal suitability for tourists and highlighting the unique or superior features that distinguish them. Achieving this objective necessitates effective marketing, and numerous effective tourism marketing strategies focus on helping businesses identify and highlight their unique selling propositions. Tourism plays a pivotal role in the economies of various countries. It is emerging as a potential growth strategy for developing nations, particularly those endowed with renowned natural beauty and cultural diversity (Baimai & Daniel, 2009). According to Djellal and Gallouj (2010), it is probable that the service economy engages in more innovation than the metrics indicate. Consequently, concealed or imperceptible innovation exists in service economies, which should ideally be identified and supported by appropriate public policies. A literature review subsequently presents the framework proposed in this study. The preceding paper presented a compilation of previously reviewed and critically examined research focusing on digital transformation strategies within the hospitality and tourism sectors. This study aims to provide empirical research insights into the hotel and travel industries (Cheng et al., 2023). The incorporation of video, audio, and animated three-dimensional recreation significantly enhanced the immersive experience for visitors, closely approximating the sensation of physical presence at the location (Martí-Testón et al., 2023). The study proposed potential avenues for future research concerning subjects such as marketing, reconceptualising service quality, attitudes and behaviours, electronic customer-to-customer interactions, transformative effects on societal well-being, and

research methodology (Wei, 2024). The studies identified gaps and presented the rationale underlying the current study's research questions.

2. Methodology

2.1. Questionnaire development

The questionnaire was developed using Google Forms, a platform that facilitates efficient, cost-effective, and flexible creation and dissemination of surveys. The initial testing was conducted on a small sample of respondents.

In the region under investigation, demand for tourism marketing is influenced by factors such as the diversity of tourism offerings, political dynamics, government support, and seasonal variation. This study considers Tourism Demand as the dependent variable. In contrast, the four independent variables related to the tourism marketing of Bale Mountain National Park are tourism products (TP), Political Issues (PI), Government Support (GS), and seasonal factors (SF). The measurement of a destination's tourism marketing is assessed through Tourism Marketing Demand, as indicated by Demie (2019).

A tourism marketing instrument was employed based on an existing literature review. The construct validity of the tourism marketing instrument, comprising 22 items, was established, and a Likert scale was used to measure the data. The responses were evaluated using a five-point Likert scale. These factors were selected from studies on tourism demand and marketing conducted over the past five years. Each Likert scale was coded on a 1-5 scale, as follows: 5 = strongly agree (highest rank), 4 = agree, 3 = neutral, 2 = disagree, and 1 = strongly disagree (lowest rank).

2.2. Country selection

The selection of countries for sampling in emerging markets was systematically determined. The secondary databases used in this study are the IMF World Economic Outlook, Euromonitor's Global Market Information Database (GMID), and the UNESCO World Heritage List.

Countries that exhibited technological advancements and accommodated a substantial number of tourists were included in the study for sampling purposes. In this study, four countries—Mexico, Turkey, Malaysia, and China—were considered as sampling areas. The selection of factors was predicated on qualitative research and a comprehensive literature review of the past five years. Expert opinion was solicited to finalise the factors chosen to validate the tourism marketing instrument in emerging markets.

2.3. Respondents selection

The respondents were selected based on their visit frequency to their respective countries. The list of tourists was provided by the embassies of all the selected countries. Judgment sampling was employed to finalise the list of samples from the four countries. Data were collected from 200 tourists from four countries, which were considered sampling areas. A survey was administered to elicit participants' responses. Fifty participants were sampled from each area, and 50. Participants were selected based on their travel experience and technology. Respondents were approached using convenience sampling. The hypothesised model of tourism marketing was validated by Confirmatory Factor Analysis using PLS-SEM. The primary objective of SMARTPLS is to validate or predict the theoretical model proposed in the literature, rather than to compare and select alternative models based on data fit (Hair et al., 2022). In PLS-SEM, correlations exist between the residuals of manifest and latent variables, enabling PLS-SEM to make estimations. SMARTPLS 4 was used to analyse the data. These four constructs influence tourism in emerging markets. When metaverse technology is introduced as a moderator, the effectiveness of tourism in emerging markets can be enhanced.

2.4. Data analysis

Lapses in national governance, including those affecting the rule of law, combined with corruption, political deadlock, and instability, represent significant factors influencing shifts in travel demand and destinations' ability to compete effectively on a global scale (Abbasian, 2018). This sector accounted for 7.6% of the global GDP in 2022 (World Travel & Tourism Council [WTTC], n.d.). As one of the most prominent tourism destinations in the region, Turkey has faced a range of risks, from global economic downturns to environmental hazards and geopolitical tensions, which have manifested as social and even technological challenges. These issues threaten the tourism sector's sustainable and balanced growth (Türkiye Seyahat Acentaları Birliği [TÜRSAB] & Turizm Akademisyenleri Derneği [TUADER], 2017). E-tourism has facilitated the expansion of market scope with enhanced efficiency (Magobe et al., 2015). Sarker et al. (2012) observed that specific tourism destinations in China are highly competitive, striving to attract the largest number of tourists.

The data presented in Table 1 indicate that the factor 'Metaverse Technology' has a Cronbach's alpha of .853, suggesting that the responses for each participant across the set of questions are consistent. Cronbach's alpha is the coefficient of reliability (or consistency).

Table 1a
Construct reliability and validity

	Cronbach's alpha	Composite reliability (rho_a)	Average variance extracted (AVE)
Government Support	0.552	0.875	0.466
Metaverse Technology	0.853	0.703	0.336
Product Mix	0.451	0.725	0.407
Seasonal Impact	0.559	0.828	0.488

Source: Compiled by author.

Composite reliability is a measure of the internal consistency of scale items. All four factors with values exceeding 0.7 demonstrate high composite reliability, indicating that all items consistently measure the same construct. According to Fornell and Larcker (1981), an Average Variance Extracted (AVE) below 0.50 can be considered acceptable if the Composite Reliability (CR) is above 0.70. The structural Model (Moderation Effect of Metaverse Technology). Metaverse technology, when functioning as a moderator between seasonal impact, product mix, and tourism marketing effectiveness, becomes evident in emerging tourism markets, as illustrated in the figure below:

Table 1b
Latent variables and indicators

Latent variable	Indicators	Coefficient
Product Mix	P1	0.834
	P2	0.052
	P3	0.614
	P4	0.596
	P5	0.685
	P6	0.735
Government Support	G1	0.685
	G2	-0.738
	G3	-0.241
	G4	0.891
	G5	0.966
Metaverse Technology	T1	0.916
	T2	0.487
	T3	0.228
	T4	0.311
	T5	0.591
	T6	0.665

Table 1b (continued)

Seasonal Impact	S1	0.757
	S2	-0.425
	S3	-0.931
	S4	-0.462
	S5	0.788

Table 1c*Path relationships between latent variables*

From	To	Path coefficient
Product Mix	Emerging Market Tourism	-0.076
Government Support	Emerging Market Tourism	-0.503
Metaverse Technology	Emerging Market Tourism	1.594
Government Support	Metaverse Technology	1.113
Government Support	Seasonal Impact	-1.099
Government Support	Product Mix	1.436
Seasonal Impact	Emerging Market Tourism	-0.072

Table 1d*Tourism Market R²*

Latent Variable	R ² Value
Emerging Market Tourism	0.979

Table 2a*Measurement model (moderation effect of metaverse technology) for tourism market in emerging markets*

Measurement model: latent variables and indicators

Latent variable	Indicators	Loading coefficient
Product Mix	P1	0.834
	P2	0.052
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	P4	0.596
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Seasonal Impact	S1	0.757
	S2	-0.425
	S3	-0.931
	S4	-0.462
	S5	0.788

Table 2b
Structural model: path coefficients between latent variables

From	To	Path coefficient
Product Mix	Emerging Market Tourism	-0.076
Government Support	Emerging Market Tourism	-0.503
Government Support	Product Mix	1.436
Government Support	Metaverse Technology	1.113
Government Support	Seasonal Impact	-1.099
Metaverse Technology	Emerging Market Tourism	1.594
Seasonal Impact	Emerging Market Tourism	-0.072

Table 2c
R-squared (R²) values

Construct	R ² Value
Emerging Market Tourism	0.979

Source: Developed by author.

See Table 3. The model depicts that the four factors lead to effective tourism in emerging countries, and Metaverse Technology acts as a moderator, mediating the effects of these factors on tourism effectiveness. Metaverse technology is key to effective tourism marketing.

Table 3
Path coefficient (after bootstrapping)

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	p-values
Government Support → Emerging Market Tourism	-0.503	-0.362	0.509	0.987	0.324
Metaverse Technology → Emerging Market Tourism	1.594	1.447	0.401	3.973	0
Product Mix → Emerging Market Tourism	-0.076	-0.161	0.471	0.162	0.871
Seasonal Impact → Emerging Market Tourism	-0.072	0.025	0.241	0.298	0.766
Metaverse Technology x Seasonal Impact → Emerging Market Tourism	-1.099	-0.974	0.538	2.045	0.041
Metaverse Technology x Product Mix → Emerging Market Tourism	1.436	1.33	0.337	4.263	0
Metaverse Technology x Government Support → Emerging Market Tourism	-1.113	-1.008	0.332	3.353	0.001

Source: Compiled by author.

The data presented in Table 3 demonstrate the application of bootstrapping to assess the statistical significance of various path analyses and process path coefficients. Government Support does not exhibit statistical significance for tourism marketing, and metaverse technology alone fails to demonstrate statistical significance. When metaverse technology is utilised as a control variable for the independent variable of seasonal impact, tourism marketing demonstrates enhanced effectiveness, with a statistically significant value of .041 ($p < .05$). Moreover, the influence of metaverse technology is notably evident in augmenting the impact of government support on effective tourism in emerging markets, yielding a significance value of $p = .001$.

Table 4
Model fit test

	R-square	R-square adjusted
Emerging Market Tourism	0.979	0.978

Source: Compiled by authors.

The data presented in Table 4 show an R-squared value of .979, indicating that factors moderated by metaverse technology can lead to better tourism marketing.

Table 5
Correlation of factors

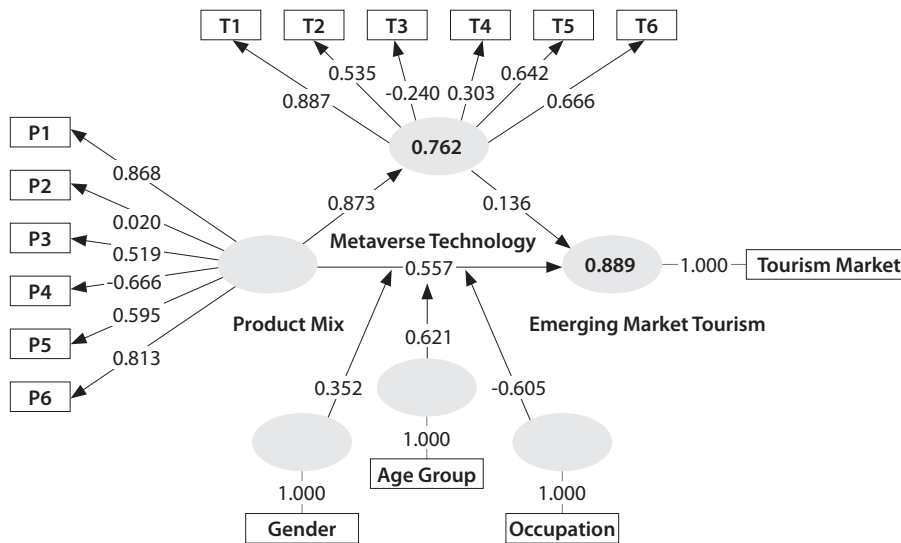
	Emerging Market Tourism	Government Support	Metaverse Technology	Product Mix	Seasonal Impact	Metaverse Technology x Seasonal Impact	Metaverse Technology x Product Mix	Metaverse Technology x Government Support
Emerging Market Tourism	1	0.838	0.786	0.784	0.927	0.213	0.476	0.188
Government Support	0.838	1	0.763	0.882	0.887	0.006	0.122	-0.124
Metaverse Technology	0.786	0.763	1	0.843	0.723	0.567	0.38	0.348
Product Mix	0.784	0.882	0.843	1	0.85	0.382	0.379	0.152
Seasonal Impact	0.927	0.887	0.723	0.85	1	0.104	0.351	0.007
Metaverse Technology x Seasonal Impact	0.213	0.006	0.567	0.382	0.104	1	0.687	0.771
Metaverse Technology x Product Mix	0.476	0.122	0.38	0.379	0.351	0.687	1	0.847
Metaverse Technology x Government Support	0.188	-0.124	0.348	0.152	0.007	0.771	0.847	1

Source: Compiled by author.

The data presented in Table 5 indicate the correlation between all factors that contribute to effective tourism marketing. Figure 3 depicts the structural model with the mediation effect of the metaverse technology on tourism marketing. The R-squared value of .889 clearly shows that the mediator-metaverse technology has truly strengthened the product mix for effective tourism marketing.

Furthermore, the moderating effects of Gender, Age, and Occupation also play a role in making the tourism market effective in emerging countries.

Figure 2
Metaverse-enabled tourism marketing model



Source: Developed by author.

Table 6a
Measurement model: latent variables and their indicators

Latent variable	Indicators	Loading coefficient
Metaverse Technology	T1	0.887
	T2	0.535
	T3	-0.240
	T4	0.303
	T5	0.642
	T6	0.666
Product Mix	P1	0.868
	P2	0.020
	P3	0.519
	P4	0.666
	P5	0.813
	P6	—
Age Group	Age Group	0.873
Gender	Gender	1.000
Occupation	Occupation	1.000

Table 6b
Structural model: path coefficients between latent variables

From	To	Path coefficient
Metaverse Technology	Product Mix	0.762
Metaverse Technology	Emerging Markets Tourism	0.136
Product Mix	Emerging Markets Tourism	0.557
Age Group	Product Mix	0.621
Age Group	Emerging Markets Tourism	-0.605

Table 6c
R-squared (R²) Values

Construct	R ² Value
Product Mix	0.762
Emerging Markets Tourism	0.889
Age Group	0.352

Source: Compiled by authors.

3. Discussion

Prior studies have highlighted the potential of the Metaverse as a novel tool for coordinating tourism research and interdisciplinarity through virtual meetings (Monaco & Sacchi, 2023). It could serve as a valuable resource for tourism research, facilitating cooperation in virtual settings and stimulating interdisciplinary projects. Previous studies on the Metaverse were based on exploratory research, with technology as the fifth element in the Metaverse and the use of technological aids introduced into the organisational supply chain; thus, this study could replicate these findings by applying market tourism-end implementation. Several studies have examined the factors that stimulate tourism destinations. This ongoing study is valuable because of its holistic treatment of the positive adoption effects emerging across tourism by incorporating metaverse solutions and strides in all-pervasive disruptive technologies (Ioannidis & Kontis, 2023).

Emerging technologies, such as the metaverse, may enhance tourism demand. Previous studies have investigated digital media and technology in relation to tourism demand; however, this study emphasises

metaverse adoption for tourism marketing. This study underscores the importance of incorporating metaverse technology into a product mix to achieve success in tourism marketing. In emerging markets, tourism is affected significantly by seasonal factors. Therefore, leveraging metaverse technology can effectively harness seasonal effects and enhance tourism marketing. Metaverse technologies have the potential to provide government support, which can play a pivotal role in driving effective tourism marketing in emerging markets. Furthermore, occupation, age, and gender can serve as influential moderating factors for effective tourism marketing.

3.1. Managerial implications

This study yielded valuable insights into the application of metaverse technology to enhance tourism in emerging markets. By leveraging elements such as destination awareness, immersive experiences, and virtual environments, this technology can amplify the influence of seasonal variations, diversified product offerings, and government assistance, ultimately augmenting the overall efficacy of tourism promotion in emerging markets. The tourism industry can utilise the proposed tourism marketing business model presented in this study to enhance tourism demand. Practitioners can use this knowledge to implement tourism initiatives.

3.2. Theoretical implications and suggestions for future research

Academic researchers can expand on this work by conducting more comprehensive investigations to identify additional technological factors that contribute to tourism's impact in emerging markets. Furthermore, these studies may encompass a broader array of countries within the emerging market category, thus providing a more comprehensive understanding of how metaverse technologies can foster tourism growth. Corporations operating in the tourism sector can utilise the insights gained from this study to expand their tourism-related ventures strategically.

3.3. Limitations

Owing to time constraints, this study is limited to a sample size of 200 individuals, focusing exclusively on the top four countries within emerging markets as measured by technology adoption. This approach entailed recruiting participants from a specific geographic location or demographic group, which may introduce selection bias and limit the generalizability of our findings to broader populations.

It is noteworthy that our research focused on a particular aspect of a broader research topic. Consequently, the present study may not have comprehensively explored other critical dimensions related to the subject matter, which could have limited the depth of analysis.

4. Conclusion

Previous studies (Buhalis et al., 2023) delineate research pathways aimed at enabling the tourism industry to harness the full potential of metaverse capabilities and emerging opportunities while also identifying challenges that may arise in the future. Given the challenges posed by natural factors in traditional physical tourism, businesses must explore alternative avenues to sustain their tourism operations. The model proposed in this study offers tourism businesses the opportunity to enhance their marketing efforts in potential markets. The adoption of immersive technologies and digital twin concepts has the potential to revolutionise the global tourism industry. Consequently, conventional approaches to attracting tourists must be reconceptualised and restructured to optimise business outcomes. Recognising that services play a pivotal role in the expansion of emerging markets, this study may catalyse the exploration of innovative strategies to invigorate these markets.

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