Metaverse cannot be an extra marketing immersive tool to increase sales in tourism cities

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Abstract

Purpose – *The purpose of this paper is to analyse the metaverse platform in a social context to better understand the future of this tool in tourism cities and how this can help to improve the well-being of residents in both digital and physical scenarios.*

Design/methodology/approach – *In this paper, the current and probable developments in the metaverse, and its use in tourism cities and companies have been investigated. Moreover, this study develops, collects and examines the main metaverse definitions by expert authors and organizations as a methodology to ensure the transparency and credibility of the metaverse analysis.*

Findings – *Findings suggest that the fusion of the metaverse and tourism cities must create residents' services and experiences in the new MetaTourPolis to help interact and connect citizens with the city's institutions and companies, as well as make tourism cities more attractive, innovative, environmentally friendly and healthier places to live. Metaverse will bring new changes for residents and tourists, in fact, this virtual platform is already changing and improving the residents' quality of life and people with disabilities in tourism cities. For instance, the metaverse platform has been implemented in Seoul, Santa Monica and Dubai MetaTourPolis to interact with their residents, including people with disabilities, to resolve bureaucratic and administrative problems, avoiding this group and the rest of the residents travelling by bus or car to the city's institutions. In addition, several metaverse applications based on softbot tutors or metaverse virtual social centres have been developed to improve blind and impaired people, and elderly people' quality of life, respectively.*

Originality/value – *A new concept called "MetaTourPolis" has been included to stage the relationship between tourism cities and the metaverse platform, where the fusion of metaverse and the new tourism polis of the 21st century will be at the service of citizens, tourists and companies, to create more sustainable, efficient, quantitative and environmental tourism cities.*

Keywords *Metaverse, Tourism cities, Residents, Tourists, People with disabilities*

Paper type *Viewpoint*

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1. Introduction

The concept of interactive digital worlds generally called the metaverse is generating new and ambitious expectations in tourism and e-commerce sectors. The metaverse acts as a powerful promotional tool for travel to tourism cities and smart tourist destinations (STDs) to elevate the city's brand recognition, and sales of products and services through digital experiences. For instance, theme parks can provide potential visitors with a preview of thrill rides through the first characters (e.g. Mickey Mouse, Cinderella, Spider-Man, Mario Broos or Harry Potter) hologram, 3D environment, reality augmented (AR), artificial intelligence (AI) extended reality (XR) or virtual reality (VR) sequences. In the case of museums, the main paintings of Louvre such as the Raft of the Medusa and the Mona Lisa painted by Théodore Géricault and Leonardo da Vinci painters, respectively, can increase the sales of virtual tickets through metaverse immersive tool. But the question is that metaverse risks

becoming into another sales and marketing tool for tourism cities and companies. Researchers, destination marketing organizations (DMOs) and tourism and travel operators must therefore launch internal discussions to know the real usefulness of metaverse for cities, residents and tourists.

From an urban city perspective, to promote the most iconic tourist attractions through metaverse virtual tools and DMOs' websites can stimulate tourism demand and increase tourism spending in cities (Florido-Benítez, 2023a). Metaverse is a virtual channel that involves selling virtual goods and services to final consumers (Bourlakis, Papagiannidis, & Li, 2013; Gadalla, Keeling, & Abosag, 2013). Possibly, metaverse will change how users interact with tourist destinations and companies' paradigm in the next years. Even though metaverse is currently part of the omnichannel marketing strategies of DMOs and tourism companies as a sales and advertising tool. In this paper, metaverse is defined as a three-dimensional virtual universe where tourism cities and businesses can offer their products and services, strengthen their brand image and users (understood as digital avatars) can interact and purchase goods and services according to their needs and personal preferences. Yoo, Welden, Hewett, & Haenlein (2023) argued that the metaverse tool allows consumers to build and fully customize a digital persona to interact with firms, to buy customized products and services.

Buhalis, Leung, & Lin (2023a) noted that the metaverse is a convergence of physical and digital universes to stimulate potential consumers to travel on physical trips in cities and tourist attractions, or even substitute travel, when users are unable to travel, due to personal circumstances or environmental contexts. For instance, the essence of the metaverse tool is to create innovative and virtual experiences for users to stimulate the sales of companies. However, how can the tourism cities leverage the metaverse? What changes can the metaverse bring to residents and tourists? What problems can the metaverse solve for residents and people with disabilities in tourism cities? Gursoy, Malodia, & Dhir (2022) claimed that the metaverse as an interactive and immersive 360-degree or 3D virtual world cannot be merely a path to purchase.

For this reason, the metaverse tool also needs to include tangibilizing services that can help tourism cities improve their services and experiences for residents and tourists, and this does not become merely a commercial transaction through a virtual scenario. As stated by Koo, Kwon, Chung, & Kim (2023) the development of the metaverse tool in the tourism industry and cities must provide new opportunities to create tangibilizing services, to reinforce and improve services for tourists and the local population. Monaco & Sacchi (2023) suggested that the metaverse platform may help lessen CO_2 emissions by making travel by plan at tourism cities and STDs. Notwithstanding, Coca-Stefaniak (2021) noted that STD models do not tackle the social problem because they are focused on technological areas (Femenia-Serra & Ivars-Baidal, 2021). Moreover, the virtual metaverse platform and its future practical applications are in the incubation stage for urban cities, companies and consumers (Suanpang et al., 2022; Zhang, Quoquab, & Mohammad, 2023; Yoo et al., 2023). There is a lack of metaverse tourism research in tourism and urban city contexts to tackle sustainable tourism and residents' needs in cities (Morrison & Maxim, 2021; Go & Kang, 2023; Buhalis et al., 2023a). It is essential to have a balanced viewpoint on the metaverse for the tourism and hospitality sectors (Zhong, Xu, Morrison, Li, & Zhu, 2023).

To the best of the observed knowledge, this is the first research paper that highlights a research gap in the relationship between the metaverse tool, tourism cities and residents to enhance future challenges in tourism cities and the metaverse. The main objective of this manuscript is to analyse the metaverse platform in a social context to better understand the future of this tool in tourism cities and how this can help to improve the well-being of residents in both digital and physical scenarios. Bibri & Allam (2022a) noted that STD and metaverse spaces do not show the realities of cities, like social exclusion or the trajectories of urban communities, and both STD and metaverse scenarios ignore the true concerns of

citizens. Although, the city of Seoul (South Korea) has invested billions into the urban metaverse project to make the city more functional and livelier for residents and tourists (Wray, 2022).

2. The metaverse concept in a business and social context

Although the metaverse has been the focus of much discussion in recent years, there has yet to be a convergence on how to define this concept. Metaverse was coined by Neal Stephenson in his 1992 science fiction novel Snow Crash. After that, Davis et al. (2009) defined metaverse as "an immersive three-dimensional virtual world in which people interact as avatars with each other and with software agents, using the metaphor of the real world but without its physical limitations." Previous scientific studies have shown the benefit and technological characteristics of the metaverse in the tourism sector to improve tourists' experiences and prevent cyberattacks (Buhalis & Karatay, 2022; Kuru, 2023; Volchek & Brysch, 2023). However, tourism cities cannot be understood as a metaverse space for tourists and companies and separated from social, economic and governance factors. Cities are open complex giant systems, that first need to address the issues of their citizens' concerns, such as climate change, reduce CO_2 emissions, reduce youth unemployment, provide excellent transport and health services for residents and people with disabilities and improve the local and regional economies (Morrison & Coca-Stefaniak, 2020; Maxim, Morrison, Day, & Coca-Stefaniak, 2023; Florido-Benítez, 2023b; Buhalis O'Connor, & Leung, 2023b). Lv, Wen-Long, & Mohsen (2022) noted that the metaverse also needs to create experiences and services for residents in the urban cities to connect residents, cities, companies and tourists, making tourism cities more attractive, open and interoperable for all. This study develops, collects and examines the main metaverse definitions by expert authors and organizations as a methodology to ensure the transparency and credibility of the metaverse analysis.

Table 1 shows the different metaverse definitions and perspectives from authors and organizations. For instance, Suanpang et al. (2022), Zaman, Koo, Abbasi, Raza, & Qureshi (2022), Koo et al. (2023), Zhang et al. (2023), Volchek & Brysch (2023), Hassan & Saleh (2023), Prados-Castillo, Torrecilla-García, & Liébana-Cabanillas (2024) and Zhong et al. (2023) suggested that the metaverse is a digital tool to improve consumers' experiences. However, Bourlakis et al. (2013), Gadalla et al. (2013) and Go & Kang (2023) argued that the metaverse is a sales tool to sell products and services. Whereas for some authors such as Kim (2021), Monaco & Sacchi (2023), Tan et al. (2023) and Mihalic (2024) show this virtual scenario as an advertising, promotion and marketing tool. From a governance and tourism development point of view, Bibri & Allam (2022a), Kuru (2023) and the WEF (2023a) noted that the metaverse enhances the governance and tourism development in cities, or even citizens' quality of life, including elderly people and blind and visually impaired people (Zambiasi, Rabelo, Zambiasi, & Romero, 2023; Wasi, 2023; Liang et al., 2023b; Vlăduțescu & Stănescu, 2023). Indeed, most of the metaverse definitions presented in Table 1 are not considered in a tourism context to improve the tourism development of cities and to interact with and motivate tourists and residents to use this virtual platform with the aim of receiving new services and opportunities. Recently, Orlando, Boston and Las Vegas have created virtual replicas of their cities in the form of digital twins (DTs), allowing them to play out hypothetical scenarios to anticipate specific impacts of things like adding new buildings, changing streets or other land use decisions.

The question is that most metaverse concepts are focused on companies' commercial activities and tourists' experiences, but not on improving the well-being of residents in cities. Therefore, the future of the metaverse should implement social and economic activities for residents, particularly for the most vulnerable people, such as elderly people, patients, people with reduced mobility and blind and visually impaired people. Promoting the expansion and adoption of the metaverse tool in cities for improving the social inclusion of less-favoured people must be a priority for national and regional governments. Immersive

Table 1 The metaverse definitions

Authors	*Metaverse definitions*	*Perspectives*
Kahai, Carroll, & Jestice (2007)	Metaverse is a collaborative tool to improve companies' processes.	A collaborative tool
Davis et al. (2009)	Metaverse is an immersive three-dimensional virtual world in which people interact as avatars with each other and with software agents-	A communication tool
Getchell, Oliver, Miller, & Allison (2010)	Metaverse is an emergent technology for game-based learning.	A game and learning tool
Bourlakis et al. (2013); Gadalla et al. (2013)	Metaverse is a virtual channel that involves selling virtual goods and services to final consumers.	A sale channel
Falchuk, Loeb, & Neff (2018).	Metaverse is a virtual platform which its main purpose is socialization and interaction with other people (avatars).	A digital tool to socialize
Kim (2021)	Metaverse is an advertising tool to communicate companies' products and services.	An advertising tool
Jeon & Jung (2021)	Metaverse is an online educational platform that includes online teaching, learning activities, and educational activities.	An educational and teaching tool
Bibri & Allam (2022a); Goldberg & Schär (2023)	Metaverse is a digital tool to enhance the governance at cities and organizations.	A digital tool to enhance the governance at cities and organizations
Polona et al. (2022); European Parliament (2022)	Metaverse is a virtual platform to create new opportunities for companies and consumers.	A space of new opportunities for all
Kerdvibulvech (2022)	Metaverse is a virtual tool which provides games for children and adults.	An entertainment tool
Buhalis & Karatay (2022)	Metaverse is a virtual tool to improve cities, products, and services.	A tool for continuous improvement
Um et al. (2022)	Metaverse is a tool to develop smart cities.	A tool of tourism development at cities
Gursoy et al. (2022)	Metaverse is a parallel reality where humans can work, play, and communicate.	A work, game, and communication space
Zallio and Clarkson (2022)	Metaverse is a digital space to ensure and protect users' online activities through their avatars.	A safety tool
Suanpang et al. (2022); Zaman et al. (2022); Koo et al. (2023); Zhang et al. (2023); Volchek & Brysch (2023); Hassan & Saleh (2023); Prados-Castillo et al. (2024), Zhong et al. (2023)	Metaverse is a virtual platform to improve consumers' experiences.	A digital tool to improve consumers' experiences
Aydin & Nalbant (2023)	Metaverse is a digital space to improve companies' brand image.	A tool to improve firms' brand image
Garrido & González (2023)	Metaverse is a communication tool.	A communication tool
Idrees, Vignali, & Gill (2023)	Metaverse is an e-commerce tool to provide customised product and services.	A tool to offer personalized products and services
WEF (2023a)	Metaverse is a virtual tool to improve the governance and tourism development at cities.	A tool to improve cities' governance and tourism development
Kuru (2023)	Metaverse is a physical and digital space where the governance, urban cities, and the life quality of citizens can be enhanced.	A tool to improve the governance, urban cities, and the life quality of citizens
Gegung (2023)	Metaverse is a virtual platform to improve tourism demand.	A tool to enhance tourism demand
Yoo et al. (2023)	Metaverse is an online collaborative shared space built of 3 D environments that leverage high consumer immersion techniques.	A virtual collaborative space
Buhalis et al. (2023a)	Metaverse is a convergence of physical and digital tool to stimulate potential consumers to travel physical trips at cities and tourist attractions.	A virtual tool to stimulate tourists demand at cities and tourist attractions
Monaco & Sacchi (2023); Tan et al. (2023); Mihalic (2024)	Metaverse is a marketing tool where companies can sell and promote their products and services.	A promotion and marketing tool

(*continued*)

Table 1

Authors	*Metaverse definitions*	*Perspectives*
Go & Kang (2023)	Metaverse tourism is a virtual space that provides products or experiences to users.	A sale tool
Zambiasi et al. (2023)	Metaverse is a virtual platform which improves the quality of life of blind and visually impaired people.	A tool to improve the quality of life of blind and visually impaired people
Wasi (2023); Liang et al. (2023b); Vlăduțescu & Stănescu (2023)	Metaverse is a virtual social space that can help elderly people can maintain an optimistic, stable and happy mood while participating in social activities in the virtual world to alleviate loneliness and recover from depression.	A tool to enhance the quality of life of elderly people

Source: Author's own elaboration

technologies such as the metaverse empower patients to boost their wellbeing (Nadarasa, 2024). Radanliev, De Roure, Novitzky, & Sluganovic (2023) noted that the metaverse enhances the digital accessibility and inclusiveness of disabled users in society. Hence, travel and tourism companies and urban cities need to design immersive activities that tourists and residents perceive to be valuable and for which they are willing to pay.

For instance, during the pandemic crisis, the adoption of technologies like digital educational platforms became common practice in schools and universities since the first lockdowns (Monaco & Sacchi, 2023). Technology offers a new set of opportunities that will shape crisis, mobility and security in the travellers and tourism sectors (Monaco, 2021). Metaverse platforms encourage visitors to try out virtual visits to some destinations on their bucket lists. In fact, travellers may obtain some beneficial information about destinations before bodily visiting those places (Gegung, 2023). VR tourists have seen locations as varied as the sights and destinations worldwide during the COVID-19 pandemic (Zaman et al., 2022), not to mention the exponential growth in the e-commerce industry and food delivery and package delivery services in this uncertain period (Gössling & Schweiggart, 2022). Kerdvibulvech (2022) noted that during COVID-19 and the post-pandemic period, metaverse games have helped to improve health protection protocols, health-care education and the safety of health-care workers.

3. The metaverse tool is applied to cities, tourism and travel companies and people with disabilities

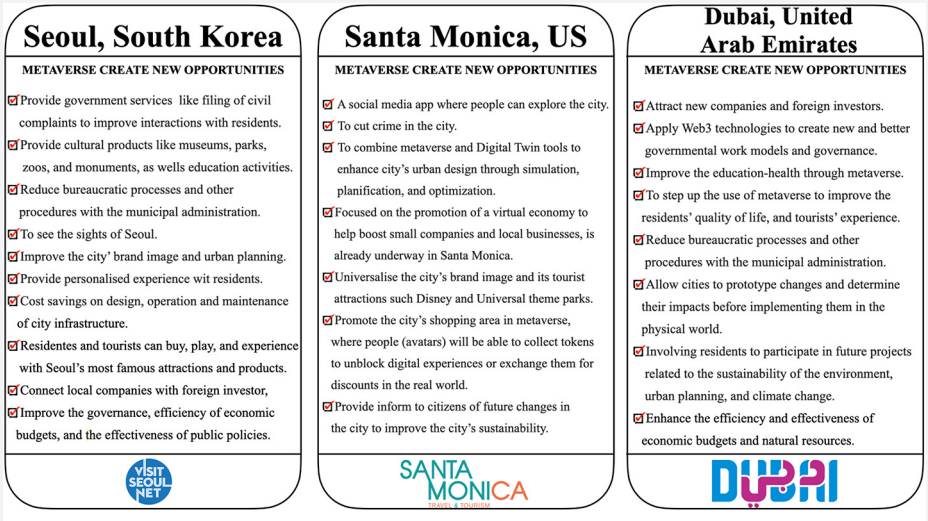
Recently, the metaverse topic has been of great interest to DMOs and researchers in tourism and hospitality due to its social, technological and commercial disruption. Immersive experiences through metaverse platforms have transformed conventional travel decision-making processes with virtual tours that are identical to real tours within a destination (Jafar & Ahmad, 2024). Large companies such as Roblox, Shopify, Meta, Zepeto, Microsoft, Fortnite and The Sandbox are using the metaverse for marketing, advertising and branding purposes to increase sales and benefits (Idrees et al., 2023; Aydin & Nalbant, 2023). Recently, Qatar Airways launched a VR experience named *QVerse* that allows travellers to view cabin interiors, the business-class *QSuite* and the VIP check-in area at the Hamad airport, in the state of Qatar (Constantin et al., 2023). Metaverse will be a virtual scenario where companies compete with each other, and these will try to promote personalized products and services to attract new customers, as well as develop relationships with existing customers. One example of this is the development of Adidas and Nike's metaverse, both companies are recently competing to sell digital collections of their shoes. These digital versions of their limited shoes have different skins that can be customized. From an economic and commercial point of view, the global metaverse market will reach €597bn by 2030 (European Parliament, 2022).

Indeed, if the metaverse tool continues to be seen as a sales and marketing tool by tourism cities, this will be questioned by researchers due to its only commercial approach and lack of commitment towards residents' concerns, the sustainability of the destination and the lack of transparency and efficiency of economic budgets spent on the metaverse platform by DMOs. Hence, their bad governance in the management of economic resources. Hollands (2015) and Grossi & Pianezzi (2017) revealed that the interests of big tech companies and large corporations condition government policies and the governance of STDs and tourism cities. We must not forget that an STD is a city that combines tourists' customized experiences based on the ubiquity of information and supported by information and communication technology. STDs are accessible spaces for all that guarantee the sustainable development of the city and residents' needs (Florido-Benítez, 2024a). In a nutshell, STD and tourism cities should cover residents' needs first, followed by companies and tourists' interests.

According to the WEF reported that more than 700 urban cities will have metaverse platforms by 2030. The inclusion of tourism cities in the metaverse has already commenced. Tourism cities such as Seoul, Santa Monica and Dubai already have metaverse scenarios, and their main advantages are cost savings on the design, operation and maintenance of city infrastructure and increased engagement from the urban population (WEF, 2023a). Figure 1 displays how Seoul, Santa Monica and Dubai tourism cities are leading the metaverse scenario in the world according to WEF (2023a). These three cities are using the metaverse as a marketing tool to improve their brand image, but the metaverse is also used by these cities as a useful tool to improve their transport, education and health services, urban planning, mobility projects, sustainability and economic budgets. For instance, on Seoul's metaverse platform, residents can interact with virtual versions of all areas of Seoul's city administration, making it easier to do bureaucratic processes and other procedures with the municipal administration while providing a more customized experience than a website can provide on a smartphone or PC (Garrido & González, 2023).

The metaverse can be useful for people with disabilities, elderly people and patients. If an urban city (understood as a City Council, university or hospital) interacts with people with disabilities through the metaverse to resolve administrative, fiscal, economic, bureaucratic and financial problems or even a medical appointment that person will avoid that person

Figure 1 The three urban cities that are leading the way in the metaverse scenario



Source: Own elaboration from (WEF, 2023a)

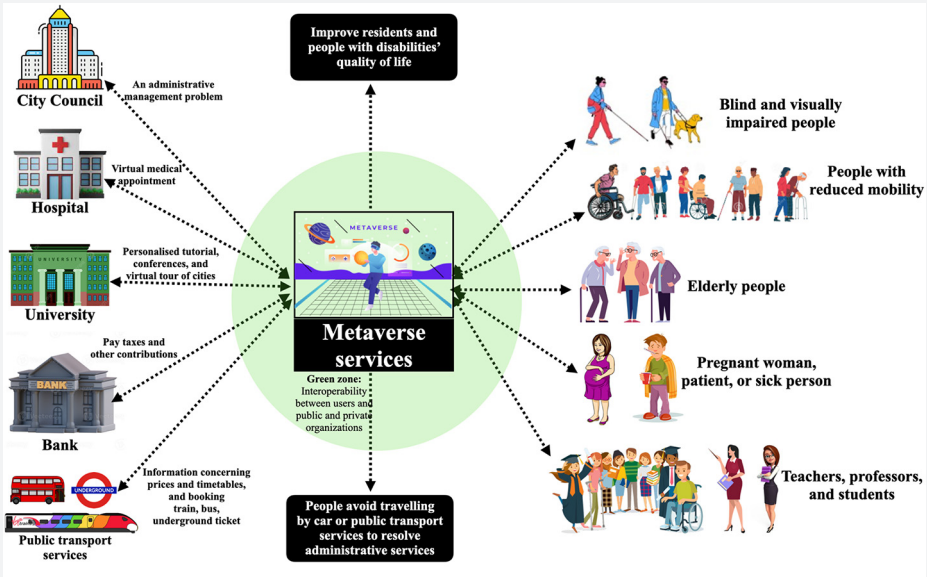
travelling by car or bus to the City Council and hospital (see Figure 2). For instance, Zambiasi et al. (2023) presented a metaverse-based software robot (softbot) tutor to train and support impaired workers, that is, the metaverse acts as an immersive cyber-physical training room, and the user's avatar acts as the impaired worker's representative in the virtual environment.

There are already some applications based on the metaverse and computer devices designed to serve and help people with low vision or visual impairment, ranging from adults to elderly people (Wasi, 2023). In addition, Liang et al. (2023b) showed a metaverse virtual social centre for elderly people, where they interacted with other people (avatars) and virtual scenarios. This is a real example of how the metaverse helps elderly people maintain an optimistic, stable and happy mood while participating in social activities in the virtual world to alleviate loneliness and recover from depression (Liang et al., 2023b). In addition, the metaverse is used to simulate the entire radiotherapy process and identify and address issues that may arise during the process (Zhao & Sun, 2022).

The metaverse has to be accessible to all social groups to be socially sustainable (Vlăduțescu & Stănescu, 2023). China's first metaverse research centre has been set up in the city of Zhangjiajie to improve the planning and organization of tourism development in Chinese cities (Liu et al., 2022).

An immersive resident's participation through the metaverse platform can considerably improve the resident's quality of life. However, the accessibility and inclusiveness of the metaverse remain areas where progress has yet to be made to create an environment of equal opportunities (Polona, André, & Maria, 2022). In short, this innovative platform could revolutionize many areas in urban cities, including tourism, transport services, health care, banking, smart homes and energy management (Yaqoob, Salah, Jayaraman, & Omar, 2023). Another thing will be that local and regional government bodies use the metaverse for social and environmental ends and never for commercial or political purposes.

Figure 2 The metaverse is a useful tool for people with disabilities, elderly people, patients and students



Source: Prepared by author

Government bodies and private organizations need to understand the ethical and security risks posed by the metaverse to create an open and healthy society. Metaverse platforms promote a more consumerist and devoid of values (Bibri & Allam, 2022b).

Nonetheless, like any technology tool, the metaverse also has its disadvantages, such as its potential for addiction and social isolation. As people spend more time in the virtual world, they may become disconnected from the physical world and their real-life relationships. This can have a negative impact on mental health and well-being (Sekure, 2023). Indeed, one of the greatest problems facing the metaverse today is cybersecurity. Current cybersecurity challenges such as phishing, malware and hacking will persist and extend to devices enabling a metaverse experience and to avatars (European Parliament, 2022). Recently, a study carried out by Florido-Benítez (2024b) revealed that hotels and online travel agencies (OTAs) are constantly exposed to cyberattacks in smart cities, especially data breaches and malware attacks. There are no 100% safe spaces, the risk of a cyberattack is always latent (Florido-Benítez, 2021). Protecting the integrity of avatars will therefore be a particular issue of concern for tourism cities, STDs and companies. Saharan, Singh, Bhandari, & Yadav (2024) revealed that cyberwarfare in the metaverse involves state-sponsored attacks, espionage, information warfare and manipulation of virtual defence systems. Nguyen (2022) suggested that the DTs tool offers the capability of running simulations across multiple knowledge domains in the metaverse to improve proactive cyber defence strategies, as well as prevent future cyberthreats and cyberattacks. A DT tool is a virtual representation of a real-world city, company or process that is used to improve governance, performance, productivity, sustainability, efficiency and effectiveness of activities by STDs, tourism cities, governments and companies.

For instance, in cities such as London, Paris, Dublin, Tokyo, Amsterdam, NY or Sidney, the fusion of DT, metaverse and historical data will have significant effects on simulating and modelling events like reducing traffic congestion and CO_2 emissions, mitigating climate change and floods, resolving cyberattacks and improving cities' urban planning and energy demands in view of changing urban populations, amongst many others. The importance of metaverse and DT scenarios to predict the behaviour of tourism, business ecosystems and future disasters like floods, earthquakes, cyclones and hurricanes lies in historical data, machine and deep learning techniques and interoperability between cities and companies to resolve incidents and future crisis (Bibri, 2022). A study carried out by Allam, Sharifi, Bibri, Jones, & Krogstie (2022) noted that metaverse and DT technologies will enhance the residents "quality of life" in urban areas and facilitate the growth of business and tourism development in these cities.

4. Metaverse benefits for e-commerce companies

The metaverse will bring a new era of business innovation for customers and companies, a virtual existence where digital avatars will extend their real lives or vice versa to interact with other people and companies through the metaverse. Users will receive real-time information and 3D images from companies and governments, but the most important thing is that users will live constantly immerse in a virtual consumerism called metaverse. One illustrative example was how Amazon's profit increased by 220% in 2020, due to the pandemic boosted shopping online (Weise, 2021). Online impulsive purchasing is an important factor in online shopping for large e-commerce companies. Most e-commerce firms have implemented marketing strategies to boost online impulse buying by providing greater opportunities to attract and retain customers (Wu, Chen, & Chiu, 2016). Liu, Li, & Hu (2013) revealed that 40% of online consumers consider themselves impulse shoppers, especially motivated by free shipping, which is the top factor motivating online purchases (Rivera, 2023).

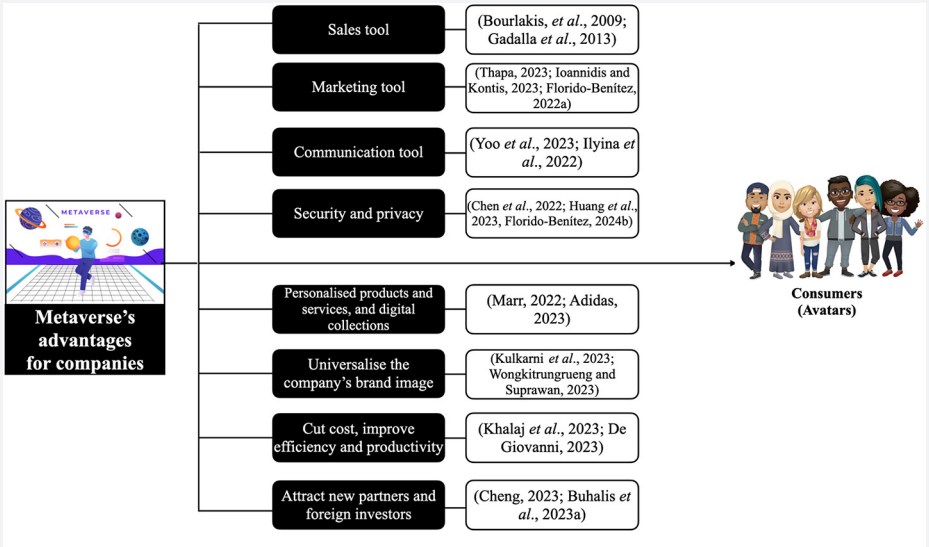
Metaverse is a new way of doing business through an immersive virtual experience. The tourism industry is currently experiencing significant changes because of the evolution of

the metaverse. Tourism and travel companies are implementing the metaverse as a sales and marketing tool in their strategic plans to increase their benefits. The metaverse offers tourism and travel companies important marketing and customer relationship opportunities because this saves customers time and money when they are planning trips (Gursoy et al., 2022). For instance, Gen Y, often called "digital natives" use the Metaverse platforms because they prefer immersive experiences, loyalty programs and consistent online support (Lee, Nguyen, & Yang, 2023). In contrast, Gen Z is focusing more on the social and community aspects of games such as Roblox, Minecraft and Fortnite than on playing the games themselves (Lamba & Malik, 2022). In regards to tourism, millennials use the metaverse and social media to make savvy travel-buying decisions (Corbisiero, Monaco, & Ruspini, 2022). Understanding the distinct characteristics of various age groups can contribute to creating a more nuanced and effective profile of potential users on metaverse platforms.

Metaverse provides an immersive, dynamic and innovative digital platform for showcasing tourism destinations, attractions, events and hospitality services (Buhalis et al., 2023a). Ioannidis & Kontis (2023) claimed that the metaverse is a new marketing and digital channel to promote and sell companies and cities' products and services. Indeed, the metaverse is a communication tool that helps to reduce consumers' stress because they are consuming content on this virtual platform without leaving the house (Ilyina, Eltikova, Uvarova, & Chelysheva, 2022). Figure 3 illustrates the main advantages of the metaverse for companies, where avatars and firms will benefit from this virtual universe. One of the primary attractions of the metaverse is the ability to create personalized products and services for avatars, and users can interact with companies and other avatars about the product and service's quality and guarantee.

The metaverse will also have significant impacts on companies, such as universalizing the company's brand image, attracting new partners and investors and boosting the impact of their digital communication and information by using personalized images and personalized content to attract new avatars. The metaverse must generate benefits for companies and cities, but it also should be able to improve the well-being of people in both digital and

Figure 3 The main advantages of the metaverse for companies



Source: Prepared by author

physical scenarios. Science and technology must be at the service of people, not vice versa. This is the big issue with science and today's society will have to deal with it in this century. Harari (2019) noted that the AI tool could cause a very large number of dangerous scenarios due to the technology's sophistication which makes forecasting its dangers difficult. In the case of the metaverse, this virtual tool must be useful and accessible for the entire society to be environmentally and socially sustainable.

This innovative platform is a digital scenario where avatars can play games, work lines and buy goods and services in terms of business-to-business and business-to consumers. Thus, tourism and travel companies are fully aware of their real advantages in universalizing their brand image and generating new income (Thapa, 2023). Travel and tourism companies focused on creating metaverse tour content will be able to enhance the return on investment on this virtual platform (Tsai, 2022). For instance, Vueling is the first airline to announce the sale of flights through the metaverse, whereas Japanese First Airlines offers a virtual travel experience, simulating vacations to Paris, Rome, HI and New York using virtual reality and in-flight service. Undoubtedly, as the metaverse continues to unfold in society, the more we realize how large technology and e-commerce companies sell us the metaverse's kindness and benefits to increase their sales and revenues. The metaverse will change the ways in which consumers consume hospitality and tourism products and services in cities. Özdemir & Şahin (2023) emphasized that tourism and travel companies operating in the metaverse can increase their sales figures, thanks to the scope of marketing activities and consumers' bookings.

Furthermore, the metaverse can help businesses reduce their costs by reducing the requirement for many physical assets that are necessary for in-person spaces. Employees can have virtual offices and shared spaces, cutting down on all the costs associated with a physical headquarters. Khalaj et al. (2023) noted that the implementation of DTs integrated into the metaverse platform will enhance companies' efficiency and productivity, as well as reduce costs. De Giovanni (2023) noted that avatars accessing the metaverse platform reduce their mobility over the eco-system, implying a reduction of CO_2 emissions linked to decreased transportation.

5. The irruption of the metaverse in the management of tourism cities

City tourism is one of the fastest-growing travel segments worldwide, and it occurs in urban areas like metropolitan destinations and the great cities of each country (Gurung & Gowreesunkar, 2023), generating substantial economic and social benefits for local communities (UNWTO, 2020). London, Paris, NY, Tokyo, Barcelona or Sidney tourism cities have developed new strategic and sustainable plans to address the major current issues in their urban areas, such as reducing CO_2 emissions, traffic, climate change, gentrification, overcrowding and enhancing residents' needs (Maxim, 2017; Florido-Benítez, 2023b). As stated by Guizi, Breda, & Costa (2020) tourism cities need to find ways to protect the rights of their residents and ensure that tourism benefits everyone, as well as that local communities must be involved in the city's urban planning to improve the sustainability of the tourism industry in cities (Elorrieta, Cerdan Schwitzguebel, & Torres-Delgado, 2022; Mihalic, 2024). Coca-Stefaniak (2019) emphasized that tourism cities are taking actions to reduce the effects of climate change on tourism, particularly through innovative technologies (Coca-Stefaniak & Morrison, 2022). More than half of the world's population lives in cities today, and by 2030 an estimated five billion people will live in urban areas (Bock, 2015).

With regards to environmental sustainability in tourism cities, the metaverse can help reduce the consumption of natural resources, including raw materials, water and energy, as long as companies and governments increase their operations through this virtual platform. Jauhiainen, Krohn, & Junnila (2023) suggested that it is urgently needed to include energy and water resources in the construction of the metaverse to resolve the water scarcity in

some tourism cities. This initiative should be met to improve residents' well-being. The governance, communication and information services, users' privacy and safety data, service delivery and cutting operating and structural costs of companies may be improved thanks to the innovative metaverse technology (Jobe, Yilmaz, Tüfekci, & Clarke, 2023). Metaverse has become very popular in Chinese urban tourism. It has become a significant part of theme exhibitions, museums, cultural centres and theme parks, attracting thousands of tourists (Zhang & Quoquab, 2023).

For instance, available resources and geographic and cultural nuances influence the applicability and success of metaverse implementations in tourism cities. The city of Shanghai has implemented the metaverse tool with the prospect of gaining better results in different areas, from virtual hospital diagnoses to digital reproductions of the city's historic architectural landmarks. In the case of the city of Nanjing in China, is combining metaverse and blockchain technologies to improve online commercial transactions. Nanjing has set itself the task of reaching $19bn in income by the end of 2025 through the metaverse industry (Yun, 2023).

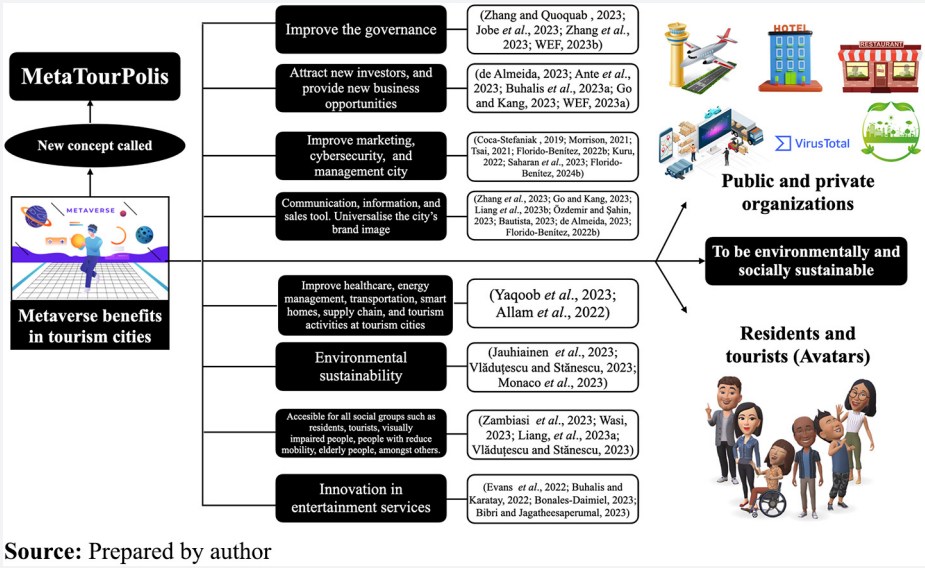
Another case is Siemens, a German multinational technology company that invested EUR 1bn in the metaverse tool in the Nuremberg metropolitan region to improve the company's productivity, efficiency, flexibility and sustainability (Zabeu, 2023). Nonetheless, all cities and companies do not have as many economical resources as Shanghai and Nanjing Chinese cities or Siemens to implement metaverse platforms in their technological operations to improve the city's tourism sustainability. The development cost of a metaverse can vary from $10,000 to $400,000 based on several cost factors, such as digital avatars, security, hardware and infrastructure (Jain, 2023). Metaverse includes technologies such as AR, VR, AI, blockchains and internet of things amongst many others, for a better resident and tourist's experience, and to include these technologies by DMOs or companies requires great economic resources. Thus, implementing metaverse platforms can be a huge obstacle for small cities with low economic budgets.

Liang, Fan, Jiang, Zhang, & Qi (2023a) noted that the metaverse creates new experiences for tourists and residents (avatars) in the commercial streets of tourism cities because AI algorithms combine real and virtual spaces with the aim of customizing XR content for different consumers so that consumers can get a personalized. Özdemir & Şahin (2023) suggested that tourism and travel companies operating in the metaverse can increase their sales figures, thanks to the scope of marketing activities and consumers' bookings. Moreover, tourism cities seek to enter the metaverse for reasons such as technological innovation, global connection, enhancing local tourism and urban planning, attracting new businesses and investors and collaboration in promoting immersive virtual inclusion (de Almeida, 2023). The emergence of the metaverse in tourism cities will strengthen communication and digital transactions between cities, companies and users. Hence, Bibri & Jagatheesaperumal (2023) noted that combining virtual and physical realities through the metaverse will bring new technological innovations for the future benefit of tourism cities and their residents, as well as the tourism and travel sectors.

With this backdrop, we would like to include a new concept in the relationship between tourism cities and the metaverse platform called "MetaTourPolis", where the fusion of the metaverse and the new tourism polis of the 21st century will be at the service of citizens, tourists and companies to create more sustainable, efficient, quantitative and environmental tourism cities. The originality and value-added of the MetaTourPolis concept in this paper seek to highlight the need to implement metaverse technology in cities to boost universal inclusion, improve governance, environmental sustainability and tourism development, as well as attract new investors to create new business opportunities.

Figure 4 shows the metaverse's benefits in tourism cities and how this virtual platform can improve residents' quality of life and tourists' experiences. For instance, the metaverse must be a useful tool to improve the governance of tourism cities and attract new investors and business

Figure 4 The metaverse's benefits in tourism cities



Source: Prepared by author

opportunities for regional economies and their citizens. The WEF (2023b) noted that metaverse platforms help to enhance the governance of cities because these disruptive technologies can mitigate potential socioeconomic harms. However, the implementation of the metaverse involves different governance modes. Technical standards in governance need to distinguish various stakeholders, such as government departments, industrial alliances, enterprises and consumers (Yang, 2023). Chen, Gun, Wu, Lin, & Chen (2024) suggested that the combination between the metaverse and smart cities can improve the quality of life of citizens and enable more efficient governance and management systems. A study carried out by Goldberg & Schär (2023) found that metaverse governance is a key criterion for businesses' virtual location choice, and this digital tool helps organizations make better decisions.

Another technological benefit of the metaverse is its level of immediacy and interactivity to provide information and to avoid people travelling by car or bus to resolve bureaucratic or administrative problems. Moreover, the metaverse can enhance healthcare, cybersecurity, transportation, smart homes, energy management and tourism activities at MetaTourPolis, as we mentioned previously. For instance, the combination of DT and metaverse tools can provide a platform for intelligent energy's control, management and optimization in cities (Zhang & Liu, 2023). While the metaverse has the opportunity to be comfortably applied in all areas of daily life, it can also be designed as a management tool to reduce the consumption of electricity and water and its impact on climate change and the environment of tourism cities.

6. Conclusions

The main objective of this manuscript was to analyse the metaverse platform in a social context to better understand the future of this tool in tourism cities, and how this can help to improve the well-being of residents in both digital and physical scenarios. Initially, this paper reveals that including the metaverse platform in tourism cities and companies will not be an easy task to harmonize and cover residents' needs, tourists' demands and experiences, and companies' commercial interests. The researchers are recently analysing and found how the metaverse tool is still in its infancy, and this virtual platform lacks many

features and mechanisms to ensure its functions properly, such as the complexity of customizing products and services to avatars or even to running avatars, scenes or digital assets easily and interchangeably (Suanpang et al., 2022).

Furthermore, findings suggest that the fusion of metaverse and tourism cities must create residents' services and experiences in the new MetaTourPolis. This new concept can help interact and connect citizens with the city's institutions and companies, as well as make tourism cities more attractive, innovative, environmentally friendly and healthier places to live. Metaverse will bring new changes for residents and tourists, in fact, this virtual platform is already changing and improving the residents' quality of life and people with disabilities in tourism cities. For instance, the metaverse platform has been implemented in Seoul, Santa Monica and Dubai MetaTourPolis to interact with their residents, including people with disabilities, to resolve bureaucratic and administrative problems, avoiding that this group and the rest of the residents travelling by bus or car to the city's intuitions. In addition, several metaverse applications based on softbot tutors or metaverse virtual social centres have been developed to improve blind and impaired people's, and elderly people' quality of life, respectively (Zambiasi et al., 2023; Wasi, 2023; Liang et al., 2023a, 2023b; Vlăduțescu & Stănescu, 2023). The accessibility and inclusiveness of residents and tourists at MetaTourPolis need to provide an environment of equal opportunities for all. The metaverse platform must be human-first to prioritize the well-being of all stakeholders.

Another important outcome was that the fusion of metaverse and tourism cities provides innovative solutions that boost and improve urban experiences, tourists' experiences and residents' quality of life. To include the metaverse tool in tourism cites, improve governance, communication with tourists and residents, the efficiency of economic budgets, the effectiveness of public policies, involve residents in future projects related to the sustainability of the environment and attract new investors require good management and social-economic planning by regional governments and DMOs The metaverse facilitates governance in cities. Through virtual simulations and real-time data analysis, city authorities can make well-informed decisions quickly, evaluate the impact of policy changes and monitor the effectiveness of interventions (Chen et al., 2024).

Metaverse, DT, Chat generative pre-trained transformer and AI innovative technologies are crucial for tourism marketing and management of cities because these tools are improving efficiency and sustainability for the tourism industry (Jia, Chi, Martinez, & Lu, 2023). Although, we must recognize that small cities do not have the economic capacity to implement these disruptive technologies. It would be advisable for small cities to receive financial aid to develop their own metaverse platforms to boost their tourism model from national governments and the European Union. Each city must design its own metaverse platform linked to its tourism and business model. It is not the same to develop a metaverse platform on the island of Ibiza (Spain) that is totally dependent on the tourism industry as to develop a metaverse platform in the urban city of Frankfurt, whose its main economic engine is the financial sector. The characteristics and needs of each city require different perspectives and solutions. Therefore, regional, cultural, type of sectorization and economic resource contexts shape the adoption of metaverse technologies in cities.

Finally, we would like to highlight that if the metaverse tool wants to change and transform tourism cities, residents' well-being and tourists' experiences in the coming years, this innovative platform needs to tackle significant challenges and problems related to cybersecurity, privacy, data management, interoperability, accessibility and inclusiveness in its core business operations and decision-making processes. Therefore, future research should be focused on cybersecurity and interoperability activities through the metaverse platform, as well as on ensuring both avatars and companies' data, privacy and transactions in MetaTourPolis. Furthermore, this manuscript shares some of the same limitations of previous studies, such as the fact that the future of the metaverse tool in the tourism industry is practically based on hypothetical scenarios and its positive and negative effects on tourism

companies and cities (Polona et al., 2022; Özdemir & Şahin, 2023). The interrelationship between metaverse and tourism cities continues to unfold, and creating high expectations in terms of tourism, governance and social-economic activities could be a great imprudence (Ioannidis & Kontis, 2023).

7. Theoretical implications

From a theoretical perspective, this paper contributes to the metaverse topic literature by including different definitions and perspectives from expert authors and public and private organizations. The implementation of metaverse platforms by DMOs must consider the features and needs of each city to develop a model of sustainable tourism development that is both quality and respectful of the environment, as well as improving the quality of life of residents. Moreover, one of the major challenges currently facing the implementation of metaverse technologies in cities is related to interoperability, especially in the areas of jurisdictional, technical and usage by organizations and users. Therefore, governments and private companies involved in the development of the metaverse must collaborate to develop human-centric interoperability standards and respect social contracts and expectations (Yaqoob et al., 2023). From a commercial point of view, the metaverse is the perfect marketing tool to promote tourism cities and companies' products and services because information and content uniquely adapt to the user's characteristics and its avatar, as well as to sell personalized products and services (Hadi, Melumad, & Park, 2024).

In addition, this paper tries to highlight that the metaverse cannot be considered just a sales and marketing tool by tourism cities. The metaverse is a collective virtual shared space where residents, tourists and firms can participate in a wide array of experiences and interactions. This virtual scenario must be inclusive, community based and designed to help the most vulnerable people, such as elderly people, patients, people with reduced mobility and blind and visually impaired people. Social media platforms have played a pivotal role in transforming the way we communicate and connect with other people and organizations. For instance, avatars developed by users on the metaverse platform are shown in a fun way, and this digital profile removes possible prejudices by other users. On the contrary, the protection of young people who are hidden by avatars is an important issue that needs to be tackled by governments and educational institutions.

8. Practical implications

This study also offers some practical implications. There are challenges and opportunities in the metaverse for tourism cities and governments. Dwivedi et al. (2022) stated that little attention has been focused on security and privacy in the metaverse. Therefore, cybersecurity protocols must be implemented by governments and private organizations to ensure that users and systems are protected against possible vulnerabilities, cyberthreats and cyberattacks. Furthermore, national and regional governments need to know what governance models and principles are suitable for the metaverse and their tourism cities, as well as the risks and legal and ethical consequences of the metaverse technology in their commercial and governmental operations. Indeed, the European Union and national governments must regulate and establish immediate laws and legal mechanisms to protect users and companies on metaverse platforms.

The metaverse presents legal challenges related to enforcing laws across borders, lack of regulation and consumer protection for companies and DMOs (Dwivedi et al., 2022; Yaqoob et al., 2023). Today, there are no laws that protect users in the metaverse scenario. The European Commission will develop a vision for emerging virtual worlds like metaverses based on respect for digital rights and EU laws and values. The main objective of this metaverse law is that this virtual platform can be used safely and with confidence by users and companies (European Commission, 2023). Government agencies should establish

mechanisms to promote dialogue with travel and tourism industry stakeholders to ensure commercial transactions in the metaverse, including the role Central Bank Digital Currencies might have in the metaverse (Meta, 2022).

As concerning the opportunities of the metaverse, this immersive and interactive digital tool will provide unlimited possibilities to the tourism cities, marketers and creators of contents. For instance, tourism cities' metaverse platforms can generate new online marketing revenue through sponsorship, advertising and digital billboards. Besides, for travel and tourism companies (e.g. airlines, tour operators, OTAs, hotels and theme parks, among others), finding a space in the metaverse to place their ads to appeal to user attention and promote personalized experiences will be an added value for firms and tourism cities. To be successful in the process, marketers and creators of content must understand the characteristics of the metaverse as a medium to generate revenue. For instance, DMOs should use the metaverse to sell tickets to all of the city's tourist attractions. To sum up, city tourism practitioners can leverage the metaverse to enhance the well-being of residents and attract tourists through personalized immersive experiences, which they perceive to be valuable and for which they are willing to pay.

References

Allam, Z., Sharifi, A., Bibri, S. E., Jones, D. S., & Krogstie, J. (2022). The metaverse as a virtual form of smart cities: Opportunities and challenges for environmental, economic, and social sustainability in urban futures. *Smart Cities*, *5*(3), 771–801, doi: https://doi.org/10.3390/smartcities5030040.

Aydin, S., & Nalbant, K. G. (2023). The significance of artificial intelligence in the realms of marketing, advertising, and branding inside the metaverse. *Journal of Emerging Economies and Policy*, *8*(2), 301–316.

Bibri, S. E. (2022). The social shaping of the metaverse as an alternative to the imaginaries of data-driven smart cities: A study in science, technology, and society. *Smart Cities*, *5*(3), 832–874, doi: https://doi.org/10.3390/smartcities5030043.

Bibri, S. E., & Allam, Z. (2022a). The metaverse as a virtual form of data-driven smart cities: The ethics of the hyper-connectivity, datafication, algorithmization, and platformization of urban society. *Computational Urban Science*, *2*(1), 1–22, doi: https://doi.org/10.1007/s43762-022-00050-1.

Bibri, S. E., & Allam, Z. (2022b). The metaverse as a virtual form of data-driven smart urbanism: On post-pandemic governance through the prism of the logic of surveillance capitalism. *Smart Cities*, *5*(2), 715–727, doi: https://doi.org/10.3390/smartcities5020037.

Bibri, S. E., & Jagatheesaperumal, S. K. (2023). Harnessing the potential of the metaverse and artificial intelligence for the internet of city things: Cost-Effective XReality and synergistic AIoT technologies. *Smart Cities*, *6*(5), 2397–2429, doi: https://doi.org/10.3390/smartcities6050109.

Bock, K. (2015). The changing nature of city tourism and its possible implications for the future of cities. *European Journal of Futures Research*, *3*(1), 20, doi: https://doi.org/10.1007/s40309-015-0078-5.

Bourlakis, M., Papagiannidis, S., & Li, F. (2013). Retail spatial evolution: Paving the way from traditional to metaverse retailing. *Electronic Commerce Research*, *9*(1-2), 135–148, doi: https://doi.org/10.1007/s10660-009-9030-8.

Buhalis, D., & Karatay, N. (2022). Mixed reality (MR) for generation Z in cultural heritage tourism towards metaverse. In J. L. Stienmetz, B. Ferrer-Rosell, & D. Massimo (Eds), *Information and communication technologies in tourism* (pp. 16–27), Cham: Springer International Publishing.

Buhalis, D., Leung, D., & Lin, M. (2023a). Metaverse as a disruptive technology revolutionising tourism management and marketing. *Tourism Management*, *97*, 104724, doi: https://doi.org/10.1016/j.tourman.2023.104724.

Buhalis, D., O'Connor, P., & Leung, R. (2023b). Smart hospitality: From smart cities and smart tourism towards agile business ecosystems in networked destinations. *International Journal of Contemporary Hospitality Management*, *35*(1), 369–393, doi: https://doi.org/10.1108/IJCHM-04-2022-0497.

Chen, Z., Gun, W., Wu, J., Lin, H., & Chen, C. M. (2024). Metaverse for smart cities: A survey. *Internet of Things and Cyber-Physical Systems*, *4*, 203–2016, doi: https://doi.org/10.1016/j.iotcps.2023.12.002.

Coca-Stefaniak, J. A. (2019). Marketing smart tourism cities – a strategic dilemma. *International Journal of Tourism Cities*, *5*(4), 513–518, doi: https://doi.org/10.1108/IJTC-12-2019-163.

Coca-Stefaniak, J. A. (2021). Beyond smart tourism cities – towards a new generation of "wise" tourism destinations. *Journal of Tourism Futures*, *7*(2), 251–258, doi: https://doi.org/10.1108/JTF-11-2019-0130.

Coca-Stefaniak, J. A., & Morrison, A. M. (2022). Cities. In D. Buhalis (Ed.), *Encyclopaedia of tourism management and marketing*, Northampton, MA: Edward Elgar Publishing, Bournemouth University Business School.

Constantin, M., Genovese, G., Munawar, K., & Stone, R. (2023). Tourism in the metaverse: Can travel go virtual?", Retrieved from www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/tourism-in-the-metaverse-can-travel-go-virtual (accessed 24 December 2023).

Corbisiero, F., Monaco, S., & Ruspini, E. (2022). *Millennials, generation Z and the future of tourism*, Bristol: Channel View Publications.

de Almeida, G. G. F. (2023). Cities and territorial brand in the metaverse: The metaverse Seoul case. *Sustainability*, *15*(13), 10116, doi: https://doi.org/10.3390/su151310116.

De Giovanni, P. (2023). Sustainability of the metaverse: A transition to industry 5.0. *Sustainability*, *15*(7), 6079, doi: https://doi.org/10.3390/su15076079.

Davis, A., Murphy, J., Owens, D., Khazanchi, D., & Zigurs, I. (2009). Avatars, people, and virtual worlds: Foundations for research in metaverses. *Journal of the Association for Information Systems*, *10*(2), 90–117.

Dwivedi, Y. K., Hughes, L., Baabdullah, A. M., Ribeiro-Navarrete, S., Giannakis, M., Al-Debei, M. M., … Wamba, S. F. (2022). Metaverse beyond the hype: Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, *66*, 102542, doi: https://doi.org/10.1016/j.ijinfomgt.2022.102542.

Elorrieta, B., Cerdan Schwitzguebel, A., & Torres-Delgado, A. (2022). From success to unrest: The social impacts of tourism in Barcelona. *International Journal of Tourism Cities*, *8*(3), 675–702, doi: https://doi.org/10.1108/IJTC-05-2021-0076.

European Commission. (2023). Virtual worlds (metaverses) – a vision for openness, safety and respect", Retrieved from https://commission.europa.eu/index_en (accessed 30 December 2023).

European Parliament. (2022). Metaverse: Opportunities, risks and policy implications", Retrieved from www.europarl.europa.eu/cmsdata/268589/eprs-briefing-metaverse_EN.pdf (accessed 28 December 2023).

Falchuk, B., Loeb, S., & Neff, R. (2018). The social metaverse: Battle for privacy. *IEEE Technology and Society Magazine*, *37*(2), 52–61, doi: https://doi.org/10.1109/MTS.2018.2826060.

Femenia-Serra, F., & Ivars-Baidal, J. A. (2021). Do smart tourism destinations really work? The case of Benidorm. *Asia Pacific Journal of Tourism Research*, *26*(4), 365–384, doi: https://doi.org/10.1080/10941665.2018.1561478.

Florido-Benítez, L. (2021). Identifying cybersecurity risks in Spanish airports. *Cyber Security*, *4*(3), 267–291.

Florido-Benítez, L. (2023a). Bridges: A tourist attraction and iconic element at urban cities' tourism promotion websites. *International Journal of Tourism Cities*, *9*(3), 771–787, doi: https://doi.org/10.1108/IJTC-06-2023-0119.

Florido-Benítez, L. (2023b). The accessibility of beaches for blind people and their guide dogs: Accessible tourism and inclusion in Spain. *Tourism Review*, doi: https://doi.org/10.1108/TR-05-2023-0302.

Florido-Benítez, L. (2024a). Constructing Spanish smart destinations: A new guide for the tourism industry. *International Journal of Tourism Cities*, doi: https://doi.org/10.1108/IJTC-09-2023-0193.

Florido-Benítez, L. (2024b). The cybersecurity applied by online travel agencies and hotels to protect users' private data in smart cities. *Smart Cities*, *7*(1), 475–495, doi: https://doi.org/10.3390/smartcities7010019.

Gadalla, E., Keeling, K., & Abosag, I. (2013). Metaverse-retail service quality: A future framework for retail service quality in the 3D internet. *Journal of Marketing Management*, *29*(13-14), 1493–1517, doi: https://doi.org/10.1080/0267257X.2013.835742.

Garrido, C., & González, A. (2023). Cities moving into the metaverse: An augmented, but better reality?. Retrieved from www.citiestobe.com/cities-metaverse/ (accessed 31 December 2023).

Gegung, E. M. (2023). Metaverse: A promising future for the tourism industry and MSMEs Post-Covid-19 pandemic. *Jurnal Kepariwisataan Indonesia: Jurnal Penelitian Dan Pengembangan Kepariwisataan Indonesia*, *17*(2), 172–181, doi: https://doi.org/10.47608/jki.v17i22023.172-181.

Getchell, K., Oliver, I., Miller, A., & Allison, C. (2010). "Metaverses as a platform for game-based learning", *2010 24th IEEE International Conference on Advanced Information Networking and Applications*, IEEE, pp. 1195–1202, doi: https://doi.org/10.1109/AINA.2010.125.

Go, H., & Kang, M. (2023). Metaverse tourism for sustainable tourism development: Tourism agenda 2030. *Tourism Review*, *78*(2), 381–394, doi: https://doi.org/10.1108/TR-02-2022-0102.

Goldberg, M., & Schär, F. (2023). Metaverse governance: An empirical analysis of voting within decentralized autonomous organizations. *Journal of Business Research*, *160*, 113764, doi: https://doi.org/10.1016/j.jbusres.2023.113764.

Gössling, S., & Schweiggart, N. (2022). Two years of COVID-19 and tourism: What we learned, and what we should have learned. *Journal of Sustainable Tourism*, *30*(4), 915–931, doi: https://doi.org/10.1080/09669582.2022.2029872.

Grossi, G., & Pianezzi, D. (2017). Smart cities: Utopia or neoliberal ideology? *Cities*, *69*, 79–85, doi: https://doi.org/10.1016/j.cities.2017.07.012.

Guizi, A., Breda, Z., & Costa, R. (2020). How are overtourism and host–guest relationships portrayed by the Portuguese print media? *International Journal of Tourism Cities*, *6*(1), 215–232, doi: https://doi.org/10.1108/IJTC-06-2019-0081.

Gursoy, D., Malodia, S., & Dhir, A. (2022). The metaverse in the hospitality and tourism industry: An overview of current trends and future research directions. *Journal of Hospitality Marketing & Management*, *31*(5), 527–534, doi: https://doi.org/10.1080/19368623.2022.2072504.

Gurung, D. J., & Gowreesunkar, V. (2023). Mapping the landscape of tourism cities research: A bibliometric analysis of the international journal of tourism cities. *International Journal of Tourism Cities*, doi: https://doi.org/10.1108/IJTC-10-2023-0207.

Hadi, R., Melumad, S., & Park, E. S. (2024). The metaverse: A new digital frontier for consumer behavior. *Journal of Consumer Psychology*, *34*(1), 142–166, doi: https://doi.org/10.1002/jcpy.1356.

Harari, Y. N. (2019). *21 Lessons for the 21st century*, New York, NY: Spiegel & Grau.

Hassan, T., & Saleh, M. I. (2023). Tourism metaverse from the attribution theory lens: A metaverse behavioral map and future directions. *Tourism Review*, doi: https://doi.org/10.1108/TR-07-2023-0516.

Hollands, R. G. (2015). Critical interventions into the corporate smart city. *Cambridge Journal of Regions, Economy and Society*, *8*(1), 61–77, doi: https://doi.org/10.1093/cjres/rsu011.

Idrees, S., Vignali, G., & Gill, S. (2023). Interactive marketing with virtual commerce tools: Purchasing right size and fitted garment in fashion metaverse. In C. L. Wang (Ed.), *The palgrave handbook of interactive marketing*, Cham: Palgrave Macmillan, doi: https://doi.org/10.1007/978-3-031-14961-0_15.

Ilyina, I. A., Eltikova, E. A., Uvarova, K. A., & Chelysheva, S. D. (2022). "Metaverse-death to offline communication or empowerment of interaction?2. *2022 Communication Strategies in Digital Society Seminar (ComSDS)*, IEEE, pp. 117–119, doi: https://doi.org/10.1109/ComSDS55328.2022.9769144

Ioannidis, S., & Kontis, A. P. (2023). Metaverse for tourists and tourism destinations. *Information Technology & Tourism*, *25*(4), 483–506, doi: https://doi.org/10.1007/s40558-023-00271-y.

Jafar, R. M. S., & Ahmad, W. (2024). Tourist loyalty in the metaverse: The role of immersive tourism experience and cognitive perceptions. *Tourism Review*, *79*(2), 321–336, doi: https://doi.org/10.1108/TR-11-2022-0552.

Jain, A. (2023). How much does it cost to develop a metaverse in 2024?. doi: https://doi.org/10.1177/10963480231205767, Retrieved from https://oyelabs.com/cost-to-develop-a-metaverse/ (accessed 17 December 2023).

Jauhiainen, J. S., Krohn, C., & Junnila, J. (2023). "Metaverse and sustainability: Systematic review of scientific publications until 2022 and Beyond. *Sustainability*, *15*(1), 346, doi: https://doi.org/10.3390/su15010346.

Jeon, J., & Jung, S. K. (2021). Exploring the educational applicability of Metaverse-based platforms., 학술대회논문집, 한국정보교육학회, pp. 361–368.

Jia, S. (Jasper), Chi, O. H., Martinez, S. D., & Lu, L. (2023). When 'old' meets 'new': Unlocking the future of innovative technology implementation in heritage tourism. *Journal of Hospitality & Tourism Research*, 10963480231205767, doi: https://doi.org/10.1177/10963480231205767.

Jobe, P. S., Yilmaz, M., Tüfekci, A., & Clarke, P. M. (2023). Exploring Metaverse-based digital governance of Gambia: Obstacles, citizen perspectives, and key factors for success. In M. Yilmaz, P. Clarke, A. Riel, & R. Messnarz (Eds), *Systems, software and services process improvement* (Vol. 1890), Cham: Springer. EuroSPI 2023. Communications in Computer and Information Science, doi: https://doi.org/10.1007/978-3-031-42307-9_6.

Kahai, S. S., Carroll, E., & Jestice, R. (2007). Team collaboration in virtual worlds. *ACM SIGMIS Database: The DATABASE for Advances in Information Systems*, *38*(4), 61–68, doi: https://doi.org/10.1145/1314234.1314246.

Kerdvibulvech, C. (2022). Exploring the impacts of COVID-19 on digital and metaverse games. *International conference on human-computer interaction*, *Cham*, Springer International Publishing, pp. 561–565, doi: https://doi.org/10.1007/978-3-031-06391-6_69

Khalaj, O., Jamshidi, M., Hassas, P., Mašek, B., Štadler, C., & Svoboda, J. (2023). Digital twinning of a magnetic forging holder to enhance productivity for industry 4.0 and metaverse. *Processes*, *11*(6), 1703, doi: https://doi.org/10.3390/pr11061703.

Kim, J. (2021). Advertising in the metaverse: Research agenda. *Journal of Interactive Advertising*, *21*(3), 141–144, doi: https://doi.org/10.1080/15252019.2021.2001273.

Koo, C., Kwon, J., Chung, N., & Kim, J. (2023). Metaverse tourism: Conceptual framework and research propositions. *Current Issues in Tourism*, *26*(20), 3268–3274, doi: https://doi.org/10.1080/13683500.2022.2122781.

Kuru, K. (2023). MetaOmniCity: Towards immersive urban metaverse cyberspaces using smart city digital twins. *IEEE Access*, *11*, 43844–43868, doi: https://doi.org/10.1109/ACCESS.2023.3272890.

Lamba, S. S., & Malik, R. (2022). Into the metaverse: Marketing to gen Z consumers. *Applying metalytics to measure customer experience in the metaverse*, pp. 92–98. India: IGI Global.

Lee, Y. C., Nguyen, M. N., & Yang, Q. (2023). Factors influencing Vietnamese generation MZ's adoption of metaverse platforms. *Sustainability*, *15*(20), 14940, doi: https://doi.org/10.3390/su152014940.

Liang, J., Fan, S., Jiang, M., Zhang, X., & Qi, Z. (2023a). How to promote consumption in city metaverse? Research on XR experience design and consumer behavior of commercial streets. In D., De Sainz Molestina, L., Galluzzo, F., Rizzo, & D., Spallazzo (Eds), *IASDR 2023: Life-Changing Design*, October, Milan, Italy, pp. 9–13, doi: https://doi.org/10.21606/iasdr.2023.103

Liang, H., Li, J., Wang, Y., Pan, J., Zhang, Y., & Dong, X. (2023b). Metaverse virtual social center for the elderly communication during the social distancing. *Virtual Reality & Intelligent Hardware*, *5*(1), 68–80, doi: https://doi.org/10.1016/j.vrih.2022.07.007.

Liu, Y., Li, H., & Hu, F. (2013). Website attributes in urging online impulse purchase: An empirical investigation on consumer perceptions. *Decision Support Systems*, *55*(3), 829–837, doi: https://doi.org/10.1016/j.dss.2013.04.001.

Liu, X., Xu, M., & Zhou, H. (2022). Analyzing the Spatio-Temporal distribution and network structure of ecotourism flow in Zhangjiajie. *Sustainability*, *14*(5), 2496, doi: https://doi.org/10.3390/su14052496.

Lv, Z., Wen-Long, S., & Mohsen, G. (2022). Impact of digital twins and metaverse on cities: History, current situation, and application perspectives. *Applied Sciences*, *12*(24), 12820, doi: https://doi.org/10.3390/app122412820.

Maxim, C. (2017). Challenges faced by world tourism cities – London's perspective. *Current Issues in Tourism*, *22*(9), 1965–1977, doi: https://doi.org/10.1080/13683500.2017.1347609.

Maxim, C., Morrison, A. M., Day, J., & Coca-Stefaniak, J. A. (2023). Handbook on sustainable urban tourism. *Research handbooks in tourism series*, London: Edward Elgar Publishing.

Meta (2022). Economic opportunities in the metaverse: A policy approach. Retrieved from https://about.fb.com/wp-content/uploads/2022/12/Economic-Opportunities-in-the-Metaverse_-A-Policy-Approach.pdf (accessed 12 December 2023).

Mihalic, T. (2024). Metaversal sustainability: Conceptualisation within the sustainable tourism paradigm. *Tourism Review*, doi: https://doi.org/10.1108/TR-09-2023-0609.

Monaco, S. (2021). *Tourism, safety, and COVID-19: Security, digitization, and tourist behaviour*, Abingdon: Routledge.

Monaco, S., & Sacchi, G. (2023). Travelling the metaverse: Potential benefits and main challenges for tourism sectors and research applications. *Sustainability*, *15*(4), 3348, doi: https://doi.org/10.3390/su15043348.

Morrison, A. M., & Coca-Stefaniak, J. A. (2020). *Routledge handbook of tourism cities*, London: Routledge.

Morrison, A. M., & Maxim, C. (2021). *World tourism cities: a systematic approach to urban tourism*, London: Routledge.

Nadarasa, A. (2024). Social prescribing in the metaverse: A new frontier for primary care practice. *Global Health Journal*, doi: https://doi.org/10.1016/j.glohj.2024.02.006.

Nguyen, T. N. (2022). Toward human digital twins for cybersecurity simulations on the metaverse: Ontological and network science approach. *JMIRx Med*, *3*(2), e33502, doi: https://doi.org/10.2196/33502.

Özdemir, U. G., & Şahin, S. Z. (2023). How does metaverse affect the tourism industry? Current practices and future forecasts. *Current Issues in Tourism*, *7*, 1–15, doi: https://doi.org/10.1080/13683500.2023.2238111.

Polona, C., André, M., & Maria, N. (2022). Metaverse: Opportunities, risks, and policy implications, EPRS: European parliamentary research service. Belgium. Retrieved from https://policycommons.net/artifacts/2476871/metaverse/3498933/

Prados-Castillo, J. F., Torrecilla-García, J. A., & Liébana-Cabanillas, F. (2024). Metaverse as a booster of tourism transformation towards virtual management strategies. *Tourism Review*, doi: https://doi.org/10.1108/TR-10-2023-0750.

Radanliev, P., De Roure, D., Novitzky, P., & Sluganovic, I. (2023). Accessibility and inclusiveness of new information and communication technologies for disabled users and content creators in the metaverse. *Disability and Rehabilitation: Assistive Technology*, *2*, 1–15, doi: https://doi.org/10.1080/17483107.2023.2241882.

Rivera, D. (2023). 16 Impulse buying statistics retailers should know. Retrieved from https://fitsmallbusiness.com/impulse-buying-statistics/ (accessed 17 December 2023).

Saharan, S., Singh, S., Bhandari, A. K., & Yadav, B. (2024). The future of Cyber-Crimes and cyber war in the metaverse. *Forecasting cyber crimes in the age of the metaverse* (pp. 126–148), Dubai: IGI Global.

Sekure, V. (2023). Virtual avatars and real opportunities: How the metaverse is changing the way we work and play. Retrieved from www.linkedin.com/pulse/virtual-avatars-real-opportunities-how-metaverse-changing-sekuru/ (accessed 3 December 2023).

Suanpang, P., Niamsorn, C., Pothipassa, P., Chunhapataragul, T., Netwong, T., & Jermsittiparsert, K. (2022). Extensible metaverse implication for a smart tourism city. *Sustainability*, *14*(21), 14027, doi: https://doi.org/10.3390/su142114027.

Tan, G. W. H., Aw, E. C. X., Cham, T. H., Ooi, K. B., Dwivedi, Y. K., Alalwan, A. A., Balakrishnan, J., Chan, H. K., Hew, J. J., Hughes, L., Jain, V., Lee, V. H., Lin, B., Rana, N. P., & Tan, T. M. (2023). Metaverse in marketing and logistics: The state of the art and the path forward. *Asia Pacific Journal of Marketing and Logistics*, *35*(12), 2932–2946, doi: https://doi.org/10.1108/APJML-01-2023-0078.

Thapa, P. (2023). Metaverse and tourism industry: A conceptual proposition. In R., El Khoury, & B. Alareeni (Eds), *How the metaverse will reshape business and sustainability. Contributions to environmental sciences & innovative business technology*, Singapore: Springer, doi: https://doi.org/10.1007/978-981-99-5126-0_12.

Tsai, S. (2022). Investigating metaverse marketing for travel and tourism. *Journal of Vacation Marketing*, *28*(4), 1–21, doi: https://doi.org/10.1177/13567667221145715.

Um, T., Kim, H., Kim, H., Lee, J., Koo, C., & Chung, N. (2022). Travel Incheon as a metaverse: Smart tourism cities development case in Korea. In L., Stienmetz, B., Ferrer-Rosell, & D., Massimo (Eds), *Information and communication technologies in tourism 2022: ENTER 2022* (pp. 226–231), Cham: Springer, doi: https://doi.org/10.1007/978-3-030-94751-4_20.

UNWTO (2020). UNWTO tourism highlights 2020 edition. Retrieved from www.e-unwto.org/doi/pdf/10.18111/9789284422456 (accessed 30 December 2023).

Vlăduțescu, Ș., & Stănescu, G. C. (2023). Environmental sustainability of metaverse: Perspectives from Romanian developers. *Sustainability*, *15*(15), 11704, doi: https://doi.org/10.3390/su151511704.

Volchek, K., & Brysch, A. (2023). Metaverse and tourism: From a new niche to a transformation. In B., Ferrer-Rosell, D., Massimo, & K., Berezina (Eds), *Information and communication technologies in tourism 2023. ENTER 2023. Springer proceedings in business and economics*, Cham: Springer, doi: https://doi.org/10.1007/978-3-031-25752-0_32.

Wasi, M. S. (2023). "Sonification of the Scene in the Image Environment and Metaverse Using Natural Language", Doctoral dissertation, Virginia Tech.

WEF (2023a). These 3 cities already have their own metaverse. Retrieved from https://www.weforum.org/agenda/2023/11/metaverse-digital-cities-urban/ (accessed 25 December 2023).

WEF (2023b). Interoperability in the metaverse. Retrieved from www3.weforum.org/docs/WEF_Interoperability_in_the_Metaverse.pdf (accessed 3 February 2024).

Weise, K. (2021). Amazon's profit soars 220 percent as pandemic drives shopping online. Retrieved from www.nytimes.com/2021/04/29/technology/amazons-profits-triple.html (accessed 29 December 2023).

Wray, S. (2022). Seoul invests in the metaverse, AI and more. Retrieved from www.itu.int/hub/2022/02/seoul-metaverse-digital-transformation-ai-blockchain/ (accessed 1 January 2024).

Wu, L., Chen, K. W., & Chiu, M. L. (2016). Defining key drivers of online impulse purchasing: A perspective of both impulse shoppers and system users. *International Journal of Information Management*, *36*(3), 284–296, doi: https://doi.org/10.1016/j.ijinfomgt.2015.11.015.

Yang, L. (2023). Recommendations for metaverse governance based on technical standards. *Humanities and Social Sciences Communications*, *10*(1), 253, doi: https://doi.org/10.1057/s41599-023-01750-7.

Yaqoob, I., Salah, K., Jayaraman, R., & Omar, M. (2023). Metaverse applications in smart cities: Enabling technologies, opportunities, challenges, and future directions. *Internet of Things*, Vol. *23*, 100884, doi: https://doi.org/10.1016/j.iot.2023.100884.

Yoo, K., Welden, R., Hewett, K., & Haenlein, M. (2023). The merchants of meta: A research agenda to understand the future of retailing in the metaverse. *Journal of Retailing*, *99*(2), 173–192, doi: https://doi.org/10.1016/j.jretai.2023.02.002.

Yun, Y. (2023). China's Nanjing city launches state-backed metaverse entity". Retrieved from https://forkast.news/china-launch-metaverse-organization/#:~:text=Nanjing%20City%2C%20the%20provincial%20capital,metaverse%20studies%20throughout%20the%20nation (accessed 14 February 2024).

Zabeu, S. (2023). Siemens invests €1bn in industrial metaverse in Germany. Retrieved from https://network-king.net/siemens-invests-e1bn-in-industrial-metaverse-in-germany/ (accessed 15 February 2024).

Zallio, M., & Clarkson, P. J. (2022). Designing the metaverse: A study on inclusion, diversity, equity, accessibility and safety for digital immersive environments. *Telematics and Informatics*, *75*, 101909, doi: https://doi.org/10.1016/j.tele.2022.101909.

Zaman, U., Koo, I., Abbasi, S., Raza, S. H., & Qureshi, M. G. (2022). Meet your digital twin in space? Profiling international expat's readiness for metaverse space travel, tech-savviness, COVID-19 travel anxiety, and travel fear of missing out. *Sustainability*, *14*(11), 6441, doi: https://doi.org/10.3390/su14116441.

Zambiasi, L. P., Rabelo, R. J., Zambiasi, S. P., & Romero, D. (2023). Metaverse-Based softbot tutors for inclusive industrial workplaces: Supporting impaired operators 5.0. in E., Alfnes, A., Romsdal, J. O., Strandhagen, G., Von Cieminski, & D., Romero (Eds), *Advances in production management systems. Production management systems for responsible manufacturing, service, and logistics futures. APMS 2023. IFIP advances in information and communication technology*, Cham: Springer, doi: https://doi.org/10.1007/978-3-031-43662-8_47.

Zhang, C., & Liu, S. (2023). Meta-energy: When integrated energy internet meets metaverse. *IEEE/CAA Journal of Automatica Sinica*, *10*(3), 580–583, doi: https://doi.org/10.1109/JAS.2023.123492.

Zhang, J., & Quoquab, F. (2023). Metaverse in the urban destinations in China: Some insights for the tourism players. *International Journal of Tourism Cities*, *9*(4), 1016–1024, doi: https://doi.org/10.1108/IJTC-04-2023-0062.

Zhang, J., Quoquab, F., & Mohammad, J. (2023). Metaverse tourism and Gen-Z and Gen-Y's motivation: "will you, or won't you travel virtually?" *Tourism Review*, *79*(2), 304–320, doi: https://doi.org/10.1108/TR-06-2023-0393.

Zhao, L., & Sun, J. (2022). Extended reality metaverse application in cancer radiotherapy: New opportunities and challenges. *Digital Medicine*, *8*(1), 24.

Zhong, L., Xu, Z., Morrison, A. M., Li, Y., & Zhu, M. (2023). Metaverse customer journeys in tourism: Building viable virtual worlds. *Tourism Review*, doi: https://doi.org/10.1108/TR-07-2023-0492.

Further reading

Adidas. (2023). Into the metaverse. Retrieved from www.adidas.co.uk/metaverse (accessed 1 December 2023).

Ante, L., Wazinski, F. P., & Saggu, A. (2023). Digital real estate in the metaverse: An empirical analysis of retail investor motivations. *Finance Research Letters*, *58*, 104299, doi: https://doi.org/10.1016/j.frl.2023.104299.

Bautista, S. P. (2022). City branding and place branding in the metaverse: How real cities build their virtual image and how virtual cities do it. *Fuori Luogo. Rivista Di Sociologia Del Territorio, Turismo, Tecnologia*, *13*(3), 15–32, doi: https://doi.org/10.6093/2723-9608/9200.

Bonales-Daimiel, G. (2023). New formulas of interactive entertainment: From advergaming to metaverse as an advertising strategy. *Handbook of research on the future of advertising and brands in the new entertainment landscape* (pp. 76–103), IGI Global.

Chen, Z., Wu, J., Gan, W., & Qi, Z. (2022). Metaverse security and privacy: An overview. *2022 IEEE International Conference on Big Data (Big Data)*, arXiv, Preprint arXiv:2211.14948, pp. 2950–2959, doi: https://doi.org/10.1109/BigData55660.2022.10021112

Cheng, S. (2023). Metaverse and investing. *Metaverse: Concept, content and context* (pp. 187–205), Cham: Springer Nature Switzerland, doi: https://doi.org/10.1007/978-3-031-24359-2_9.

Evans, L., Frith, J., & Saker, M. (2022). Entertainment worlds, from microverse to metaverse (pp. 65–73), Leeds: Emerald Publishing, doi: https://doi.org/10.1108/978-1-80455-021-220221008.

Florido-Benítez, L. (2022a). International mobile marketing: A satisfactory concept for companies and users in times of pandemic. *Benchmarking: An International Journal*, *29*(6), 1826–1856, doi: https://doi.org/10.1108/BIJ-06-2021-0303.

Florido-Benítez, L. (2022b). The impact of tourism promotion in tourist destinations: A bibliometric study. *International Journal of Tourism Cities*, *8*(4), 844–882, doi: https://doi.org/10.1108/IJTC-09-2021-0191.

Huang, Y., Li, Y. J., & Cai, Z. (2023). Security and privacy in metaverse: A comprehensive survey. *Big Data Mining and Analytics*, *6*(2), 234–247, doi: https://doi.org/10.26599/BDMA.2022.9020047.

Kulkarni, K., Adithya, V. V., Hitesh, K., & Kumari, N. (2023). Brand management in the metaverse. *The business of the metaverse*, pp. 95–112. New York: Productivity Press.

Marr, B. (2022). The amazing ways Nike is using the metaverse, Web3 and NFTs. Retrieved from www.forbes.com/sites/bernardmarr/2022/06/01/the-amazing-ways-nike-is-using-the-metaverse-web3-and-nfts/?sh=5421a2456e94 (accessed 2 December 2023).

Martins, D., Oliveira, L., & Amaro, A. C. (2022). From co-design to the construction of a metaverse for the promotion of cultural heritage and tourism: The case of Amiais. *Procedia Computer Science*, *204*, 261–266, doi: https://doi.org/10.1016/j.procs.2022.08.031.

Morrison, A. M. (2021). Marketing and managing city tourism destinations. In A. M., Morrison, & J. A., Coco-Stefaniak (Eds), *Routledge handbook of tourism cities* (1st ed., pp. 135–161), New York, NY: Routledge.

Wongkitrungrueng, A., & Suprawan, L. (2023). Metaverse meets branding: Examining consumer responses to immersive brand experiences. *International Journal of Human–Computer Interaction*, *4*, 1–20, doi: https://doi.org/10.1080/10447318.2023.2175162.

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