Jomat

Journal of multidisciplinary academic tourism
2023, 8 (2): 193-202
https://doi.org/10.31822/jomat.2023-8-2-193

ISSN: 2645-9078

Metaverse as fusion of B2C &G2C: A new business model for tourism

Mune Moğol Sever

Keywords:
Metaverse,
B2B,
G2C,
Tourism,
Glamping.

Article History:
Submitted: 21.02.2023
Revised:10.05.2023
Revised:13.07.2022
Accepted: 14.07.2023
Published Online: 14.07.2023

ABSTRACT

The Metaverse, a buzzword after last pandemic, is accepted as a functional tool enable for multi sided platforms in a single phygital world. The key contributions of this article include an organized evaluation of metaverse concepts, components, main facilitator technologies and implementation in tourism and a critical analysis of how metaverse can be facilitated in tourism including designing a new metaverse ecosystem by means of Metaverse as a service (MaaS) platform. In designed metaverse, it is aimed to merge two business models B2C &G2C to construct a new hybrid business model B2CG2Ccamping, glamping activities. In order to concrete the designed metaverse, two scenarios were generated by means of scenario-based approach. The metaverse designed by means of Spatial.io on a desktop computer with a 512 GB capacity with processor 11th Gen Intel(R) Core (TM) i9-11950H @ 2.60GHz 2.61 GHz, 16.0 GB RAM, 64-bit -Windows 10 Enterprises. Results show that designed metaverse is applicable for tourism activities such as glamping as a case on this study. Besides, the designed ecosystem approved the two business models can be merged in a one platform: Metaverse.

1. Introduction

The idea behind transferring the physical world to the virtual one is an emerging new reality after so - called Corona-19 pandemic. The buzzword "metaverse", as a facilitator of socializing and doing business at the same time in the same ecosystem, can be described as a fusion of cyber-physical systems: phygital universe!

Metaverse provides a convenient ecosystem for managing and doing business; in manufacturing, for patients and medical operations remotely, without man via avatars, as a digital identity in metaverse, in an immersive ecosystem.

The developing technologies up to now make the readiness and facilitate the digital transformation for example 3Ds.

As resembled and used firstly in Snow Crash, a novel by Neal Stepheson in 1992, metaverse defines as a universe apart from and different environment than augmented reality (Zenou, 2022). It defines a virtual environment that is constructed by 3D objects (Amorim et al., 2014). Metaverse makes the process more interactive than ever was done via 2 dimensions (2D) internet. It also creates a more social ecosystem than 2D internet. Mixing socializing with interactivity, ecosystem becomes Cyber Physical Social Systems (CPSSs). It is not a utopia shopping via your avatar in the metaverse while talking with your friends than going to your office in metaverse and doing business at the same time in the same ecosystem.

Besides 3D objects, there are some facilitator technologies for metaverse such as mirror worlds, lifelogging, virtual environments, augmented reality, extended.

The Mirror world can be described as a digital definition of physical world. A Mirror world is an open, interactive space to create a big project (Ricci et al., 2015). In other words, it is the extension of physical world by means of objects in the virtual world.

Another facilitator to transform into a digital world is Lifelogging. It is basically, the cross section of one's life and records for specific purposes. They are mainly the display of daily life that can be recorded via wearable devices, sensors and cameras (Bolaños et al., 2016). By means of those input devices and records one's life transfer to digital platforms.

The main feature of metaverse is constructing a virtual ecosystem by means of relevant technologies such as Virtual Reality (VR). VR is the constructed fictional ecosystem by 3 dimensions (3D) display technologies (Azuma et al., 2001). In VR, places and objects are all virtual. VR is main virtual technology in tourism especially in cultural heritage sites visualizing. VR with 3D objects is enriched the virtual environment to create an immersive and realistic travel experience (Huang et al., 2013).

Another main element of metaverse is AR. Apart from VR, in AR the place is real and objects are 3D (Azuma et al.,

Research paper

Mune Moğol Sever: *Asst. Prof. Dr.„Anadolu Üniversitesi, Eskişehir, Türkiye, Email: mmogol@anadolu.edu.tr, Orcid Id: 0000-0003-4706-5859*

2001). To augmenting the reality, 3D objects are dressed into real displays. Reality perception increase by enriching the environment with3D objects.

In Milgram's virtual reality continuum, virtual and real-world objects were combined under the Mixed Reality (MR. By means of MR and metaverse, virtual objects are trying to integrate with the physical world (Lee et al, 2021).

The last facilitator for metaverse is Extended Reality (XR). Extended Reality (XR) is the umbrella term for VR, AR and MR (Kwok & Koh, 2021). It is the idea of visualizing 3D objects for example as a hologram in a physical environment. XR is an appropriate tool almost in every sector and have being using in medical education and manufacturing already. For example, in medical education, the anatomy of the human body can be visualized as a hologram in class. Another example is mechanical parts of a car or airplane engine can be visualized and designed in the physical place in a factory.

Metaverse is a harmony of all types of realities (VR, AR, MR, XR) and have a great impact on all over the world recently. Depending to studies in China, people spend 57 hours per week on metaverse ecosystem, respectively 34 hours in the USA and 24 hours in Germany. They also spend 304 € in China, 124€ in the USA and 42€ in Germany monthly (Duwe et al., 2022).

Ongoing trends and recent development in internet technology urge enterprises for being in the 3D internet: metaverse. Because of the last pandemic, people were forced to stay at home and work, do shopping, have their medical appointment and if possible treatment also, attend a class at university via internet. Besides, ongoing innovations and challenging technological development increase the intelligence on the phenomenon of digital transformation and also the number of tech - savvy digital natives, as a main actor on metaverse. Remote working & living conditions, as a ruin of last pandemic, change the way of life, working, learning etc., and resulted in an addiction to the colorful and convenient digital world for so many individuals besides, enterprises. In such a closed - loop internet ecosystem, every actor of a physical world has created their echo and replica digitally in a multi - task & compact world: metaverse. This colorful real-artificial world is designed conceptually to shrink the real world provide to survive in real world by doing all activities & jobs in a different dimension or universe ubiquitously and uninterruptible.

The key contribution of this article is an organized evaluation of metaverse concepts, components, main facilitator technologies to show the applicability in tourism industry. The main aim of this study is to show the implementation of metaverse by merging two business models for tourism industries. After a critical analysis, designing a new metaverse ecosystem using of Metaverse as a Service (MaaS) platform is the core of the study. In the designed metaverse, two business models, Business to Customer (B2C) & Government to Citizen (G2C) models, were merged to construct a new hybrid business model B2CG2C in order to make a compact and multi task ecosystem. Scenario based approach will be implemented to concrete the idea. In this context, two scenarios were generated as an example in a constructed metaverse. The metaverse was designed by means of Spatial.io on a desktop computer with a 512 GB capacity with processor 11th Gen Intel(R) Core (TM) i9-11950H @ 2.60GHz 2.61 GHz,

16.0 GB RAM, 64-bit -Windows 10 Enterprises. Results show that designed metaverse is applicable for tourism activities such as glamping activities as a case in this study.

2. Theoretical background: The state of the art

Metaverse as nested digital environment and universes, it is a kind of fusion of so many hypermedia that can work together interoperable by means of web 3.0. It is the hypermedia environment, collections of 3 D objects and a platform consist of different kinds of media such as displays, videos, graphics and also texts.

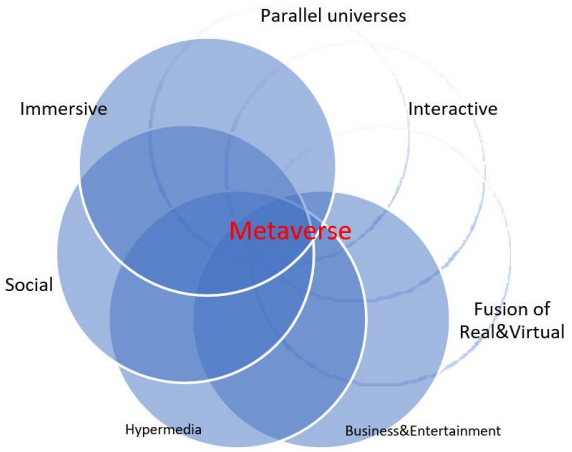

Figure 1: The main characteristics of metaverse
Source: Elaborated by Authors

Metaverse is accepted as parallel universes. In other words, it is a combination of universes. Users can pass through from one to another easily and seamlessly. While working you can walk and do shopping in the metaverse ecosystem by passing from one universe to the other.

As a fusion of real and virtual life, metaverse tries to creates a persistent ecosystem for virtual and real- life continuity as a ubiquitous service for users. Besides its social connection principle, it also creates a sense of presence that is accepted by attracting effect, especially for tourism and hospitality (Gürsoy et al., 2022). To achieve this objective, real life objects are imitated by means of 3D objects, NFTs. A roughly sketch of the real environment appears on metaverse using digital twins. Besides, interactivity is another criterion to create the link between

the real and virtual environment. Also, interactivity increases the immersiveness and time spent on metaverse.

Accepted as a parallel universe, metaverse, is a collection of all kinds of media sounds, texts, videos, etc. Besides, it is possible to add content by the user and within an interactive environment. There is another key technology for metaverse. That is blockchain.

Blockchain is the main infrastructure technology and cryptocurrencies are the main currencies that metaverse ecosystems are using already. By means of blockchain technology data are protected with passwords. To access this password, user needs permission. Besides, any data or process can be deleted or disappeared. Thus, a secure, trusted and transparent system can be designed That is the main aim of metaverse ecosystems: trading, doing business, socializing in a multi sided platform.

Metaverse is known as a combination of virtual universes that you can go through from one to another freely. This means metaverse has a layered structure in which you can go shopping, gaming, do business, socialize, design your assets and sell, trade, etc. while entering this 3D virtual layered platform. There are so many metaverse service providers for different purposes. Some of the metaverse service providers listed in this study only give a service for hiring and selling land while some others give a chance for game, fun and entertainment.

Centralized in Silicon Valley in California Myland is selling land that is the digital copy of real world. They created a digital twin of physical world by means of VR and some other virtual technologies and called it Myland Earth (https://myland.earth/about_us).

They use blockchain technologies as infrastructure and facilitate selling land, office, buildings, shopping mall etc. virtually by cryptocurrencies using a developed custodial wallet. This type of virtual wallet makes the process secure and convenient which is the problem while trading on internet. Second Life, as created by Linden Research in 2003 is the most popular virtual world (Villar, 2022). In Second Life (SL) they promise the user another life apart from real life. They use Linden dollars for shopping on their platform. You can choose and buy an avatar and dress it and use it in SL. Also, you can make money doing business in SL. Another role of second life is make a social interactive place for avatars. By means of avatars, users can interact and socialize in a virtual ecosystem which is aimed at metaverse platforms.

Decentraland is another virtual world owned by its users (decentraland.org/). You can create your virtual world, trade and do your business in your virtual world.

In the beginning, it was known as a game platform Roblox now known as Roblox Metaverse because it consists of 3D virtual environment, the possibility of user interactions, developing your own avatar, ability to use cryptocurrency Robux (roblox.com).

Developed by Marcus Alexej Persson in 2011 Minecraft is the game portal at first glance (Minecraft.net). But looking in detail it is a primitive type of metaverse. Because in this game users can create their own world, characters from blocks, can interact with each other in a 3D virtual environment same as in metaverse. Developed and published in 2017 by Epic Games, Fortnite is another type game- based metaverse (Epicgames.com).

Game platforms are the primitive type of metaverse for creating interactive, social, and immersive environments. Interactivity, social interaction and immersiveness are the main features of metaverse on which it is strongly insisted on.

Besides those service providers, brands, enterprises, sports clubs, etc. are now developing their own metaverse environments to increase their sales, profits, customers and do their business in such a competitive digital ecosystem.

Figure 2: The screenshot from Myland

Source: Elaborated by Authors

In this digital ecosystem, there are also social platforms serving for social shopping. Social shopping process started as users tag the product on the related social platforms (Alaimo & Kallinikos, 2017). Each tag means the demand for the product. For forecasting demand and determining shopping potential social networks and platforms change the way of doing business and it creates a big potential for whom want to make business via virtual platforms such as metaverse.

Doing business and socializing on the same platform such as in metaverse, users should be online and active in a virtual environment. To keep users busy and active in a metaverse, there should be 3D objects and avatars in the ecosystem. Also, cooperation among users can increase interoperability in the system. Besides, some entertainment and fun factors such as gamification make the virtual world immersive and make the increase augment the reality. Thus, interaction levels between users increase time spent in the metaverse (Quintana &Fernández, 2015).

Metaverse is not only limited to small business operations. There are some attempts for metaverse on a city scale as a smart tourism example Incheon Craft is an XR metaverse project for Incheon City in South Korea. It is a local government project in case of reaching smart city goals for Korea. In this project participants designed a digital twin and 3D space of 3.8 million m² in the metaverse (Smart City Korea).

Research revealed that metaverse has already written on so many developed countries such as the USA, Japan, China, South Korea, the United Arab Emirates, in their strategic plans, development plans and also in their action plans. Besides, they have already implemented metaverse in daily life through Amazon, Facebook, Roblox, Epic Games, Disney, Alibaba, Decentraland, Sony, Samsung, Sotheby's etc., for shopping, fun & entertainment, marketing, advertisement (Ning et al., 2021). Acting such as globally by countries shows the directions, future and increasing trends of metaverse in the near future.

The reason behind the metaverse spreading quickly is that it is applicable for almost every area such as online conference, virtual education, digital real estate, medical care, shopping, arts, tourism etc. with the help of blockchain, artificial intelligence and learning algorithms. By means of such technologies data quality increases and integration of data will be quite possible and easy, also smart contracts and NFTs is make the metaverse more secure and applicable technology for almost enterprises and individuals (Gadekallu et al.,2022).

The time that is accelerated in developing NFTs facilitates to enter the metaverse ecosystem quite easily and possible for service industries such as; fun & entertainment, recreation, museums etc. Marriott Hotel is the pioneer in tourism area for participating in metaverse (Weinstein, 2022). In their metaverse, one of the fine art artists designed an NFT that explains the travel experience. The brand has already developed some other NFTs. Although NFTs are emerged a trending topic in the arts today, it possibly will become an actor in business operations in near future.

Metaverse has already been using in business operations in retail and fashion (Bourlakis et al., 2009; Periyasami & Periyasamy, 2022). Scholars claimed that metaverse has a great impact on retailing operations (Bourlakis et al., 2009). They investigate the SL as a retailing example and conclude that the designed metaverse should be overarching and holistic for retailing.

Metaverse as a new business model has the potential to succeed in the healthcare industry. Some platforms are creating an immersive metaverse ecosystem for medical operations, surgical operations, surgical training, patient training, etc. (Choe, 2023). 3D visualization, treatment virtually, virtual rehabilitation and psychotherapy, virtual diagnosis, designing digital twins of hospitals and doing surgical operations virtually that are only some examples are already done and planned to do on metaverse ecosystem (Mozumder et al., 2022).

Governments also want to take a part of this ecosystem and doing investment in this field to facilitate public services becoming online (Barrera & Shah, 2023). It has a deep impact on the private sector, government also wants to transfer their operations and investing related emerging technologies of metaverse. Traffic control, air quality control, noise and temperature monitoring and real time data collecting on a city scale are only some examples of government operations are now being held using IoTs, digital twins and some other metaverse technologies (Geraghty et al., 2022).

Tourism industry including hospitality, travel, food and beverage, and some other related sectors has great potential in metaverse. Also, Metaverse is a double sided 'Damocles Sword' for tourism industry. It has pros and cons for tourism stakeholders. On tourist side, to experience a destination digitally instead of going there is an advantage for those who have not able to go there physically. While looking at business side, tourism enterprises or tourism service providers established in the related destination, metaverse seems to a big loss in touristic expenditure. To change the loss into a yield, need a great effort to generate a new business model. In this metaverse ecosystem, it is suggested to deal with two subjects: multiuser virtual worlds and integrated digital space of social, economic, tourism and political sides (Koo et al., 2022).

Table 1: Metaverse and tourism

Year	Author	Context
2022	Koo et al.	Metaverse & tourism: core technologies, metaverse tourism& experience, tourist profile and multi identification of tourist and metaverse tourism as a new business model
2022	Gürsoy et al.	Dimensions of metaverse experience, metaverse & marketing
2022	Buhalis et al.	Customer Experience in metaverse in three phases before, during and after visit
2023	Buhalis et al.	Pros&cons of metaverse in context of competitiveness, touristic destinations, revolutionize effect on touristic effect on physical destinations in case of marketing and management. Pragmatic role of metaverse such as having information about a destination's pre- trip
2022	Fan et al.	Construction of metaverse for cultural heritage destinations
2022	Zhang et al.	Metaverse and cultural heritages
2022	Abass & Zohry	Hotel guest awareness & acceptance level of metaverse, impact of metaverse to hotel business
2022	Tsai	Experimental approach to determine the actual visiting intentions to specific touristic destinations after metaverse experience
2023	Volchek& Brysch	Literature review of metaverse under four categories: tourist needs, destinations, metaverse ecosystem & escaping with metaverse.
2023	Koohang et al.	Metaverse tourism, hospitality and some other industries in the aspects of opportunity, challenges, potential and research agenda.
2023	Prodinger& Neuhofer	Never ending tourism, metaverse, VR, MR technologies
2022	Suanpang et al	Measuring customer satisfaction after real experience on generated metaverse for a specified touristic destination.
2022	Um et al.	Real based and virtual based metaverse case of a smart city
2022	Go & Kang	Metaverse as a tool decrease Over tourism &human foot print help to reach Sustainable Development Goals (SDGs)
2022	Martins et al.	Implementation of metaverse service providers: second life

Source: Elaborated by Authors

Metaverse studies fall between; designing a metaverse for a cultural destination (Fan et al., 2022; Martins et al., 2022; Zhang et al., 2022), marketing and city branding, smart city (Um et al., 2022; Yoo et al., 2022), hospitality& tourism and hotel business (Abass & Zohry, 2022; Koohang et al., 2023; Martins et al., 2022; Wei, 2022), a tool to help decrease over tourism and sustainability (Go & Kang, 2022), to determine and measure customer preferences, motivations, satisfaction and experience (Buhalis et al., 202; Buhalis et al., 2023; Gürsoy et al., 2022; Koo et al., 2022; Suanpang et al., 2022; Tsai, 2022; Volchek & Brysch, 2023).

As quoted after the restrictions of the last pandemic, business travel has recovered better than leisure travel (Buhalis et al., 2023). It is because people get used to attending leisure activities virtually not physically. But it cannot be concluded that every part of tourism suffered from the metaverse or other virtual world technologies. In other word metaverse cannot accept as a challenge for all types of tourism and all tourism suppliers. It depends on which point of view you are looking to the metaverse. After the last pandemic service industries including, health, education, tourism take an action for being in the metaverse ecosystem, which is a great opportunity for generating revenue as a new business model for all stakeholders.

Tourism and metaverse studies are strictly based on virtual technologies like VR, and AR and there are examples on the creation of digital twins and also smart cities in the case of smart tourism. However, the theoretical background of metaverse and tourism are based on customer experience, technology acceptance, and visitors' intentions, yet literature reveals that so far, no study was designed to create a metaverse ecosystem for tourism industry.

The rule of the physical world has already been changed with the cyclone of metaverse. However, metaverse has great potential in business operations, new business model creations, etc. in all industries with tourism being no exception. Therefore, structuring the metaverse, designing and deciding the contents, and rethinking the concept as a new business model is still a gap that needs to be filled in tourism studies

3. Materials and Methods

This is a conceptual study. Hence, no sampling methodology was utilized due to the aim of the study is not to measure nor testify a variable but overlay a fact that metaverse ecosystem if neatly constructed would be beneficial for the tourism sector. Camping and glamping (glamorous camping), for touristic purposes is an increasingly trending topic after so called, corona pandemic (Craig, 2020). Thus, the study is based on designing a metaverse ecosystem for B2CG2C as a fusion of B2C &G2C business models for camping and glamping purposes conceptually using Spatial.io which is one of the popular Metaverse as a Service (MaaS) platforms. The designed metaverse ecosystem by the researcher consists of four parts. Besides, since two business models are melted in one pot, in the designed metaverse ecosystem for the study, there exist two scenarios to explain how the metaverse is serving as a new hybrid business model.

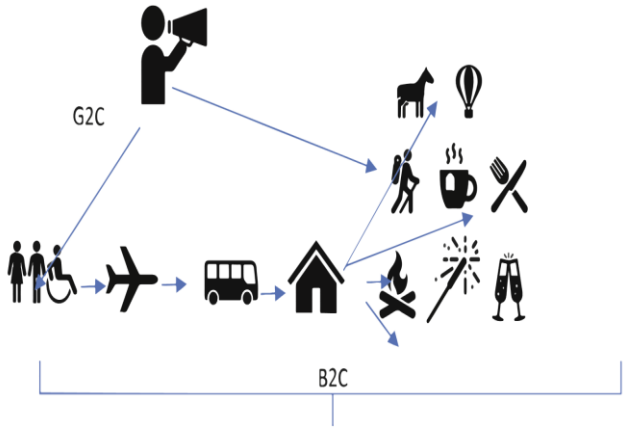

Figure 3: The general Framework of the designed metaverse
Source: Elaborated by Authors

Two business models are subjected to this study as B2B and G2C. In B2B part of the metaverse that is subjected to this study, there are touristic facilities to serve visitors in glamping area. These facilities fall between travel and transportation, hotels, and food & beverage facilities. Moreover, the designed metaverse consists of another universe for government announcement and informing the visitors as a G2C business model. Both B2B and G2C models were combined in one platform. So, the problem statement in this study is:

Can metaverse ecosystem be designed as a fusion of two business models B2B & G2C for glamping? The aim of the study to design a metaverse ecosystem for hybrid business model by means of a scenario- based approach. Scenario based method is firstly represented by Henry Kahn in 1940 as an applicable and strategically futuristic planning tool to have an idea about prospective results for a phenomenon (Horwath, 2006).

In scenario-based approaches real case examples and cases are used to enhance the active learning environment (Erol et al., 2016). This makes the ecosystem more realistic and immersive. In this way, the designed models will be more realistic and understandable.

Scenario based approaches help business to plan for the future and create a business model within the prospected parameters (Ahmad, 2018). When the business makes the strategic planning and takes the position, they are almost ready for real conditions and enable to compete in the market.

Two scenarios were given in this study aimed to make the metaverse phenomenon more tangible and concrete for the tourism industry. Generated scenarios for two business models B2C and G2C are explained respectively in Table 2.

Table 2: Metaverse scenarios for each business models.

Business Model	Scenarios
B2C	Scenario 1. Glamping consists so many activities and related with so many operations such as accommodations, food & drink, entertainment, etc. Study is limited with accommodation, food & drink, entertainment activities. Visitors want to have a rest in designed accommodation facility, after they walk, hunt, eat and drink something. This layer of the metaverse give them a chance to make all those activities by means of designed new B2C metaverse ecosystem.
G2C	Scenario 2. Government warn and inform the citizens about protecting environment while doing glamping activities. They use government announcement layer for this purpose.

Source: Elaborated by Authors

Data subjected to the B2C layer is based on any touristic necessities such as accommodation, food& beverage. Since glamping is an epicenter for this study, a unique camping area was designed. Besides, the camping area is designed to allow overlays and trespasses between Government to Citizen (G2C) layer. The metaverse constructed in this study has four layers. Users can pass through from one layer to another. In the first layer tourist appears in the camping area. In this part of the metaverse visitor should choose the hotel for their holiday. After the visitor goes through to the hotel from the glamping area, the first scenario will step in. Visitors can walk, hunt, ride a horse, eat and drink in the places designed on metaverse as explained in the first scenario as a B2C model. As explained in the second scenario as a G2C model, the authorities want to warn about protecting the environment while camping in a selected destination. As explained on Table 2 the two business models and related scenarios are all independent universes and can accept as a layer of the designed metaverse.

The metaverse is designed using Spatial on a desktop computer with a 512 GB capacity with processor 11th Gen Intel(R) Core (TM) i9-11950H @ 2.60GHz 2.61 GHz, 16.0 GB RAM, 64-bit -Windows 10 Enterprises.

4. Results

The Metaverse ecosystem designed in this study is a combination of different universes. Users can pass from universe to universe. It facilitates to construct a hybrid model for different business models. The Metaverse subjected to this study is illustrated on Figure 4.

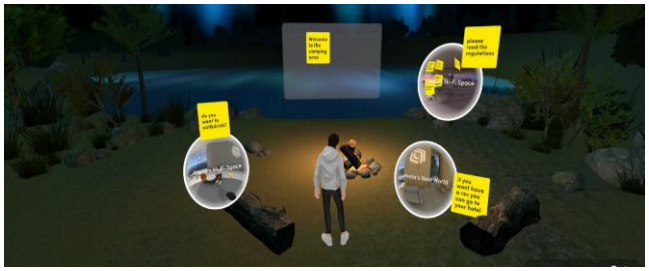

Figure 4: The designed metaverse ecosystem
Source: Elaborated by Authors

The constructed metaverse consists of four different universes. Figure 4 displays the general framework of the metaverse. It is the main entrance of the metaverse. In Figure 4 visitors arrived at the designed camping area. In this layer there are three entrances for independent universes. Users can enter those universes by double clicking on the bubble. In another word, each bubble means an entrance to different universes. Although it is the entry for other universes, it is also the first universe where the user can arrive have a rest, set fire and plan glamping and do some other activities. It means the first layer has a function other than being an entrance to the other universes in the designed metaverse.

Figure 5: The hotel on the metaverse
Source: Elaborated by Authors

The other universe is designed for accommodation. If the visitor wants to have a rest they can just go to their hotel by double clicking on the bubble at the right corner in Figure 5. The print screen of the designed hotel showed on Figure 6. Users can see the hotel room with a 360 degree by clicking the link: https://www.spatial.io/s/metas-Next-World-63a2e2168d0e320001347b04?share=5689580318236612434.

Figure 6: The food & drink facility on metaverse
Source: Elaborated by Authors

If the visitor wants to pass through the food & beverage facility they do it by double clicking on the bubble at the left corner (https://www.spatial.io/s/metas-Hi-Fi-Space-63a2e2df8d0e320001347b0b?share=6469500126889583450). They can have a rest, eat and drink something and pass through either to a hotel, camping area or designed other universes. This part of the metaverse is a model for B2C. Accommodation, food and beverage facilities are revenue generating platforms for selling products, services, NFTs etc. in this designed metaverse with any cryptocurrencies. Entering a hotel or food & beverage facilities and getting any services will be charged to a user. It depends on the rules determined by service providers. This part of the metaverse is proposed as a B2C model.

Users can enter the metaverse through the link given above by their avatars. So that, avatars can take a tour inside the designated area in the metaverse. Avatars can communicate with each other, interact, socialize, eat and drink while doing meetings etc.

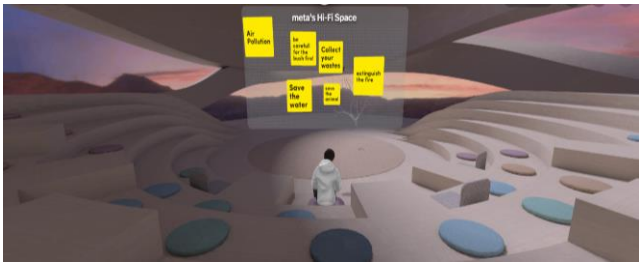

Figure 7: The digital government layer for announcing rules and regulations
Source: Elaborated by Authors

The screenshot of the digital government is shown in Figure 7. In this part of the metaverse government wants to inform the visitor about the rules and regulations on glamping areas such as saving water, collecting wastes, informing about bush fire, etc. Here is the link to enter and test the government universe:

https://www.spatial.io/s/metas-Hi-Fi-Space-6391960d0c56c5000134a279?share=7141453698716071276. By clicking this link users can log in with their avatar and see the designed ecosystem and take part in this universe. This part of the universe was designed as a G2C business model and the scenario was explained in Table 2 in this study. The user can enter this universe in the designed metaverse using an avatar and to listen the conference and read the regulations on a meeting room.

In designed digital government universe, there were no bureaucratic methods and waste of time that were faced in the physical world. While doing any other work in metaverse, visitors or users of the system just can enter digital government universe and listen, read, inform about the latest announcement, updates, and regulations declared by government.

The metaverse that has been created for the study has parallel universes that visitors can cross from one to the

other. Moreover, all the universes in this study can be accepted as a platform for mentioned tourism stakeholders and also for governments.

5. Conclusion

Metaverse makes the process more interactive than ever was done via 2 dimensions (2D) internet. It creates a multi-dimensional, interactive cyber-physical space for users and businesses who are willing to transform their operations into a digital ecosystem. This paper seeks to opens a theoretical discussion for the applicability of metaverse for tourism stakeholders. Besides, with two scenarios in this paper, it is also aimed to show the implementation of metaverse for practitioners.

Metaverse enables to create a multi side by crossing from one universe to the other. Multi sides of business can be melted in one pot and designed ecosystem enables one to do business from peer to peer. This can make it possible to use more than one business model in one ecosystem. Designed metaverse in this study is make it feasible to combine B2C and G2C business models in a one platform. Although the study is based on the business side, the study has also an impact on relations between society and government.

The scope of the Metaverse for previous literature fall between visiting virtually cultural heritage, measuring awareness and customer experience, expectation and satisfaction, etc. designing a metaverse for a cultural destinations (Fan et al., 2022; Martins et al., 2022; Zhang et al., 2022;), marketing and a city branding & smart city (Um et al., 2022; Yoo et al., 2022), hospitality & tourism and hotel business (Wei, 2022), a tool to help decrease over tourism and sustainability (Go & Kang, 2022), to determine and measure customer preferences, motivations, satisfaction and experience (Buhalis et al., 2023; Gürsoy et al., 2022; Volchek & Brysch, 2023). Accepting all, this paper has implications for practitioners to use metaverse as a business model and maybe an extend for business operations as a new digital tool.

In this study the novel approach was followed to develop a parallel universe for different types of business models. Eventually, the most prominent outcome of this study is designing a metaverse for so many stakeholders of tourism.

The Study adds value on:

•Tourism literature on designing a unique metaverse. It is the first study on designing a metaverse for tourism.

•To show the feasibility to merge two business models in one ecosystem, in metaverse.

•Concretize the metaverse phenomenon for tourism industry by means of a scenario-based approach as a practical implication of the study.

6. Discussion and Implications for Future Studies

Metaverse known as uninterrupted internet. However, people do have not an equal chance to reach internet at high speed and from every place. Reaching the aim of "make business via metaverse "is utopic under this condition. First of all, non-stop and high-speed internet should provide for everybody. Besides, the awareness of IT technologies, coding, content creation and internet literacy should be increased. The users who have those abilities will a have chance to become a pioneer.

Metaverse ecosystems create big data because of the multi user, interactive and 3D properties. Besides, data created by means of internet of everything and everyone is huge to manage and control. Storage capacity and computing ability of cloud & servers are other criteria for the widespread of the metaverse. Data analytics and analysis of data should be put on the agenda.

Cyberbullying on social media is becoming again a hot topic after metaverse phenomenon. Abnormal user behavior, abusing or creating so many accounts for one user and deleting accounts in a very short time after creating etc. can be considered as a problematic face of the metaverse. Besides, the lack of norms and regulations is another drawback of metaverse. Now metaverse is seen as a free land to play on freely. After entering and spending time on metaverse by so many users, the aforementioned rules and regulations should be on the agenda for the government side to regulate and control user content, cyberbullying and abnormal behavior in this ecosystem.

Users can also use glasses, HMDs and some other input devices to enter a metaverse. After spending so much times in the metaverse, returning to the physical world can cause some problems. Sociopathy and anti-social behavior, alienation from the physical world, not to delight in the physical world is another face of the medallion.

The Tangibility of services is also another issue to consider on metaverse feasibility in tourism. To enhance the existing reality, the services in metaverse are expected to be designed to carefully make the ecosystem more tangible and concrete. The metaverses can enrich with developing technologies that they appeal to the human senses. The evolving technologies would require time to be seamless. Even so, the cost and accessibility of such technologies would remain an issue for some time. If equipped with sensual technologies new studies would certainly reveal more reliable results. Such technologies would make the ecosystem more powerful and revenues generating. Individual experiences are one of the main pillars of metaverse. As explained above such experiences can certainly be enriched with the help of utilizing sensual technologies. Due to the limitations stated above, this study lacks such a component. Future studies, if researchers acquired the necessary funds should be based on the use of more such technologies.

By its nature, there are bundles of operations in service facilities. Accordingly, the study should handle the subject from a limited point of view. The study is limited to two business models and a few tourism stakeholders. The study can be extended with different cases by giving a role to other tourism partners. Apparently, a similar approach can be followed for any other touristic or recreational activities. Besides, operational areas of touristic facilities can be considered and researchers can follow the same steps to develop a convenient and efficient digital ecosystem

References

Abass, M. N., & Zohry, M. A. F. (2022). Mixed Reality Drama Towards Metaverse Technology in Smart Hotels: An Exploratory Study on Egyptian Hotels Evidence from Guests' Perspectives. Journal of Association of Arab Universities for Tourism and Hospitality, 23(2), 130-154. https://doi.org/10.21608/JAAUTH.2022.177500.1411

Ahmad, T. (2020). Scenario based approach to re-imagining future of higher education which prepares students for the future of work. Higher Education, Skills and Work-Based Learning, 10(1), 217-238. https://doi.org/10.1108/HESWBL-12-2018-0136

Alaimo, C., & Kallinikos, J. (2017). Computing the everyday: Social media as data platforms. The Information Society, 33(4), 175-191. https://doi.org/10.1080/01972243.2017.1318327

Amorim, T., Tapparo, L., Marranghello, N., Silva, A. C., & Pereira, A. S. (2014). A multiple intelligences theory-based 3D virtual lab environment for digital systems teaching. Procedia Computer Science, 29, 1413-1422. https://doi.org/10.1016/j.procs.2014.05.128

Azuma, R., Baillot, Y., Behringer, R., Feiner, S., Julier, S., & MacIntyre, B. (2001). Recent advances in augmented reality. IEEE Computer Graphics and Applications, 21(6), 34-47. https://doi.org/10.1109/38.963459

Barrera, K. G., & Shah, D. (2023). Marketing in the Metaverse: Conceptual understanding, framework, and research agenda. Journal of Business Research, 155, 113420. https://doi.org/10.1016/j.jbusres.2022.113420

Bolaños, M., Dimiccoli, M., & Radeva, P. (2016). Toward storytelling from visual lifelogging: An overview. IEEE Transactions on Human-Machine Systems, 47(1), 77-90. https://doi.org/10.1109/THMS.2016.2616296Bourlakis, M., Papagiannidis, S., & Li, F. (2009). Retail spatial evolution: paving the way from traditional to metaverse retailing. Electronic Commerce Research, 9(1), 135-148. https://doi.org/10.1007/s10660-009-9030-8

Buhalis, D., Leung, D., & Lin, M. (2023). Metaverse as a disruptive technology revolutionising tourism management and marketing. Tourism Management, 97, 104724. https://doi.org/10.1007/s10660-009-9030-8

Buhalis, D., Lin, M. S., & Leung, D. (2023). Metaverse as a driver for customer experience and value co- creation: implications for hospitality and tourism management and marketing. International Journal of Contemporary Hospitality Management, 35, (2), 701 - 716. https://doi.org/10.1108/IJCHM-05-2022-0631

Choe, A. (2023). Revolutionary XR Surgery & Latin America's Premier Training Center to Transform Global Healthcare Landscape. Retrieved July 12, 2020 from https://www.einpresswire.com/article/629486395/revolutionary-xr-surgery-latin-america-s-premier-training-center-to-transform-global-healthcare-landscape.

Craig, C. A. (2020). Camping, glamping, and coronavirus in the United States. Annals of Tourism Research. 89, 103071. https://doi.org/10.1016/j.annals.2020.103071.

Decentraland. https://decentraland.org/ 01.10.2022

Duwe, D., Busch, M., & Weissenberger-Eibl, M. (2022). Enabling the metaverse-whitepaper on international user preferences, business models and innovation processes in the metaverse. Karlsruhe: Fraunhofer Institute for Systems and Innovation Research ISI, doi:10.24406/publica-220. doi:10.24406/publica-220

Erol, S., Jäger, A., Hold, P., Ott, K., & Sihn, W. (2016). Tangible Industry 4.0: a scenario-based approach to learning for the future of production. Procedia CiRp, 54, 13-18. https://doi.org/10.1016/j.procir.2016.03.162

Fan, Z., Chen, C., & Huang, H. (2022). Immersive cultural heritage digital documentation and information service for historical figure metaverse: a case of Zhu Xi, Song Dynasty, China. Heritage Science, 10(1), 148. https://doi.org/10.1186/s40494-022-00749-8

Fortnite. www.epicgames.com, Retrieved November 8, 2022.

Gadekallu, T. R., Huynh-The, T., Wang, W., Yenduri, G., Ranaweera, P., Pham, Q. V., Costa, D.B.& Liyanage, M. (2022). Blockchain for the Metaverse: A Review. https://doi.org/10.48550/arXiv.2203.09738

Geraghty, L., Lee, T., Glickman, J., & Rainwater, B. (2022, April 22). Cities and the metaverse. National League of Cities, Centre for City Solutions. https://www.nlc.org/wp-content/uploads/2022/04/ CS-Cities-and- the-Metaverse_v4-Final-1.pdf

Go, H., & Kang, M. (2022). Metaverse tourism for sustainable tourism development: tourism agenda 2030. Tourism Review, (ahead-of-print). https://doi.org/10.1108/TR-02-2022-0102

Gürsoy, 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, 1-8. https://doi.org/10.1080/19368623.2022.2072504

Horwath, R. (2006, January 7). Scenario planning: no crystal ball required. 2020-07-10 https://www. strategy skills. com/Articles/Documents/ST-Scenario Planning. pdf.

Huang, Y. C., Backman, S. J., Backman, K. F., & Moore, D. (2013). Exploring user acceptance of 3D virtual worlds in travel and tourism marketing. Tourism Management, 36, 490-501. https://doi.org/10.1016/j.tourman.2012.09.009

Smart City Korea (2021, January 24). Incheon City to establish its status as a 'global smart city'. . Retrieved October 11, 2022 from https://smartcity.go.kr/en/

Koo, C., Kwon, J., Chung, N., & Kim, J. (2022). Metaverse tourism: conceptual framework and research

propositions. Current Issues in Tourism, 1-7. https://doi.org/10.1080/13683500.2022.2122781

Koohang, A., Nord, J., Ooi, K., Tan, G., Al-Emran, M., Aw, E., ... & Wong, L. (2023). Shaping the metaverse into reality: multidisciplinary perspectives on opportunities, challenges, and future research. Journal of Computer Information Systems. https://doi.org/10.1080/08874417.2023.2165197

Kwok, A. O., & Koh, S. G. (2021). COVID-19 and extended reality (XR). Current Issues in Tourism, 24(14), 1935-1940 https://doi.org/10.1080/13683500.2020.1798896.

Lee, L. H., Braud, T., Zhou, P., Wang, L., Xu, D., Lin, Z., ... & Hui, P. (2021). All one needs to know about metaverse: A complete survey on technological singularity, virtual ecosystem, and research agenda. https://doi.org/10.48550/arXiv.2110.05352

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. https://doi.org/10.1016/j.procs.2022.08.031

Minecraft. www.minecraft.net, 05.08.2022.

Mozumder, M. A. I., Sheeraz, M. M., Athar, A., Aich, S., & Kim, H. C. (2022, February). Overview: technology roadmap of the future trend of metaverse based on IoT, blockchain, AI technique, and medical domain metaverse activity. In 2022 24th International Conference on Advanced Communication Technology (ICACT) (pp. 256-261). IEEE. https://doi.org/10.23919/ICACT53585.2022.9728808

Myland. https://www. myland.earth/about_us, 21.11.2022

Ning, H., Wang, H., Lin, Y., Wang, W., Dhelim, S., Farha, F., ... & Daneshmand, M. (2021). A Survey on Metaverse: The State-of-the-art, Technologies, Applications, and Challenges. https://doi.org/10.1109/JIOT.2023.3278329

Periyasami, S., & Periyasamy, A. P. (2022). Metaverse as future promising platform business model: Case study on fashion value chain. Businesses, 2(4), 527-545. https://doi.org/10.3390/businesses2040033

Quintana, M. G. B., & Fernández, S. M. (2015). A pedagogical model to develop teaching skills. The collaborative learning experience in the Immersive Virtual World TYMMI. Computers in Human Behavior, 51, 594-603. https://doi.org/10.1016/j.chb.2015.03.016

Prodinger, B., & Neuhofer, B. (2023, January). Never-Ending Tourism: Tourism Experience Scenarios for 2030. In Information and Communication Technologies in Tourism 2023: Proceedings of the ENTER 2023 eTourism Conference, January 18-20, 2023 (pp. 288-299). Cham: Springer Nature Switzerland. ISBN: 978-3-031-25751-3

Ricci, A., Piunti, M., Tummolini, L., & Castelfranchi, C. (2015). The mirror world: Preparing for mixed- reality living. IEEE Pervasive Computing, 14(2), 60-63. https://doi.org/10.1109/MPRV.2015.44

Roblox. www.roblox.com. 02.09.2022.

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. https://doi.org/10.3390/su142114027

Tsai, S. P. (2022). Investigating metaverse marketing for travel and tourism. Journal of Vacation Marketing. https://doi.org/10.1177/13567667221145715

Um, T., Kim, H., Kim, H., Lee, J., Koo, C., & Chung, N. (2022, January). Travel Incheon as a metaverse: smart tourism cities development case in Korea. In Information and Communication Technologies in Tourism 2022: Proceedings of the ENTER 2022 eTourism Conference, January 11-14, 2022 (pp. 226- 231). Cham: Springer International Publishing. ISBN 978-3-030-94750-7 ISBN 978-3-030-94751-4

Villa, T. (2022). Retrieved July 12, 2023 from What Is Second Life? A Brief History of the Metaversehttps://www.makeuseof.com/what-is-second-life-history-metaverse/

Volchek, K., Brysch, A. (2023). Metaverse and Tourism: From a New Niche to a Transformation. In: Ferrer-Rosell, B., Massimo, D., Berezina, K. (eds) Information and Communication Technologies in Tourism 2023. ENTER 2023. Springer Proceedings in Business and Economics. Springer, Cham. ISBN: 978-3-031-25751-3

Wei, D. (2022). Gemiverse: The blockchain-based professional certification and tourism platform with its own ecosystem in the metaverse. International Journal of Geoheritage and Parks, 10(2), 322-336. https://doi.org/10.1016/j.ijgeop.2022.05.004

Weinstein, J. (2022, January 3). Marriott Explores The Metaverse. Retrieved November 7, 2022 from https://hotelsmag.com/news/marriott-explores-the-metaverse/

Yoo, S. C., Piscarac, D., & Kang, S. (2022). Digital outdoor advertising tecoration for the metaverse smart city. International Journal of Advanced Culture Technology, 10(1), 196-203.

Zenou, T. (2022). A novel predicted the metaverse (and hyperinflation) 30 years ago. Retrieved July 12, 2023 from https://www.washingtonpost.com/history/2022/06/30/snow-crash-neal-stephenson-metaverse/

Zhang, X., Yang, D., Yow, C. H., Huang, L., Wu, X., Huang, X., ... & Cai, Y. (2022). Metaverse for Cultural Heritages. Electronics, 11(22), 3730. https://doi.org/10.3390/electronics11223730

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. https://doi.org/10.3390/su14116441

Jomat

Journal of multidisciplinary academic tourism

ISSN: 2645-9078

2023, 8 (2): 193-202

https://doi.org/10.31822/jomat.2023-8-2-193

INFO PAGE

Metaverse as fusion of B2C &G2C: A new business model for tourism

Abstract

The Metaverse, a buzzword after last pandemic, is accepted as a functional tool enable for multi sided platforms in a single phygital world. In designed metaverse, two business models were merged to construct a new hybrid business model B2CG2C. Study aimed on designing a new metaverse ecosystem for B2CG2C as fusion of B2C &G2C for a camping, glamping activities. The key contributions of this article include an organized evaluation of metaverse concepts, components, main facilitator technologies and implementation in tourism and a critical analysis of how metaverse can be facilitated in tourism including designing a new metaverse ecosystem by means of Metaverse as a service (MaaS) platform. In designed metaverse, it is aimed to merge two business models B2C &G2C to were merged to construct a new hybrid business model B2CG2C. Study aimed on designing a new metaverse ecosystem for B2CG2C as fusion of B2C &G2C for a camping, glamping activities Scenarioactivities. In order to concrete the designed metaverse, two scenarios were generated by means of scenario-based approach. based approach will be implemented for testing and validating the designed metaverse ecosystem. In this context, two scenarios were generated to test and summarize the developed application. The metaverse designed by means of Spatial.io on a desktop computer with a 512 GB capacity with processor 11th Gen Intel(R) Core (TM) i9-11950H @ 2.60GHz 2.61 GHz, 16.0 GB RAM, 64-bit -Windows 10 Enterprises. Results show that designed metaverse is applicable for tourism activities such as glamping activities as a case on this study. Besides, the designed ecosystem approvedvalidates the two business models can be merged in a one platform: Metaverse.

Keywords: *Metaverse, B2B, G2C, Tourism, Glamping*

Authors

Full Name	Author contribution roles	Contribution rate
Mune Moğol Sever:	*Conceptualism, Methodology, Software, Validation, Formal Analysis, Investigation, Resources, Data Curation, Writing - Original Draft, Writing - Review & Editing, Visualization, Supervision, Project administration, Funding acquisition*	*100%*

Author statement: *Author(s) declare(s) that All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.* ***Declaration of Conflicting Interests:*** *The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article*

This paper does not required ethics committee report

Justification: The methodology of this study does not require an ethics committee report.