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Metaverse in services marketing: an overview and future research directions

元宇宙服务营销和管理：元宇宙式体验趋势和未来研究方向概述

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ABSTRACT

Although it is still at the inception stage, the Metaverse is likely to revolutionize service marketing and management by disrupting existing business strategies, consumer norms, and marketing practices. However, most of the existing research focuses on the co-creation of metaverstic experiences in terms of interaction, but not on the co-creation of the purchase experience process of the actual products and services. This study proposes a conceptual framework that explains how and why the Metaverse will have significant impacts on creation and delivery of service experiences, the marketing of those experiences, and the co-creation of the purchase experience process through the provision of functional and hedonic benefits to various stakeholders. This study also discusses the potential of Metaverse in mitigating decision risks attributed to uncertainties associated with service experience offerings, information overload, and confusion in the marketing ecosystems and customers' service experience journey. Since the adoption of the Metaverse will have significant implications for all stakeholders while presenting challenges, implications of the Metaverse and the associated challenges are discussed. This study also provides a research agenda to investigate the possible impacts of the Metaverse on service industries.

摘要

尽管元宇宙仍处于初期发展阶段，它可能会通过挑战现有的商业策略，消费者规范和营销实践来彻底改变服务营销和管理。 但是，大多数现有的研究都主要集中在以互动为理念实现体验价值共创，而没有考虑从实际产品和服务的购买体验过程（的角度）实现价值共创。 本项研究提出了一个概念框架，旨在解释如何以及为何元宇宙会对1）服务创造和传递，2）对新式体验的营销策略，以及3）通过提供功能和享乐主义的福利的规范为各个利益相关方提供购买体验价值共创产生重要影响。 这项研究还讨论了

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元宇宙对于降低由市场生态和客户服务体验相关的决策风险，信息过载以及信息混淆方面的潜在能力。 由于在服务体验中采用元宇宙将对所有利益相关者产生重大影响同时带来挑战，本文也对元宇宙对服务行业的意义及其所带来的挑战进行了探讨，并且对未来服务行业提出了一系列的研究议程。

1. Introduction

Though the concept of the Metaverse has existed for decades (Park & Kim, 2022), it had not drawn much attention until the commercialization attempts of the big players (e.g. Facebook and Microsoft) along with the upsurge of non-fungible tokens (NFTs) applications that serve as an economic bridge between the Metaverse and the real world (Citi GPS, 2022; Park & Kim, 2022). As a new and transformative market opportunity, the Metaverse is expected to generate as much as $8 trillion to $13 trillion by 2030 and reach 5 billion users (Citi GPS, 2022). Many technology giants such as Meta, Google, Apple, Microsoft, Niantic are investing in new technologies that help shape the future of the Metaverse (Purdy, 2022). For example, Microsoft has acquired Activision Blizzard for $69 billion for an expansion into the Metaverse space (Kovach, 2022). Sony's $3.6 billion purchase of Bungie, a game studio and publisher, also demonstrates its commitment to establishing a strong presence in the Metaverse market (Palumbo, 2022). Admittedly, there are doubts about the Metaverse considering its ambiguous concept and the complex technological applications required. Some recent slowdowns on Metaverse-related projects have also contributed to this skepticism (Zitron, 2023). However, the recent debut of Apple's Vision Pro mixed-reality headset, a spatial computing device, demonstrates a major technological breakthrough that implies the collision of digital and physical spaces and is being hailed by some as a transformative innovation for the Metaverse (Sorkin et al., 2023).

In recent years, the Metaverse has started receiving significant attention from scholars in all fields due to its potential for generating, co-creating value, and advancing immersive service experiences (Buhalis et al., 2022; Gursoy et al., 2022; Koo et al., 2022). Despite scholars' escalating interest in the Metaverse, there are noticeable gaps in the current literature. First, existing research has discussed the opportunities and benefits of using the Metaverse in comparison to other conventional forms of technologies (e.g. Buhalis et al., 2022, 2023; Richter & Richter, 2023; Yang & Wang, 2023), but the research on the implications of the Metaverse on marketing strategies and experience offerings is still in its infancy stage. Metaverse offers companies new opportunities for developing and marketing customized service offerings based on individuals' preferences, resulting in new business models and revenue-generating opportunities. These metaverstic influences are expected to result in significant changes in how service experiences are created, delivered, and marketed. Beyond being a tool/platform for accessing information and interacting with others, the Metaverse concept defines a collaborative virtual realm resulting from the convergence of physical and virtual realities (e.g. Buhalis et al., 2023; Yang & Wang, 2023). The mature phase of the metaverse signifies an evolution of the internet (i.e. Web 3.0) where people use their embodied avatars to work, socialize, play, and purchase products/services. This paper introduces the term 'metaverstic experiences'

to characterize the multidimensional experiences enabled by the mature stage of the Metaverse that goes beyond those offered by traditional augmented reality (AR) and virtual reality (VR) platforms. The Metaverse also has implications for consumers' decision making process because of its ability to provide them with a wealth of personally relevant and timely information and a high degree of customized, immersive, and interactive support system for planning and managing their service experiences. Thus, the Metaverse is likely to have significant effects on the marketing ecosystem since service offerings are viewed as risky due to uncertainties associated with consumption.

Second, most of the existing research focuses on the co-creation of metaverstic experiences in terms of interaction, but not on the co-creation of the purchase experience process of the actual products and services. Truly harnessing the potential of the Metaverse technology for the services marketing ecosystem requires a thorough exploration of how the Metaverse can revolutionize consumers' information search and decision making processes by disrupting service experience creation, delivery, and marketing processes, and challenges posed by the metaverse. When making service transactions, perceived risks and the resulting anxiety during the decision making process (Gursoy et al., 2023; Gursoy & McCleary, 2004) force customers to conduct an extensive information search utilizing multiple sources (Broilo et al., 2016; Chen & Gursoy, 2000; van Rijnsoever et al., 2012). Although using multiple sources of information may seem advantageous (van Rijnsoever et al., 2012), trying to process an extensive array of information coming from various sources may result in information overload, and thus, confusion and information fatigue due to inherent processing capacity limitations of humans (van Rijnsoever et al., 2012). Metaverse can simplify information search and decision making processes by offering a virtual platform that mimic real consumption setting.

Third, while existing literature suggests the drawbacks of internet-based information search for service consumption (e.g. information overload and confusion), it has not yet explored the potential advantages of the Metaverse in reducing perceived decision risks. Information overload and confusion can lower communication quality, increase negative affectivity (e.g. stress, anxiety, and regret), result in demotivated choice-making (Gursoy, 2019; Lu et al., 2016; Lu & Gursoy, 2015; Sthapit et al., 2019), and jeopardizes one's confidence in their abilities and motivation to make decisions (Gursoy, 2019; Xue et al., 2020). Metaverse can serve as a digital replica of real consumption, enabling users to 'sample' the consumption experience as firsthand knowledge to tangibilize the service or product. As such, the metaverse is likely to have significant implications at the micro, and macro levels to lessen potential perceived risks and uncertainty (e.g. financial troubles, physical hazards, social risks, and health risks) for all key stakeholders (e.g. company, employee, and other sectors) throughout the entire marketing ecosystem and for customers through their service experience journey (e.g. awareness, information search, decision making, post-evaluation, Gursoy et al., 2023). It can offer novel benefits while presenting significant challenges for customers, companies, employees, and other stakeholders (e.g. community, government, and private sectors) at each service journey touchpoint.

To bridge these gaps in the literature, we propose a comprehensive framework that aims to conceptualize (1) the co-creation of the purchase experience process of the actual products/services enabled by the Metaverse, (2) the Metaverse' potential in mitigating risks associated with information search for service experience offerings,

information overload, and confusion in the marketing ecosystems and customers' service experiences journey, (3) implications and challenges of the existing service marketing and management. In this paper, we define the co-creation of the purchase experience on the Metaverse as the 'metaverstic purchase experience that is co-created by Metaverse agents (e.g. focal customer, other customers, service providers, and other stakeholders) who engage in immersive interactions to understand needs, wants, and capabilities of each other to develop customized and mutually beneficial value propositions.'

As presented in Figure 1, metaverstic experiences will be co-created through immersive virtual interactions among various stakeholders. Furthermore, the Metaverse will have significant impacts on creation and delivery of experience offerings and marketing of those offerings through providing functional and hedonic benefits to various stakeholders, which will have significant impact on customer decision making process. Meanwhile, the adoption of the Metaverse will pose significant technological challenges to all stakeholders (Gursoy et al., 2023). As such, this study also provides a research agenda to investigate the possible impacts of the Metaverse on service industries.

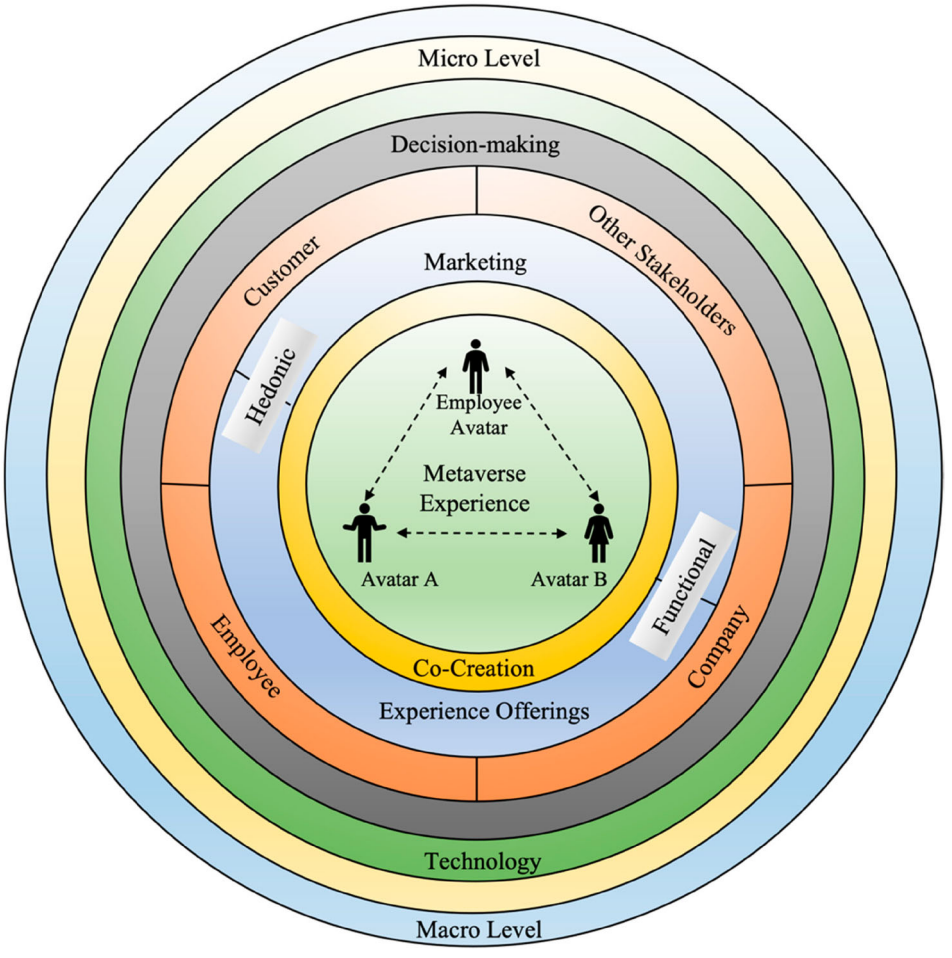

Figure 1. Conceptual model of Metaverse implications in service marketing and management.

2. Literature review

2.1. The Metaverse

The Metaverse is a collection of virtual environments where users can seamlessly traverse between physical and digital realms, interacting for work, socializing, and various activities through avatar embodiment (e.g. Barrera & Shah, 2023; Buhalis et al., 2023; Gursoy et al., 2022; Yang & Wang, 2023). In this study, we envision the metaverstic experiences in the service marketing ecosystem when the metaverse evolves to its maturity stage instead of its primitive applications (e.g. Second Life, Fortnight, Decentraland). While the concept has garnered enthusiastic attention from scholars, a fully operational Metaverse has not been realized yet (e.g. Richter & Richter, 2023). The Metaverse allows users to explore virtual service businesses, interact with virtual representations of products and services, other users, and service providers, and engage in immersive experiences that deepen their understanding of the product and service offerings. It extends beyond a single product or platform; instead, it refers to a host of virtual worlds, with each world serving as a persistent place. It enables users to access information in an interactive and engaging manner (Gursoy et al., 2022). The Metaverse simplifies the amount and type of information customers need to process by presenting all relevant information in a more interactive, vivid, and cross-modal way. Additionally, Metaverse streamlines the information search process by providing a platform where customers can access all the relevant information they need in an integrated manner. With this optimization made possible by technological advancements, customers can avoid the need to filter and synthesize information coming from various sources, reducing their cognitive burden. This revolution will also make it easier and more enjoyable for customers to manage information required prior to purchasing a service experience, resulting in better decision making with reduced perceived risks and information confusion.

The Metaverse has the potential to connect the physical world to an unbounded virtual universe through a combination of advanced technologies (Hollensen et al., 2022; Park & Kim, 2022). However, the Metaverse technology, incorporating virtual reality, augmented reality, and various hardware and software components that cater to multiple sensory experiences, goes beyond simple integration of verbal and visual information presentation (Buhalis et al., 2023; Yang & Wang, 2023). The metaverstic immersive experiences may also serve as a shortcut to heighten individuals' sense of engagement when evaluating perceived risks associated with service offerings (e.g. Fan et al., 2022; Flavián et al., 2021). The key focus in minimizing potential risks lies in how marketers can make use of the Metaverse technology in a beneficial way to create a relevant and stress-free information search experience over other avenues, thus leading to more efficient decision making and satisfactory service experiences.

2.2. Impacts of the Metaverse on service marketing and management

2.2.1. The Metaverstic experience co-creation

At the core of the metaverstic experience is the participation of the focal customer (Avatar A in Figure 1), other customers (Avatar B in Figure 1), and the service provider (employee avatar in Figure 1). It takes place on a virtual platform where customers can interact with businesses, other customers, and employees, and ask questions to those who are

available to answer questions and provide services and customer support. Customer avatars can communicate with other participants in the same space with a sense of social presence and interactions like in the physical world. For instance, customers can check into hotels with the front desk avatar, take a virtual tour of hotel rooms and facilities, and participate in virtual events hosted by hotels. In the Metaverse, employees can provide customer service from anywhere in the world without the need to be physically present in the same location as the customers, which can have significant financial and operational implications for businesses. The Metaverse can provide an innovative and engaging customer experience that goes beyond what traditional online platforms can offer. This innovative technology has the potential to transform services marketing and management ecosystems in significant ways.

2.2.2. Co-creation of the metaverstic purchase experience

The intensification of technology has escalated the customer levels of engagement in purchase experience co-creation. Compared to previous technology-enabled experiences, the Metaverse characterizes technology-illusive experiences, which represent the most advanced level of technology integration in purchase experience co-creation (e.g. Buhalis et al., 2022; Neuhofer et al., 2014). Although the technology infrastructure of Web 2.0 has spawned large-scale information sources, including consumer content (e.g. social media and user-generated content), it also has downsides when used for making service experience consumption decisions.

Most service experiences are difficult to evaluate without haptic cues, which are critical experiential information, and key to one's mental imagery and a sense of presence. The sheer volume of online textual information, combined with the absence of haptic stimuli, can pose significant challenges to consumers' cognitive processing of incoming information. This is especially true when dealing with subjective information, such as user-generated content, where there is a heightened risk of adopting subjective information that is based on other individuals' interpretations. In addition, information obtained via Web 2.0 platforms may suffer from issues related to timeliness and accuracy. As companies and operating conditions can change over time, such information may become outdated and inaccurate, potentially leading to vulnerability to decision risks for prospective consumers (Buhalis et al., 2023).

While the Metaverse brings parallel virtuality to the actual service experiences (Buhalis et al., 2019; Gursoy et al., 2022), it also provides more opportunities for customers to co-create their purchase experiences, democratizing the consumption co-creation process by giving customers more control in understanding the service product (Gursoy et al., 2022). The digital mimicry of a real experience enhances consumers' control over the environment, enabling instantaneous feedback and fostering deep interactions between the customers and the environment (Yoo et al., 2023). A heightened state of involvement can engender strong motivation and user ability to process information that aids in experience evaluation and decision making (Lu & Gursoy, 2015; Tian et al., 2022). When firsthand knowledge, as a key internal information source, provides sufficient information for making a purchase decision, individuals will consider external information search efforts unnecessary (Gursoy & McCleary, 2004). Allowing a preview of the actual service experience by consuming its digital twin, consumers can co-create their consumption experiences that foster personalization and customization (Neuhofer

et al., 2015). Thus, experiencing service offerings with digital twins can reduce the need for external information search efforts.

The Metaverse and Web 3.0 is less about introducing a new digital interface but rather they represent a revolution in how consumers approach experiences and process information for decision making, particularly through 'experience sampling.' In addition to empowering consumer participation in the entire service consumption journey (i.e. pre-, during, and post-physical consumption) (Buhalis et al., 2022), the application of the Metaverse in service marketing allows for the co-creation of consumption experiences with multiple entities, including the service provider, other customers, AI agents, and stakeholders who can be present in a shared environment. The Metaverse transcends time and space, allowing customer-to-customer interactions synchronously for enhanced socialization and networking experiences. In the Metaverse, users' accounts/profiles are platform agnostic (Buhalis et al., 2023), which allows consumers to traverse cross virtual worlds (e.g. Horizon World, Sandbox, and Roblox) and create communities with common purposes in a metaverstic society (Buhalis et al., 2022; Dwivedi et al., 2022). Businesses can also create virtual experiences with avatars that interact with customers during decision making process, producing an engaging consumption experience that blurs the boundaries between the virtual and the real.

The Metaverse is slated to empower service consumption experiences with interactive and immersive content such as gamified activities. Service marketing in the Metaverse is entering an era that transfers control of consumer experience co-creation from being dominated by the service providers to consumers (Gursoy et al., 2022). The Metaverse allows for the co-creation of experiences on a vast scale, transforming the role of consumers from passive information processors, vulnerable to information overload, to active information creators who have control over and can manage their consumption experiences. Empowering the co-creation of consumption experiences prior to the actual consumption improves consumers' existing knowledge, which is believed to increase their ability and motivation to process incoming information (Gursoy & McCleary, 2004; Lu & Gursoy, 2015). Hence, by directly contributing to experience creation, customers gain firsthand knowledge that can help mitigate potential risks associated with making a poor purchase decision, as well as alleviate the stress of collecting and processing information. Ultimately, the application of the Metaverse in service marketing could enhance consumer experiences in decision making by providing personalized, immersive, and interactive ways of gathering information, making purchase experiences more enjoyable and efficient.

2.3. Experience offerings, marketing, and hedonic and functional consumption

2.3.1. Metaverstic experience offerings

Product and experience offerings are crucial to satisfy customers' needs and wants in service marketing (Kotler et al., 2017). Marketing offerings can be tangibles or intangibles such as services, information, or experiential components. In services industries, intangible products such as experience offerings are more important than the tangibles in reaching marketing goals (Kotler et al., 2017). Experiences are challenging to convey via traditional marketing communication strategies as they often demand real-time presence to be fully comprehended. The intangibility and multi-sensational nature of experiences

make the consumer decision making process difficult. The Metaverse can be a valuable conduit for experiences as it allows for in-person interactions by allowing consumers to participate in the virtual replica of a consumption experience. In this section, we discuss three distinct ways that the Metaverse has the potential to enable new metaverstic experience offerings – experiences only taking place in the Metaverse, virtual experiences as a preview of physical experiences, and 'phygital' experiences that integrate the physical and virtual realms.

2.3.1.1. Metaverse-powered virtual activities. The Metaverse presents unique opportunities for creating experiences that are only virtually accessible, thereby transcending physical and temporal barriers (Tlili et al., 2023; Yang & Wang, 2023). Service providers can leverage the virtual platform to provide consumers with experiences that embody the brand's image and existing offerings, thus introducing new virtual products and new ways of interacting with customers. For example, Disney has been experimenting with opportunities to tap into the virtual world's space. It previously launched the Tales from the Galaxy's Edge Star Wars-themed experience, powered by virtual reality in collaboration with ILMxLAB and theVOID. Participants can enter the Star Wars universe and interact with the environment and characters. Their recent Metaverse strategy focusing on the next generation of storytelling also aspires to create new Disney experiences that can bring fantasy to life.

The Metaverse provides fertile ground for gamified experiences. Gamification refers to the application of game mechanisms to a non-gaming context (Deterding et al., 2011) and has gained traction in the service field (Xu et al., 2017). Gamified experiences offer a social environment (see Verhoef et al., 2009) that is conducive to engagement between consumers and the brand via continuous rewarding experiences. The luxury brand Louis Vuitton released an art-forward adventure game celebrating its 200th birthday – 'Louis the Game.' Players are challenged to collect candles as they traverse multiple worlds, with the game incorporating the brand's iconic history (de Klerk, 2021). The game not only strengthens ties with existing users but also attracts new customers. Due to the game's popularity, the company continued to produce new versions featuring popular artists in the NFT space, thus shaping the gaming scene in the virtual world.

In the virtual space, service providers can use gamification as a value co-creation tool that offers entertainment, challenges, and brand-related activities to engage consumers and help them understand the product (Nobre & Ferreira, 2017). The growing utilization of gamification in services, including the implementation of games for both leisure and professional purchases, and the rising popularity of mobile gamers (Xu et al., 2017; Xu & Buhalis, 2021) suggest a favorable outlook for the market potential of gamified experience offerings. Gamified experience offerings can foster deep involvement and understanding of service offerings, which adds value to brand awareness and engagement (Xu et al., 2017). As such, service providers can create opportunities for additional touch points and supply information about the brand and its experience offerings over enjoyable interactions.

2.3.1.2. Digital preview of the physical experience. One of the most notable advantages of the Metaverse is its ability to transform the pre-consumption stage by tangibilizing experiences. Rather than engaging in an extensive search for product-related information,

the Metaverse creates near-realistic experiences that help consumers internalize a coming consumption. Marketers have been relying on digital tools like videos, advertisements, and reviews to help consumers understand their experience offerings. However, traditional online information search for making decisions has been criticized for its negative effects, such as choice overload, information overload, and confusion (Lu et al., 2016; Park & Jang, 2013). Although social media and user-generated content (e.g. online reviews) allow consumers to understand others' product experiences, consumers still face challenges in translating textual information into real experiences and the subjective interpretation of others.

Previous research indicates that using immersive technologies to create a realistic preview can significantly reduce consumer perceived risks and facilitates their decision making process (Flavián et al., 2021; Israel et al., 2019). The Metaverse can enable consumers to have more realistic expectations (Koo et al., 2022), empowering them with a better understanding of what to expect. Using immersive technologies such as MR/VR devices, tactile-responsive haptic gloves, and sensory clothing, the Metaverse allows consumers to watch, hear, feel, and participate in experiences and provides boundaryless information across time and space. Consumers can check out the service provider's facilities before making a decision. The Metaverse also provides opportunities for customers to interact with others and service facilities in real-time, which can transform how customers search for information and make decisions (Dwivedi et al., 2022). For example, consumers who have never visited a vineyard may want to take virtual tours to familiarize themselves with the local environment, the history of the property, and the activities involved (e.g. wine sampling and wine-making facilities). As such, the accessibility of the 'right information' will largely assist the decision making process of consumers. Furthermore, consumers who experience services virtually tend to be motivated to patronize the business physically (Gursoy et al., 2022).

2.3.1.3. 'Phygital' experiences. It is unfortunate that people often approach the idea of Web 3.0 with a Web 2.0 mindset. The Metaverse is beyond being another virtual platform with a click to log in and log out and is only used by selected companies and user groups. The mature stage of the Metaverse will have the ability to converge the physical world and the digital realm – creating 'phygital' experiences (Di Bartolo, 2022). 'Phygital' experiences blend the physical and digital channels, creating a seamless omnichannel experience for users and transcending the limitations of either realm (Morgan, 2022). For example, service providers can use the Metaverse (e.g. VR, AR, and MR technologies) to provide an immersive tour of their physical facilities to potential customers. Enabling potential customers to virtually experience the service offerings and facilities can streamline the information search process and minimize information overload and confusion risks. Being able to virtually experience service offerings can deepen consumers' understanding of the experience, thereby enhancing their ability to retain and process information related to experience offerings. Furthermore, the loyalty rewards earned during the previous transactions can be traded as non-fungible tokens (NFTs) and used to purchase virtual tickets for events hosted in the Metaverse.

A 'phygital' experience powered by the Metaverse can also be valuable, especially when experiences are not available or feasible in the physical world. For example, during an onsite visit to a heritage site, the Metaverse can enable interactions between

tourists and 'the past', creating an experiential feast beyond time and space as in the case of the Kyoto National Museum (Japan). The museum has experimented with MR-mediated holographic narratives for visitors to engage with national treasures (Verhulst et al., 2021), which significantly reduces the time and effort required to search for information about ancient history and figures, as well as to understand the significance of various sites and artifacts while providing an experience that is beyond time and space.

As a result of the Metaverse, there is no longer a division between physical and virtual products, but rather a 'phygital' experience that unites both realms for an immersive experience regardless of realms and locations. By doing so, service marketers can diversify their marketing offerings such that they create value and new experiences from an extended dimension anytime, anywhere.

2.3.2. Marketing

The integration of the Metaverse into the service marketing ecosystem could have a profound impact on existing marketing practices and strategies. The Metaverse can provide a plethora of opportunities for connecting with customers across physical, virtual, and hybrid environments to increase customer engagement.

2.3.2.1. Customer engagement. The Metaverse's unique features such as virtual environments, interactivity, immersiveness, interoperability, continuity, concurrency, and embodied figures (i.e. avatar) (Kim, 2021) promote deep user engagement. Immersion and interactivity are the two most important benefits provided by the Metaverse as a media platform (Dwivedi et al., 2022). The immersiveness, due to the richness of sensory cues and multi-media involvement, will significantly improve user attention span compared to current media platforms with fewer sensory cues (e.g. TV, prints, 2D videos, and Web 2.0). The interactivity of the Metaverse has elevated firms' potential to engage users in various forms of activities and create expansive touch points along the customer service journey that allow the company to connect with its audience (Buhalis et al., 2022; Yoo et al., 2023). The Metaverse will extend the scope and intensity of consumer touchpoints by amplifying the digital experience in three aspects: digital economic exchange, complex social relationships, and direct environment interaction (Yoo et al., 2023).

Compared to conventional media platforms, the Metaverse boasts a distinct set of engagement features via online collaboration, heightened consumer immersion, one-of-a-kind digital assets, and personalized digital personas (Yoo et al., 2023). These unique characteristics have the potential to inspire innovative engagement strategies with audiences fueled by the power of Web 3.0 technologies. For example, Starbucks Odyssey (Starbucks Stories & News, 2022) is an expansion of the existing rewards program that provides members with exciting interactive experiences in a digital community called 'Journeys.' Upon completion of a Journey, members receive collectible 'Journey Stamps' (NFTs) and Odyssey Points. These tokens unlock access to new and exclusive coffee experiences and benefits that are not available elsewhere. Dream Hollywood, a luxury, lifestyle boutique hotel, recently launched the NFT membership program – Social Club. Members participating in the first-of-its-kind program can purchase NFT in the form of a limited-edition, original Perry Cooper NFT artwork (Fulcher, 2022), which can be sold to other members of the program. Likewise, Travelzoo will

soon launch its Metaverse as a subscription product that provides entertaining travel experiences to spawn online interactions among members. As such, industry experts believe that the Metaverse can help brands drive new discoveries and build brand love (Skift, 2022).

2.3.2.2. Digital marketing. The Metaverse provides a highly immersive and personalized user experience that leads to superior user engagement and precise targeting, making it a more potent digital marketing tool than conventional channels (Hollensen et al., 2022). It integrates multiple digital marketing experiences, such as advertising (e.g. digital billboards), content marketing (e.g. creations of games, NFTs, entertainment), direct marketing, and influencer marketing and allows practices to transcend boundaries among leading players (e.g. advertisers, agencies, and publisher sites) in the current digital marketing landscape (Dwivedi et al., 2022). Businesses have begun to exploit the benefits of avatar marketing to humanize their brands with a scalable human touch (see Miao et al., 2022). For instance, retail brands have started using virtual influencers, which are computer-generated avatars, for their online marketing campaigns. One such example is Lil Miquela, an avatar influencer who has attracted nearly 3 million followers on Instagram and served as a brand ambassador (Ahn et al., 2022). In the Metaverse, influencer avatars can assist companies in engaging with customers through channels such as social media comments and virtual media interviews, enhancing the metaverstic experiences.

In addition, avatar marketing can simplify customers' booking and purchasing experience through customization (see Miao et al., 2022). Instead of searching multiple channels to make purchase decisions, customers can rely on AI-powered avatars as personal assistants to process information and develop desired service experiences. Using avatars as guides, customers can experience personalized tours of a service provider's facilities. In the Metaverse, AI-powered avatars can assist consumers in making reservations, providing information, and answering questions. From virtual concierges to personalized virtual tours, service providers can leverage Metaverse's distinctive features to simplify customers' purchasing experience while customizing services to cater to individual needs, promoting customer satisfaction and increasing sales. Consequently, the Metaverse could provide a straightforward, yet effective solution that minimizes the need for excessive information searches across various digital platforms and the risks associated with making decisions by providing personalized services.

2.3.2.3. Virtual selling. The Metaverse promotes new consumption opportunities considering the highly experiential nature of service experiences. Companies operating in the Metaverse can sell their physical as well as virtual products. Service providers can leverage NFTs to unlock a range of digital products that enhance their brand experiences. These products may include metaverstic activities and accessories to personalized avatars, as well as music and digital photos to customize virtual products like virtual tours (Belk et al., 2022). Additionally, NFTs can grant access to virtual events, branded products, and souvenirs such as branded outfits, virtual facility designs, and digital space/land. By incorporating NFTs, companies can provide customers with unique, personalized digital experiences that strengthen brand loyalty and drive revenue. For example, restaurants have used NFTs as an exclusive membership branding effort. Flyfish, a private dining

club, sold $14 million in memberships via NFTs in 2022 (Weiss, 2022), which entitles customers to exclusive benefits such as priority reservations and the opportunity to host special events (Hackl & Alaghband, 2022). This innovative approach to membership programs not only adds value to membership exclusivity but also allows businesses to create new revenue streams through the sale of NFTs.

Companies also have explored the benefits of NFTs and used them to provide digital access for both virtual and physical realms, generating additional sales and marketing opportunities for new experiences. For example, Marriot developed its own digital arts by working with digital artists (Bardwell, 2021). This artwork was showcased at the Art Basel Miami Beach 2021 event, where three attendees were selected as prize winners. They received NFTs as well as 200,000 reward points for Marriot's existing loyalty program. Through experiences like this, customers can gain a better understanding of the brand's image and the products and experiences they offer.

2.3.3. The Metaverstic experiences: hedonic and functional consumption

Consumption motivation (hedonism vs. utility) represents a key dimension of metaverstic experiences (Gursoy et al., 2022). The Metaverse offers a wealth of opportunities for brands to engage with customers, as it offers new opportunities and alternative venues to satisfy customers' both hedonic and utilitarian experience needs during the pre-consumption and consumption stage through the virtual world.

From a utilitarian perspective, customers can use the Metaverse to fulfill functional needs such as trying products before purchasing, making reservations, and seeking digital substitutes for physical events like virtual conferences and exhibitions. One significant advantage of the Metaverse is that consumers can preview product features such as restaurant menus, hotel rooms, and tours, before making a purchase decision. Thus, the Metaverse can significantly reduce the workload required for information search and comparison among alternatives. Research suggests that having fewer alternative choices for service consumption can minimize decision making risks, as well as information overload and confusion when searching for service products online (Park & Jang, 2013; Park & Kang, 2022). Furthermore, utilizing the Metaverse in one's decision making process may have a significant impact on customer transaction completion rates (e.g. Gursoy et al., 2022), reducing the likelihood of backing out at the last minute. Additionally, the Metaverse can provide an alternative to physically attending knowledge-rich but low-interactivity events such as visiting museums and exhibitions, offering convenience without the financial and time investments associated with physical travel. Therefore, the Metaverse not only allows consumption of the digital twin of service experiences that can ease processing burdens and reduce information overload possibility, but also eliminates the need for information search through a multitude of external sources.

Hedonic motive plays a key role in driving customer engagement with the Metaverse (Fan et al., 2022; Flavián et al., 2021; Gursoy et al., 2022). From a hedonic motive perspective, consumers seek pleasure and enjoyment by engaging in new virtual experiences such as virtual kayaking, skydiving, virtual flight, gamified activities, or socializing with others in the Metaverse. Thus, the Metaverse itself can be a destination for leisure and recreation purposes (e.g. Dwivedi et al., 2022; Park & Kim, 2022). The interoperability of

the Metaverse allows participants to traverse across platforms and socialize with each other by reducing barriers between them, which can further satisfy their hedonic needs.

By engaging customers with immersive virtual experiences, companies can effectively steer customers towards products or services catering to both utilitarian and hedonic needs and desires. The Metaverse, integrated with AI technologies, can provide personalized services by virtual employees (i.e. avatars) (Dwivedi et al., 2022; Miao et al., 2022). Furthermore, applying avatars in designing service experiences for consumptions can provide customized services through various channels (e.g. dedicated apps, social media, and companies' sites). These interactions can satisfy both hedonic (e.g. pleasure from pure interaction) and utilitarian (e.g. personal assistant for making purchase decisions) desires (Liew et al., 2017). Research also suggests that working with avatars can enhance perceptions of the hedonic and utilitarian value of the service experience due to increased decision quality, playfulness, and social presence (Mimoun & Poncin, 2015). By understanding consumers' motives for using the Metaverse, companies can tailor their virtual offerings to exceed their expectations.

The application of the Metaverse in service marketing can be a powerful tool for service providers. By offering customers firsthand experiences and personalized services in the virtual world, businesses equip consumers with vital internal knowledge derived from direct experiences (Chen & Gursoy, 2000; Money & Crotts, 2003). This helps consumers to avoid being overwhelmed by extensive external information and confusion, as often happens when they process large amounts of ambiguous information from external sources (Lu & Gursoy, 2015). Moreover, this immersive approach to marketing not only enables customers to make more informed decisions but also generates long-lasting implications, including stronger brand loyalty and increased sales (Van Doorn et al., 2017). Service providers can therefore reduce their marketing expenses in traditional channels such as search engine optimization, paid advertising, content marketing, and sales promotions. At the same time, they can offer customers a unique and enjoyable way to learn about new products and services.

2.4. The Metaverse: implications for stakeholders

The Metaverse not only revolutionizes consumers' decision making process but also reduces decision risks and uncertainties for key stakeholders in the service marketing ecosystem. By leveraging the data analytics capabilities of the Metaverse, stakeholders can gain insights into consumer needs and behavioral preferences which can aid in strategic decision making, making more informed investment decisions by shareholders, and provision of more useful information for customer service and a better understanding of the organization's service culture. Strategic partners can also benefit from the Metaverse by gaining access to a wider audience, building stronger customer relationships, and receiving valuable data insights.

2.4.1. Enhanced trust and security

Powered by blockchain technology, the Metaverse can verify the accuracy of information via fact-checking techniques and ensure the authenticity of virtual assets or transactions (Jain et al., 2023). Fact-checking techniques can be used to verify the accuracy of the information, while the blockchain's distributed ledger system can ensure the authenticity of

virtual assets or transactions. These advantages can help mitigate the risks of misinformation, fraud, or scams, which are essential for ensuring safe transactions between the customer and the company, as well as between the company and its external stakeholders.

2.4.2. Streamlined information processing

The Metaverse allows immersive and interactive experiences that can engage customers in innovative ways. Research suggests that the 'experiential knowledge' gained through firsthand experience provides consumers with more accurate and reliable information; therefore, it is more effective in shaping consumer attitudes and behavior than other sources of information (Babin & Attaway, 2000). Customers often express frustration when not being able to locate information efficiently or processing overflowing information accumulated from external sources. According to scholars, a major strategy that can reduce information confusion is to delegate purchase decisions (Lu & Gursoy, 2015). In the Metaverse, employee avatars can act as consumers' personal assistants who can perform information searches and complete transactions (Miao et al., 2022). In addition to significantly reducing external search, the application of the Metaverse allows consumers to delegate information search to the virtual assistant.

2.4.3. Enhanced marketing research capacity

The Metaverse also creates a virtual environment that can simulate a field environment for marketing research. Different from traditional methods dominated by focus groups and consumer surveys, the near-realistic setting can provide a more accurate understanding of consumer behavior and product evaluation. Companies can leverage the vast amount of data generated by users' virtual behavioral activities to gain insights into consumers' deep-seated needs, preferences, and purchasing patterns. With the rise of AI and immersive technologies, scholars suggest the incorporation of immersive technologies into existing digital marketing strategies to bridge gaps between virtual activities and offline activities for an omnichannel service experience (Fan et al., 2022). By analyzing virtual behavioral data, researchers can generate marketing intelligence that can be used to create consumer profiles and optimize service experience designs such as customized virtual service experiences (Wedel et al., 2020). This can help service businesses make more informed decisions about new products and market decisions, ultimately reducing the risks of investing in ineffective marketing strategies.

2.4.4. Effective employee training

The intangibility of services poses challenges when it comes to developing effective training protocols for employees. In addition to understanding their company's mission and vision, employees must also embody the brand promise and satisfy customers' needs throughout their entire service journey. The application of avatars can free up employee time so that they can tackle more value-added services involving complicated tasks (Miao et al., 2022). Moreover, the Metaverse can simulate real-life scenarios and create digital versions of experiences, which can be utilized for developing internal training programs that prepare employees for a broad range of situations, especially those that are difficult via traditional communication (e.g. customer mistreatment). Experiential training can help employees quickly develop the skills for customer service and helps employees improve knowledge retention (Koohang et al., 2023). Immersion-based techniques, such as

gamification, have already proven to be effective in employee training (Armstrong & Landers, 2018). With the emergence of the Metaverse, immersive training programs and gamification techniques can be implemented to upskill employees in handling challenging situations, develop customer service skill sets, and enhance customer service. By creating a fun and interactive learning environment, the implementation of immersive technologies for training can enhance employee engagement and motivation.

2.4.5. Reduced capital expenditure

The Metaverse presents a cost-effective opportunity for service companies to test their products and services before launching them to the market, allowing valuable consumer feedback at the ideation stage to maximize the chances of success (Dwivedi et al., 2022; Yoo et al., 2023). Consumer input is critical when venturing into new markets or testing innovative products within existing ones. The Metaverse provides a useful platform for gathering this input and refining products and services to satisfy customer needs. Moreover, the Metaverse serves as a valuable space for customers to receive initial experiences and knowledge that can facilitate market acceptance of new products. By offering a virtual preview of a product in design, companies can generate buzz and build excitement among potential customers before a large-scale, official launch. By testing and refining products and services in the Metaverse, companies can minimize risks and make informed decisions about where to allocate their resources for a greater competitive edge. Therefore, with proper execution, the Metaverse provides companies with a versatile platform for testing, refining, and launching products and services. Such opportunities will allow companies to strategize their capital expenditures and investments in physical assets based on the expected return on investment.

2.4.6. Stakeholder collaboration

The Metaverse can be a collaborative platform for key stakeholders in the service marketing ecosystem to interact, share information, provide feedback, and make informed decisions (Barrera & Shah, 2023; Buhalis et al., 2022). The collaborative platform can largely reform how stakeholders are involved and contribute to the services marketing ecosystem and allow effective communication among parties (Purdy, 2022). This will foster efficient and effective decision making where all parties collaborate via a shared community. Governmental agents and policymakers can become the facilitator of the product/experience co-creation process and support the necessary infrastructure development as well as the legislative framework for the success of any marketing initiatives. Involving stakeholders in the Metaverse can make the co-creation process more complex (Buhalis et al., 2023), but it also offers opportunities for innovation and the implementation of safer and more responsible practices.

2.4.7. Reduced customer efforts

The Metaverse presents a promising solution for service companies to improve their customer service. Research suggests that providing satisfactory solutions to customer issues during service delivery, especially handling customer complaints and recovery efforts, can be taxing on multiple dimensions, such as time investment, cognitive confusion, negative emotion, and physical effort (Lu et al., 2018). Webs 1.0 and 2.0 have brought limitations in addressing guest needs online. For example, technology-mediated recovery efforts often

counter problems such as lengthy delays, impersonal responses, poor communication, and the resultant feelings of injustice (Holloway & Beatty, 2003). By providing easy access for customers to file complaints via one system (i.e. Metaverse), the Metaverse can simplify customer effort in filing complaints and information needs. In addition, the Metaverse can be a conduit for customers to engage with employee avatars and receive more personalized and empathetic responses to their complaints. This can lead to improved customer satisfaction and loyalty, ultimately benefiting the bottom line of companies.

2.5. The Metaverse: implications for decision making

The Metaverse has largely changed how consumers engage in online information searches for service consumption purchases. Consumption of many services often takes place while being away from home, which is more costly and time-consuming to plan and is, therefore, riskier than making other purchases (e.g. Lu et al., 2016; Lu & Gursoy, 2015). The intangibility and highly experiential nature of most services consumption prompt consumers to perceive greater financial and emotional risks compared to other consumption (Gursoy & McCleary, 2004), which often results in extensive information search, both internal and external when making a purchase decision (Lu & Gursoy, 2015). Walsh et al. (2004) have emphasized the challenges resulting from excessive online information search and processing, referred to as 'e-confusion,' which can manifest as 'similarity e-confusion,' 'unclarity e-confusion,' and 'overload e-confusion.' The availability of excessive, similar, and ambiguous product information has often led to information overload and confusion when engaging in service purchase decisions (Lu & Gursoy, 2015; Park & Kang, 2022). Unlike online sources of Web 1.0 and 2.0 (e.g. websites, blogs, social media, user-generated content), the Metaverse relieves consumer stresses from compiling various information sources to approximate a consumption experience, thus reducing the amount of information search and confusion resulting from information similarity and ambiguity. As per dual coding theory, consumers can evaluate information more effectively when verbal and non-verbal semantic systems are utilized (Filieri et al., 2021). Participating in metaverstic experiences requires multi-sensational engagement (e.g. verbal, visual, audio, and haptic), which can enable consumers to make effective purchase decisions by minimizing the risks of confusion and other evaluation errors. The following section discusses several mechanisms by which the Metaverse can aid in decision making.

A sense of presence: The Metaverse offers a platform for consumers to experience the virtual presence of products and experiences, which can facilitate evaluation and reduce decision risks. With immersive technologies (e.g. AR, VR, and MR), consumers can feel as if they are physically present via the illusion of objects existing in the Metaverse, creating a sense of 'being there' (Aitamurto et al., 2022; Fan et al., 2022). Moreover, the ability to interact socially with other customers via these immersive technologies can boost perceived social presence and copresence (Fan et al., 2022; McCreery et al., 2015; Schultze & Brooks, 2019). In the Metaverse, feeling present as well as socially present can enable consumers to become more attached to the real environment (Oleksy & Wnuk, 2017). The resulting high levels of personal involvement can motivate and enable consumers to process consumption information more effectively (e.g. Tian et al., 2022). In the

Metaverse, feelings of being present motivate consumers to conduct an experiential evaluation of a product/experience at various fronts (e.g. utilitarian, affective, and symbolic value), which can prompt a mental state characterized by dynamic cues and a clear understanding of the product's strengths and weaknesses (Becker & Jaakkola, 2020; Hollensen et al., 2022). As such, the Metaverse has the potential to facilitate consumption decision-making by enabling a sense of presence.

Tangibilizing services: Service purchases are often considered high-risk transactions due to the intangibility and variability of services, and customers' inability to sample any experiences or products until completing a purchase (Koo et al., 2022). The Metaverse offers virtual access to a broad range of experiences (e.g. virtual flights, hotel rooms, culinary experiences, events, museums and attractions, and tours) (Gursoy et al., 2022). The multi-sensational experiences (e.g. visual, verbal, audio, and haptic cues) can elicit consumer mental imagery of consumption (Alyahya & McLean, 2022). The ability to preview a digital version of services and products via the Metaverse has tangibilized service experiences, allowing customers to avoid extensive information search, comparison, and filtering, which reduces the chances of information overload and confusion (Lu & Gursoy, 2015). Scholars suggest that immersive technologies can provide a realistic and credible preview experience that facilitates decision making and reduces perceived decision risks (Flavián et al., 2021).

Evaluation via immersion: Making purchase decisions often requires comparison among alternatives. The immersiveness of a metaverstic experience allows experimentation of alternatives with full sensory engagement, which is critical for sensation-rich service experiences. Therefore, scholars suggest that the vividness and immersion capabilities of the Metaverse enable sense-making (Buhalis et al., 2023). For example, high-risk service experiences can be difficult to evaluate using information from websites and/or based on others' previous experiences. Similarly, it can be challenging to compare highly sensorial activities such as skydiving versus zip lining. Being able to immerse oneself in alternative choices can reduce the inability to translate similar and ambiguous information collected from traditional sources into projected experiences. By participating in simulated experiences, consumers can easily compare service offerings according to their consumption needs (e.g. hedonic, and functional), thereby reducing decision stress and risks of cancellations (Dwivedi et al., 2022).

Service experience design and development: Integrating the Metaverse in service marketing has implications for decision making processes for companies as well. With the immersive experiences provided by the Metaverse, companies can collect experience-based feedback for new products, which simulate real consumption. This allows critical and accurate consumer input for product design before making large-scale financial investments. Soliciting customer feedback at the early stages of product development significantly reduces product trial costs. The Metaverse can be a valuable platform for compiling and analyzing diverse user data including those that can be difficult to measure in the current digital marketing efforts (e.g. paid media performance, and social media advertising) (Dwivedi et al., 2022; Järvinen & Karjaluoto, 2015). By capturing consumer digital footprints across the service experience journey, the Metaverse provides a wealth of data that accurately simulates physical interactions, which can inform data-driven decision making. Compared to traditional data analytical approaches, the Metaverse technology offers greater relevance and significantly reduces the likelihood of

irrelevant data and information confusion, thereby mitigating the risks associated with data inaccuracy.

2.6. The Metaverse: the technology challenges

The development of the Metaverse could take several years to realize its full potential. The Metaverse requires a robust technological infrastructure to ensure a seamless user experience and prevent technical glitches that hinder consumers' continued usage. Scholars have proposed a hierarchy of three technology levels – the system layer, the application layer, and the interactive layer (Yang & Wang, 2023). In the service marketing ecosystem, the technology environment can play a critical role in shaping consumers' experiences with the Metaverse applications, as well as the service provider's ability to deliver high-quality services.

2.6.1. Technology requirements for companies

The Metaverse environment is powered by a complex interplay of advanced technologies, including 5G networks, edge computing, AR, VR, cloud services, machine learning, hardware wearables, and operating systems and software (Dwivedi et al., 2022; Hollensen et al., 2022). Some service companies have upgraded the technology system to participate in the Metaverse space. For example, Japan has launched a full virtual reality airline. Customers can book virtual flights exploring destinations worldwide via augmented reality headsets (Martin, 2018). Universal Studios Hollywood is using augmented reality to plan a Mario Kart-themed virtual ride from Japan. In the year 2023, McDonald's hosted a Metaverse-induced Lunar New Year promotion via a Metaverse platform (i.e. spatial.io) that featured both the traditional Asian culture and futuristic design, enabling fans of the brand to join in celebrating the holiday all over the globe (McDonald's, 2023).

A major consideration for the application of the Metaverse is the financial investment involved. Building a Metaverse platform requires significant investments in hardware, software, VR design, and game engines, which can financially burden many companies (Brown, 2021; DiLella & Day, 2022). To mitigate these costs, companies may consider partnering with specialist providers or collaborating with Metaverse firms (e.g. Meta Sparks and Tilt Five) to obtain customized designs for the metaverstic experience and products, preparing for their digital community.

2.6.2. Technology training requirements for employees

Companies wishing to implement the Metaverse should not only provide digital devices but also offer training programs to enhance employees' technological literacy, enabling them to interact effectively with customers in the virtual environment. With the current labor crunch, many companies are operating shorthanded, propelling the current industry to reimagine the future of the talent pool and how to provide competent services with limited staff (Formica & Sfodera, 2022). By taking customers to the digital space and allowing employees to join virtually as avatars, companies can provide exceptional service while maximizing efficiency and reducing costs. The Metaverse opens the possibility to reach a wider audience for digital consumption and a large talent pool with technology literacy. The Metaverse can provide customers with direct access to knowledgeable representatives (e.g. employee avatars) who can offer accurate and timely information,

reducing customers' need to search extensively. Digital employees, such as human-like avatars, can help mitigate customers' perceived decision risks and increase consumer trust by providing customized and individualized services (Chattaraman et al., 2019; Miao et al., 2022). Hence, in the context of the Metaverse, avatars can reduce customers' efforts in information processing by providing accurate and consistent information, minimizing confusion, and reducing the risks of making important decisions.

2.6.3. Technology requirements of users

At the current stage, the Metaverse is primarily used by technically savvy gamers familiar with virtual interfaces. However, the high cost of the required equipment such as VR/MR headsets, sensory clothing, and high-speed PCs, may disadvantage certain groups of consumers who cannot afford to invest in such technologies, while the skills needed to operate the technology can also pose a challenge to create a new digital divide (Lacey, 2023). For instance, Meta's MR headset (Meta Quest Pro) costs USD 1,500, and Apple's Vision Pro MR headset costs USD 3,499 (Gurman, 2023). Assembling the necessary equipment without professional assistance can be challenging for individual users. Furthermore, the Metaverse transactions are conducted using cryptocurrencies and NFTs, which require knowledge and financial resources. This can pose a challenge for users who lack the motivation or specific intentions to use the Metaverse (Pitt, 2022). Currently, 3D immersive technologies still have low market penetration (Aiello et al., 2022). The ownership of VR headsets in the United States is mainly limited to the age group of 18–34, with only 7% of people in that age group owning the equipment. Among those aged between 35–54, the number is even lower at 5% (Alsop, 2023). In addition to the interest of service companies in joining the Metaverse, specialized support systems should provide customers with the necessary skills and an accessible technology environment. This will enable consumers to receive training and support in participating in the Metaverse, making it more accessible to a broader range of consumers.

On the bright side, the COVID-19 pandemic has resulted in a significant increase in the use and acceptance of technology (Baig et al., 2020; Buhalis et al., 2023; Cheng et al., 2023), as individuals were forced to adapt to remote work and digital communication to maintain their daily lives. This has led to a blurring of the lines between tech-challenged and tech-savvy individuals. Many consumers had to improve their digital knowledge and literacy to keep up with the changing landscape. Research shows that 75% of individuals who started using digital channels for the first time during the pandemic plan to continue using these technologies going forward, suggesting a trend toward a greater appreciation of technology-enabled services (Baig et al., 2020). As individuals become more proficient and comfortable with technology, they are better prepared to adapt and succeed in this rapidly changing digital environment.

The growing technology literacy among consumers (Baig et al., 2020) is promising for transitioning to an advanced and interconnected world of the Metaverse. However, it is essential to recognize that an individual's technological readiness is not solely determined by their personal proficiency with technology. The social environment significantly shapes attitudes toward technology and facilitates adoption (Hsu & Lin, 2008). To ensure that technology readiness continues to improve and pave the way for a more connected and technologically advanced future, companies and society still need to invest in creating a supportive environment for technology adoption. This includes offering training programs

and support to individuals of all proficiency levels. For example, the National Digital Inclusion Alliance (NDIA), a nonprofit organization that advocates for digital inclusion, provides training programs and classes to underserved communities for technology access and navigation. Google Digital Garage offers online marketing, data analytics, and web development courses. This program includes online courses and webinars that develop digital skills for individuals and businesses. Likewise, Microsoft's 'Digital Skills for All' initiative aims to serve 25 million people worldwide by providing free training programs and certifications (Microsoft, 2020). By encouraging more programs like these for innovative technologies such as AR, VR, MR, 3D technology, and holograms, we can bridge the digital divide while preparing consumers for the arrival of the Metaverse and its benefits.

2.6.4. Technology interoperability

In addition to the technological readiness of the company, its employees, and its users, it is important to establish interconnectivity between virtual worlds where service providers can cooperate with their digital twins (Barrera & Shah, 2023; Richter & Richter, 2023). The Metaverse aims to provide an interoperable environment for users to engage in various platforms and virtual worlds such as Roblox, Sandbox, and Horizon. Consumers should be able to communicate seamlessly and engage with different virtual worlds and platforms, just as they would in the physical world. This can significantly reduce user effort and confusion while using the Metaverse. However, navigating different virtual worlds and platforms can be confusing, particularly for inexperienced users of the Metaverse. Interconnectivity between these virtual environments can create opportunities for seamless communication and engagement. For example, when planning a virtual event in the Metaverse, a company must work with different parties, such as a virtual venue, audiovisual support, and a virtual event management manager. If each provider operates on a different platform, the host must communicate between platforms which could incur extensive operating efforts. When these providers are interoperable, the host company can seamlessly communicate across platforms, significantly simplifying the process and information search.

Furthermore, it is equally important to ensure interoperability between the physical world and the Metaverse (Dwivedi et al., 2022; Kim, 2021). This means the virtual world should align with the physical world's marketing efforts such as product development, branding, promotions, and marketing communication. Companies should ensure that consumers effortlessly transition between engaging with the physical world and the Metaverse without cognitive barriers. To enable effective and seamless services to meet consumers' needs, businesses need to synchronize resources between the physical realm and the Metaverse. This synchronization will enable the Metaverse to offer a more efficient and convenient way for users to participate in various activities across realms while alleviating cognitive load and confusion.

3. Future research avenues

The Metaverse is positioned to be 'the next generation of the internet,' potentially bringing virtuality-reality convergence to life (e.g. Yang & Wang, 2023). This paradigm shift will likely necessitate a comprehensive reexamination of existing research efforts in service marketing and management. Previous opinion pieces from various domains (e.g. Barrera & Shah,

2023; Buhalis et al., 2023; Dwivedi et al., 2022; Gursoy et al., 2022; Koo et al., 2022; Yang & Wang, 2023; Yoo et al., 2023) have proposed numerous future research directions, such as experience management in the Metaverse, ethics, regulation, and privacy protection, the Metaverse's influences on three consumption stages (i.e. pre-purchase, purchase, and post-purchase), building blocks of Metaverse tourism, and how Metaverse amplifies consumer touchpoints (i.e. digital economic exchange, complex social relationships, and direct environment interactions), among others. In the present research, we have delved into the journey of experience co-creation throughout the process of the purchase experience and the implications of metaverstic experiences on the service marketing and management ecosystems. Considering the vast array of future directions that the next generation of service consumption can spawn, we will focus on a few research directions that demand immediate attention for the future scholarship.

3.1. Consumer information search behavior

The Metaverse provides several benefits to consumers when searching for information on products and services. It is likely to empower consumers beyond what Web 2.0 and Web 3.0 offer. Conceptual, theoretical, and empirical research is needed to understand how the Metaverse will lead to better information search behavior and more informed consumer decision making, and their implications for consumer empowerment. The latter has both short – and long-term beneficial effects on organizational performance (Tiu Wright et al., 2006). The implications of the Metaverse for existing information search behavior and consumer-decision making models must be understood by researchers. Scholars should attempt to develop new theoretical models that incorporate the metaverstic experiences and their implications for consumer behavior and test these models across a range of metaverstic scenarios. At the same time, the influence of the Metaverse on consumers' cognitive processing deserves scientific investigation.

3.2. Avatar interactions and service encounters

In service marketing, the contact employee is crucial in influencing consumer experiences and service evaluations (Prentice et al., 2020). Employee behavior, attitude, communication skills, and even aesthetics and mannerisms have a profound impact on customer loyalty and brand evaluations, ultimately driving business success (e.g. Garmaroudi et al., 2021; Prentice et al., 2020; Wu et al., 2020). In the Metaverse, avatars act as embodied employees who can interact with customer avatars with both verbal and non-verbal cues (e.g. facial expression and body language). How this embodied figure influences consumers' service interactions and whether previous findings conducted in the physical realm apply in the Metaverse requires further empirical validation. Additionally, as the physical and virtual realms converge, comprehending how consumers attribute service expectations to avatars versus human employees, and whether customer evaluations can be influenced by the simultaneous or asynchronous presence of these two worlds, adds complexity to consumer perceptions of embodied employees. Therefore, the emergence of the Metaverse has introduced a new service actor to the service environment – the 3D replica of human staff. This virtual entity is poised to introduce fresh theories and innovative practices, reshaping not only how services are conceptualized, delivered, and

experienced but also expanding the theoretical scope of how service is defined in future marketing (Miao et al., 2022; Tsai, 2022). As such, we encourage future studies to examine the intricate dynamics at play in this context.

3.3. Understanding 'Phygital' experiences in service consumption

The ability to seamlessly blend the physical and virtual realms lies at the core of the Metaverse (e.g. Richter & Richter, 2023; Yang & Wang, 2023). This capability enables an advanced and synchronized version of a 'Phygital' experience, transcending boundaries of realms and locations. The concept of the 'digital twins – native continuum' (Lee et al., 2021) emphasizes the essence of a Metaverstic experience, enabling the convergence of virtuality and reality. The recent years have witnessed a rise of Phygital experiences which refer to blurred boundaries between physical and digital channels (Morgan, 2022). In the current literature, studies on the reality-virtuality convergence remains an uncharted territory except for a few sporadic attempts on omnichannel marketing (Batat, 2022; Hyun et al., 2022; Mishra et al., 2023). Unlike Web 1.0 and Web 2.0, where Phygital experiences were enabled by a mechanical exchange of digital channels and physical consumption as separate elements, the Phygital experiences of the Metaverse occur when physical consumption becomes intricately intertwined with virtual interactions, resulting in a seamless and unified joined experience. Future studies should focus on investigating the design of Phygital experiences across three consumption stages and their influence on service evaluation and behavioral intentions (e.g. repeat purchase, customer loyalty, engagement, and WOM). Given the inseparable nature of Metaverse-enabled Phygital experiences, where the virtual component is no longer just an ancillary channel but an integral part of the actual consumption, future studies should explore how the Metaverstic experience co-creates or co-destructs service consumption in this technologically integrated environment. Previous research on innovative technologies (e.g. wearable augmented reality) indicates that technological embodiment, characterized by ownership, location, and agency, can lead to higher psychological and behavioral engagement than computers and mobile devices (Flavián et al., 2021; Tussyadiah et al., 2018). As technology becomes an integral part of physical bodies, it empowers individuals to acquire new and immersive experiences and fosters a symbiotic relationship between humans and technology (Brey, 2000). Therefore, future research should delve into this symbiotic relationship between consumers and 'the next generation of the internet' and how Phygital consumption leads to transformative experiences and consumption outcomes via technology embodiment.

3.4. Social dynamics and their implications

Unlike in other virtual and non-virtual spaces, socialization agents in the Metaverse not only include other consumers and suppliers of services, but also avatars, creating new forms and dynamics of social interactions. These 'new' social processes on the Metaverse give rise to unique learning and sharing opportunities for consumers that facilitate their functioning in the Metaverse marketplace. These must be well understood by researchers and marketers because of the attitudinal and behavioral consequences of socialization (Yen et al., 2021). Socialization on virtual platforms such as the Metaverse also gives

rise to new social norms (Ahuja & Galvin, 2003) that demand research attention from scholars. Developers should work with researchers and marketers to understand the social implications of the designs and processes on the Metaverse and ensure that norms are ethical, encourage diversity, and are inclusive. The social dynamics on the Metaverse are likely to be complex and multifaceted, requiring continuous research endeavors on its socio-cultural implications (Mosco, 2023).

3.5. Authenticity and falsity of the Metaverstic experiences

Consumers are in the quest for an authentic service experience, which has several attitudinal and behavioral outcomes relevant to the consumers themselves, organizations, and service providers. Authenticity, therefore, occupies a central position in service studies (Rickly, 2022; Rickly-Boyd, 2012). While scholars have failed to come to a consensus on what authenticity is, it is defined as 'a holistic consumer assessment determined by six component judgments (accuracy, connectedness, integrity, legitimacy, originality, and proficiency) whereby the role of each component can change according to the consumption context' (Nunes et al., 2021, p. 2). While the implications of virtual reality and augmented reality for consumer authenticity have been the subject of some studies (e.g. Gao et al., 2022; Zhu et al., 2023), the Metaverse is likely to transform discourses and give rise to new forms of postmodern authenticity that must be addressed by researchers. Disputes about the interactions between virtuality and reality raise questions about the authenticity of the metaverstic experiences, particularly when the extent to which virtual and physical spaces are sensorily similar has been under recent scrutiny (Golf-Papez et al., 2022). Some concerns have been raised about the falsity of metaverstic experiences that give rise to 'synthetic consumer experiences' (Golf-Papez et al., 2022). For example, virtual influencers on the Metaverse have been found to lack an authentic connection with users because of their fictionalized personalities and profit-driven motives (Sands et al., 2022). Research should, therefore, not only attempt to understand what the Metaverse is, but also should address how falsity plays out in the platform and its implications for authenticity and consumer behavior.

3.6. Economic and business models

The Metaverse provides unique opportunities for service companies to develop new business models. The Metaverse is likely to disrupt the value creating logic that permeates organizational processes (Cagnina & Poian, 2008). Research is needed on the new types of virtual economies created by the Metaverse, where consumers can trade in virtual assets, and the resulting opportunities for organizations to develop virtual commerce. The Metaverse also creates opportunities for virtual advertising by providing organizations with the opportunity to advertise their products and services on the platform. Virtual advertising spaces and technologies and their implications for consumer behaviors need to be well understood by researchers and practitioners so that the Metaverse can achieve its full potential. Researchers should consider the role of advertising on the Metaverse and whether it works in the same way as in the real world, and its implications for advertising theories (Kim, 2021). This requires not only new conceptualizations, but also empirical data, generated by both human and machine, to develop and test new theories that

can predict the influence of the Metaverse advertising on consumer behavior (Kim, 2021). Future research can also focus on new subscription models, pay-per transaction models, and block-chain business models arising from the Metaverse.

3.7. Technical challenges and opportunities

The Metaverse attempts to create deep immersive experiences by combining reality enhancing technologies such as AR and VR, neuro-enhanced reality, NFT, and blockchain (Golf-Papez et al., 2022). Although these technologies can be used individually, the challenge for the Metaverse is to use them in a scalable and networked environment. Research on how the Metaverse can accommodate millions of consumers without compromising performance while ensuring the provision of services with more sustainable and authentic content and social meaning would be required (Park & Kim, 2022). Scholars must undertake innovative technical research to understand how to best combine the four pillars of the Metaverse – space convergence, ubiquitous connection, AR and VR interactions, and human centered communication, to break physical boundaries and temporal limitations and achieve immersive user experiences. At the same time, artificial intelligence provides a range of opportunities for the development of the Metaverse that must be explored by researchers (Huynh-The et al., 2023). Research should focus on how artificial intelligence can be combined with the Metaverse technologies such as AR, VR, and blockchain to create realistic, authentic, secure, and scalable virtual worlds that provide immersive consumer experiences.

4. Conclusion

4.1. Theoretical implications

The Metaverse is stimulating wide debates among researchers, marketers, and other practitioners. Research has generally focused on the consequences of the Metaverse for consumer experiences in service delivery and customer behavior (Buhalis et al., 2023; Gursoy et al., 2022; Koo et al., 2022). Although it is still at the inception stage, the Metaverse is likely to revolutionize service marketing and management by disrupting existing business strategies, consumer norms, and marketing practices. This conceptual paper proposes a comprehensive framework that outlines the metaverse's implications to the service marketing and management ecosystems. While existing research has touched upon the metaverse concept and its potential disruptions to services management and marketing, particularly in terms of customer experience co-creation (e.g. Buhalis et al., 2023; Yoo et al., 2023), this study goes further by integrating the Metaverse into the experience consumption journey and provides a comprehensive exploration of the foreseeable implications for the service marketing and management ecosystems in the Metaverse. We expand the understanding of experience co-creation to the entire purchase consumption experience and introduce the concept of metaverstic experiences, defined as experiences that are collaboratively created by various agents within the Metaverse. Our discussion is supported by a conceptual model embedding the notion that interactions between customers, service providers, employees, and other stakeholders co-create the metaverstic purchase experience. This research has answered previous calls for a conceptual framework

that delineates the marketing and management ecosystems in the Metaverse and the specific strategies to engage with users in this decentralized world (Gursoy et al., 2022).

In addition, this research furthers academic discourses on the Metaverse on its transformative impact on consumer information search and decision making. A longstanding challenge associated with purchase decision making is the service's intangibility which has often resulted in extensive information search and the subsequent information confusion. Our research contributes significant insights to extend the existing body of literature on information search behavior (e.g. Liu & Mair, 2023; Lu & Chen, 2014; Roozen & Raedts, 2018; Xiang & Law, 2013) and risk analysis associated with service consumption (e.g. Huang et al., 2023; Pan & Ha, 2021; Tian et al., 2022). With the Metaverse's ability to tangibilize service consumption, consumers' virtual experience becomes a crucial factor in decision making and risk assessment. This perspective is vital in reshaping future dialogues and research streams related to consumers' purchase decisions and information search in the era of web 3.0. While the current Metaverse technology may not have reached its full potential to embody the framework proposed in this paper, this research offers critical foresight for academia and the industry to prepare and thrive in the future of the Metaverse. Technological advancements can unfold rapidly, evident in recent developments like the AI boom and ChatGPT. Instead of waiting for these advancements to reveal themselves in hindsight, academics should take the lead in guiding and preparing the service industry for the next evolution of the internet and how it shifts service experience creation, delivery, and marketing processes.

4.2. Managerial implications

This conceptual paper has implications for service marketing and management. This research offers a futurist overview of Metaverse experiences, enabling companies to foresee the influence of 'the next generation of the internet' on their future services marketing and management ecosystems. Managers can utilize this research to inform future marketing and management strategies and help potential investors and decision makers evaluate whether and how to invest in the Metaverse to gain a competitive edge in the future of service marketing and management. Furthermore, this research urges marketing managers to consider leveraging the Metaverse to complement existing marketing and management efforts, especially for firms that seek innovations in engaging customers. Companies can evaluate the Metaverse's potential as an alternative outlet for experience creation. For example, Walmart has launched two metaverse experiences partnering with Roblox – Walmart Land and Walmart's Universe of Play. These metaverse efforts aim to attract Gen Z into virtual reality against the surge of e-commerce post the global pandemic (Maruf, 2022). Further, our conceptual paper helps practitioners understand the future of the marketing and management ecosystems and how service firms can create value through the Metaverse. In particular, this article facilitates management in assessing the advantages, challenges, and opportunities offered by the Metaverse. It empowers service firms to pinpoint the areas that require preparation in their strategic planning, fostering a proactive approach in embracing the next generation of the internet for enhanced marketing strategies and consumer experiences creation and delivery.

Service practitioners should consider including the Metaverse to streamline their communication strategies. This research introduces a distinct advantage of the Metaverse in minimizing decision risks arising from information overload and confusion associated with traditional digital information searches for making service purchases. Research shows that customers who participate in the Metaverse evaluate services more positively than in a 2D environment (Hennig-Thurau et al., 2022). As consumers immerse themselves in the Metaverse, they gain near-realistic experiences that can be internalized as critical first-hand knowledge used for making purchase decisions and product/service evaluations (Chen & Gursoy, 2000; Money & Crotts, 2003). While the Metaverse might free consumers from exhaustive external sources such as company websites, social media, and one's personal networks (e.g. family, friends, and acquaintances), it also carries key responsibilities of ensuring firms project the right brand image and customer experiences. To this end, businesses must realize the pivotal role of Metaverstic experiences in affecting consumer purchase decisions and service brand evaluation. In the current digital realm, the escalating prevalence of fake news and deceptive reviews poses a critical threat to the entire ecosystem of information search (Fedeli, 2020; Vasist & Krishnan, 2022). Ensuring the Metaverse maintains a trustworthy and reliable environment for all stakeholders becomes a vital consideration as businesses build their technology infrastructure to effectively integrate the Metaverse into their existing strategies.

4.3. Limitations

This research has several limitations. First, our conceptual paper is based on the mature stage of the Metaverse. It is predicted that the metaverse will likely evolve into two versions – a fully simulated realm (i.e. virtual metaverse) and superimposed virtual elements onto the real world which creates a multi-layered realm with spatial registration (i.e. Augmented metaverse) (Anderson & Rainie, 2022). Our research does not distinguish these two versions in our discussion but rather considering both. Second, this conceptual paper undertakes a futurist perspective that delineates the service marketing and management ecosystems empowered by the Metaverse. Whether these Metaverstic experiences can be realized in the future and their impact on the service marketing await empirical evidence. Therefore, we encourage future studies to periodically investigate how Metaverse has reshaped the service delivery, cocreation, purchase decision and post purchase behavior at various developmental stages. Third, this research only focuses on Metaverse' implications on the service marketing and management. Operating in the Metaverse also shifts workplace dynamics, company culture, employee interactions, and job demand (e.g. digital literacy) (Purdy, 2022). As future workplace involves virtual representations, future research should investigate how the Metaverse has transformed critical management practices and strategies (e.g. employee training and development, remote work and collaboration, and performance management). In the financial aspect, the Metaverse can bring new opportunities such as virtual real estate investment and new revenue streams as well as challenges including investment cost, technology infrastructure, data security and privacy, interoperability of platforms (e.g. Elnaj, 2022). Future studies should investigate the Metaverse' implications for other functional areas so

that businesses can make informed decisions and strategically harness the potential of the Metaverse.

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