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Author(s): Zahy Ramadan

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Marketing in the Metaverse era: toward an integrative channel approach

Abstract

The development pace of digital socialization has accelerated drastically in the past decade,

especially with the COVID19 pandemic. Through that continuing digital shift, the idea of the

metaverse, a virtual parallel world that can digitally replicate people's lives, is developing fast

through Meta's (previously known as Facebook) announcement in October 2021 that it will

dedicate sizeable investments in it. While the metaverse provides immense opportunities to brands,

the primary concern will be on how integrate it with current media and retail channels, whether

they are offline or online. Accordingly, using an exploratory qualitative approach, this study

examined the potential strategic channel-based marketing routes that companies would face in the

presence of the metaverse. The findings show that the route to market will become much more

complex given the metaverse's own platform setup. Strategic multichannel and omnichannel

routes are examined through a proposed framework that takes into consideration the expected

evolution of the metaverse platform.

Keywords: Metaverse; omnichannel; multichannel; virtual reality; platform

Introduction

The development pace of digital socialization has accelerated drastically in the past decade. This

was made possible mainly through the vigorous usage of social media platforms and an ever-

increasing worldwide diffusion of smartphones. The COVID19 pandemic has further accentuated

the use of digital platforms while paving the way for a new digital reality that consumers started

to accept and integrate into their daily lives (Islam *et al.*, 2020; Eisenbeck *et al.*, 2022). While brands accelerated their omnichannel integrations of digital and offline touchpoints to provide consumers with seamless experiences in the post pandemic era (Abosedra *et al.*, 2022), companies such as Meta (previously known as Facebook) and Microsoft were aiming to use recent consumers' digital behavioral shifts to accelerate the development of the Metaverse.

Virtual worlds, also referred as metaverses such as Second Life, are "computer-generated, multiuser, three-dimensional interfaces in which users can also experience other participants as being present in the environment" (Schroeder, 2002). A main attribute of these worlds is the navigation of users through these virtual hyperrealities by creating their own 3D self, known as the avatar. Within it, the connected users appear in the form of their created avatars that are considered as a self-presentation in the form of audiovisual bodies (Kaplan and Haenlein, 2009a). The avatar, considered as the user's persona in this virtual world, embodies the virtual representation of the user (Berthon *et al.*, 2010). This hyper reality allows users to construct a different self behind their avatar and thus engage in different behaviors from the ones exhibited in the physical environment (Berthon *et al.*, 2010).

While the extant literature on the metaverse seems to be ubiquitous in its older and initial version (e.g. Second Life), research is still nascent regarding the more integrative and powerful role the expected upcoming platform would have, along its effects on consumers' behavior, brands and platform owners. While past literature considered mainly the gaming aspect of such worlds, the expected upcoming metaverse will be incorporating workrooms, meetings, social venues, live events, and other integrative communal activities. The multifaceted metaverse will become a stand-alone parallel digital environment where reality is transposed and mimicked into the virtual world.

While such a virtual world might be much more successful than its predecessors, the metaverse's multidimensional experience is still in its early stages. Whereas prior failed virtual worlds such as the Playstation Home suffered from crashes and technical issues, some newer initiatives such as Roblox is gaining momentum due to its versatile platform and increasing interest by brands to be present in it (Walker, 2022). Research in that fast-growing area of interest is still scarce, causing high uncertainty for companies that are interested to be part of this upcoming major digital shift. This study aims to establish an early understanding on the potential strategic channel-based marketing routes that companies would face in the presence of the metaverse. Strategic multichannel and omnichannel routes are examined through a proposed framework that takes into consideration the expected evolution of the metaverse platform in order to provide a seamless consumer experience.

Literature Review

Evolution in building consumer relationships under Web 2.0

The evolution of the Internet and the emergence of interactive digital features and technologies introduced in Web 2.0 have established an online community between sellers and consumers that are now constantly involving their customers in generating content and value creation in order to satisfy their needs and serve them better (Wirtz *et al.*, 2010; Ramadan and Nsouli, 2021). When customers interact online, they are being co-creators of content and active participants in building interpersonal digital connections in an online community (Farah *et al.*, 2021; Ginzarly and Teller, 2021). The mobility of social media has facilitated the interactions between interconnected people as they are engaging in online debates and conversations, sharing their experiences and exchanging information (Sashi, 2012; Dabbous and Tarhini, 2019; Itani *et al.*, 2020;). This can give brands,

through the power of Web 2.0, the opportunity to build a community where they can connect with their consumers, build bonds, motivate them to engage and thus influence their experience (Ramadan and Farah, 2020). For example, firms are using social networks site such as Facebook as the major platform to interact with their customers that will translate their engagement behaviors and build relationships that will thus enhance their perceived brand value (Gummerus et al., 2012; Chaker et al., 2022). Web 2.0 has increased the social relationship patterns between businesses and consumers and between consumers themselves. At first, consumers are at the heart of the marketing process as marketers are encouraging them to take part of the creative process by engaging with them and motivating them to generate content. This will increase the brand loyalty and lead to a recurring purchase decision (Thackeray et al., 2008; Mrad et al., 2020). By establishing this interactive process and flow of information between these two parties and by promoting a co-created value, companies can achieve a better customer-based performance (Guesalaga, 2016). Today, marketers are massively using social media platforms to encourage consumers to spread the word-of mouth, share feedback, post reviews and comments, share realistic photos (Ramadan and Abosag, 2016; Itani et al., 2021; Tóth et al., 2022). The content shared in the online community is considered as a source of trust and is the basis of the consumers' interactions in this digitalized world. When consumers are sharing their opinions, they are translating the realistic and unfiltered image of their experience towards the brand, which would increase and enhance the similarity and shared interest perceptions that are considered as being the basis of trust in the online community (Grabner-Kräuter, 2009; Ramadan et al., 2018; Mrad and Cui, 2020).

The Next Stage of Evolution: Web 3.0

The following generation for the Web is Web 3.0. It is considered as "Semantic Web technologies integrated into, or powering, large-scale Web applications" (Hendler, 2009). In contrast to the "read-write" characteristics of Web 2.0, it is considered as a "read-write-execute" type of Web (Hendler, 2009). With the advancement of the Internet of Things (IoT) and new technologies, this Web is no longer attached to screens and browsers; the connectivity is now based on a mix of devices such as sensors, connectors and smart phones that are internet-enabled devices where information is cross-connected and multidirectional (Kreps and Kimppa, 2015). Web 3.0 involves the cooperation of different technologies which is one of its most distinctive features in order to be functional in an effective way. Some examples of such technologies are artificial intelligence (AI), recommendation agents, machine learning and nature language search (Atzori *et al.*, 2020; Tarhini *et al.*, 2022).

The move to the smart phone era has enabled millions of users to be connected worldwide where content is accessible by different services, ways of communications, apps and with no geographical borders (Farah *et al.*, 2021). This has allowed users to get easy access to information and data within seconds, share it, get updates and contribute to the firm's content (Newman *et al.*, 2016). Data integration from different technological applications is implemented whereby AI machines scan, read, process, understand and manipulate information from the cyber world (Abebe *et al.*, 2020). This can be gathered from firms as they aim to better understand their customers and their needs through their journey by using data collection, data mining and other techniques such as customer relationship management (Garrigos-Simon *et al.*, 2012; Farah *et al.*, 2022). The collected information will thus guide companies to tailor their offerings according to the needs, behaviors and preferences of their customers by personalizing and customizing their overall experience (Ramadan, 2021). From that end, the advancement of the new technologies is creating meaning

from user-generated data. In other words, the web has become cooperative where, with the support of networked technologies, users can read, write, interact and execute (Barassi and Treré, 2012). The emergence of three-dimensional graphics 3D and virtual reality (VR) as part of the Web 3.0 provides a gateway for marketers to focus on how to innovatively reach their consumers (Itani and Hollebeek, 2021). The new form of interactive advertising with consumers is now based on threedimensional ads where it provides 3D graphics, visuals and simulation of the product offered by the company (Tredinnick, 2018). The ability to create this online virtual experience will let marketers engage in an interactive product experience with their customers that will influence the attitude towards the brand, product knowledge and the intention to purchase (Farah et al., 2019; Mrad et al., 2022). By creating a multisensory virtual experience, the users are thus moving to a fully virtual world separated from the reality (Rauschnabel, 2018). In parallel, augmented reality (AR) is considered as the visual alignment of virtual and digital content into the physical world contexts. It adds virtual information to the perceived real world that the users usually interact with (Ramadan and Farah, 2017). Thus, they are directly connected to the reality, but it is augmented with virtual content (Craig, 2013). This is achievable through the use of AR applications that can be installed on mobile devices such as smartphones, virtual mirrors or wearable devices (Rauschnabel, 2018; Nieroda, et al., 2018). For example, consumers can use and look at the screen of their smartphone devices where the AR app will allow them to see the world with 2-D images and 3-D objects where their existence will be linked to the physical and real-world objects (Ramadan and Farah, 2017). The usage of these apps can be linked to different stages of the customer journey such as the pre-purchase where consumers see themselves wearing virtual clothes through virtual mirrors or during the post purchase stage where the purchased objects can be enriched with augmented content (Yaoyuneyong et al., 2016; Farah et al., 2019). One example is IKEA's studio app, which aims at creating a fully immersive experience for shoppers through capturing an entire room in 3D and incorporating in it selected products and furniture. Another example is Amazon's Point and Learn which allows users to receive detailed information and videos about a product they pointed at on a given shelf (Gilliland, 2021). As the evolution of the web continues, the marketing practices in the digital world should be operated in a different way than the traditional one, yet entirely be integrated (Lythreatis *et al.*, 2021). Marketers should understand their customers and provide them with value that best fit their preferences and encourage them to engage with the brand (Romo *et al.*, 2017). This will allow firms to continuously and on a timely manner engage with their customers during their stages of the decision-making process, enhance the two-way communication, tailor the content based on their preferences by personalizing it and thus form deep connections in the right place and at the right time (Bernhardt *et al.*, 2012). In order to succeed, applications in the digital world should be highly interactive which will allow for an on-time and real conversations with customers that will generate a continuous interest.

The Metaverse

First coined in 1992, the word Metaverse was used by Neal Stephenson in his science fiction novel named Snow Crash. The word metaverse includes "meta" which means beyond and the "universe", translating the expansion of the physical internet of things with a 3D shared space and virtual universe (Lombardi and Lombardi, 2010). According to Stephenson, it is a massive virtual environment that blends together the real physical and digital worlds where users interact with each other through a three-dimensional human representation called avatars in the cyberspace (Lik-Hang *et al.*, 2021). It converges augmented reality, virtual worlds and the internet altogether.

The notion of the metaverse was perceived to be pure fiction. However, this original idea encouraged and inspired many people to develop virtual worlds such as Alpha World in 1995, Habbo in 2000, and Word of Warcraft, a massively multiplayer online role-playing game (MMORPG) (Kaplan and Haenlein, 2009a). Virtual worlds are part of social media and are considered as a larger group of Internet applications that are built upon the technological foundations of Web 2.0 (Abu-Khzam and Lamaa, 2018). Some define the virtual world as being based on an analogy to infrastructures integrating interdependent systems such as technological, legal, managerial social and economic activities, all being the foundation of this immersive environment (Warmelink *et al.*, 2008). It is thus important to note the difference between virtual games and virtual social worlds that form the concept of virtual worlds. In a virtual game world, users follow rules that are strict and do not engage in economic activities. It is typically goal-oriented where users follow a fixed story and complete levels through their digital representations bounded by their restricted behavior and the rules of the game (Barnes and Mattson, 2011).

One of the most popular worlds is Second Life. It is a virtual three-dimensional environment developed in 2003 by Linden Lab, a US company, and was inspired by the metaverse of Stephenson (Gadalla *et al.*, 2013). It is part of hyperrealities, a condition of post modernism, where it is noted that not everyone shares and owns the same reality but is able to simulate an alternative one and engage in activities that people would be incapable to do in the real world (Kaplan and Haenlein, 2009b; Berger *et al.*, 2016). A distinctive feature of Second Life is the ability by users to digitally create their own imaginable landscape ranging from real estate such offices and houses to stores, clothes, and furniture (Diehl and Prins, 2008; Boellstorff, 2015). The success behind these hyper reality worlds is the intellectual rights that the users have toward their creations which will motivate customers to engage more and have a better virtual experience (Gadalla *et al.*, 2013;

Winkelmann *et al.*, 2017). Users are allowed to trade and sell their creations in exchange for virtual money known as Linden Dollars (L\$). It can be obtained either by exchanging real currencies or get income through the work of the avatar in stores that will pay for a living or by managing a business. Second Life has thus moved to a virtual economy in line with a virtual consumption (De Lucia *et al.*, 2009; Lorenzo-Alvarez *et al.*, 2020). These platforms have enabled a virtual interaction where users can create their own virtual experience into these 3D environment as a way to extend their real life (Barnes and Mattsson, 2011; Nosek *et al.*, 2019). The emergence of these immaterial virtual possessions and the motivation to acquire them is linked to a self-identity: self-expression, ability to buy these virtual goods in the digital world but not in the real world, status and prestige, and self-identification to a specific group community (Belk, 2013). Virtual worlds are becoming highly realistic and are considered as new innovative digital interactive marketing platforms for brand building (Barnes and Mattsson, 2011).

These virtual reality worlds are based upon the concepts of presence and telepresence. Presence is defined as the physical experience and sense of being in an environment. In contrast, telepresence is considered as the presence in the environment through a medium of communication (Sharma *et al.*, 2013). That is, presence is a natural perception of the environment whereas telepresence is its mediated perception. In the concept of the metaverse and virtual worlds, users experience telepresence through a mediated and simulated environment where they interact with a digital self, the avatar (Earnshaw, 2014). This will give users the feeling of being immersed in this environment through a sensory stimuli of telepresence (Gajendra *et al.*, 2012), allowing parallel worlds to emerge that blend the physical and digital environments.

This immersive environment is based on the notion of duality. In order to achieve it, key stages can be highlighted that led to the development of the metaverse. As a starting point, the digital

twins is the digital model of physical properties in the virtual environment that are developed by smart urban planning (Lik-Hang et al., 2021). It is the virtual copy of the physical environment. In the second stage, users will build and create digitized creations through their representative avatar in the virtual world, generating a native content creation based on interconnected ecosystems of social norms, culture, economy and laws to shape and connect this massive landscape (Dillon, 2020). Finally, a coexistence between the physical and digital world will be reached where the metaverse will interoperate with the physical reality and between different platforms of virtual worlds (Lik-Hang et al., 2021). The building blocks of the metaverse can be divided into two categories: technology and ecosystem frameworks. Under the technological perspective, users can access this virtual world through an extended reality that lets users interact with others in a parallel reality through telepresence, mobile headsets and devices (Pantano and Corvello, 2010; Cruz et al., 2018). The artificial intelligence, blockchain (data storage and sharing) and computer vision (body tracking, image processing and mapping) are the key pillars used in handling the activities of the users in the metaverse. To enhance the performance, edge and cloud computing are set in place to maximize the infrastructure and increase performance (Lik-Hang et al., 2021). These technologies constituted the foundations of these virtual environment through the inclusion of three-dimensions, simulation and immersion (Dionisio et al., 2013). As for the ecosystem, it mirrors the real environment and world where users control their avatars to engage in different activities, such as user-generated content and virtual commerce. An alignment between these activities and security, privacy, trust and accountability is indispensable to construct the metaverse (Lik-Hang et al., 2021).

Four features must be present in order to achieve the metaverse from a virtual world perspective: immersive realism, ubiquity of access and identity, interoperability, and scalability (Dionisio *et*

al., 2013). First, immersive realism is known as being qualified by believability in its cinematic computer-generated imagery. It is the degree to which users feel emotionally and psychologically immersed in this world where a degree of transparency between the avatar and the physical presence of its user should be attained to achieve the concept of immersive realism (Choi and Kim, 2017). Users interact with this world through instrumental structures based on their senses. Some examples are through the sight where imagery richness and graphics will reach a visual realism, through the sound where audio generated environment will be a psychological factor in engaging and immersing the users into the virtual world by a sense of placement (Dionisio et al., 2013). Second, ubiquity of access and identity is referred to as the ability that this type of virtual world can allow users to dwell in, move around and engage with the virtual environment as if they were in the real world (Dionisio et al., 2013). The uniqueness in ubiquity causes users to have their persona/identity to be identified through physical embodiment, such as fingerprints, voice and retina. Enabled by interoperability, a ubiquitous and omnipresent persona should be present in the virtual environment where users should seamlessly cross virtual borders in this immersive world (Sgobbi et al., 2017). Interoperability is considered as being the main driver of the metaverse since it is needed to enable the technology required for ubiquity. It is the ability for platforms to exchange information and interact like people do in the real world. The metaverse should support the aspect of ubiquity of real life and provide a space for interaction (Loureiro et al., 2021). A ubiquitous availability and access to the virtual worlds are facilitated by technological devices to reach an immersive world, able to compete with the physical reality (Quadri-Felitti and Fiore, 2013). The last feature is scalability which consists of the number of users interacting at a particular time, the number of objects and their complexity regarding their behaviour and appearance. The architecture, virtual world technologies and dimensions of the metaverse are based on the number of users interacting through avatars, the type and scope of interactions and the complexity of the scene (such as the number of objects and their virtual appearance) (Tukachinsky, 2010).

The metaverse is currently heading towards a sizeable investment initiated by Mark Zuckerberg, the founder of Facebook now known as "Meta". Zuckerberg's intention is to make the future social network based on virtual and augmented reality. Zuckerberg claims that the metaverse is a natural evolution of the company that can allow people to connect between virtual reality, social networking apps, smartphones, personal technological devices and augmented reality (Brown, 2021). In fact, Meta revealed in 2021 the launch of a VR workplace known as the "Horizon Workrooms app" which can be experienced on a screen and explored through the use of the Oculus VR headset, which was acquired by Facebook in 2014 (Herrman, 2021). This latest launch allows people to meet in virtual conference rooms and to be represented by their own avatars. The convergence between physical and digital platforms is considered by Zuckerberg an early stage in building the metaverse of the future (Culliford, 2021). Alphabet, Google's parent company is also investing heavily in the development of Web 3.0 which is considered to form the infrastructure of the metaverse. Microsoft is also involved in that strategic direction through the launch of Azure Digital Twins where users can create digital representations of tangible items (Krishnan, 2022).

Omnichannel Marketing

Channels are known to be intermediaries that facilitate the transfer of products from the manufacturer to the end consumer. Recent innovations in digital technology supported firms in their integration of the customer experience across all types of channels (Melero *et al.*, 2016; Yunis *et al.*, 2018; Kouatli *et al.*, 2022). The channels that the customer usually experiences are considered as being either multichannel or omnichannel.

Multichannel is defined as "the design, deployment, coordination, and evaluation of channels to enhance customer value through effective customer acquisition, retention, and development." (Neslin et al., 2006). This means that marketers are evaluating the different channels that the firm and customers interact with in order to deliver a better value to their customers by building and developing a brand relationship with them in a two-way communication. The choice of using a multichannel retailing strategy gives the customer convenience to navigate with multiple online and offline touchpoints (Thaichon et al., 2020). However, despite the coexistence of the offered channels, the possibility of interaction and integration control from the retailer's point of view is limited since the customer's data, behavior, cross pricing and available merchandise cannot be shared. From the customers' point of view, they have a limited level of interaction between the channels since, for example, the product purchased from the online channel cannot be sometimes collected, exchanged or returned from the physical store (Beck and Rygl, 2015).

The shift from multichannel to omnichannel marketing is thus seen as a key evolution. This is due to the importance of enhancing customer engagement through the integration of the channels of communication that would become fully synergetic in delivering a brand experience that meets customers' expectations (Melero *et al.*, 2016; Itani *et al.*, 2022). In this approach, the channels and the customers' touchpoints are fully integrated and synchronized to deliver a seamless experience during the journey (Verhoef *et al.*, 2015). Due to the constant increase in technological advances, the omnichannel approach is now involving a wide variety of touchpoints in which the borders are becoming blurred. This is happening in line with the channels' migrations as shoppers move through them during the buying process (Verhoef *et al.*, 2015). The main objective of firms under this approach is to integrate and optimize across channels rather than within channels. A seamless experience across the varied channels should be focused on in order to deliver a better customer

experience during the search, purchase and post-purchase of the journey (Melero *et al.*, 2016). This highlights the importance of synergetic management, consistent pricing strategies across the channels and full data integration to ensure an optimization of users' experience (Hajdas *et al.*, 2020).

Nonetheless, there are much more challenges for the omnichannel strategy than the multichannel approach given the complexity of the customer journey nowadays (Cook, 2014). Indeed, firms will have to constantly maintain accurate information across the channels, deliver a seamless customer experience, as well as communicate with their customers during their journey. In order for companies to be able to understand the customer journey, they have to analyse and evaluate what drives these journeys and not only the journey itself (Lemon and Verhoef, 2016). Moreover, companies are challenged to understand how customers are motivated and what they expect regarding the value they want to perceive from each channel of their journey (Melero *et al.*, 2016). Furthermore, the variety of different customer segments makes this approach highly challenging as specific customer segments might defer in their preference toward particular touchpoints or channels (Cook, 2014). For instance, millennials usually prefer electronic connections, whereas older generations may prefer to experience the in-person contact during their shopping journey. Thus, such differences will be challenging for companies that aim to deliver an ultimate experience to those heterogenous and dynamic segments (Itani *et al.*, 2019).

Customers nowadays have an unprecedented power as they are digitally connected and have access to Internet information that enables them to get knowledge about any product or service that will satisfy their needs (Schoenbachler and Gordon, 2002). It is then a crucial task to firms to understand shoppers' behaviors across channels and their preferences during their journey (Msaed *et al.*, 2017). Customers will navigate and use the touchpoints that are aligned with their shopping

motives and thus will influence their preferred choice of purchase channels (Aw, 2019). The firm will then build channel relationships with their customers and develop synergistic touchpoints. Companies will face challenges pertaining to ensuring the consistency of information, uniformity and integration of the same brand experience across all channels (Melero *et al.*, 2016). The complexity of the journey, the technological advances and the changes in consumer behavior may call for a change in organizations' structure and cross-departments integration (Lemon and Verhoef, 2016). Optimization of multichannel systems, structures, data integration and strategies should then be implemented at the different stages of the customer journey to enhance performance and maintain loyalty (Rangaswamy and Van Bruggen, 2005). By understanding the behaviors of the customers, collecting data about their attitudes and by applying a customer-centric approach, marketers will be able to deliver an optimized customer experience, customer retention, loyalty and even addictive behavior towards the brand (Cui *et al.*, 2018; Mrad, 2018; Mrad and Cui, 2017).

Methodology

Using an exploratory qualitative approach, this study examined the potential strategic channel-based marketing routes that companies could adopt in the presence of the metaverse. Elite and consumer interviewing were conducted. Furthermore, secondary data in the form of online comments on YouTube's metaverse related videos were integrated into the analysis.

In relation to the analysis of the secondary data, an inductive thematic analysis approach was used in order to examine and categorize the comments according to the emerging themes (Braun and Clarke, 2006). Two videos (one from CNET and another one from CBS news) were selected based on their relevance, number of comments and publishing source. The total number of downloaded reviews reached 23,884 comments. The date range of the extracted comments was between July

and November 2021. Data filtering was applied, whereby comments including insults, jokes and other non-relevant notes were omitted from the database. Accordingly, the total number of comments that were kept for the analysis reached 6,567.

As for the primary data, and in line with Creswell's (1998) sample size recommendations and data saturation suggestions (Baker and Edwards, 2012), 15 elites and 28 consumers were interviewed. Elites were sought to discuss the development of VR in the context of consumers' experiences and companies' channel-based marketing approaches. The future development of such immersive experiences in the metaverse were specifically discussed and reflected on using open ended semi-structured interviews over Skype. The experts had an average of 13 years of experience in the marketing, gaming, VR development and retailing fields. The consumers' gender split came to be based on 16 male and 14 female respondents with the following age distribution: 28.5% for 18-25 years old, 25% 26-33 years old, 21.5% for 34-41 years old, 14% for 42-49 years old, and 11% for above 50 years.

The interviews were recorded with the consent of the interviewees and lasted for an average of 42 minutes each. The recordings were then transcribed, coded and analyzed. A thematic mapping was generated accordingly, integrating the outcome of the exploratory study in both of its approaches across the primary and secondary data that were collected (Boyatzis, 1998; Braun and Clarke, 2006). For reliability purposes, the data was coded independently by two researchers then crosschecked in relation to the extracted themes (Neuman, 2003).

Findings

Based on the triangulation of the data between the customers' online comments and the elite and consumer interviewing, the metaverse's own platform was classified as being based on what this study terms as either a "multiverse" (applications used in siloes) or an "omniverse" (immersive social world as the backbone system) structure. The findings revealed that within the metaverse context, companies will be facing four principal stages: (1) Multiverse-Multichannel, (2) Multiverse-Omnichannel, (3) Omniverse-Multichannel, and (4) Omniverse-Omnichannel.

The metaverse's platform: multiverse versus omniverse

The metaverse's platform's structure plays an integral role in the experience of its users. The findings showed that the operating system and how users perceive and use the VR's software is crucial to their immersion into the virtual world. The dubbed metaverse of the future is expected to have a fully immersive system, whereby from the moment users place the headset on their faces, they would navigate a parallel omni-present world that mimics reality. This state is labelled by this study as omniverse, where the virtual world's platform is a fully operating social world. On the opposite scale, is what this study labels as multiverse, which is predominantly the current state of VR worlds: applications that are scattered in the system's platform waiting to be individually opened by the user.

"Today's VR worlds are still far from what we can call a typical metaverse. They're mainly driven by stand-alone apps, mainly gaming. It's a sole 1-way experience." (Head of interactive unit, 22 years of experience).

"Tomorrow's metaverse will be an immersive world where everything is integrated into the virtual world. You will wander around and select what you want from the virtual environment, streets, stores... it will definitely not look like today's apps." (Founder of a VR company, 12 years of experience).

An omniverse platform would integrate immersion and realism, while a multiverse world would mainly provide escapism to its users.

"In a full metaverse world, everything is integrated together. Work, social life, gaming, shopping, learning... this would give a full immersive and realistic experience for users." (Managing Director, 18 years of experience).

"I use VR mainly to escape reality. You just put your headset and feel you're totally disconnected from your real world. I have a couple of gaming apps that I mainly use for this." (Consumer, 24 years old).

However, the main debate remained on whether users will lose the feeling of escapism once everything is integrated together as it will be fundamentally a parallel mimicked life in the virtual environment.

"We're progressing towards a world where even VR will mirror our current life. It will lose its current value proposition that it provides a sanctuary, an escape from real life." (Managing Director, 17 years of experience).

"I will still be able I think to feel some kind of detachment from real life as I could go easily from place to place in that virtual world and do different tasks or activities that don't involve work or social interactions." (Consumer, 32 years old).

"I like VR. VR games and environments are fun. I don't want to be immersed in VR and have it integrated into daily life. People's social skills have already degraded with the invention of social media. Now put them into fake worlds all day for both work & play and goodbye humanity. I'll take real interactions + self-development over synthetic environments any day." (Online consumer comment).

Nevertheless, experts and users converged on the idea that the metaverse will be fully integrated into people's lives in the very near future, and that it will be a mainstream channel that companies and brands will be using in their marketing strategy.

"This is going to become an everyday part of life in my lifetime, just as social media did for older generations before me." (Online consumer comment).

"The metaverse will be a breakthrough jump in how we market to consumers. It will be similar to the times where we progressed from a basic internet presence to a socially connected web presence via social media platforms." (Senior marketing director, 12 years of experience).

"In 10 years it will become a necessity to use (just like a smartphone nowadays) also keep in mind that everyone felt the same way about PC's and the Internet during the 90s yet nowadays we can't even imagine what our lives would be like without the Internet." (Online consumer comment).

Multiverse-Multichannel

As each component work in silo on the basis of each installed application within the VR unit/headset, the metaverse ecosystem was found to be multichannel based, or what this research labels as "multiverse". A common predominant stage today is based on companies managing their content and activities on a multichannel basis, while VR platforms are all in a still developing multiverse stage. This is considered as a current base stage where companies should use to invest in so that to move to an omnichannel basis before VR platforms develop into an integrated parallel world.

"If companies today are in a multichannel stage, they're not penalized too much as the metaverse is still developing. Nonetheless, I think brands should accelerate their efforts in moving into the next omnichannel stage before the metaverse becomes fully immersive as they might lose a lot." (VR games developer, 9 years of experience).

"Companies have nothing to fear yet today if they're managing their content on a multichannel basis due to the fact that we could be called the metaverse today is still fragmented itself internally." (Head of Interactive unit, 22 years of experience).

A common agreement was also in place in relation to the slow development of the metaverse, which is predominantly seen as a gaming platform that is yet to provide a full immersive and real experience.

"The current direction that VR is taking will only slow the metaverse's development as it's mainly seen as a stand-alone gaming platform. The platform of the VR headsets is not helping either; check their operating platform, it's like a mobile phone with apps thrown at you. It's a fragmented experience." (Managing Director, 18 years of experience).

"The current VR worlds are like a la carte menus! Nothing is yet integrated for a full social experience." (Senior marketing director, 12 years of experience).

Nonetheless, the findings show that while the VR gaming experience promotes digital escapism from reality, the social and work-related components help blur the lines between the virtual and the real, which would accelerate the development of the omniverse.

"VR is mainly used today for gaming. This is mainly promoting escapism for users. So for lots of users, today VR equals gaming equals escapism." (VR games developer, 9 years of experience).

"We're seeing lately some efforts from Facebook/Meta and Microsoft to embed workplaces and meetings into the metaverse. This is an excellent move as it will start changing the perception of the VR worlds that it's a versatile and integrated world for everything, not only for gaming." (Managing Director, 18 years of experience).

Multiverse-Omnichannel

In a Multiverse-Omnichannel stage, companies are already in the advanced integrated stage of omnichannel marketing, while the metaverse is still fragmented. This would give brands a good head-start in future metaverse marketing so that they remain relevant in the market.

"If companies are already adopting an omnichannel approach today, then it's a huge head start for them. Once they initiate their presence in the metaverse of tomorrow, they will only need to integrate it into their ecosystem." (Senior marketing director, 12 years of experience).

"Welcome to Creators economy, either you are too old or too young, we will come and live in this space, so learn and adapt your business to stay relevant in the market..." (Online consumer comment).

Nonetheless, the findings showed that there would be a major risk that companies might face in this stage. Indeed, brands might become too focused on the developing metaverse and consider it as a major stand-alone channel. In such a case, companies might de-emphasize other channels and switch back to a multichannel approach focused on the metaverse.

"A potential risk here would be for companies to perceive the metaverse as a stand-alone main channel that would supersede all other channels and they go back to a multichannel approach. Brands have to be extremely careful on how they integrate their presence into the metaverse." (Founder of a VR company, 12 years of experience).

Under that particular scenario, the company might become so obsessed with the metaverse that it would forego its channel-based competitive advantage and become irrelevant to a large portion of the population. Furthermore, as the metaverse turns into an omniverse stage, its own platform would be integrated with other channels, which would place such companies at a major disadvantage regarding users' experience in the metaverse itself.

"The metaverse is being so hyped currently and is expected to be the main point to be discussed in upcoming marketing strategies. No wonder that some companies would become obsessed with it to the point that they would switch all their marketing budgets to

it, forgetting that a crucial component of the metaverse is an integration with other environments." (Managing Director, 18 years of experience).

Omniverse-Multichannel

Following the previous discussed point on the risks that companies would face if they divert into a multichannel approach, an Omniverse-Multichannel state is indeed considered to be a dangerous scenario for brands. Companies will need to invest quickly to move to an omnichannel stage as the metaverse is becoming a fully integrated world.

"While a fully immersive and integrated metaverse will take time to develop, companies that are going to remain in a multichannel stage when the metaverse will be fully upon us will be in high risk. Users will completely forget them and will opt instead for brands that are present with them in the touchpoints that are relevant to them." (Senior marketing director, 12 years of experience).

"In the metaverse of tomorrow, brands have to be present socially while integrating their presence with their current existing offline and online channels. The metaverse will be so realistic that brands would need to reflect everything they do there across all other platforms, otherwise users will know it's a fake experience." (Consumer, 34 years old).

Brand will have to invest in a seamless consumers' experience that spans across all channels, including the virtual one. As companies and potential competitors will start integrating their stores, content, and marketing activities within and across channels, brands will have to quickly follow suit.

"If you have a fully integrated social experience on the metaverse and the brand is acting as this is a separate channel that can be operated in silo like other current channels, then it's a death wish! The experience will be so fragmented that potential customers will just select other brands that have content that make sense across all touchpoints." (Head of Interactive unit, 22 years of experience).

"For comparison purposes, it's like having a brand in today's world with a website that doesn't link you or at least continue your experience to other social media platforms. It's like searching for the brand on Google and not finding the brand's presence on all channels." (Consumer, 42 years old).

Omniverse-Omnichannel

Lastly, in an Omniverse-Omnichannel situation, the virtual, digital and physical channels are all integrated in a seamless way.

"How an ideal metaverse future for companies will look like? Basically, it will be a company already integrating an omnichannel approach with its customers, including the metaverse's world as one of these channels." (Founder of a VR company, 12 years of experience).

"Just imagine a world where you pass by the brand's store in the metaverse, check products, interact with the store assistant, check customers' reviews on the item via the virtual Facebook account of that brand in the metaverse, log out and go to your PC to check the YouTube account of that brand, then go physically to the store and buy it!" (Consumer, 29 years old).

Realism will be at its peak in such a stage, where users will try first to think of it like a game. Nonetheless, full immersion and realism will be quickly attained in this scenario as everything is integrated for a fully immersive and seamless experience.

"When an advanced metaverse is here I'll make sure to treat it as a game so as not to lose a sense of reality." (Online consumer comment).

"Imagine you wake up on a Monday. You will be able to go to work in the metaverse, then see your doctor, then maybe go to a lounge and hang with friends and have a drink (the drink will be in your real hands). The metaverse will be your alternative world where everything you do now can happen virtually. It will have limitations, but still this is where the next generation of humans will be soon." (Online consumer comment).

This stage will provide companies with endless possibilities and iterations across channels to deliver a seamless heightened experience for its consumers. Indeed, different types of two-way communication can be highlighted in this virtual world to better reach and interact with the firm's customers. Companies can buy virtual stores to represent their brand and show the virtual edition of their products and can rent virtual billboards and virtual advertising spaces in the digital mall and then track the data of the number of viewers (Kaplan and Haenlein, 2009a). An integrated channel-based world will even present big opportunities for users to engage and co-create with brands.

"The Metaverse would be all companies around the world merging as 1 in a virtual reality in order to access all platforms from anywhere." (Online consumer comment).

"Imagine if you could own an acre in fortnite, and then sell that a year later to Nike to build their HQ in fortnite for 50x profit, I think most people would take that deal, and the world would keep on turning. (its happening right now in Decentraland and Sandbox). Metaverse is just a new paint on virtual worlds (games) that have existed for 20yrs. What makes it "metaverse" and not just another gameworld is the ability to take assets you own in the game and trade them outside of the game." (Online consumer comment).

Table 1 summarizes the findings' discussion pertaining to the stages of the channels' marketing approach.

Table 1: Stages of channels' marketing approach

Metaverse	Channels' Marketing Approach	Brand's dominant	Stage Description
	r r	experience	
Multiverse	Multichannel	Basic nonintegrated	A basic stage that brands should focus on developing before the Metaverse develops into a mainstream platform and integrated an omni-verse approach.
Multiverse	Omnichannel	Unified experience across all platforms/touchpoi nts	The brand's overall experience is seamless across channels including the Metaverse. Brands should prepare here for the next Metaverse stage to keep the seamless integration between all channels.
Omniverse	Multichannel	Fragmented / disjointed experience	A high-risk scenario on brands, which can lose appeal and fade away from consumers' minds. Brands should urgently work on the integration of channels.
Omniverse	Omnichannel	Immersive experience	The ultimate experiential stage. Brands should focus on innovations and comarket events and content across the different platforms.

Implications

From a scholarly perspective, this paper fills a major gap in the literature pertaining to the upcoming new metaverse version within the experiential context. This is the first study of its kind that explores consumers' experiences through a channel/application lens within the VR platform itself. This research area is fundamental to be understood in preparation for the expected fast development of the metaverse in the near future. The presence of brands in virtual worlds will be a key factor to reach customers and deliver the same value communicated in the real life. On that basis, marketers should employ a participative and integrative approach in order to provide users with an optimal shopping experience (Gadalla *et al.*, 2013) while having the right channel approach as per this study's findings.

Firms' omnichannel approach to the metaverse would improve the brand's image as customers will be interacting with them and experiencing their products virtually, which would lead to a higher intention to purchase. Improvement in brand awareness and knowledge will be attained, which will in parallel increase the brand equity if properly integrated over all other existing channels as customers expect from marketers to go beyond the limits of reality and meet them where they are (Kaplan and Haenlein, 2009b).

From a managerial perspective, this study's implications are sizeable on both platforms' owners and brands looking to be present in the metaverse world. With the emergence of more affordable and higher performing VR headsets (Srivastava *et al.*, 2014), alongside with Meta's announcement in 2021 that it will be investing heavily towards the metaverse, companies are starting to increase their interest in VR as a potential powerful tool for customer engagement. Indeed, VR headsets and worlds are becoming important tools that immerse consumers in virtual environments and can

replicate both the purchasing and consumption processes (Olszewski *et al.*, 2016; Farah *et al.*, 2019). In parallel, screen-based virtual worlds are expected to further develop throughout the progression towards the metaverse as they are considered to be the early iterations of that futuristic world. Indeed, as global powerful brands are increasingly investing in their marketing presence on screen-based virtual worlds such as Roblox, it is expected that such a move would lure in the lucrative Gen Z audience (people born between 1995 and 2010) who will form the base of the future metaverse. Nike for example, developed Nikeland in Roblox, tapping on the 55 million daily active users on that platform. Nikeland has received until September 2022 more than 21 million visitors and has been favorited by around 118,000 users (Sutcliffe, 2022).

Based on the findings and the different uncovered channel-based strategies and stages that companies will be facing with the development of the metaverse, there will be four different expected scenarios that would govern the brand's evolution path (see figure 1):

- The ideal path: This path shows an ideal progression from a multichannel to omnichannel stage, while in parallel the metaverse is progressing from a multi to omniverse state. The ideal setting in this scenario is that companies attain an omnichannel stage before the metaverse becomes fully immersive and developed.
- 2. The recovery path: In this scenario, companies are still in the multichannel stage while the metaverse is accelerating into an omniverse state. Accordingly, companies are advised here to follow a steep path in accelerating their investments and focus towards an omnichannel state.

- 3. The laggard path: Laggards will be companies that will not change their course and will remain in the multichannel stage. This path will bear high risks and threats for companies that would follow it.
- 4. **The deflection path**: In this scenario, companies who are already following an omnichannel approach get lured into the metaverse's world and become so focused on it that they deemphasize other existing channels and fall back into having a multichannel approach.

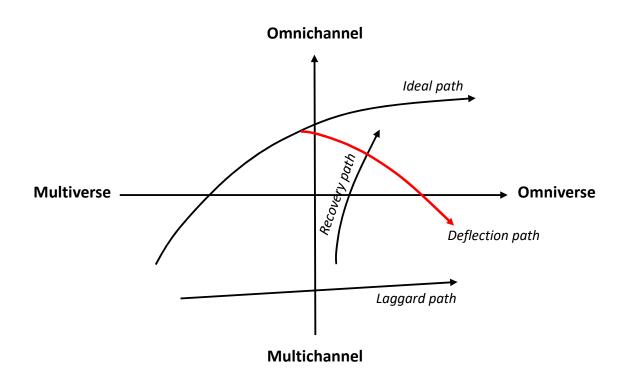


Figure 1: Channel-based marketing scenarios

Conclusion and future research

This study examined channel-based marketing strategy approaches in the context of the metaverse and unveiled the importance of integrating that lens in the presence of such a new virtual world.

The research showed that there would be four key stages for companies to be aware of when developing their strategic marketing approach. Furthermore, the study discussed the potential scenarios and implications on brands within the development context of the metaverse into a standalone world.

While the study provides a completely novel approach to managing channels with the presence of the metaverse, it is not without limitations due to its qualitative and exploratory nature. Indeed, it focused on elites and customers' reviews alongside their perceptions regarding the development of the metaverse which might limit the generalizability of the findings. Accordingly, future research could embark on conducting quantitative research with users relating to their virtual experience across applications. Furthermore, future studies could look into several potential platforms and devices that might develop in the near future.

References

Abebe, M.A., Tekli, J., Getahun, F., Chbeir, R., and Tekli, G. (2020) Generic metadata representation framework for social-based event detection, description, and linkage. Knowledge-Based Systems, 188: 104817.

Abosedra, S., Laopodis, N.T. and Fakih, A. (2021) Dynamics and asymmetries between consumer sentiment and consumption in pre-and during-COVID-19 time: Evidence from the US. The Journal of Economic Asymmetries, 24: 00227.

Abu-Khzam, F.N. and Lamaa, K. (2018) Efficient heuristic algorithms for positive-influence dominating set in social networks. In: IEEE INFOCOM 2018-IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS); April. IEEE, pp. 610-615.

Atzori, M., Koutrika, G., Pes, B., T and Anca, L. (2020) Special issue on "Data Exploration in the Web 3.0 Age". Future generation computer systems 112: 1177-1179.

Aw, E.C.X. (2019) Understanding the webrooming phenomenon: shopping motivation, channel-related benefits and costs. International Journal of Retail & Distribution Management 47(10): 1074-1092.

Baker, S.E., Edwards, R. and Doidge, M. (2012) How many qualitative interviews is enough?: Expert voices and early career reflections on sampling and cases in qualitative research. Working paper. Brighton: University of Brighton; 24 September.

Barassi, V., and Treré, E. (2012) Does Web 3.0 come after Web 2.0? Deconstructing theoretical assumptions through practice. New media & society 14 (8): 1269-1285.

Barnes, S.J., and Mattsson, J. (2011) Exploring the fit of real brands in the Second Life 1 virtual world. Journal of Marketing Management 27(9-10): 934-958.

Beck, N., and Rygl, D. (2015) Categorization of multiple channel retailing in Multi-, Cross-, and Omni-Channel Retailing for retailers and retailing. Journal of retailing and consumer services 27: 170-178.

Belk, R.W. (2013) Extended self in a digital world. Journal of consumer research 40 (3): 477-500.

Berger, M., Jucker, A.H., and Locher, M.A. (2016) Interaction and space in the virtual world of Second Life. Journal of Pragmatics, 101: 83-100.

Bernhardt, J.M., Mays, D. and Hall, A.K. (2012) Social marketing at the right place and right time with new media. Journal of Social Marketing 2(2): 130-137.

Berthon, P., Pitt, L., Halvorson, W., Ewing, M. and Crittenden, V.L. (2010) Advocating avatars: The salesperson in second life. Journal of Personal Selling & Sales Management 30(3): 195-208.

Boellstorff, T. (2015) Coming of age in Second Life. In Coming of Age in Second Life. Princeton University Press.

Boyatzis, R.E. (1998) Transforming qualitative information: Thematic analysis and code development. California, US: Sage.

Braun, V., and Clarke, V. (2006) Using thematic analysis in psychology. Qualitative Research in Psychology (2): 77-101.

Brown, A. (2021) Facebook Expects Metaverse Project Will Cost At Least \$10 Billion-In 2021 Alone. Forbes, 25 October, https://www.forbes.com/sites/abrambrown/2021/10/25/facebook-expects-metaverse-project-will-cost-at-least-10-billion-in-2021-alone/?sh=728a412225b4, accessed 10 November 2021.

Chaker, N.N., Nowlin, E.L., Pivonka, M.T., Itani, O.S. and Agnihotri, R., (2022) Inside sales social media use and its strategic implications for salesperson-customer digital engagement and performance. Industrial Marketing Management. 100: 127-144.

Choi, H.S. and Kim, S.H. (2017) A content service deployment plan for metaverse museum exhibitions—Centering on the combination of beacons and HMDs. International Journal of Information Management 37(1): 1519-1527.

Cook, G. (2014) Customer experience in the omni-channel world and the challenges and opportunities this presents. Journal of Direct, Data and Digital Marketing Practice 15 (4): 262-266.

Craig, A.B. (2013) Understanding augmented reality: Concepts and applications. Newnes.

Creswell, J.W. (1998) Qualitative Enquiry and Research Design: Choosing among Five Traditions. Thousands Oaks: Sage.

Cruz, M., Oliveira, A., Esmerado, J. and Alturas, B. (2018) Why Do We Love The Lion King? Perception of Animation among Young Adults. Proceedings of the 2018 International Conference on Computing and Data Engineering. ACM, pp.88-92.

Culliford, E. (2021). Facebook launches VR remote work app, calling it a step to the 'metaverse'. Reuters, 19 August, https://www.reuters.com/technology/facebook-launches-vr-remote-work-app-calling-it-step-metaverse-2021-08-19/, accessed 17 September 2021.

Cui, C.C., Mrad, M. and Hogg, M.K. (2018) Brand addiction: Exploring the concept and its definition through an experiential lens. Journal of Business Research 87: 118-127.

Dabbous, A., and Tarhini, A. (2019) Assessing the impact of knowledge and perceived economic benefits on sustainable consumption through the sharing economy: A sociotechnical approach. Technological Forecasting and Social Change, 149: 119775.

De Lucia, A., Francese, R., Passero, I. and Tortora, G. (2009) Development and evaluation of a virtual campus on Second Life: The case of Second DMI. Computers & Education 52(1): 220-233.

Diehl, W. C. and Prins, E. (2008) Unintended outcomes in Second Life: Intercultural literacy and cultural identity in a virtual world. Language and intercultural communication 8(2): 101-118.

Dionisio, J.D.N., Burns, W.G. and Gilbert, R. (2013) 3D virtual worlds and the metaverse: Current status and future possibilities. ACM Computing Surveys (CSUR) 45(3): 1-38.

Earnshaw, R.A. (2014) Virtual reality systems. Cambridge, Great Britain: Academic press.

Eisenbeck, N., Carreno, D.F., Wong, P.T., Hicks, J.A., María, R.R.G., Puga, J.L., Greville, J., Testoni, I., Biancalani, G., López, A.C.C. and Villareal, S. (2022) An international study on psychological coping during COVID-19: Towards a meaning-centered coping style. International Journal of Clinical and Health Psychology 22(1): 100256.

Farah, M.F., Ramadan, Z. and Kanso, J. (2021) Satisfying the online food crave: The case of online food aggregators. International Journal of Consumer Studies, in press.

Farah, M.F., Ramadan, Z. and Harb, D.H. (2019) The examination of virtual reality at the intersection of consumer experience, shopping journey and physical retailing. Journal of Retailing and Consumer Services 48:136-143.

Farah, M.F., Ramadan, Z., and Yunis, M. (2022) The Examination of Tech Disruptions' Patterns on the Consumer Journey. In Advances in National Brand and Private Label Marketing (pp. 142-149). Springer, Cham.

Gadalla, E., Keeling, K. and Abosag, I. (2013) Metaverse-retail service quality: A future framework for retail service quality in the 3D internet. Journal of Marketing Management 29(13-14): 1493-1517.

Gajendra, S., Ye, Q., Sun, W. and Qi, L. (2012) Communication and online business opportunities in virtual environment: Second Life. International Journal of Web Based Communities 8(2): 223-241.

Garrigos-Simon, F.J., Alcamí, R.L. and Ribera, T.B. (2012) Social networks and Web 3.0: their impact on the management and marketing of organizations. Management Decision 50(10): 1880-1890.

Gilliland, N. (2021) 14 examples of augmented reality brand experiences. Econsultancy, https://econsultancy.com/14-examples-augmented-reality-brand-marketing-experiences/ accessed 29 November 2022.

Ginzarly, M. and Teller, J. (2020) Online communities and their contribution to local heritage knowledge. Journal of Cultural Heritage Management and Sustainable Development 11(4): 361-380.

Grabner-Kräuter, S. (2009) Web 2.0 social networks: the role of trust. Journal of business ethics 90(4): 505-522.

Guesalaga, R. (2016) The use of social media in sales: Individual and organizational antecedents, and the role of customer engagement in social media. Industrial Marketing Management 54: 71-79.

Gummerus, J., Liljander, V., Weman, E. and Pihlström, M. (2012) Customer engagement in a Facebook brand community. Management Research Review 35(9): 857-877.

Hajdas, M., Radomska, J., and Silva, S.C., 2020. The omni-channel approach: A utopia for companies? Journal of Retailing and Consumer Services 102131.

Hendler, J. (2009) Web 3.0 Emerging. Computer 42 (1): 111-113, in press.

Herrman, J. (2021) Are We in the Metaverse Yet?. The New York Times, 10 July, https://www.nytimes.com/2021/07/10/style/metaverse-virtual-worlds.html, accessed 18 November 2021.

Islam, T., Pitafi, A.H., Arya, V., Wang, Y., Akhtar, N., Mubarik, S. and Xiaobei, L. (2021) "Panic buying in the COVID-19 pandemic: A multi-country examination". Journal of Retailing and Consumer Services 59: 102357.

Itani, O.S. and Hollebeek, L.D. (2021) Light at the end of the tunnel: Visitors' virtual reality (versus in-person) attraction site tour-related behavioral intentions during and post-COVID-19. Tourism Management 84: 104290.

- Itani, O.S., Kalra, A., Chaker, N.N. and Singh, R. (2021) "Because you are a part of me": Assessing the effects of salesperson social media use on job outcomes and the moderating roles of moral identity and gender. Industrial Marketing Management 98: 283-298.
- Itani, O.S., Krush, M.T., Agnihotri, R. and Trainor, K.J. (2020) Social media and customer relationship management technologies: Influencing buyer-seller information exchanges. Industrial Marketing Management 90: 264-275.
- Itani, O.S., Kassar, A.N. and Loureiro, S.M.C. (2019) Value get, value give: The relationships among perceived value, relationship quality, customer engagement, and value consciousness. International Journal of Hospitality Management 80: 78-90.
- Itani, O.S., Loureiro, S.M.C., and Ramadan, Z. (2022) Engaging with omnichannel brands: the role of consumer empowerment. International Journal of Retail & Distribution Management, (ahead-of-print).
- Kaplan, A.M. and Haenlein, M. (2009b) Consumer use and business potential of virtual worlds: The case of "second life". The International Journal on Media Management 11 (3-4): 93-101.
- Kouatli, I., ElKhalil, R., and Karam, K. (2020, November) Agility decision-making model in digital enterprise markets driven by turbulence of cultural cognition and technological Innovation. In 2020 International Conference on Decision Aid Sciences and Application (DASA) (756-760). IEEE.
- Kreps, D. and Kimppa, K. (2015) Theorising Web 3.0: ICTs in a changing society. Information Technology & People 28(4): 726-741
- Krishnan, A. (2022) Top metaverse investors and how to start investing. TechTarget, https://www.techtarget.com/searchcio/tip/Top-metaverse-investors-and-how-to-start-investing, accessed 2 December 2022.
- Lemon, K.N. and Verhoef, P.C. (2016) Understanding Customer Experience Throughout the Customer Journey. Journal of marketing 80(6): 69-96.
- Lik-Hang, L.E.E., Braud, T., Zhou, P., Wang, L., Xu, D., Lin, Z., ..., and Hui, P. (2021) All One Needs to Know about Metaverse: A Complete Survey on Technological Singularity, Virtual Ecosystem, and Research Agenda. Fellow. IEEE.
- Lombardi, J. and Lombardi, M. (2010) Opening the metaverse. In Online worlds: Convergence of the real and the virtual. London: Springer, pp. 111-122.
- Lorenzo-Alvarez, R., Rudolphi-Solero, T., Ruiz-Gomez, M.J., and Sendra-Portero, F. (2020). Game-Based learning in virtual worlds: a multiuser online game for medical undergraduate radiology education within second life. Anatomical sciences education, 13(5): 602-617.
- Loureiro, S. M. C., Guerreiro, J. and Japutra, A. (2021) How escapism leads to behavioral intention in a virtual reality store with background music?. Journal of Business Research 134: 288-300.
- Lythreatis, S., El-Kassar, A.N. and Singh, S.K. (2021) The digital divide: A review and future research agenda. Technological Forecasting and Social Change 121359, in press.
- Melero, I., Sese, F.J. and Verhoef, P.C. (2016) Recasting the customer experience in today's omnichannel environment. Universia Business Review 50: 18-37.

Mrad, M. and Cui, C.C. (2020) Comorbidity of compulsive buying and brand addiction: An examination of two types of addictive consumption. Journal of Business Research 113: 399-408.

Mrad, M. and Cui, C.C. (2017) Brand addiction: conceptualization and scale development", European Journal of Marketing 51 (11/12): 1938-1960.

Mrad, M. (2018) Brand addiction conceptual development. Qualitative Market Research: An International Journal 21(1), 18-38.

Mrad, M., Majdalani, J., Cui, C.C. and El Khansa, Z. (2020) Brand addiction in the contexts of luxury and fast-fashion brands. Journal of Retailing and Consumer Services 55: 102089.

Msaed, C., Al-Kwifi, S.O. and Ahmed, Z.U. (2017) Building a comprehensive model to investigate factors behind switching intention of high-technology products. Journal of Product & Brand Management 26(2): 102-119.

Mrad, M., Ramadan, Z. and Nasr, L.I. (2022) Computer-generated influencers: the rise of digital personalities. Marketing Intelligence & Planning 40(5): 589-603.

Neslin, S.A., Grewal, D., Leghorn, R., Shankar, V., Teerling, M.L., Thomas, J.S. and Verhoef, P.C. (2006) Challenges and opportunities in multichannel customer management. Journal of service research 9(2): 95-112.

Neuman, W.L. (2003) Social research methods: Qualitative and quantitative approaches. Boston, MA: Allyn and Bacon.

Newman, R., Chang, V., Walters, R.J. and Wills, G.B. (2016) Web 2.0—The past and the future. International Journal of Information Management 36(4): 591-598.

Nieroda, M.E., Mrad, M. and Solomon, M.R. (2018) How do consumers think about hybrid products? Computer wearables have an identity problem. Journal of Business Research 89: 159-170.

Nosek, M.A., Robinson-Whelen, S., Ledoux, T. A., Hughes, R.B., O'Connor, D.P., Lee, R.E, Goe, R., Silveira, S.L., Markley, R., Nosek, T.M. and the GoWoman Consortium (2019) A pilot test of the GoWoman weight management intervention for women with mobility impairments in the online virtual world of Second Life[®], Disability and Rehabilitation, 41(22): 2718-2729

Olszewski, K., Lim, J.J., Saito, S. and Li, H. (2016) High-fidelity facial and speech animation for VR HMDs, ACM Transactions on Graphics (TOG) 35 (6): Article. 221, pp. 1-14.

Pantano, E. and Corvello, V. (2010) Digital contents management for improving consumers' experience. International Journal of Digital Content Technology and its Applications 4 (7): 8-10.

Quadri-Felitti, D.L. and Fiore, A.M. (2013) Destination loyalty: Effects of wine tourists' experiences, memories, and satisfaction on intentions. Tourism and Hospitality Research 13 (1): 47-62.

Ramadan, Z. (2021) "Alexafying" shoppers: The examination of Amazon's captive relationship strategy. Journal of Retailing and Consumer Services 62:102610.

Ramadan, Z., and Abosag, I. (2016) Saturated Nation in Social Networking Sites; An Examination of the Negative Effect of Facebook's Brand Communities on Brand-Consumer Relationship. In Let's Get Engaged! Crossing the Threshold of Marketing's Engagement Era (pp. 491-494). Springer, Cham.

Ramadan, Z. and Nsouli, N.Z. (2021) Luxury fashion start-up brands' digital strategies with female Gen Y in the Middle East. Journal of Fashion Marketing and Management: An International Journal, in press.

Ramadan, Z. and Farah, M.F. (2020) Influencing the influencers: the case of retailers' social shopping platforms. International Journal of Web Based Communities 16 (3): 279-295.

Ramadan, Z., Abosag, I. and Zabkar, V. (2018) All in the value: The impact of brand and social network relationships on the perceived value of customer endorsed Facebook advertising. European Journal of Marketing 52 (7/8): 1704-1726.

Ramadan, Z. and Farah, M.F. (2017). The Pokémonisation of the first moment of truth. International Journal of Web Based Communities 13 (2): 262-277.

Rangaswamy, A. and Van Bruggen, G.H. (2005) Opportunities and challenges in multichannel marketing: An introduction to the special issue. Journal of interactive marketing 19 (2): 5-11.

Rauschnabel, P.A. (2018) Virtually enhancing the real world with holograms: An exploration of expected gratifications of using augmented reality smart glasses. Psychology & Marketing 35 (8): 557-572.

Romo, M., Sanchez-Ruiz, M.J. and Alfonso-Benlliure, V. (2017) Creativity and personality across domains: A critical review. Anuario de Psicología/The UB Journal of Psychology 47 (2): 57-69.

Sashi, C.M. (2012) Customer engagement, buyer-seller relationships, and social media. Management decision.

Schoenbachler, D.D. and Gordon, G.L. (2002) Multi-channel shopping: understanding what drives channel choice. Journal of consumer marketing 19 (1): 42-53.

Schroeder, R. (2002) Social interaction in virtual environments: Key issues, common themes, and a framework for research. In The social life of avatars. London: Springer, pp. 1-18.

Sgobbi, F.S., Tarouco, L. M.R. and Reategui, E.B. (2017) The pedagogical use of the Internet of Things in virtual worlds to encourage a behavior change in obese individuals. In 2017 IEEE International Conference on Internet of Things (iThings) and IEEE Green Computing and Communications (GreenCom) and IEEE Cyber, Physical and Social Computing (CPSCom) and IEEE Smart Data (SmartData). IEEE, pp. 676-682.

Sharma, G., Qiang, Y., Wenjun, S. and Qi, L. (2013) Communication in virtual world: Second life and business opportunities. Information Systems Frontiers 15 (4): 677-694.

Srivastava, K., Das, R. and Chaudhury, S. (2014) Virtual reality applications in mental health: Challenges and perspectives. Industrial Psychiatry Journal 23 (2): 83-85.

Sutcliffe, C. (2022) 21m people have now visited Nike's Roblox store. Here's how to do metaverse commerce right. The Drum, https://www.thedrum.com/news/2022/09/22/21m-people-have-now-visited-nike-s-roblox-store-here-s-how-do-metaverse-commerce, accessed 29 November 2022.

Tarhini, A., Harfouche, A., and De Marco, M. (2022) Artificial intelligence-based digital transformation for sustainable societies: The prevailing effect of COVID-19 crises. Pacific Asia Journal of the Association for Information Systems, 14(2): 1.

Thackeray, R., Neiger, B. L., Hanson, C.L. and McKenzie, J.F. (2008) Enhancing promotional strategies within social marketing programs: use of Web 2.0 social media. Health promotion practice 9 (4): 338-343.

Thaichon, P., Phau, I. and Weaven, S. (2020) Moving from multi-channel to Omni-channel retailing: Special issue introduction. Journal of Retailing and Consumer Services 102311, in press.

Tóth, Z., Mrad, M., Itani, O.S., Luo, J., and Liu, M.J. (2022) B2B eWOM on Alibaba: Signaling through online reviews in platform-based social exchange. Industrial Marketing Management, 104: 226-240.

Tredinnick, L. (2018) Virtual realities in the business world. Business Information Review 35 (1): 39-42.

Tukachinsky, R. (2010) Para-romantic love and para-friendships: Development and assessment of a multiple-parasocial relationships scale. American Journal of Media Psychology 3 (1/2): 73-94.

Verhoef, P.C., Kannan, P. K. and Inman, J.J. (2015) From multi-channel retailing to omni-channel retailing: introduction to the special issue on multi-channel retailing. Journal of retailing 91 (2): 174-181.

Walker, R. (2022) Roblox is one of the biggest metaverse success stories. So why hasn't it turned a profit? https://fortune.com/2022/06/03/roblox-gaming-ecosystem-metaverse-stocks-profit/, accessed 30 November 2022.

Warmelink, H., Bekebrede, G., Harteveld, C. and Mayer, I. (2008) Understanding virtual worlds: An infrastructural perspective. In GAMES:, Virtual Worlds and Reality: Proceedings of the 39th ISAGA Conference; July, Lithuania: Kaunas University of Technology.

Winkelmann, K., Keeney-Kennicutt, W., Fowler, D., and Macik, M. (2017) Development, implementation, and assessment of general chemistry lab experiments performed in the virtual world of second life. Journal of Chemical Education, 94(7): 849-858.

Wirtz, B.W., Schilke, O. and Ullrich, S. (2010) Strategic development of business models: implications of the Web 2.0 for creating value on the internet. Long range planning 43 (2-3): 272-290.

Xing, D. (2021) Council Post: The Metaverse Is All Around You - Did You Know?. Forbes, 22 October, https://www.forbes.com/sites/forbestechcouncil/2021/10/22/the-metaverse-is-all-around-you--did-you-know/?sh=302ab19d2577, accessed 29 October 2021.

Yaoyuneyong, G., Foster, J., Johnson, E. and Johnson, D. (2016) Augmented reality marketing: Consumer preferences and attitudes toward hypermedia print ads. Journal of Interactive Advertising 16 (1): 16-30.

Yunis, M., Tarhini, A. and Kassar, A. (2018) The role of ICT and innovation in enhancing organizational performance: The catalysing effect of corporate entrepreneurship. Journal of Business Research 88 (July): 344-356.