The metaverse: A product-service innovation canvas for co-creating and capturing value

Abstract

Purpose: Recent years has seen a rising interest in the metaverse as technological domain that has potential for value co-creation and capture in contemporary marketplaces. This paper aims to provide insights into how firms can conceive the value creation potentialities and navigate challenges presented by the metaverse.

Design/methodology/approach: This paper draws on extant research on the metaverse to explicate strategic potentialities and cautionary landmines of the metaverse. It goes on to conceptualise the metaverse product-service innovation canvas through which value could be created, captured or dissipated for contemporary organizations.

Findings: The paper presents conceptual characterisation to explicate how organizing expedience, timing and approaches to meaning-making and sensing of this novel technological form may serially combine to determine patterns of (dis)advantage for a firm operating in the ever-competitive business landscape.

Originality/Value: Positioning the metaverse as a technological platform on which value-creation modes are positioned, this paper presents a conceptual model that offers practical insights into transitional pathway through which value could be captured in the metaverse.

Keywords: Metaverse, product service innovation, business model canvass, technology, disruption

Introduction

Recent years has seen a rapid rise in interest, among scholars and practitioners alike, in technological domains that seek to provide parallel plain of existence where realistic computer-generated world is conjured up in real time (Baía Reis & Ashmore, 2022; J.P Morgan, 2022; The Economist, 2021). Often captured along a continuum from reality to virtuality, this *pure mixed reality* proffered by what is dialectically expressed as the *metaverse* has come to dominate existing narrative on technological evolution (Flavián et al., 2019). The focus of the discourse thus far has been on the potentialities of this nascent technology to becoming an important tool that would have ubiquitous use within broader socio-organizational engagements and interfaces (Buhalis et al., 2023). This casts promising prospects for our existing experience economy (Pine & Joseph, 1998), which has seen radical evolution toward digital platform business ecosystems (Zabel et al., 2023)— as the metaverse hold the core capacity to undergird and sediment a paradigm shift in the ordered plane of interaction between organizations and

their customers (Buhalis et al., 2022; Gursoy et al., 2022; Zabel et al., 2023). In this regard, existing research has sought to explicate some prerequisite socio-technical conditions that would facilitate the fruition of the metaverse, and defined ways to enhance security, privacy and sensual experience within this mixed virtual world (Flavián et al., 2019).

While this technology-mediated metaverse of social life, albeit its infancy, represent a powerful new turn in the modes of creating and capturing sustainable value, the central question is: How can firms conceive the value creation potentialities and navigate challenges presented by the metaverse? In this paper we address this question by proposing a conceptualisation of the metaverse as a new value co-creation domain that exist as *product-service innovation canvas* (P-SIC) (Lafuente et al., 2022). By P-SIC, we mean the metaverse exists as a design architecture within which core value propositions of firms remain consistent, yet mode of interactions with customers is altered to pre-shape their experiences. This implies that the metaverse serves as new plane of value creation environment and is of itself a product/service offering that alters the traditional value configurations and interactions between firms and their customers. We therefore aim to offer insights into the strategic potentials, in parallel with cautionary landmines, of the metaverse as P-SIC on which value could be created, captured, or dissipated. In doing this, we ground our arguments on the burgeoning discourse on the metaverse, and on the existing conceptual arrestations in innovation management literature, to tease out how the metaverse could be embraced as innovative canvass for achieving competitive advantage and thereby may underpin organizational survival the high velocity competitive marketplace. This effort holds significant importance because at the nascent stages of the metaverse, which is characterised by fluidity and evolution in design concepts, and while its trajectory toward achieving commercial viability remain elusive (Dincelli & Yayla, 2022; Zabel et al., 2023) , airily ignoring its technological overturning tendencies could become disruptive to the future strategic positioning of the contemporary firm (Buhalis et al., 2023; Koohang et al., 2023). Nonetheless, we also draw attention to how the augmented features of the metaverse may misrepresent our real environment, creating a gap between our corporeal world and the virtual reality— and thereby inflicting on our lived experiences.

This conceptual endeavour helps to advance understanding of how the metaverse could serve as a P-SIC on which a dense web of potential value could be co-located, and co-created, within the evolving paths of emerging technological landscapes. We present intuitive delineation of how organizing expedience, timing and approaches to 'meaning-making' and sensing of this novel technological tool may serially combine to determine patterns of (dis)advantage for a firm. Furthermore, we emphasise how the metaverse may serve as a technological domain within which organisations could respond to socially derived expectations by providing, at least beforehand, a virtual exposure to the value offerings within the existing competitive landscape. We however propose that while such understanding would help organisations to build competitive capabilities salient to survival, a keen focus on capturing value within this technological domain could also result in experiences that are remote from the real-world exposure. In this vein, tease out propositions that hints on the heterogeneity in both technological and social structures that necessarily co-exist to facilitate and secure this new domain of value co-creation and capture. This allows us to present a conceptual model that offers insights into strategic pathway through which value could be captured in the metaverse.

The remainder of the paper unfolds in the following way. First, we highlight on our approach to developing our conceptual arguments. Next, we shed light on various scholarly explications on the metaverse to derive both conceptual and practical insight into the operational logics, prerequisite technological substrates. Following this we approach the extant salient views on the metaverse with our PSI-C abstraction to unveil its strategic capabilities as well as potential risks to incumbent firms for failing to conceive its disruptive tendencies. Following this, we consider the limits and inflictions the metaverse could have on consumers' experience of the real-world. Finally, we discuss the implications of this conceptual endeavour for practitioners and future research.

Conceptual leaps

Before proceeding to present our arguments, it is important to define the central basis that foregrounds the rigour of our conceptual response to the research question posed. To begin with, we situate our abstractions in core arguments captured within the extant research on the metaverse and its evolving

patterns of both extant and expected influence on value spanning capabilities of firms (Go & Kang, 2023; Gursoy et al., 2022). Our abstractions are rooted in studies that draw link between the metaverse and its potential to disrupt existing business models (Latino et al., 2024; Rosenstand et al., 2023). This thus enables us to explicate our conceptualisation of the metaverse as a P-SIC on which value creation and capture modes are altered. However, to make sense of the emergence of the metaverse as strategic resource relevant for survival, we draw insights from a publicly available speech on YouTube[1] (a public video archive platform available to users on Web 2.0.) delivered by the CEO of Meta, Mark Zuckerberg (henceforth Mark), when the previously named Facebook announced a rebranding to the current name (Paul, 2021). Meta and its CEO have come to represent a contemporary drive towards a parallel plane of virtual existence where social presence and experience are curated, felt, and business models could be restructured (Kraus et al., 2022; Latino et al., 2024). Hence, the importance of their perceived realisable value of the metaverse is understandable given that they offer a visionary glimpse into the fast-approaching newfangled technological landscape. We now present our abstractions of the metaverse leading up to a set of testable propositions.

The metaverse: living a virtual reality

Since Neal Stephenson (1992) introduced the metaverse— where virtual reality, augmented reality, and software allow people have avatar representation— in his novel *Snow Crash* almost three decades ago, technological advancement that offer immersive virtual experience have striven to provide realistic digital platform for social life and experience (Buhalis et al., 2023; Tsai, 2022; Yang & Wang, 2023). This hyper-connected digital universe (Barrera & Shah, 2023) presents a combination of mixed reality and virtual reality which allows users to engage in real-time experiences and interactions across space and time (Dincelli & Yayla, 2022; Koohang et al., 2023; Tsai, 2022). Thus, a metaverse establishes hybridised domain of physical and digital reality to present hyper-realistic virtual interactions where user experience is improved in ways that could otherwise not been achieved (Buhalis et al., 2023; Dolata &

[1] The Metaverse and How We'll Build It Together -- Connect 2021. Available at: https://www.youtube.com/watch?v=Uvufun6xer8.

Schwabe, 2022; Dincelli & Yayla, 2022). More importantly, it provides a virtual platform of people where intense perceptual engagement and enhanced social interactions exist (Baker et al., 2019; Dwivedi et al., 2022). This implies that while existing technological tools that offer mixed reality, augmented reality or virtual reality may operate in isolation with limited pack of experience, the metaverse establishes an integrated structure that utilises these tools in combination to offer a seamless interaction between real-world and simulated environment (Dwivedi et al., 2022; Flavián et al., 2019). As Tsai (2022, p.1) argues "for travel and tourism customers, entering metaverse platforms serves to connect their mind and heart with the virtual world as if they are really in an airplane, a hotel, or a destination".

Recent development in this technological domain has sought to enhance the realistic feature of the metaverse. Evolving beyond visual gestures and body movements, there is a new turn towards enhancing sensory features such as touch, taste and scent to provide interactions that are much closer to the real world (Bogicevic et al., 2019; Flavián et al., 2021; Meißner et al., 2017; Spence & Gallace, 2011). Mark, for instance, suggests:

> The next platform and medium will be even more immersive, an embodied internet where you're in the experience, not just looking at it, and we call this the metaverse. And you're going to be able to do almost anything you can imagine, get together with friends and family, work, learn, play, shop, create as well as entirely new categories... (01:09-01:30)

Hence, there is a keen attempt at creating virtual world where features and experiences of the natural world is seamless and undifferentiable (Flavián; 2019; Kim, 2021; Petit et al., 2019). More importantly, this metaverse of socio-organisational environment is aimed at influencing consumer decision making and stimulating purchase behaviour (Baker et al., 2019; Flavián, 2021). This implies that the hyper-realistic experiences in the metaverse could be utilised to influence consumer cognition and social response to business offerings made available withing such environment (Lemon & Verhoef, 2016). In this regard, there is a co-location of value proposition and accompanying purchase stimulations within both physical and a virtual space. And with ever-increasing new features that would enable users to minimise post-purchase cognitive dissonance— since they are able to experience a service or product

in a virtual world before making actual purchase (Dwivedi et al., 2022)— the metaverse offers a host of opportunities for service industries (Gursoy et al., 2022, Buhalis et al., 2023).

Considering the competitive value metaverse could have for contemporary business experience economy where several waves of digital technologies has transformed their modes of value proposition and delivery (Latino et al., 2024), we delineate on its potential to change the basis of competition. To begin with, the quest for virtual domain of existence where real world experiences are replicated and enhanced has become apparent through lessons gleaned from conditions of the Covid-19 pandemic (Rosa, 2021; Yung et al., 2022). In this regard, there have since been several leading organisations in the field of digital technologies forecasting the fruition of new metaverse era where such parallel plane of existence would become a common place in our social life (Intel, 2021; Meta, 2023). As Mark noted:

> "We'll be able to feel present – like we're right there with people no matter how far apart we actually are. We'll be able to express ourselves in new, joyful, completely immersive ways and that's to unlock a lot of amazing new experiences" (01:55-02:06)

Thus, we argue that the metaverse presents opportunities for the service and experience industry (Gursory et al., 2022; World Economic Forum, 2022). The potential for people to engage in social exchange remotely implies that the metaverse, to customers, could provide exposure to real world settings prior to physical presence. Hence, consumer decision is immensely shaped by their exposure to the service offering prior to their actual encounter (Buhalis, 2022; Chen & Yao, 2022; Gursory, 2022). Also, the increasing effort to build sensory systems into the metaverse implies that taste, smell and the psycho-emotional feeling of relaxation and refreshment that is ignited through interactions with the natural environment could be experienced; thereby stimulating interest in having a physical interaction with such settings (Buhalis, 2023; Flavián et al., 2021; Slevitch et al., 2022). As Buhalis et al. (2023, p. 2) argues the metaverse would provide a virtual resource that would enable consumers to "pre-visit tourist attractions and facilities to assess their desirability and suitability". In this respect, the ability of the metaverse to provide a virtual staging of, for example, tourism location or even a hotel or restaurant service offering suggest that the mode of interaction through which value is created in this industry is

itself a competive value proposition that alters the mode consumer-business interaction (Keegan et al., 2023). Hence, we argue that:

> ***Proposition 1:*** *The metaverse offers a parallel plane of existence where value propositions are experienced prior to actual exposure to the material world.*

Metaverse as a product-service innovation canvas

The metaverse presents a digital twin of the physical world where customers' pre-exposure to a services and experiences becomes an altered plane where value capture is co-located. This implies that the metaverse offers business organisations value-creation advantages beyond the existing digital platform (Keegan et al., 2023; Yang & Wang, 2023). Here, customer reviews, for instance, is hardly fabricated as the emotional, gestural and psychological cues are observed in real-time to improve or maintain the service offering (Fu et al., 2024). While data gathering efforts on the existing digital platforms may be limited by user apathy and a reconstruction of experiences with omitted detail (Bolton et al., 2018; Busalim & Ghabban; 2021; Busalim, 2016), the metaverse exist as platform where such insights are gathered-as-generated to shape the eventual exposure to the real-world (Gursory, 2022). Consider the scenario presented by Mark:

> Imagine you put on your glasses or headset, and you're instantly in your home space. It has parts of your physical home recreated virtually, it has things that are only possible virtually, and it has an incredibly inspiring view of whatever you find most beautiful. (04:00-04:16)

He adds:

> It's a way off, but you can start to see some of the fundamental building blocks take shape. First, the feeling of presence. This is the defining quality of the metaverse. You're going to really feel like you're there with other people. You'll see their face expressions. You'll see their body language. Maybe figure out if they're actually holding a winning hand. All the subtle ways that we communicate that today's technology can't quite deliver. (06:08-06:31)

From this we argue that like the physical world the metaverse present refined experience that enable life, as materially defined, to exist thereby yielding opportunity for reconfiguration of value creature and capture platforms (Buhalis, 2022; Kraus et al., 2022). Hence, the metaverse as virtual world is itself designed to serve as a value offering where real-world exposure might not necessarily be sought after. This implies a futuristic tendency where value-creation may no longer exist within the physical presence of the consumers in the location. Rather, such value could be offered and captured in a virtual world where real-world experience could equally be accumulated to the satisfaction the consumer. More importantly, like the 1981 *super-book* cartoon stories in which characters flipped pages to experience time in the past, the metaverse could reconstruct real-world features about historic past to enrich our understanding of life before our modern world— a critically important value of the services industry (Huang et al., 2019; Sipe, 2021).

Against this background, the metaverse is defined as an innovation canvass on which value co-creation where experiences could be reimagined, presenting unique capabilities that have the potential to establishing a dramatically new ecosystem for delivering value to consumers, and capturing same (Meier et al., 2020; Tsai, 2022). Recent reports, for instance, reveal that "hotels are already using VR as a marketing tool by creating immersive experiences that lure in new visitors" (Marr, 2022). Mark describes this as a form of teleporting:

> Now, speaking of teleporting, there are going to be all kinds of different spaces that people make. Rooms like the ones that we just saw, but also games and whole worlds that you can teleport in and out of whenever you want. Teleporting around the metaverse is going to be like clicking a link on the internet. It's an open standard. (07:40-08:00)

This new technological domain thus proffers experimental offerings that could satisfy both objective and subjective needs of consumers (Buhalis, 2022; Zha et al., 2023). In this regard, value co-creation modes are enhanced since consumers are at liberty to customise their own experience thereby rendering the metaverse a technology that lies comfortably within the competitive landscape of mass experience consumption (Turner et al., 2020). Yet, it is worth acknowledging that this technology

remains nascent as it is at early stage of formation (Keegan et al., 2023), where "technologies, business models, and paths to success are elusive and rapidly changing" (Zuzul and Tripsas, 2020, p. 397). While the value capture concept remains under-defined, and the underlying technological framework continue to shift, it presents a dual product-service technological canvas that would challenge existing traditional value creation modes in this industry. The metaverse as a P-SIC is draped in complex potential to overturn of existing value-creation architecture and systemic arrangements (Buhalis et al., 2023; Li et al., 2022; Sipe, 2021). Thus, while innovation in value creation logics that underpin business modules have increasingly become a fundamental strategy in organisational survival, the notion that innovations, such as the metaverse, may be elusive and disruptive to incumbent firms remains a contemporary risk in the services and experience industry (cite).

Against this background, we argue that this risk is very much a characteristic of the metaverse as it is an emerging technology that may seem to be appealing to lower tier of the market demand or a technology-consuming niche (Christensen et al., 2018). This is because the means of appropriating its potential is ill-defined and would require radically new competences and technical capabilities to realise (Dincelli & Yayla, 2022). Also, this challenge emanates from the fundamental shift in the value co-creation and capture modes, rendering it distinct from existing business models (Chen, 2023; Dolata & Schwabe, 2023). In addition, it is somewhat inconceivable for many existing firms to deem the metaverse as a potential game-changer, as it is seen as a substitute to real-world experience (Buhalis et al., 2023; Schiopu et al., 2022). In this respect, the metaverse presents both replacement and complementary function in value creation modes (Buhalis et al., 2023; Lee et al., 2022). While a virtual world of computer-generated reality is important for expanding market size to included consumers who may not exploit or explore physical experiences in geographical locations, the metaverse further offers new avenue to conveniently stimulate physical exposure to experience offerings to through enticement and pre-exposure to important new services or venues (Tsai, 2022). As Buhalis et al. recently observed:

> "*Metaverse may also provide a feasible form of some travel replacement and supplementary, encouraging people to use virtual and physical travel on different*

> *occasions…can also empower those who are unable to experience destinations and resources for a range of reasons. It supports disadvantaged groups with economic, physical or/and social constraints to experience virtual travel*" (2023, p. 6).

In this regard, there are some landmines amidst the glorified value potential of the metaverse, which when ignored may become consequential for our social life (Dolata & Schwabe, 2023). These insights allow us to argue that:

> ***Proposition 2a:*** *The existing underlying operational logics of the metaverse poses challenge for its full adoption and operationalisation.*
>
> ***Proposition 2a****: Reconfiguration of the operational logics of the metaverse could be achieved through ecosystem of valuable complementors.*

Mind the gap!: Practical risks in the metaverse

The quest to shed light on the potentially new paradigm of value co-creation via the metaverse technology as a P-SIC also begs to understand some important landmines which may create a gap between our corporeal world and the virtual reality. First, the enhanced imagery with which a metaverse domain may impose on our virtual experience could inflict on our mental imagery as well as lived interactions and experiences with the natural environment (Alyahya & McLean, 2022; Buhalis, 2023; Golf-Papez et al, 2022). For example, a consumer who may find exploring tourism locations solely in a virtual world may lose out on the psycho-social benefits of engaging with the natural environment through a direct haptic interaction (Chessa et al., 2019; Vasconcelos-Raposo et al., 2019). More so, the ability to enrich imagery to entice consumers in their selection decision-making within a metaverse platform could mean a potential to make choices that are sub-optimal. Dincelli and Yayla (2022, p. 9) captures this risk succinctly:

> "Senses and perceived emotions in VR can also affect individuals' decision-making such that they may accept unfair offers when they interact with "happy" virtual agents or when an agent's touch is simulated using haptic gloves, and they may reject generous offers when they interact with "angry" virtual agents".

Thus, undesired emotional, psychological, and sensory stimulation could be triggered to influence sentiment and frame of mind towards choices and decisions that are unfavourable (Felnhofer et al., 2019; Maïano et al., 2011). Interactive realism is therefore a challenge in the virtual world, which may in turn affect our cognitive responses to gestural cues that avatar representation may struggles to depict in the virtual metaverse environments.

Furthermore, there are risks related to regulatory standardisation to define the modularisation of this new technological domain, and particularly regarding data privacy and protection (Dincelli and Yayla, 2022; Dolati & Schwabe, 2023). This is important because the practicality of a modular virtual reality as is currently proposed by the metaverse is dependent on volumes of personal and protected data and rights that may breach existing laws and regulation (Choi et al., 2020; Tucker, 2012). The customisation of user-preferred experiences in this domain, for instance, could imply having access to personal information such behavioural patterns, relationships, desires, interest and even other protective characterisations that could be utilised manipulatively to accrue value or even harm an individual (Tsavlis, 2013). Mark subtly acknowledges the potential risk:

> Privacy and safety need to be built into the metaverse from day one. You'll get to decide when you want to be with other people, when you want to block someone from appearing in your space, or when you want to take a break and teleport to a private bubble to be alone. (08:45-09:00)

This quote suggests that the metaverse is inherently challenged with ways of addressing privacy and data protection. Hence, as this new technology is emergent and relies on advancements in several technological platforms, such AR/VR technologies, internet of things (IoT), and high-speed wireless networks (Li et al., 2023; Richter & Richter, 2023), it triggers several regulatory landscapes thereby posing structural constraints (Schiopu et al, 2022; Rosenberg, 2022).

Against this background, we submit that the metaverse, albeit its potential to enable value co-creation and capture, experiences fundamental development and commercial challenges (Dwivedi et al., 2023; Ning et al., 2023). This challenge, spanning across the basic technological requirements to see its

fruition, the manipulative tendencies, and regulatory constraints, is apparent in achieving a fully fledge system (Barrera & Shah, 2023; Golf-Papez et al., 2022). A realisation of the proffered potential of the metaverse thus calls for co-development of multiple technological domains (Buhalis, 2023; Mozumder et al., 2022). Furthermore, core enabling technological developments such as cross-cloud computing, artificial intelligence, virtual 3-D realm and IoT networks, for instance, remain important technological lacunae that must be addressed (Li et al., 2023; Liu et al., 2019). Fundamentally changing mode of interactions between organisations and consumers toward a virtual realm thus solicits open technical systems that would allow genuinely generated features of the real world. Also, whereas issues of generational gap in the use of modern technology may be deemed to be narrowing (Zhang et al., 2023), there is a tendency to restrict value creation potential when the modes of access to offerings become sole located in such technological domain.

> ***Proposition 3a****: Enhanced imagery and features presented in the metaverse creates a gap between virtual and corporal world hence alter actual service experiences.*
> ***Proposition 3b****: Safety in a full roll out of the metaverse remains underdefined as it contests and provokes several existing dominant designs and regulatory frameworks.*

Discussion and conclusion

Heightened demand for technological advancement that would improve life and enable widespread economic activities has led to proliferation digital technologies to satisfy these ends. This demand has been met by efforts from the emerging technological fields that have sought to provide modularised systems of virtual reality characterised as the *metaverse* (Barrera & Shah, 2023; Buhalis et al., 2022). Within this metaverse of existence lies the potential for realising new value co-creation mechanism that offers real-world experiences in a non-physical platform. Realising the value to capture in this nascent technology, several scholars have delineated the core functional mechanism, applications, technological frameworks, and disruptive tendencies of the metaverse to the traditional value creation and capture modes (Buhalis et al., 2023; Baker et al., 2019). The metaverse proffers to provide rich experience with service offerings beyond what the existing traditional propose. As a technological system that combines

several virtual technologies to offer sensual, visual, emotional and psychological experience with a digital twin, this new technological paradigm is set to have disruptive tendencies in the existing business model (Dwivedi et al., 2022; Flavián et al., 2019; Felnhofer et al., 2019; Maïano et al., 2011; Tsai, 2022).

In this paper we set out to extend this discourse on the strategic importance of the metaverse by providing a conceptual treatment of this new technological domain as P-SIC. We developed our contribution by drawing on insights from prior research on the metaverse and its disruptive tendencies to value creation models. We sought to embed within our submissions, quotes by the CEO of the Meta, Mark Zuckerberg, to provide to shed light on our conceptualisation. We argued that the metaverse presents a value co-creation design architecture within which the fundamental value propositions of firms to offer memorable and enlightening experience in the service and experience economy is sustained. However, the mode of interactions that enables consumers' exposure to the value offerings is altered through a pre-exposure to the benefits in a virtual world. Thus, we rendered prominence to the metaverse as innovation canvas for value capture where consumer satisfaction is pre-shaped in a virtual domain before exposure to the real-world environment (Constantin et al., 2023). Furthermore, we conceived the value creation protentional of the metaverse as a stand-alone product-service offering where historical artefacts, remote locations, and hospitality services are experienced in virtual plane of existence. This thus shed light on the disruptive tendencies of this technology in today's competitive marketplace.

The insights we explicated this paper also underlined some key operational gaps that has and would pose a challenge to the fruition of a fully-fledged the metaverse era. We argued that augmented visualisation and imagery, undesired emotional, psychological, and sensory stimulation in the metaverse has the potential of inflicting on lived experiences of the natural corporal world (Alyahya & McLean, 2022; Buhalis, 2023). Thus, we have drawn attention to the tendency of providing false reality that may inform consumer choices thereby leading to sub-optimal outcomes or undesired purchasing behaviour (Dincelli & Yayla, 2022). In addition to this fundamental existential risk of the metaverse, we further explicated the challenges of regulatory standardisation of the metaverse and data protection concerns.

As this was conceived as being prominent due to the multiple mergers of existing technological platforms which have varying regulatory arrangements and criteria (Li et al., 2023; Richter & Richter, 2023; Rosenberg, 2022; Schiopu et al, 2022). These gaps cumulative constitute a set of practical landmines and operational gap that may impeded the value co-creation and capture potential of the metaverse.

Against this background, we now settle on the conceptual model that captures the transitional phases towards a full blown metaverse P-SIC canvas for value creation and capture (figure 1). We begin with the premise that the metaverse is at its nascent phase but hold a strategic potential top reconstitute value propositions that would be perceived as beneficial to a consumer in the experience industry. Therefore, advancing to taking advantage of this opportunity would require building internal technological capabilities by investing complementary products (e.g., AR/VR technologies and high-speed wireless networks), providing technological training for existing manpower, and funding or supporting exploratory research into the metaverse. This would enable the development of a P-SIC feature at this phase which would be in the characterised a hybridised business model (providing a virtual feel at the service experience location), re-segmenting the market to target variant segment of the market (satisfying generational gaps) and joining industry-wide collective effort. A transition from this phase would mean reconfiguring value propositions by offering a multi-homing domain in the protype virtual environment, adopting systems improvement such as taste and smell to broaden service offering within the metaverse, and engaging in consumer priming strategies that would reshape service offering benefits and experience (Minton et al., 2-017). Here, we argue that these transitional tropes would enable the transition of existing business model into one that benefits from the metaverse.

Insert Figure 1 About here

Theoretical contributions

Our explications on the metaverse as P-SIC offers two main insights for research on the market dynamics of contemporary business models. First, we submit that it is useful to conceptualise the metaverse as a

futuristic feature manifesting in the present, which has the potential to extend existing business modules (Tsai, 2022). Thus, airily ignoring its strategic potential has disruptive tendencies— a tendency which most firm could easily fall prey to when disruptive technologies are at their embryonic form and value capture modes are very much underdefined (Barrera & Shah, 2022; Zabel et al., 2023). While it is important to recognise that the now blurry value capture modes may pose a challenge for technological adoption, we invoke insights that interest in drawing on vital cues on its value capture potential to recognise the significance of the experience-enhancing structural features of the metaverse. Thus, transformative strategies that could facilitate co-creation avenues through which to enable mass value offering as bespoke and customised in the metaverse are brought into the scope of extant understanding. Hence, the metaverse defines technological landscape where enduring attributes of existing service offerings could be sustained by infusing futuristic features that would satisfy both general and niched demands.

Second, the paper provides insights into how metaverse as P-SIC could offer strategic value to a focal firm through specific (re)configuration of existing and emerging complementary technological features to sustain its value creation and capture. Specifically, our conceptual model points out core transitional phases toward metaverse P-SIC that build the scope for value (co)-creation as well as set the basis for value capture. The mechanising for how business model may function (Massa et al., 2017) is explicated as emerging through building on existing technological capability, harnessing complementary and collaborative ecosystem that enables a hybridise form of the existing business model, and a full-blown reconfiguration of value proposition that fits within existing market conditions and expectations. Consequently, not only could the novel feature of the metaverse serve as a plane for further creative and innovative value offering but also allow for the capturing of value on a large scale to ensure its sustainability (Abumalloh et al., 2023; Leppänen et al., 2023)

Furthermore, regardless of the extant discourse in the metaverse has converged on the strategic potential to enable value creation and capture tendencies (Li et al., 2023) our argument in this paper draws attention to some operational landmines that could impact the fruition of the metaverse as an

innovation canvass. Our conceptualisations help to underline the modularity of this technological landscape and the openness as dimensions of operational relevance, the absence of which may pose and inverse effect on value-creation and capture. We offer a comprehensive analysis of the technical, regulatory and social gaps that unveils how the coexistence of such conditions may continue to impede the broader application of the metaverse technology. In addition, we emphasise that the metaverse is itself an evolving technological domain that exhibits a dynamic, adaptive characteristics, and continue to be dependent existing socio-technical systems (Dolata & Schwabe, 2022). It is therefore imperative that it is considered as a transient canvass that provides a means to an end. Building competences in this technological domain also mean protecting the very core value proposition that characterises value creation modes. Thus, the metaverse could serve as both boundary protection and expansion, as it retains core offering within multiplicity of social demand. This further implies that casting ideal of natural setting on virtual consumer would promote not only demand for hyper-sensory domain features but also that of physical environment.

Practical implications

The value co-creation potential of the metaverse brings to attention the importance of future-oriented value creation that relies on cognitive and visioning power of managers. The extant nature of the technology requires deep understanding of the extant organizational and industry operational environment and how it may evolve in the future. Thus, by rendering attention to contextual cues, drawing on relevant past experiences of the disruptive outcomes of novel technologies would provide a basis to forecasting its potential. Embarking on organisational activities that seek to optimize organizational capabilities beyond the improving existing competences to identifying, assessing, interpreting and acting on opportunities and threats emerging far beyond existing threshold for survival. This would mean engaging in scenario planning and/or simulations that relies on the proposed features of the metaverse to tease out core challenges and the strategies to navigate same (Sarpong & Maclean, 2016).

In addition, this study suggests that the metaverse is capability enhancing technology which require dynamic configuration of organisation competences to extract optimum value. Thus, developing employee skill and knowledge to exploit this new technological domain could yield important new of organisational capabilities in anticipation of a fully-fledged metaverse domain business model. Thus, managers should better articulate their justification for investing in technological tools that are complementary to the metaverse and funding metaverse-related exploratory research even when its benefits may seem farfetched and cannot be easily justified in present. This could be achieved by further exploiting the emerging capabilities from such investments to address existing challenges of the organization.

Future research

While the insights we offer may not be exhaustive, we aim to open rich opportunities that could be leveraged by future research to advance understanding of the metaverse and its implications for contemporary organisations. To begin with, the advocate for future research to consider viable configurational potentials that organisations could exploit by employing a metaverse model for value creation. This would serve as an avenue to conceiving how new competencies and capabilities are developed to realise a fully operational metaverse system that does become vestigial. The interest of such studies could be to unpack the transient nature of technologies and how developing capabilities for a metaverse system could also help develop absorptive capacity for future innovations. Furthermore, this approach to research would be fruitful through technological road mapping and forecasting approaches utilising, for example, the Delphi technique (Kraus et al., 2023).

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Figure 1: A conceptual model of transitional phases for value-capture in the metaverse