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Using metaverse in the workplace and marketplace:

Its impact on the psychological contract of employees and customers

Abstract

Purpose

Despite growing research on metaverse, the way this is associated with psychological contracts in business is virtually absent. In this article, we provide a conceptual exploration of this association between metaverse and the psychological contracts of both employees and customers.

Design/methodology/approach

This is a conceptual article that examines the implications of metaverse as a workplace and marketplace on frontline employees' and customers' psychological contract. In doing so, we develop a conceptual model and make propositions, while we also offer recent examples of firms that have moved to metaverse.

Findings

Although we do not provide empirical results, we indicate through a set of propositions how changes in the workplace and marketplace caused by the firm's use of metaverse influences psychological contract of its employees and customers, as well as how these are interrelated. We further explain that the accomplishment of these psychological contracts in a metaverse context can favorably affect business performance.

Practical implications

Companies need to anticipate, monitor, and adjust to the changing pattern of psychological contracts of both employees and customers as they move to metaverse, because this will have serious implications on their business performance.

Originality/value

We introduce metaverse, a recently introduced phenomenon that is gaining momentum in the business world, causing significant changes in the workplace and marketplace and seriously affecting the nature of psychological contracts of both employees and customers.

Keywords: Metaverse; Psychological contract; Employee relationships; Customer relationships.

1. Introduction

Metaverse provides a 3D digital space, where users can come together via avatars that resemble them and mimic their movements, so that they can interact with each other in an immersive, persistent, multisensory, and real-time environment (Hollensen *et al.*, 2023). As Belk *et al.* (2022, p.198) argue, it is “an imagined future space where these building blocks of neoliberal production and consumption are delinked”. In fact, companies like *Accenture*, the UK-based food delivery App, have developed virtual offices within the metaverse, allowing employees to collaborate and interact in a virtual environment regardless of their physical location. In addition, a growing number of firms adopt metaverse platforms to create immersive brand experiences, host virtual events, and provide interactive customer services. For example, *Nike* has launched virtual showrooms and try-on experiences, allowing users to see how products look on their avatars before making a purchase. This new transformative business phenomenon necessitates a re-evaluation of psychological contracts between the firm and its employees (particularly those serving in the front line), but also between the firm and its customers (Marr, 2022).

Until recently, psychological contracts, which are critical in shaping individuals' expectations and responsibilities derived from the terms of their exchange agreement with an organization, have been set within a physical world, taking into consideration the traditional modalities of exchange and communication (Conway and Briner, 2009; Kutaula *et al.*, 2022). However, in a metaverse, the use of platforms, apps, and other

devices vests control over the employees in the hands of the employer, who may require them to engage with customers' avatars and other colleagues' avatars (Kuhn and Maleki, 2017; Costa, 2021). Also, customers' immersive time in metaverse develops a new avenue to make their purchases, creating a unique shopping experience that is quite different from buying from a physical shop (Mogaji et al., 2023a). As a result, in this new virtual environment, psychological contracts, on the one hand, will help to clarify the implicit and explicit expectations of employees regarding job roles, work-life boundaries, and support systems in this new virtual work environment (Guest, 2004)¹ and, on the other, will facilitate customers to determine their expectations relating to brand promises, support, and the overall experience (Hennig-Thurau et al., 2023).

Research on the role of metaverse in a business context has significantly grown in the last years (see **Table 1** for indicative studies on the subject). However, despite yielding useful theoretical and practical insights, the way metaverse has changed the psychological contract between the firm and its employees and/or customers is virtually absent (Coetzee and Deas, 2021). Specifically, the gaps in this line of research can be summarized into three areas: (a) there is an insufficient exploration of psychological contracts of both employees and customers in the metaverse era and how these affect business performance; (b) there is limited understanding of how employees' interact with customers in metaverse and how these interactions affect their psychological contracts; and (c) there is insufficient consideration of the role of

contextual factors shaping the psychological contracts of both employees and customers.

...insert Table 1 about here...

The previous gaps identified in the literature are important to be addressed for several reasons: as employees immerse themselves in the metaverse as a workplace, their self-identity expressed in avatars differs from that of reality, thus necessitating an understanding of the changes in their psychological contracts; the metaverse is gradually becoming a new marketplace for customers, requiring new ways of communication by firms to establish a strong brand relationship with them and meet their emerging new psychological contracts; and the new set of psychological contracts for both employees and buyers created by the metaverse are expected to ultimately have serious implications on the firm's performance outcomes.

Considering the gaps relating to this new business phenomenon and the necessity to address them, this article aims to conceptualize the effects of the firm's adoption of a metaverse-based business model on the psychological contracts of both its employees and customers.² This will help to better understand the opportunities and challenges brought by metaverse at both the workplace (e.g., clarity on work nature versus work/life balance problems) and marketplace (e.g., improved brand experience versus security breach concerns) to adjust psychological contracts with employees and customers accordingly in order to yield superior performance results. It will also provide a deeper insight into how different avatars interact while they

immerse themselves in the new context of virtual reality, as well as how these impact psychological contracts.

Against this backdrop, we have four major objectives to accomplish: (a) to reconceptualize the psychological contract in metaverse by understanding the nature of metaverse and exploring its connection with psychological contracts between the firm and its employees and customers; (b) to examine what new aspects metaverse has brought to both the workplace and marketplace, as well as the opportunities and challenges created for business firms; (c) to propose a conceptual model that puts together the key issues relating to the connection of metaverse with psychological contracts, anchored on Flow theory; and (d) to develop a set of propositions that focus on the effect of the adoption of metaverse in the workplace and marketplace on psychological contract fulfilment of employees and customers respectively (taking into consideration the moderating role of flow experience and perceived trust), as well as the ultimate effect on business performance.³

Our study makes three important contributions to the management literature. *First*, we highlight the role of metaverse in serving as an important change factor in both the workplace and the marketplace. Specifically, we demonstrate that, on the one hand, metaverse empowers employees with fresh insights that inspires their work responsibilities, enhances their capabilities, and enriches their flow experiences, while, on the other, it enriches customers' experience with the product by providing convenience, enjoyment, and engagement. We also show that these positive changes

caused by metaverse will subsequently generate significant benefits for the firm, especially as regards its performance outcomes.

Second, we provide a link between metaverse and the firm's psychological contract with either employees or customers. Although many studies have underscored the importance of these psychological contracts in the smooth operation of business ventures, the role of metaverse in changing their nature has been largely ignored. Our study provides useful insights into the new duties and requirements brought forward in psychological contracts with both employees and customers by metaverse, which firms need to seriously take into consideration. Accordingly, we conform to a recent call by SanMiguel et al. (2024) to scrutinize extensively the analysis of metaverse and its consequences on both employees and consumers.

Third, by reconceptualizing psychological contract in metaverse, we propose a conceptual model that encompasses the effect of the firm's adoption of metaverse at the workplace and marketplace on its psychological contracts with employees and customers respectively, taking into consideration the moderating role of flow experiences and perceived trust. In this way, we highlight the important link between psychological contract and firm performance which has been relatively overlooked. We also provide a link between the firm's employees and its customers, by arguing that fulfilling the psychological contract with employees will have beneficial effects on the accomplishment of the psychological contract with customers, which will help to enhance firm performance.

In the remainder of this article, we first provide some background knowledge on the nature of metaverse and psychological contract. Subsequently, we reconceptualize the psychological contract in a metaverse context. The following section presents our conceptual model and explains its theoretical underpinnings. We then develop propositions that link together the changes caused by metaverse on the psychological contracts between firms with their employees and customers, and their impact on business performance. In the final sections, we draw conclusions, provide implications for theory and practice, and suggest directions for future research.

2. Understanding metaverse and psychological contract

2.1 The metaverse phenomenon

Since its introduction in the fiction novel in 'Snow Crash', written by Neal Stephenson in 1992, metaverse has been changing human engagement in an unprecedented manner, especially in the last few years when many firms have entered the race to have a presence in the virtual world (Colicev, 2023; Hakkarainen and Colicev, 2023; Koohang *et al.*, 2023; Marr, 2022). Metaverse provides a virtual platform which helps, on the one hand, to enhance employee capabilities and productivity, and, on the other, to advance customer engagement without physical presence (Belk *et al.*, 2022; Hollensen *et al.*, 2023; Zhang, 2023). Social distancing restrictions imposed by the recent COVID-19 pandemic and the growing popularity of online gaming platforms (e.g., Fortnite and Roblox) have accelerated the acceptance of a metaverse culture, where individuals use avatars for gaming, socialization, and even real monetary transactions within virtual spaces (Hadi *et al.*, 2023). Adeptly, this technological advancement has brought about

new opportunities but also challenges for both organizations (e.g., providing personnel training) and individuals (e.g., enhancing customer satisfaction) (Costa, 2021).

This transition from traditional physical to virtual environments introduces fundamental changes in how management practices are implemented. For example, in traditional settings, practices such as employee retention and customer engagement are often constrained by the limitations of physical space and the directness of personal interactions. In contrast, the metaverse enables a transformative approach to both the workplace and marketplace, allowing interactions to occur within three-dimensional "virtual worlds" through the use of avatars and holograms (Gursoy *et al.*, 2022). In this regard, the metaverse enables users to project "idealized" versions of themselves through their avatars, which has influences on various types of human behavior, such as those pertaining to social, work, and consumption aspects (Hadi *et al.*, 2023; Zimmermann *et al.*, 2022). Enabled by augmented and virtual reality technologies, metaverse helps to improve users' experiences by allowing them to seamlessly interact within actual and virtual environments (Yoo *et al.*, 2023). This suggests that metaverse users have a greater tendency to engage in interactive, personalized, and multifaceted experiences, compared to other communication modes (Han *et al.*, 2022).

Metaverse can help firms to better connect with their employees at all levels, by using this as a tool for improved communication, productive interactions, and quick

feedback, which can help to improve the effectiveness and efficiency of their internal processes (Wright, 2022; Dwivedi *et al.*, 2022). Virtual environments can offer more dynamic and engaging training resources which may lead to enhanced talent development and potentially higher retention rates due to the innovative and flexible nature of these platforms. In marketing, recent study found that metaverse has an important role to play as a multichannel or omnichannel to reach the market (Ramadan, 2023). With generation Z's enthusiasm for technology and much time spent on computer/digital games, firms moving onto metaverse as a marketing channel stand to benefit because of an untapped market potential (Barry, 2021; Ramdan, 2023).

Despite the expansive capabilities of the metaverse as elucidated by recent studies, there remains a considerable gap in our understanding of its full impact on management practices and the dynamics taking place at both the workplace and the marketplace. While extant literature (e.g., Wright, 2022; Dwivedi *et al.*, 2022) primarily explores the technological aspects of metaverse, there is little focus on the profound implications these technologies have on the psychological contracts of both employees and customers. Specifically, the shift toward virtual interactions in metaverse-based platforms challenges traditional psychological contract norms by redefining expectations of trust, reciprocity, and engagement in ways that have not yet thoroughly examined. This is particularly critical as virtual environments blur the boundaries between personal and professional spaces, potentially altering how employees perceive organizational commitments and how customers experience

brand relationships (Moin et al. 2024).

2.2 Psychological contract

Psychological contract is defined as the “individual beliefs, shaped by the organization, regarding terms of an exchange agreement between the individuals and their organization” (Rousseau, 1995, p.9). For the contract to be fulfilled, both the organization and the individual need to play their roles with mutual respect to the resulting outcome (Guest, 2004; Roehling, 2008; Rousseau, 1995). This psychological contract acts as a guiding principle of the behaviors demonstrated by the organization and the individuals, such as the nature of the working environment, the type of the exchange relationship, and the fulfillment of reciprocal commitment and obligations (Robinson and Morrison, 2000). The concept of psychological contract has long been a central theme in the literature of organizational behavior and human resource management, while later this has also been broadly applied in the marketing field.

According to Psychological Contract theory (Menninger, 1958; Rousseau, 1995), psychological contracts can be manifested in two forms: transactional and relational. *Transactional contracts* tend to be short-term and monetary-focused, with little personal interaction between the parties involved. In this case, employees typically work just for their paychecks, while customers are driven by specific transactions rather than loyalty or emotional attachment. *Relational contracts*, on the other hand, involve a deeper and mutually beneficial agreement that includes both personal relationships and financial exchange. These agreements are founded on long-term relationships

that enable employees and customers to grow in alignment with organizational goals (Bal *et al.*, 2013; Hai-Ming *et al.*, 2020).

A psychological contract can be measured as being fulfilled, breached, or violated (Su *et al.*, 2023). This concept is largely based on the principle of reciprocity, which means that both parties typically respond in reflection of the contract being fulfilled or broken (Löffert and Diehl, 2023). When a psychological contract is fulfilled, it tends to positively influence an individual's attitudes and behaviors, contributing to heightened organizational performance. However, when the contract is broken or violated, it typically results in adverse outcomes for the firm's employees (e.g., increased turnover intentions, lack of enthusiasm, reduced job satisfaction) (Zhao *et al.*, 2007) or customers (e.g., reduced trust, low satisfaction levels, brand loyalty erosion) (Ismail, 2022).

The shift from traditional to digital environment in recent decades has profoundly altered psychological contracts. Advancements in technology such as artificial intelligence (AI), machine learning (ML), and digital communication platforms have introduced new dynamics into the employer-employee and the firm-customer relationship (Coyle-Shapiro *et al.*, 2019). This transformation extends psychological contracts beyond traditional frameworks, involving multiple stakeholders and impacting the flexibility of work locations, communication methods, and management structures (Costa, 2021). As the workplace and marketplace continue to digitize, particularly with the rise of the metaverse, these psychological contracts are expected

to become more complex, heavily influenced by the possession of digital capabilities, remote cooperation, and algorithm-based coordination (Ballas *et al.*, 2024). For example, applications of social robots and human-robot interactions suggest that these technologies could transform traditional tools into active, autonomous partners, thereby potentially altering perceptions of reciprocity and contractual obligations (Bankins & Formosa, 2020).

3. Reconceptualizing the psychological contract in a metaverse context

Metaverse is dramatically changing how the firm relates to its employees and customers (Dwivedi *et al.*, 2022). Working in a physical environment is different than working in a virtual space and, therefore, there is a need for a new psychological contract that will ensure employees are working effectively and efficiently to meet their obligations as they have always done in the physical workplace. Also, within the framework of the firm's association with customers, the psychological contract needs to be adapted to see how this new advanced technology can enhance brand connection. Hence, reconceptualizing the psychological contract is imperative to align with the unique attributes and demands of metaverse virtual environments (Coetzee and Deas, 2021). While traditional psychological contracts were primarily formulated within the context of physical workplaces and face-to-face customer interactions, in a metaverse context these need to be redefined to capture the new set of expectations and obligations of both employees and customers and how these may lead to fulfilment or breach during their virtual interactions. **Table 2** presents an overview of the reconceptualization of psychological contract in metaverse, centering on how key

metaverse features impact psychological contract, content-oriented issues, and evaluation-oriented aspects, which are explained in the following sub-sections.

...Insert Table 2 here...

3.1 Key metaverse features and psychological contract

Within a metaverse context, psychological contracts can significantly influence both firm-employee and firm-customer dynamics, as it extends beyond traditional workplace and marketplace settings into a more fluid and interconnected virtual space. By its very nature, metaverse inspires social presence, emotions, and onboarding of people, and as such it enhances their engagement with the firm (Hennig-Thurau *et al.*, 2023). This is because '*immersive*', which is a key feature of metaverse, can immerse the user in a virtual world of experience and, once this is achieved, individuals can feel that their psychological contract with the firm is better fulfilled (Hadi *et al.*, 2023).

Another key feature of metaverse is the '*avatar interaction*', with avatars serving as digital representations of users within virtual environments, allowing for interactions with other avatars and the virtual world itself (Miao *et al.*, 2022). These interactions are a core component of the immersive experience offered by the metaverse, enabling users to communicate, collaborate, and engage with each other in real-time. Avatar interactions fulfil users' identity-related needs by offering opportunities for self-expression, social connection, and exploration of different personas. When firms facilitate these interactions effectively, firms can demonstrate their commitment to

fulfilling the psychological contract and maintaining positive relationships with their virtual community.

3.2 Content-oriented approach to psychological contracts in metaverse

The content-oriented approach to psychological contracts focuses on examining the specific terms of the agreement between the parties involved. This involves identifying and measuring the discrete expectations and obligations of both parties in the exchange relationship (Low et al., 2016; Rousseau & Tijoriwala, 1998; Sherman & Morley, 2020).

3.2.1 Workplace content issues

Metaverse is perceived to be a new type of workplace where employees would be working in avatar format rather than physically, which has been accelerated by the rise of remote work and hybrid models (Galer, 2022) (see **Table 3** for examples of firms using metaverse in their work environments). Accordingly, the psychological contract between a firm and its employees includes several key expectations and obligations. Firstly, employees anticipate clarity regarding the nature of their work and a clear delineation of work-life boundaries. To meet these expectations, firms must provide detailed job descriptions and implement policies that ensure a balance between work and personal life in the virtual environment. *Microsoft*, for instance, has implemented clear guidelines for its virtual workspace, outlining work-life balance protocols to help employees manage remote and hybrid schedules.

...insert Table 3 about here...

Employees also expect the provision of adequate tools for executing tasks within virtual environments. Firms are obligated to supply the necessary virtual tools and resources, as well as comprehensive onboarding programs and ongoing support to ensure employees are proficient in using these tools. For example, *Metaverse Continuum in Accenture* offers training and support systems that ensure employees are equipped with the right tools to navigate virtual spaces effectively, providing ongoing assistance to help employees integrate these digital tools into their daily workflow.

Employees seek greater flexibility in their schedules and autonomy in decision-making related to virtual work, with some companies establishing feedback systems tailored to virtual environments to ensure that their employees can track their progress and receive constructive input in real time. To fulfil these expectations, firms should offer flexible working hours and empower employees to make decisions about their virtual work processes. *Meta* has introduced flexible working hours in its Horizon Workrooms, allowing employees to work from various locations and use virtual avatars to attend meetings, thus offering greater autonomy over their work environment.

Finally, employees require comprehensive support mechanisms for navigating the complexities of virtual spaces. Firms must prioritize the design and management of virtual workplaces, creating intuitive interfaces, establishing clear communication channels, and addressing technical issues promptly. Firms like *Nvidia* have designed intuitive virtual workplaces using their Omniverse platform, ensuring seamless

collaboration and immediate troubleshooting support for technical difficulties. However, failure to meet these obligations can lead to decreased employee morale, disengagement, and ultimately, a breach of the psychological contract, impacting overall organizational performance in the metaverse.

3.2.2 Marketplace content issues

The metaverse is emerging as a significant marketplace platform, transforming traditional firm-customer relationships by offering new opportunities for brand engagement and customer loyalty. As organizations explore the potential of this digital frontier, the value of the metaverse marketplace is projected to grow exponentially. According to Bloomberg Intelligence (2021), it could reach an estimated \$800 billion, with the potential to exceed \$1 trillion in the coming decades. This transformation is especially promising for luxury brands, with *Morgan Stanley* analysts predicting that metaverse-related revenue for this segment could exceed \$50 billion by 2030 (Goldstein, 2021). For example, *Dolce & Gabbana* has already capitalized on this potential, generating \$5.7 million in revenue from the sale of nine non-fungible tokens (NFTs), demonstrating the viability of virtual products in strengthening brand identity and customer loyalty (Masoni, 2021) (see **Table 4** for examples of firms using metaverse as a marketplace).

...insert Table 4 about here...

In this evolving marketplace, the firm-customer psychological contract includes several key expectations from customers and obligations for firms. Firstly, customers

expect the firm to deliver on its brand promises by ensuring that products or services meet advertised standards and fulfil consumer needs, including aspects such as quality, functionality, or any other value propositions associated with the brand (Belk *et al.*, 2022). Moreover, customers also anticipate seamless support within the metaverse, where immediate assistance and effective problem resolution are crucial. This includes the use of virtual help desks, chatbots, or personalized interactions to provide effective and efficient support channels. For example, *IKEA* has integrated virtual assistants and chatbots within its online platforms and virtual stores to assist customers with product information, providing real-time solutions to customer inquiries.

The metaverse also offers unique opportunities for innovative and personalized interactions. Customers seek tailored experiences that cater to their preferences, interests, and needs, leveraging the platform's immersive capabilities to enhance engagement and satisfaction. The success of brands like *Nike* and *Gucci* in selling virtual products illustrates how the metaverse enables personalized interactions, enhancing customer satisfaction and loyalty by fulfilling these elevated expectations. If the firm fails to meet these expectations due, for example, to a lack of employee training, inadequate resources, or the novelty of the platform, it can lead to perceived breaches of the psychological contract, negatively impacting customer loyalty (Hannah *et al.*, 2016).

3.3 The evaluation-oriented approach of psychological contract in metaverse

The evaluation-oriented approach examines the psychological contract by assessing the degree of fulfillment, change, or violation of its perceived terms. It measures how well obligations and promises are met, changed, or breached. (Conway et al. 2014; Rousseau & Tijoriwala, 1998; Tomprou et al., 2015). Here, we address issues relating to psychological contract fulfilment and breaches.

3.3.1 Workplace evaluation issues

The adoption of the metaverse in the workplace heralds a number of opportunities in meeting employees' expectations and fulfilling the psychological contract. First, employees will have the opportunity to reinvent their in-office experience online through their avatar form, with the movement of the avatar on the platform and interaction with other colleagues expected to invoke more creativity in their innovation competences (Insightful Environment, 2023). Moreover, the metaverse serves as a platform for skill development and training, leveraging interactive games and simulations to equip employees with the necessary competencies, thereby fulfilling their expectations for growth and development within the organization (Lawton, 2022). It has also been argued that metaverse is conducive to a more human-centered work environment, in the sense that it compromises the physical, augmented, and virtual sphere, which is expected to offer employees contextual information for a better decision-making regarding their daily responsibilities (Galer, 2022). Metaverse can also facilitate collaboration, encourage motivation, and strengthen social bonds among employees like in the physical world, and sometimes in a much better way because of

the conveniences provided (Purdy, 2022). These aspects contribute positively to the fulfilment of the psychological contract, aligning with employees' desires for meaningful and enriching work experiences in metaverse.

However, challenges emerge alongside these opportunities, potentially breaching the psychological contract and undermining employee well-being. First, employees must be reskilled to learn how to acquire new knowledge important to efficiently operate in a metaverse environment, with some of them running the risk of becoming technologically unemployed (Lawton, 2022). Moreover, metaverse could breed fatigue and, in some cases, psychological problems among employees, with a recent study showing that some people moving from the physical desktop atmosphere to the virtual reality environment suffering from simulator sickness, expressed in the form of migraine, nausea, and anxiety (Biener et al., 2022). Furthermore, employees could face adverse outcomes if their trust in the system fades away due to discontinuity of the entire virtual world project that could lead to redundancy, high rate of turnover, and decrease in job satisfaction (Zhao et al., 2007). This was evident at *Microsoft*, one of the early adopters of the idea to move into metaverse, where more than 100 jobs involved in its Industrial Metaverse project were lost after the company had to abandon it due to instability and high-level of risk (Miller, 2023). Similarly, another study by Kniazeva et al. (2024) concluded that the application of metaverse in the workplace is clouded with uncertainty, which is responsible for contaminating people's flow experience from their immersion in the metaverse.

4.3.2 Marketplace evaluation issues

Incorporating the metaverse into the marketplace fundamentally alters the dynamics of the psychological contract between customers and brands in various ways. First, customers can explore, and even own, a digital version of their favorite brands, as well as receive staff assistance in real time, hence embracing metaverse as a new channel outlet (Reiff, 2022; Zhang, 2023). For example, in 2021, *Gucci* made its first appearance on metaverse via the Roblox gaming platform with 42 million users giving the possibility to own collectibles and limited-edition of *Gucci's* accessories costing between \$1.20 and \$9.00 (Barry, 2021). This clearly indicates that commerce is radically changing in line with the shift toward virtual spaces and corresponding shared experiences (Mogaji *et al.*, 2023b). In fact, there is evidence showing that four in five consumers with an active presence on metaverse have bought an item from there to facilitate their online experience (McKinsey and Company, 2022). Hence, consumers' immersive time in metaverse creates a new avenue to make their purchases, creating a unique shopping experience that is quite different from buying from a physical shop (Mogaji *et al.*, 2023a). Another benefit associated with metaverse in the marketplace is that it unleashes creativity and customizations to individuals. As a result, brands can benefit from products like wearable NFTs, which are not constrained by the limitations of fabric, product safety, social norms, or practical design considerations (Zhang, 2023). Replicating NFTs is barely impossible, hence, metaverse guarantees and facilitates psychological ownership of the brand which stands to eliminate the old idea held that digital goods predominantly are of less value compared to their physical counterparts

(Hofstetter *et al.*, 2022). Additionally, branded NFTs could be a source of increasing brand awareness, bring on board audiences that were not reachable before, build strong brand loyalty, and act as a catalyst for NFTs' audience to proceed with the purchase of the physical product (Colicev, 2023). Hence, NFTs help to provide buyers with a new set of fulfilment and a unique experience with products/brands due to their immersion in the metaverse.

Despite these benefits for consumers' psychological contract fulfilment in the metaverse marketplace, there are also some concerns that may lead to breaches, such as those relating to security and privacy threats. This is because customers have concerns about how the companies they use collect, store, and use data when they move to have presence in a metaverse sphere. Much of this comes across in that any augmented reality (in which metaverse also falls) obtains users' biometric data, facial characteristics, and distinctive gestures, which, without adequate secured storage protocol could be potentially used by scammers for their own criminal acts (Lawton, 2022). Another concern has to do with the fact that personal avatars are not absolutely owned by consumers, but by the firm or the metaverse platform it was created on (Belk *et al.*, 2022). Also, the possession of the brand involves significant financial expenditure, and, if absoluteness of the brand purchased is not guaranteed, it may shake consumers' ownership with possible detrimental effects on the firm and its brands (Hennig-Thurau *et al.*, 2023). Additionally, there are concerns regarding the complexities involved in introducing metaverse into transport systems, such as integrating virtual and physical

navigation, because this requires advanced technological infrastructure, high levels of cybersecurity, and seamless interoperability (Mogaji, 2023).

5. Conceptual model and Flow theory

Our previous analysis has brought to the surface various issues that connect metaverse with the firm's psychological contract with either its employees or customers. **Figure 1** presents a conceptual model that incorporates the adoption of the metaverse in the workplace and the marketplace, the impact of these on the psychological contract of employees and customers, the moderating role of flow experience and perceived trust, and the resulting business performance outcome.

...insert Figure 1 about here...

Our model is anchored on Flow theory, which states that people tend to become deeply engaged as they interact with a specific technology, as in the case of metaverse (Csizkszentmihalyi, 1975; Ozkara *et al.*, 2017; Siekne, 2005). This theory stresses the crucial role of '*flow experience*', defined as "the holistic sensation that people feel when they act with total involvement" (Csizkszentmihalyi, 1975, p. 36). The immersive nature of the metaverse facilitates these flow experiences by allowing users to escape from the physical world and become fully absorbed in their virtual activities. Given that people in virtual environments, such as metaverse, typically have an escape time from the physical world, their experiences will depend on the amount of time spent in metaverse, with individuals spending more time being more likely to achieve a state of immersion and engagement (Mogaji *et al.*, 2023; Schüll, 2012). This immersion facilitates a deeper connection with the virtual environment, enabling users

to experience the flow state more readily.

Flow theory suggests that when individuals are fully engaged and absorbed in an activity, they lose track of time and experience high levels of enjoyment and satisfaction (Csizkszentmihalyi, 1975). In fact, people who spend time in metaverse and become absorbed in their activity tend to shift into a common mode of flow experience which is critical to facilitating the realization of their psychological contract (Koufaris, 2002). Regarding employees, there are indications that flow experiences within the metaverse can significantly impact their engagement and productivity. Immersive time spent in virtual environments fosters a sense of presence and involvement, which can lead to improved performance and satisfaction. In fact, employees who experience flow in the metaverse are more likely to feel a sense of fulfilment and alignment with their psychological contract, as their expectations for having an engaging and meaningful work are met (Dwivedi *et al.*, 2022).

Evidence from the marketing literature on metaverse indicate that consumers spend 'immersive time' (ImT) in virtual environments – which is the “conscious, deliberate, and dedicated time spent using a headset and other accessories to continually engage in the metaverse, presumably at least in part to escape the real world” (Mogaji *et al.*, 2023, p.1). Stores in a virtual space have the potential to build strong relationships with customers by promoting immersiveness, which instigates experience in retailing (Profumo *et al.*, 2024; SanMiguel *et al.*, 2024; Ogunjimi *et al.*, 2021). Consequently, consumers are prepared to engage in the metaverse and have

an immersive time to associate with other users and brands, thereby building their virtual experience (SanMiguel *et al.*, 2024).

Drawing on Flow theory, we address the lack of attention on the psychological contract within the metaverse context by reconceptualizing the effects of virtual interactions on both employee and customer psychological contracts. We propose that the features of this theory (i.e., immersive experiences) can be used to explain the interactions between employees and customers in the virtual environment. Employees, through their engagement and immersive interactions, play a crucial role in fulfilling the psychological contract with customers. Similarly, when the psychological contract is fulfilled, customers are more likely to exhibit positive outcomes, such as satisfaction, repeat purchases, and loyalty. Thus, understanding these dynamics is essential for leveraging the potential of the metaverse to enhance firm performance.

6. Propositions development

6.1 Propositions for main paths

To have a strong grounding of employees' psychological contract, firms need to have a solid foundation in metaverse to enhance employee flow experience as they immerse themselves and meet up their needs at work. Hence, metaverse creates a platform through which employees can interact with colleagues in their avatar form, which is expected to invoke employees' competences driving out their creativity (Insightful Environment, 2023). This is because in a metaverse virtual world, employees can share

views, explore and exploit new ideas, and come up with improved and innovative solutions to problems, which are achievable through the immersive time spent that determines their flow of experience. Employees benefit also from contextual information that carefully directs their decision-making relating to their job responsibilities (Galer, 2022). Employees experience particularly a physical, augmented, and virtual atmosphere that serve as a catalyst to access a plethora of information, which facilitates performing more efficiently their daily duties and enhances their commitment at work (Galer, 2022). Moreover, metaverse helps to cultivate a collaborative environment with other employees that surpasses traditional digital platforms (Lawton, 2022; Galer, 2022). This is because the immersive nature of this virtual world allows employees to flow freely into an environment that provides real-time experience (Kim, 2023). In fact, in a metaverse context, information flows more quickly between employees, based on an immersive learning experience that incorporates all five senses, thus building stronger relationships and instilling authentic trust at the workplace (Galer, 2022). Since metaverse provides a real-time operating atmosphere, employees can have access to on-time/real-time information, which can help to rapidly address any issues relating to their work. There are also indications that metaverse helps to drive up employee productivity and enhance focus on work responsibilities when meeting in virtual rooms designed as “real estates” for discussion and other work-related issues (Bhaimiya, 2022). Metaverse can also provide a conducive environment for rigorous training of the firm’s personnel, through for example, the use of escape rooms where employees could converge to engage in

problem solving activities, build communication skills, and discuss ways of meeting prospective customers. Moreover, as employees spend more and more time in the metaverse as a new workplace environment, they can gradually develop skills, acquire knowledge, and leverage abilities that will help increase efficiency and effectiveness at work, resulting in more committed, motivated, and satisfied employees (McGee, 2023).

Based on the previous argumentation, we may posit that:

P₁: The firm's use of metaverse platform as a workplace positively impacts its employees' psychological contract.

Metaverse as a virtual marketplace has become attractive to brands, with a growing number of firms finding solace in this new environment with much enthusiasm (Belk *et al.*, 2022; Reiff, 2022). Among the changes that metaverse has introduced is the possibility for buyers to have an exciting living, entertainment, and interaction that is accompanied by an immersive atmosphere powered by 3D, virtual reality (VR), and blockchain technology (Zhang, 2023). In addition, metaverse helps to allow customers from around the globe to experience the brand without necessarily incurring any cost, unlike the actual product which would have not been the case (Hollensen *et al.*, 2023). Moreover, metaverse motivates customers to tap into opportunities irrespective of where they are located, thereby helping to reduce any cost and time constraints (Hollensen *et al.*, 2023; Mogaji *et al.*, 2023a). Furthermore, by spending time in the metaverse, customers become more knowledgeable about companies and their offerings, thus helping them to make more informed purchasing

decisions that would satisfy their needs. Due to the immersive nature of the metaverse, customers will see themselves within the virtual world (not merely accessing the Internet), thus creating a more engaging experience for them (Hadi *et al.*, 2023; Kaur *et al.*, 2023). This can generate a strong brand relationship with customers, as in the case of Nike which reported that some of its customers were willing to pay from \$4,000 to \$9,500, and sometimes hundreds of thousand dollars, for a digital version of its shoes (Brook, 2022; Zhang, 2022). Hence, firms can tap into metaverse to increase their brand awareness and create a new stream of sales since an increasing number of people spend a good deal of time and immerse into the virtual environment to gain different set of experiences (Mogaji, 2023). In relation to this, a recent study by Ghali, Rather, and Khan (2024) revealed that the more time consumers spend on metaverse, the stronger their social presence and attachment to metaverse, which further encourages revisit intentions. Accordingly, metaverse as a marketplace could provide the impetus to customer satisfaction through their immersive time and associated flow of experience, which then would have a profound impact on their psychological contract with the firm. Hence, the following proposition can be made:

P₂: The firm's use of metaverse platform as a marketplace positively impacts its customers' psychological contract.

Extended Self-Identity theory suggests that individuals often incorporate objects, possessions, or digital representations into their sense of self (Belk, 1988). Metaverse allows individuals to create and interact with and through avatars of which

are extensions of their identities. In other words, they see their self-identity in the avatar and if their expectations are met in terms of solving problems or satisfying needs this will translate into meeting up with their psychological contract. For example, in the case of employees, an avatar as human representation still performs various human functions, such as attending meetings, participating in training, and servicing customers. The expectation here is that each aspect of interaction between employees and multiple avatars on the metaverse generates satisfaction which helps to meet up with their psychological contract. With this fulfilment attained, employees will be motivated to be more satisfied with their work which will translate into higher performance results (Mensah, 2019). Regarding customers, avatars serve as virtual extensions of their preferences and expectations, allowing them to interact with products, services, and brands in a way that reflects their personal identity. For instance, a customer's avatar exploring a virtual store in the metaverse expects an engaging and personalized shopping experience. Meeting these expectations strengthens the psychological contract, fostering customer satisfaction and loyalty. Similarly, avatars can participate in social or brand-related events in the metaverse, where their identity as customers aligns with their experience, further enhancing their sense of fulfilment and connection to the brand. The following proposition can therefore be made:

P₃: Employees or customers with a strong self-identity with their avatars will have greater fulfilment of their psychological contracts.

Social Identity theory argues that membership of individuals in a social group does shape their self-identity to some extent (Tajfel and Turner, 1979). According to this theory, individual self-concept is bounded by personal and social identities, with the personal aspect aligning more with the self and the social aspect emanating from the group the individual belongs to (Fielding and Hornsey, 2016; Turner and Oakes, 1986). Drawing on this theory, we argue that presence on the metaverse by employees or customers expressed through their avatars could be shaped by group activities. Individuals would want to align with identities on the metaverse that resemble their selves, which will have an impact on how they flow in the virtual world. Studies have established that individuals in a particular group do so because of their self-investment that is shaped by the norms of the group to do good (Masson and Fritsche, 2014). Thus, attachment to the group promotes a sense of belonging, which in turn stimulates the individual's involvement in a particular course of action (Daryanto and Song, 2021). Earlier studies established that individuals who identified more with a group tend to engage more with group members in a particular activity (White *et al.*, 2009; Morschheuser *et al.*, 2017). Specifically, studies focusing on online gaming and group identification revealed that team participation experience is positively associated with team game identification and the overall teamwork of the game is inclined to strict adherence to the rules of engagement (i.e., group norms) (Liao *et al.*, 2020). For example, a recent study by Guan *et al.* (2022) found that live streaming viewers' social experience is associated with the host of the stream. In a similar vein, in a metaverse context, one would expect that the social identification of employees or customers

with their avatars will facilitate the fulfilment of their psychological contracts. Hence, employees working collaboratively in virtual teams and customers engaging in brand-hosted social events through their avatars are likely to develop a strong sense of group identity. For employees, this may manifest as greater collaboration and productivity, while for customers, it could translate into brand loyalty and positive word-of-mouth. Based on the above argumentation, we can propose that:

P₄: Employees or customers with a strong social identification with their avatars will have greater fulfilment of their psychological contracts.

When an employee's psychological contract is met, this can serve as an impetus to satisfy customers' needs and wants (Baker *et al.*, 2014). General branding literature highlights the importance of employees in advancing brands, serving as ambassadors to promote the brand to customers (Kusi *et al.*, 2021). Indeed, frontline employees provide a vital component in the firm's effort to deliver customer value, especially when there is a transfer from a physical good to a service offering (Berry, 2000; Löhndorf, & Diamantopoulos, 2014). As the metaverse offers employees an immersive feature to have a virtual world experience that meets up their own psychological contract, this is expected to also have a positive effect in the way they treat customers, thereby fulfilling their psychological contract accordingly (Hadi *et al.*, 2023). In fact, employees spending considerable immersive time in the metaverse (using headsets and other accessories) can intensify their engagement with customers and enrich their experiences, which can further advance their psychological contract (Mogaji *et al.*,

2023a). An earlier study on the relationship between employee job satisfaction and customer satisfaction in a relational context revealed such as a positive association (Zablah *et al.*, 2016), while another recent study by Kutaula *et al.* (2022) reported that a frontline employee customer-oriented behavior leads to favorable customer outcomes. Moreover, Terglav *et al.*'s (2016) study found that employee brand knowledge, employee-brand fit, and employee psychological contract play a meaningful role in explaining the relationship between brand-oriented leadership and brand commitment. It has also been posited that the psychological contract directs how employees display brand image, which increases customer retention (Miles and Mangold, 2004), while a recent study among e-retailers showed that to build an effective loyalty program for customers, there is a need to first create strong community commitment within the firm that fulfils the psychological contract with customers (Bi, 2019). We can therefore propose the following:

P₅: There is a positive relationship between employee's psychological contract fulfilment and customer psychological contract fulfilment in firms utilizing metaverse platforms.

Metaverse is also viewed as a stimulus for cross-selling of NFTs (Colicev, 2023), whereby frontline employees can facilitate the offering of such products to a new set of customers via the virtual world, which will subsequently boost brand awareness (Mogaji, 2023). Firms strive to reach out to their frontline employees to meet their psychological contract through a virtual marketplace that will translate into promoting their products to customers and generate more sales and profits (Kingshott *et al.*,

2022). Nonetheless, breaching this psychological contract puts strain on employees as found in the study of Gakovic and Tetrick (2003). Additionally, the metaverse environment can expose employees to challenges such as negative customer reviews and excessive workloads, which may adversely affect their overall job satisfaction (De Stefano, 2016; Costa, 2021). A recent study also reported that breaching an employee psychological contract results in increasing feelings of violation and reduces trust, which has detrimental consequences on employee-customer relationship and the firm's financial performance (Culiberg *et al.*, 2023). Hence, firms act positively to cultivate and sustain employees' psychological contract having in mind that this will instigate their positive attitude toward customers to achieve satisfaction, which will subsequently result in heightened business performance (Zablah *et al.*, 2016). This is because customer satisfaction raises the prospects of customer retention and loyalty, as well as helps to acquire new customers through positive word-of-mouth, which helps to increase the firm's sales and profits (Keller, 2016). Since employees are the driving force behind executing the firm's service offering for customer satisfaction, we can conclude that a sound psychological contract in metaverse with them will improve the firm's performance. From the above analysis, it can be argued that:

P₆: There is a positive impact of employee psychological contract fulfilment in metaverse and firm performance.

Metaverse has a significant impact on the consumer-brand relationship, but this relationship needs the support of a strong brand image (Wongkitrungrueng and

Suprawan, 2023). In fact, metaverse allows brands to create an immense brand community that is very engaging to assist customers with online and offline product ownership and accordingly develop a strong brand relationship (Colicev, 2023; Mogaji et al., 2023b). A recent study into the consequences of metaverse on luxury branding showed that this strengthens consumers' perceptions of scarcity and innovatively communicates brand heritage (Murtas *et al.*, 2024). Metaverse has also the prospect to offer firms the possibility to exploit NFTs to improve their brand status, as is the case with renowned brands, such as Pizza Hut, Samsung, and Gucci, which have recently launched products in an NFT format (Hofstetter *et al.*, 2022; Kelly, 2022). In addition, metaverse has the potential to improve brand awareness, provide cross-selling opportunities, and instigate stronger perceived ownership of certain brand elements (e.g., logo, patent, trademark) that will help to improve business performance results (Colicev, 2023; Ghali et al., 2024; Kim, 2023). However, to achieve this, it is important for firms to provide structural assurances to customers (e.g., regulations, guarantees, promises) to mitigate against any perceived violation of their psychological contract (i.e., failure of the firm to honor its contractual obligations) (Malhotra *et al.*, 2017). The provision of such assurances will invigorate customers to have confidence to re-use the brand as they feel confident, secure, and safe, which will subsequently enhance their loyalty and retention with all the positive effects that this may entail for the firm's financial performance (Malhotra *et al.*, 2017). We can therefore offer the following proposition:

P₇: There is a positive impact of customer psychological contract fulfilment in metaverse

and firm performance.

6.2 Propositions for moderation paths

An important concept associated with the effect of adoption of metaverse on psychological contracts is that of *flow experience*, that is, an individual's shift into a common mode of experience when s/he becomes absorbed in specific activities, which is at the core of Flow theory (Csikszentmihalyi, 1975). In a metaverse context, such activities may relate, for example, to inter-personal interactions, making a purchase, and receiving entertainment, which may immerse a person in a flow of a new virtual experience. From an employee perspective, achieving flow in the metaverse involves understanding and adapting to a virtual working environment, which differs significantly from a physical workplace (Cha *et al.*, 2024). Employees must familiarize themselves with new systems, operational challenges, and learning experiences that shape their engagement and productivity. This immersion in the virtual environment enhances their flow experience, thereby strengthening their psychological contract with the firm as they feel more competent and satisfied in their roles. In similar vein, from a customer viewpoint, flow experience in the metaverse is pivotal in shaping their engagement with the brand (Lim *et al.*, 2024). Customers seek seamless, immersive interactions that make them feel connected and valued. The ability to navigate the virtual marketplace, experience personalized services, and engage with brands in innovative ways contributes to fulfilling their psychological contract. When customers achieve a flow state, their satisfaction and loyalty toward the brand are significantly enhanced. Therefore, we can propose that:

P₈: When the level of flow experience with the firm's metaverse platform is high, there will be a stronger positive influence of the use of this platform on: (a) employee psychological contract fulfilment; and (b) customer psychological contract fulfilment.

Perceived trust has been described as an antecedent, inherent feature, and outcome of psychological contracts (Guest, 2016). It is fundamental in establishing and maintaining relational exchanges, particularly in virtual environments where physical cues are absent (Bi, 2019). High levels of trust typically lead to higher quality relationships and ensure that both employees and customers feel secure and confident in their social interactions within virtual environment, thereby enhancing their engagement and satisfaction (Knapp *et al.*, 2020). When firms adopt metaverse platforms, employees expect that the virtual tools and environments provided will be reliable and support their work effectively. Perceived trust in the firm's commitment is essential for employees to feel that their psychological contract is being fulfilled (Mensah, 2019; Flood *et al.*, 2001). In metaverse context, if employees trust that the firm will consistently provide the necessary support, training, and resources, they are more likely to experience a sense of fulfilment in their psychological contract. This trust mitigates concerns about potential technological failures or inadequate virtual interactions that could otherwise lead to dissatisfaction and disengagement. Studies indicate that psychological contract fulfilment has a significant positive impact on job engagement and trust, while breaches can lead to detrimental effects on employee morale and performance (Braganza *et al.*, 2021). Breaching a psychological contract

has also negative consequences on how workers respond in relation to their attitude and behavior relating to the organization and others (CoyleShapiro *et al.*, 2019; Zhao *et al.*, 2007). From a customer perspective, trust in the firm's ability to deliver on its promises within the metaverse is equally important. For instance, customers need to trust that their data will be secure before their interactions with the firm in metaverse. Previous research underscores the importance of trust in maintaining customer relationships and achieving successful outcomes in digital interactions (Bi, 2019). When customers perceive high levels of trust in the firm's metaverse platform, they are more likely to feel that their expectations are being met, leading to a fulfilled psychological contract (Hussain *et al.*, 2021). Conversely, any breach of trust, such as violating data security issues or unmet service expectations, can result in a breach of the psychological contract, damaging customer loyalty and satisfaction (Pavlou & Gefen, 2005). Therefore, the following proposition can be made:

P₉: When the level of perceived trust in the firm's metaverse platform is high, there will be a stronger positive influence of the use of this platform on: (a) employee psychological contract fulfilment; and (b) customer psychological contract fulfilment.

7. Conclusions

Our previous analysis has amply demonstrated that metaverse is an important business phenomenon that it came to stay and even provide the option of a new business model for firms. This is because, on the one hand, metaverse in the workplace gives employees an entirely new working environment characterized by numerous opportunities (e.g., improving employee creativity and productivity), but also

challenges (e.g., psychological exhaustion and possible illness). On the other hand, metaverse generates significant changes in the marketplace, providing plenty of benefits (e.g., expanding product/brand range), but also raising several concerns (e.g., potential violation of personal data protection) among customers.

Most importantly, we have explained that the adoption by the firm of a metaverse approach has important ramifications on its psychological contract with both its employees and customers, significantly changing the current nature of these contracts. Notably, the immersive time spent in the metaverse breeds an experience that creates an impetus to fulfil the expectations and responsibilities derived from their psychological contract. The application of metaverse at the workplace helps employees to enrich and successfully accomplish their firm's psychological contract, while its adoption at the marketplace empowers customers to meet their own psychological contract. We have also noted synergistic effects between these two sets of contracts, with the one for employees providing an impetus to further enhance the fulfilment of that of customers.

Finally, the firm's accomplishment of psychological contracts with both its employees and customers is expected to have favorable effects on its business performance. This is attributed to the satisfaction received through experience gained from immersive time, which, on the one hand, leads employees to work with greater zeal and efficiency, and, on the other, makes customers more engaged and loyal to the firm's brands. Thus, satisfied customers bring joy and fulfilment to employees that

endeavor to realize their psychological contract. By the same token, if customers reach the point of satisfaction resulting from their encounter with employees, they tend to reach their own psychological contract. Meeting the requirements of the psychological contract by both employees and customers strengthens their satisfaction levels and enhances the firm's performance.

8. Implications

8.1 Theoretical implications

Psychological contracts have traditionally been examined within a physical environment, delineating specific roles, responsibilities, and expectations for both employees and customers. However, our analysis has shown that with the advent of the metaverse phenomenon and its adoption by a growing number of firms at the workplace and/or the marketplace calls for a drastic revisit of these contracts to incorporate the new dynamics that emerged from virtual interactions. By immersing themselves in this virtual sphere, both employees and customers gain unique experiences that provide the foundation for meeting their psychological contracts. As a result, psychological contracts should be significantly augmented to reflect the new content dimensions and interaction dynamics that characterize this new virtual environment. By examining these multi-party psychological contracts, we can uncover novel obligations for both employees and employers, as well as provide a deeper understanding of the intricacies of new virtual arrangements.

By reconceptualizing the psychological contract in metaverse, our study presents new theoretical insights of how metaverse can facilitate employees to meet their psychological contractual obligations, through interactions, collaboration, and generation of new skills motivated by the new experiences gained, that result in a positive affirmation by the employer. Useful insights are also provided on how metaverse is changing the traditional marketplace, by providing firms an opportunity to use the virtual world to develop new real time-based points of sale that can enrich shopping experience and access a readily customer base willing to buy from this new distribution channel. The fact that the firms' adoption of metaverse at both the workplace and the marketplace impacts business performance makes the theoretical understanding of this new phenomenon more imperative, particularly within the management and marketing domains. It is also crucial to establish clear, measurable performance indicators that will account for both output and the quality of interactions within the metaverse, with particular emphasis on engagement and satisfaction.

The integration of Flow theory into the examination of psychological contracts within the metaverse provides additional theoretical depth. Flow experiences, characterized by complete immersion and engagement in activities, are crucial for understanding how both employees and customers navigate and fulfil their psychological contracts in this new virtual environment. Inevitably, metaverse is expected to alter the current *status quo* of existing psychological contracts and introduce new parameters which are inconceivable in a physical context, as well as

create a totally new way of how business is conducted (Braganza *et al.*, 2021). Therefore, by exploring how flow experiences enhance the fulfillment of psychological contracts, we offer a comprehensive framework for analyzing virtual interactions with the firm by both employees and customers.

The relevance of Extended Self-identity theory and Social Identity theory in explaining the psychological contracts within the metaverse phenomenon also offers useful theoretical insights. Extended Self-Identity theory highlights how the incorporation of avatars as extensions of the self can deepen the emotional and psychological connection individuals feel within the metaverse. This suggests that employees and customers who strongly identify with their avatars are more likely to experience an alignment between their expectations and the metaverse's offerings, thereby achieving psychological contract fulfillment. In a similar vein, Social Identity theory provides a lens through which to understand how group dynamics and social affiliations in the metaverse can shape behaviors and expectations. Employees working within virtual teams or customers engaging in brand-hosted communities may derive a sense of belonging and shared purpose, which positively reinforces their psychological contracts.

8.2 Managerial implications

The advent of the metaverse represents a transformative business phenomenon that redefines interactions within both the workplace and marketplace. This immersive 3D digital space offers unprecedented opportunities for businesses to innovate and

engage different stakeholders. This is particularly relevant for firms engaging in providing customer service, training, and sales within the metaverse, as well as those creating virtual products and services. The metaverse's immersive nature demands a reevaluation of how employees and customers interact with firms, ensuring that their psychological contracts are aligned with the dynamics of this new virtual reality. For example, it is important to estimate the time needed to escape and be within the metaverse, understand potential physiological and psychological setbacks in using this new platform, and address ethical considerations relating to inclusivity, accessibility, and potential addiction-related risks.

For employees, the psychological contract should emphasize greater flexibility, virtual collaboration, and continuous learning to adapt to rapidly evolving digital tools and platforms. Companies should also offer comprehensive training tailored to the metaverse context, covering the use of virtual communication tools, navigation within the metaverse, and understanding the behavioral norms within this virtual space. Given the pervasive nature of the metaverse that can blur the lines between personal and professional spaces, there is also a need to address the issue of having clear virtual work-life boundaries. For example, to ensure that employees enjoy a healthy work-life balance, it is important to set a mechanism that automatically closes gadgets during break time and after the end of working hours.

Firms should also provide resources to help employees engage effectively with customers, develop appropriate policies, and ensure open communication channels

for feedback and adjustments of the psychological contract. Clear guidelines should be provided to employees to help them understand how to interact effectively and professionally with customers in virtual spaces. For example, there should be guidelines for virtual communication (e.g., what language suits better this new environment), as well as support mechanisms for live language translation when interacting with foreign customers to avoid possible misunderstandings. The use of virtual mentorship programs, regular feedback sessions, and technical support are also vital to help employees navigate the metaverse effectively. By doing so, companies can foster a sense of empowerment and efficacy among employees, enhancing their engagement and productivity in the metaverse.

Metaverse also offers a new marketplace where the firm can interact with its customers and provide cross-selling opportunities, as customers can also buy digital versions of their physical products. Customers who predominantly spend enormous time in metaverse (and even those who are engaged in online gaming) stand to benefit from such a new marketplace, because they can still enjoy their online activities without missing out on their favorite products. Hence, firms must focus on delivering consistent and immersive brand experiences that meet customers' heightened expectations for innovation and personalization. This includes ensuring that customer interactions are seamless, engaging, and secure, leveraging the metaverse's potential to create unique and memorable experiences. In addition, firms must be transparent about how they use customer data within the metaverse, fostering trust and ensuring

compliance with privacy regulations.

Metaverse can also pose new challenges in firms' customer relationship management (CRM) strategy. Unlike traditional platforms, the continuous evolution of technology in metaverse fosters a deeply interactive environment, where customers are not mere passive recipients but active contributors. Hence, they play a critical role in co-creating value, shaping experiences, and personalizing the customer journey. This implies revising the firm-customer psychological contract to reflect collaborative engagement and heightened expectations regarding personalized experiences and immediate firm response. However, the absence of traditional physical cues and touchpoints may lead to ambiguities, potentially resulting in perceived breaches of the psychological contract, which can harm customer trust and loyalty. Therefore, businesses operating in the metaverse should ensure that they not only meet but also anticipate the evolving implicit expectations of their customer base. They need also to take preventive measures (e.g., establishing time caps for immersive interactions) to avoid negative consequences on customer satisfaction caused by excessive immersive time spent in metaverse, as well as possible health problems associated with the extensive use of headsets and other accessories. This is important for protecting themselves from accusations of being engaged in malpractices, which, apart from negative word-of-mouth, may sometimes lead to catastrophic lawsuits.

Finally, to have a smooth transition to metaverse at both the workplace and marketplace, there is a need for governments to have a proper regulatory framework

in place that will accommodate data security and privacy concerns of the individuals involved. This is particularly true for customers, because purchasing products in the metaverse demands them to have an online account with confidential details, including their name, address, and other personal information, which can be obtained by fraudsters and hackers operating online. In addition, both employees and customers require their log-in details, such as biometrics, to be safe and secure to feel comfortable when participating in the virtual community of metaverse. Hence, there is a need for public policymakers to introduce effective laws and regulations that will protect people from such metaverse risks.

9. Future research

Given the conceptual nature of our article, we encourage future research to empirically examine the relationships of constructs included in our conceptual model. However, since metaverse is a new business phenomenon, which is still at its early stage of adoption, it may take some time before embarking on a large-scale quantitative study to be able to have empirical insights on the subject. Beyond quantitative research, a qualitative approach, taking the form of in-depth interviews, focus group discussions, netnography, or a Think-Aloud protocol, is also essential to unpack the emerging and evolving aspects of psychological contracts in a metaverse context.

We also encourage researchers to examine metaverse effects on more specific psychological contract relationships involving employees (e.g., supervisor-supervisee) and customers (e.g., customer-brand), as well as extent the analysis to new forms of

psychological contracts related to metaverse, such as between the platform provider and its stakeholders. It would also be illuminating for future studies to examine how metaverse has transformed and impacted on psychological contracts across different industries (e.g., virtual retailing, online entertainment, tourism/hospitality) and country cultural settings (e.g., low- versus high-context cultures).

Considering the significant changes introduced by metaverse in the workplace, there is also a need to have a more in-depth investigation of resulting new terms and conditions of the psychological contract between the firm and its employees. Future research can incorporate concepts from both employees (e.g., expectations, well-being, job mobility) and organizations (e.g., organizational values, leadership, management team), which will broaden our understanding of the components that shape psychological contracts in a metaverse context. Moreover, the effects of employee engagement in the metaverse on job performance, knowledge sharing, and team dynamics present interesting areas for future research.

Another critical avenue of inquiry lies in how firms can manage customer relationships in the metaverse. For instance, the development of innovative customer relationship management (CRM) strategies tailored for the needs of a metaverse marketplace aiming at customer retention and acquisition could be a useful research topic. This will warrant investigation of the nuances of customer behavior as they navigate between interwoven real and virtual worlds, such as understanding how

consumption patterns differ across traditional, digital, and metaverse contexts and their impact on brand loyalty and revenue.

It would also be useful to examine the barriers of adopting metaverse in business and how these can be lifted, especially taking into consideration that the transition to the virtual space requires a good deal of investment and firms limited in financial, human, technological, and other resources might prevent having a presence there. It is also worthy to investigate the potential negative psychological, behavioral and possible health issues of people involved in metaverse (e.g., addiction, anxiety, sense of detachment from reality) and how these can be accommodated in a business context by adopting a socially responsible approach.

Future research could also investigate the long-term impact of metaverse interactions on psychological contracts. For example, how sustained virtual engagement affects employees' job satisfaction and customer loyalty over time? What factors influence the degree to which employees and customers perceive psychological contract fulfillment or breach in a virtual environment? How do individual differences, such as personality traits, cultural characteristics, and technological proficiency, shape psychological contract perceptions in the metaverse? How do organizational efforts to address potential privacy and data security problems in the metaverse impact trust and long-term relationships with employees and customers?

Finally, from a methodological standpoint, it would be useful to carry out

experimental studies that will manipulate virtual environments, such as comparing individuals' responses to different levels of avatar customization or virtual team-building activities, to observe their impact on employees' and/or customers' psychological contracts. The use of longitudinal research to track changes in psychological contracts over time as employees and customers engage with the metaverse would also be beneficial, since virtual interactions are highly dynamic. The employment of a mixed-method approach, combining qualitative methods (e.g., in-depth interviews) with quantitative research (e.g., surveys), will also help to gain a deeper understanding of the virtual interactions of both employees and customers in the metaverse and how these contribute to fulfilling their psychological contracts.

Notes

1. Metaverse as a workplace environment is particularly relevant for employees with roles that are highly interactive or collaborative, such as front-line personnel, customer service representatives, and remote collaboration teams. It can be also applicable in a wide range of industries, such as producers of consumer goods, retail organizations, hospitality firms, technology firms, and service providers (e.g., consulting, finance, etc.). Employees in these organizations are likely to experience changes in their psychological contracts due to the immersive and interactive nature of the metaverse.
2. This dual perspective, that is, focusing on both workplace and marketspace, is essential for three major reasons: (a) the metaverse environment is inherently complex and dynamic, involving a multitude of interactions between various parties, with traditional models focusing solely on employees or customers failing to capture the full breadth of these interactions (Alcover et al., 2017); (b) in the metaverse, employees interact with both internal agents (e.g., managers, colleagues) and external agents (e.g., customers), forming relationships that significantly impact their work performance and customer experience (Knapp et al., 2020; Van Der Schaft et al., 2020); and (c) previous research

highlights that fulfilled psychological contracts lead to positive outcomes regarding both employees (e.g., increased job satisfaction) and customers (e.g., enhanced brand loyalty), which are conducive to the firm's overall business performance (Robinson & Morrison, 2000; Zhao et al., 2007). Hence, by examining both employees and customers, we aim to provide a more holistic understanding of how the metaverse reshapes psychological contracts across the supply and demand side of business operations.

3. Existing research on the metaverse often focuses on isolated aspects and lacks a comprehensive framework that integrates multiple dimensions of metaverse interactions. Additionally, there is a significant gap in exploring psychological contracts in virtual environments, with little attention given to the distinct expectations and obligations between firms their employees or customers. Our study bridges these gaps by developing an integrated framework that examines the psychological contracts of both employees and customers in a metaverse setting, capturing the full scope of their virtual interactions. By reconceptualizing psychological contracts in metaverse and investigating the potential moderating role of individuals' psychological factors, we provide a holistic view of how the metaverse influences firm performance. We also offer actionable insights for enhancing virtual interactions and overall engagement of the firm's employees and customers.

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Figure 1: The conceptual model

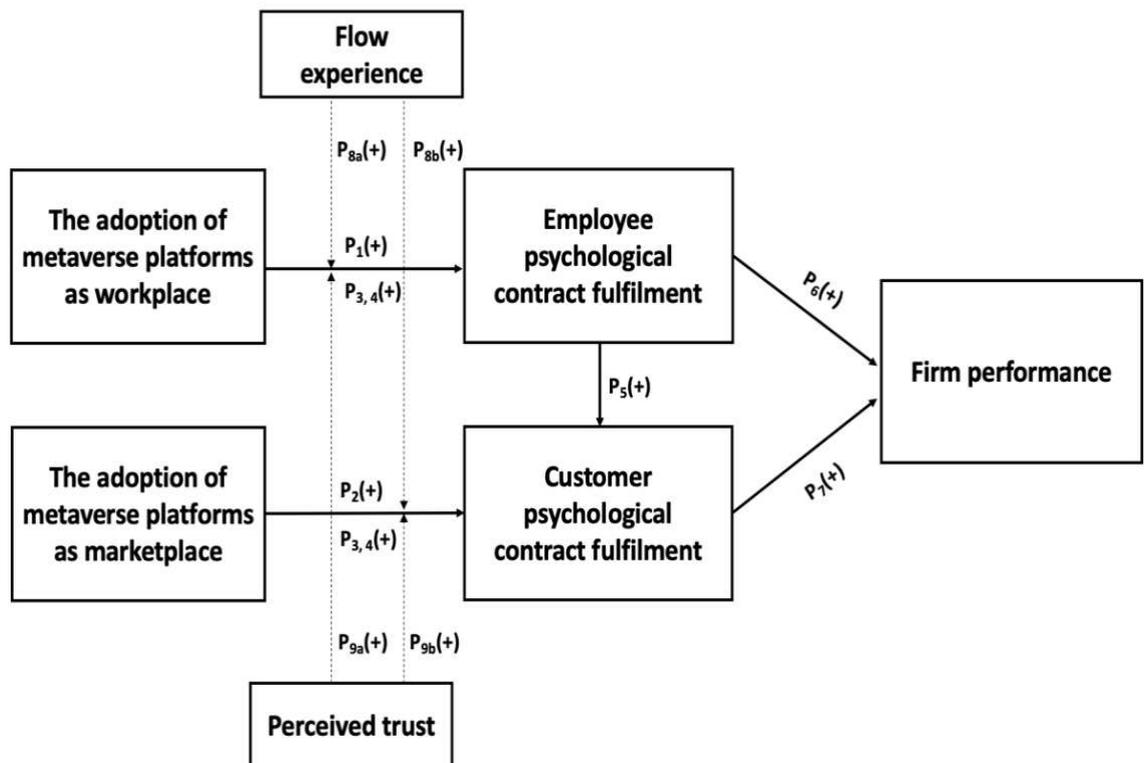


Table 1: Indicative studies on metaverse in a business context

Study	Objectives	Methodology	Key findings	Gaps
Gadalla <i>et al.</i> (2013)	To explore and identify the determinants of metaverse retailing service quality.	Focus group (N=31) and critical incident study (N=25) (Second life metaverse platform, content analysis)	Metaverse provides retailers opportunities to enhance social experience, responsive service, and creative co-production.	Omitted to address employees' psychological contracts in dispensation of metaverse and their consequences thereof on buyers.
Goldberg and Schär (2023)	To explore the importance of platform governance in metaverse.	Field data (N=1414) (Decentraland metaverse platform, Whale analysis, and marginal voter analysis).	Centralized structures in the metaverse could result in monopolies, but open standards and blockchain governance might help address these concerns.	There is no coverage of psychological contracts as occurred in metaverse nor that of the flow of multiple identities (avatars).
Hennig-Thurau <i>et al.</i> (2023)	To explore whether real-time multisensory social interactions in the metaverse via virtual reality create more value for participants.	Field-experimental study (n=328) (Germany, student sample, SEM analysis).	The value of real-time multisensory interactions in metaverse is not inherently better than those in two-dimensional spaces, such as meetings via Zoom.	Lack of investigation of the changing patterns of psychological contracts and their consequences on employees and customers.
Kim <i>et al.</i> (2023)	To explore the role of avatars in social interactions within the metaverse environment.	Experimental study (n=275) (US, serial mediation analysis)	The avatar realism and user familiarity increase the user-avatar relationship and the intention to use the avatar.	There is no connection to psychological contracts of the different way that avatars interact in metaverse to create new work responsibilities.
Oh <i>et al.</i> (2023)	To investigate the social benefits of utilizing metaverse platforms.	Survey (n=300) (Korea, Roblox and Zepeto metaverse platform, SEM analysis).	The enhanced social presence in the metaverse fosters a supportive environment for interactions among younger users.	Neither employee/customers immersive flow in the metaverse and associated psychological contract was study focus.
Tsai (2024)	To investigate how virtual experiences in metaverse can impact real-world travel intentions and behaviors.	Experimental study (n=216) (Japan, SEM analysis)	The perception of holistic presence (i.e., spatial-presence, social-presence, and self-presence) in the metaverse can positively influence the intention to visit a tourism destination.	Employees engagement with the youth/ young generation, nor employees' presence on metaverse and psychological contract in virtual world was investigated.
Wongkitrungruen and Suprawan (2023)	To investigate the impact of metaverse experiential value on consumer's brand perception and virtual purchase intention.	Survey (n=702) (Thailand, Zepeto metaverse platform, CB-SEM analysis)	Symbolic value, hedonic value, and utilitarian value indirectly affect consumer-brand engagement through brand image and virtual purchase intention.	Psychological contract, employees' presence, experience and interaction with users on the metaverse, and consequences on marketplace and workplace were omitted to investigate.
Xi <i>et al.</i> (2023)	To explore the impact of metaverse technologies (AR and VR) on subjective workload.	Experimental study (S1=157, S2=165) (Finland, student sample, ANOVA analysis)	AR was significantly associated with overall workload, particularly affecting mental exertion and effort, whereas VR did not show a notable impact on any specific aspects of workload.	No coverage of the employees' immersive experience and psychological contract.
Zuo and Shen (2023)	To understand how certain features and affordance engage users in the metaverse.	Interviews (n=35) (China, thematic analysis)	Hardware, software, and content are the elements of metaverse helping to engage users.	No connection at all of employee psychological contract in metaverse.
Cha <i>et al.</i> (2024)	To examine the impact of gamification-based behavioral intentions on customer value in metaverse performance participation	Survey (n=671) (path analysis)	Gamification affordances (identity, competition, self-expression) positively influence perceived value, which in turn impacts flow state and engagement in metaverse platform.	The changing nature of employees' psychological contract in a metaverse context was not tackled.
Lim <i>et al.</i> (2024)	To review the potential applications of the metaverse in various areas of human resource development	Narrative review of 34 cases (within-case analysis approach)	The metaverse presents significant opportunities for enhancing employee development and organizational culture through immersive, engaging, and interactive learning experiences.	Lack of focus on employee psychological contract.

Table 2: Reconceptualizing the psychological contract in metaverse

Metaverse		Psychological contract			
Key features	Interacting parties	Content-oriented approach		Evaluation-oriented approach	
		Individuals' expectations	Firms' obligations	Fulfilment	Breach
<ul style="list-style-type: none"> • Immersive • Avatar interactions 	Employee	<ul style="list-style-type: none"> • Clarity on work nature • Work-life boundaries • Adequate support • Flexibility and autonomy 	<ul style="list-style-type: none"> • Providing clear job descriptions and work-life balance policies • Supplying necessary training and adequate resources • Offering flexibility and decision-making empowerment • Establishing clear communication channels and technical support 	<ul style="list-style-type: none"> • Enhanced creativity and competences skill • Development and training facilitation • Collaboration and social bonding • Avatar-based self-representation 	<ul style="list-style-type: none"> • Reskilling challenges • Potential fatigue and psychological strain • Job insecurity and dissatisfaction
	Customer	<ul style="list-style-type: none"> • Delivering on brand promises • Providing seamless customer support • Offering innovative and personalized interactions 	<ul style="list-style-type: none"> • Allocating sufficient resources • Continuous optimization of customer experiences • Delivering brand promises and service standards 	<ul style="list-style-type: none"> • Immersive shopping experiences • Unleashed creativity and customization • Real-time staff assistance • Psychological ownership facilitated by NFTs 	<ul style="list-style-type: none"> • Security and privacy threats • Lack of avatar ownership • Financial risks associated with brand possession

Table 3: Examples of firms using metaverse applications in their workplace

Company name	Metaverse applications at the workplace
<i>Amazon</i>	<i>Amazon</i> , through its augmented reality (AR) Room Decorator, helps its shoppers see how a new furniture or other home decorations could fit their homes in reality, giving them the opportunity to make informed assessment before they make the purchase.
<i>BMW</i>	This German car manufacturer recently employs the virtual technology 'Augmented Reality Engineering Space AR3S' (which combines Virtual Reality and Extended Reality) for designing and prototyping new products, product design reviews, and assembly checks.
<i>Bosch</i>	<i>Bosch</i> has developed an AR that assists with post-market workshops in relation to conducting specialist vehicle maintenance and repairs. These tasks cover readjusting driver assistance sensors, especially when the windshield has been replaced, which is estimated to save 15% of the time needed to do such things.
<i>Chipotle Mexican Grill</i>	Normally referred to simply as <i>Chipotle</i> , this American multinational restaurant (noted of its bowls, tacos, and mission burritos), in conjunction with Roblox has opened a virtual restaurant, with an activation for its <i>Chipotle Boorito Maze</i> , thereafter, <i>Chipotle Burrito Builder</i> and <i>Chipotle Grill Simulator</i> . Customers can redeem their promotion code and play-to-earn, among others.
<i>McDonald's</i>	<i>McDonald's</i> organizes its virtual restaurant with customer service tills as on physical premises. Employees need to be virtual world technology savvy and serve customers in the metaverse restaurant.
<i>Nokia</i>	This Finnish mobile network company, well-noted of its pioneering mobile phones, is now more into business-to-business telecommunications, moving into 6G technology. <i>Nokia</i> employs metaverse and Virtual Reality technology to offer training to its employees – the main idea being to connect people to a common training ground without them needing to travel.
<i>Wendy's</i>	<i>Wendy's</i> , a chain of fast-food restaurants, has teamed up with Meta to have a new establishment in the metaverse virtual sphere. It has opened a restaurant in this virtual world where employees work in the same way as in a normal physical restaurant. Employees take and deliver customer orders, offer courier service, and address issues as in the physical world.
<i>Zigbang</i>	This Korean PropTech company has a 30-floor VR office named <i>Metapolis</i> . Its employees have the liberty to have an avatar that aligns with them when they move around, while when they come across a colleague they can stop for a while to chat.

Source: Company webpages; see also, https://www.nokia.com/metaverse/six-metaverse-use-cases-for-businesses/?did=D00000004855&gad_source=1&gclid=CjwKCAiA6byqBhAWEiwAnGCA4BgaVbq0t34o99i8v-SqbCEdG4FOYHrMHKA0nIEZf1hS_S9Pt7LtrhoCVXMQAvD_BwE

Table 4: Examples of firms using metaverse applications in their marketplace

Company name	Metaverse applications at the marketplace
<i>Adidas</i>	In 2021, <i>Adidas</i> explored the metaverse as a channel outlet for its brand and, within a couple of hours, out of 30,000 <i>Into the Metaverse</i> non-fungible token (NFTs) (equivalent of approximately \$765) 29,620 pieces of collectibles were sold with the brand raking in over \$22 million. The remaining 380 were intentionally reserved by <i>Adidas</i> for future events.
<i>Amazon</i>	<i>Amazon</i> uses metaverse to serve its customers in a virtual world. For instance, customers that want to buy furniture can project it to see how it will look like in the actual living room. Customers can also use their mobile device to place the order.
<i>Chipotle</i>	In 2021, <i>Chipotle</i> (a restaurant chain) opened its debut metaverse restaurant during Halloween. Visitors could dress their avatar with any of the <i>Chipotle</i> 's themed costumes, such as burrito mummy and chip bag ghost. In addition, they could play games, hide-and-seek, had codes for use in the virtual world, but with the possibility to redeem in physical shops.
<i>Coca-Cola</i>	<i>Coca-Cola</i> created the Coke Zero Sugar Byte in metaverse. Although it made this virtual version of its product in a limited form, consumers had the possibility to either consume the product in metaverse or in a physical environment.
<i>Gucci</i>	In 2021, <i>Gucci</i> made its first appearance on metaverse via the Roblox gaming platform, where 42 million users had the possibility to own collectibles and limited-edition of its accessories costing between \$1.20 and \$9.00.
<i>McDonald's</i>	<i>McDonald's</i> used the metaverse as another way where customers can buy and eat their favorite meals. Customers can place their orders at the counter in the same way as in the physical world. For example, in China, during the Lunar New Year celebrations, it organized a virtual world version with 12 zodiac signs that align with the Chinese culture. During the visit, each horoscope was read.
<i>Nike</i>	<i>Nike</i> , working in collaboration with Roblox, has its 'Nikeland' as a marketplace in the metaverse, aiming to promote a strong brand relationship, converge fans together for socializing, and partake in promotional activities, among others. The company has witnessed about 7 million visitors since its inception in November 2021. Besides, through RTFKT (its NFT collectibles company) made \$3.1million within six minutes when it sold only 600 of <i>Nike</i> 's NFTs version.

Source: Company webpages; see also, https://www.nokia.com/metaverse/six-metaverse-use-cases-for-businesses/?did=D00000004855&gad_source=1&gclid=CjwKCAiA6byqBhAWEiwAnGCA4BgaVbq0t34o99i8v-SqbCEDg4FOYHrMHKA0nIEZf1hS_S9Pt7LrhoCVXMQAvd_BwE