Candidate
Camilla Rinciari

Supervisor
Ilaria Mariani

Fashion brands in the metaverse

A framework of value creation and engagement through video game collaborations

POLITECNICO
MILANO 1863

SCUOLA DEL DESIGN

Candidate
Camilla Rinciari

Supervisor
Ilaria Mariani

Fashion brands in the metaverse

A framework of value creation and engagement through video game collaborations

POLITECNICO
MILANO 1863

SCUOLA DEL DESIGN

Table
of contents

0
Abstract
and introduction

Abstract

In the aftermath of COVID-19, businesses faced unparalleled challenges, requiring swift adaptability and innovation in their approaches to production and creation. The pandemic triggered a notable shift in business models, compelling companies to reassess strategies to maintain competitiveness in rapidly changing environments.

From this landscape, an intriguing synergy emerged from the collaboration between fashion brands and video games, gaining traction during and after quarantine, unveiling a captivating alliance. This study seeks to delve into the nature and implications of such collaborations, providing critical analysis of determinants influencing their success and market impact. By empirically and theoretically investigating this emerging collaboration trend, a comprehensive understanding is aimed at being provided, contributing to shaping the business landscape.

The study starts with an analysis of contemporary context, highlighting video games' pervasive influence, referred to as "The Ludic Century". Subsequently, it examines challenges faced by fashion brands during COVID-19, emphasising the necessity of digitalization creation processes and communication channels. A detailed Theoretical Background was developed, underpinning three macro-dimensions: (1) Digitalization, (2) Metaverse, and (3) Value Creation, guiding the systematic analysis of collaborations. Representative case studies were scrutinised using an Analytical Framework, facilitating rigorous examination of collaboration dynamics. Comparing case study findings with existing literature enriches understanding and refines theoretical and analytical frameworks, fostering future discussions and research in this evolving field.

Al seguito della pandemia COVID-19, le aziende hanno dovuto affrontare sfide senza precedenti, che hanno richiesto una rapida adattabilità e innovazione nei loro approcci alla produzione e alla creazione. Ciò ha innescato un notevole cambiamento nei modelli di business, costringendo le aziende a rivalutare le strategie per mantenere la competitività in ambienti in rapida evoluzione. Da questo panorama, è emersa un'intrigante sinergia dalla collaborazione tra marchi di moda e videogiochi, che ha guadagnato trazione durante e dopo la quarantena, svelando un'alleanza accattivante. Questo studio si propone di approfondire la natura e le implicazioni di tali collaborazioni, fornendo un'analisi critica dei fattori che ne influenzano il successo e l'impatto sul mercato. Indagando teoricamente ed empiricamente questa tendenza di collaborazione, si vuole ottenere una comprensione completa che contribuisca a modellare il panorama aziendale.

Lo studio inizia con un'analisi del contesto contemporaneo, evidenziando l'influenza pervasiva dei videogiochi, definita 'secolo ludico'. Successivamente, esamina le sfide affrontate dai marchi di moda durante il COVID-19, sottolineando la necessità di digitalizzare i processi di creazione e i canali di comunicazione. È stato sviluppato un dettagliato background teorico, che si basa su tre macro-dimensioni: (1) Digitalizzazione, (2) Metaverso e (3) Creazione di valore, guidando l'analisi sistematica delle collaborazioni. I casi di studio rappresentativi sono stati analizzati utilizzando un quadro analitico che ha permesso di esaminare in modo rigoroso le dinamiche della collaborazione. Il confronto dei risultati dei casi di studio con la letteratura esistente arricchisce la comprensione e affina i quadri teorici e analitici, favorendo le discussioni e le ricerche future in questo campo in evoluzione.

Introduction

Companies encountered unprecedented challenges in the era following COVID-19, demanding rapid adaptability and innovation in their approaches to production and creation. The impact of the pandemic catalysed a significant transformation in business models, with many companies having to rethink their strategies to remain competitive in a changing environment. This period of change has seen the emergence of new dynamics and surprising synergies, among which a particularly intriguing one has emerged from the collaboration between fashion brands and video games.

This connection, initially unconventional, gained ground during and after the quarantine, revealing a fascinating and highly appealing combination. Given the novelty of this phenomenon and the lack of established operational models, this study aims to examine in depth the nature and implications of such collaborations, offering a critical and in-depth analysis of the dynamics that determine their success and impact on the market. Through an empirical and theoretical investigation, we aim to provide a clear and comprehensive picture of this emerging trend, thus contributing to the understanding and appreciation of a phenomenon destined to shape the business landscape in the coming years.

The study then begins with a detailed analysis of the contemporary context, emphasising the importance of video games in our society. Scholars have referred to our century as "the Ludic Century" because of the widespread influence of video games in our daily lives (Muriel & Crawford, 2018). This observation highlights the significant role that video games have assumed in shaping culture and human interactions. Next, the thesis specifically examines the challenges faced by fashion brands during the COVID-19 pandemic and the solutions adopted to overcome them. In particular, it focuses on the need to digitise creation processes and communication channels as a response to the closure of physical activities and the need to adapt to a remote working environment. Digitalization has thus emerged as a crucial strategy to enable companies to continue their operations in a time of turbulence and uncertainty, highlighting the importance of adopting innovative approaches to survive and thrive in changing environments.

After outlining the context and the state of the art, the study proceeded with the creation of a detailed theoretical background, which provided a solid basis for the analysis of the phenomenon of collaborations between video games and fashion brands. This background allowed the previously introduced topics, such as digitalization and the emerging role of the metaverse in the commercial field, to be deepened and understood with theoretical basis derived from scientific and grey literature. Based on this theoretical background, a theoretical framework was developed that identified three key macro-dimensions: (1) Digitalization, (2) Metaverse and (3) Value Creation. These concepts were used as guidelines to systematically analyse collaborations between video games and fashion brands. Subsequently, representative case studies of these collaborations were identified and analysed, using selection criteria and an Analytical Framework to analyse them in depth. This approach allowed for a rigorous and scientific examination of the dynamics of the collaborations, analysing them in relation to the categories of interest. The combined use of a robust Theoretical background and an analytical framework allowed the nuances and implications of these new forms of collaboration to be grasped in detail, providing a solid basis for the analysis and discussion of the findings from the case studies.

Finally, the information gathered from the case studies was organised and compared with the existing literature. This comparison made it possible to compare theory with the most recent practice, highlighting similarities and significant differences. The main objective of this comparison was to implement and refine the Theoretical Framework developed during the study. Identifying the convergences and divergences between the empirical evidence of the case studies and the existing theories allowed for an enriched understanding of the phenomenon of collaborations between video games and fashion brands. This process of comparison and synthesis provided a solid basis to guide future discussions and research in this evolving field, contributing to the growth of knowledge and the formulation of practical strategies and guidelines for companies and practitioners.

Besides is an overview of the structure and contents of the thesis.

CHAPTER 1. Outlines the context of the research. This section provides a detailed overview of the challenges and opportunities that companies faced during the pandemic, offering a solid basis for analysing and understanding the dynamics of collaborations between video games and fashion brands.

CHAPTER 2. The chapter opens with the clusterisation of topics and the design of the relevant Theoretical Framework. Then, is provided a systematised theoretical background of the context outlined in the first chapter. It is structured into three macro-dimensions, each divided into several sub-dimensions, providing a comprehensive and detailed overview of the key concepts relevant to the study.

CHAPTER 3. The section includes an explanation of the research methodology used for the study. It begins with an examination of the relevance of this work within the contextual framework, outlining the objectives and research questions that guided the four phases of the investigation. Subsequently, it offers a comprehensive description of the entire research process.

CHAPTER 4. Presents the outline of the Analytical Framework, including the related questions used to analyse the case studies. These elements provide a clear guide for the analysis of the next five case studies, allowing an in-depth evaluation of the dynamics examined.

CHAPTER 5. Includes the discussion of case studies through a comparative analysis to validate the Theoretical Framework. It is divided into three macro-dimensions in order to systematically organise the results.

CHAPTER 6. lutlines the limitations of the research, focusing mainly on the speed of digitalization and the risk of obsolescence of conclusions in the short term. Furthermore, it suggests future possibilities for more in-depth research, including user feedback, expert interviews, or additional case studies, to enrich and broaden the understanding of the phenomenon examined.

CHAPTER 7, 8, 9 Are extra sections. Chapter 7 presents an annex containing the full definitions of the metaverse found and analysed. Chapter 8 presents the references utilised to write this thesis. Chapter 9 is dedicated to acknowledgements, expressing recognition and gratitude to those who contributed to the research process and the realisation of the thesis.

1
The context
and its challenges

The Ludic Century

In the dynamic realm of technology and culture, specific phenomena arise that captivate the imagination and fundamentally alter societal comprehension. One such phenomenon is the increasing recognition of video games as a significant medium capable of reflecting and influencing our contemporary world.

Firstly, a detailed analysis will thus be conducted concerning the evolving perception of video games as a medium of considerable relevance in contemporary times. This medium is now considered relevant because of its ability to reflect societal dynamics and the temporal context in which it takes place (Muriel & Crawford, 2018). This potential is so remarkable that scholars have called our era 'The Ludic Century' (Zimmerman, 2013) to explain the new impacting phenomenon of game culture. It is crucial, for this thesis' sake, to highlight how the contemporary emphasis on video games is strongly connected with the world of communication and, more recently, with the fashion business. This link indeed offers an intriguing perspective: video games not only enable new forms of interaction and communication, but can also be used in synergy with the fashion industry to promote ideas, trends, brands, and products (Bazaki & Wanick, 2023; Reay & Wanick, 2023). Therefore, the aim of this research is to investigate whether and how video games can be effectively harnessed to influence the fashion and visual communication landscape. With this in mind, this introductory chapter aims to expand its analysis fields by considering the major shift that has occurred in 2020, as a result of the latest high-impact global event: the COVID-19 pandemic.

This event triggered an unprecedented acceleration of the digitalization process in multiple sectors, paving the way for new technologies and bringing attention to concepts such as the metaverse. As a consequence, the impact on the fashion industry was explored by different studies (Bazaki & Wanick, 2023; Joy et al., 2022; Otto, 2022): from the modification of consumption models (Iran et al., 2022; N. L. Kim et al., 2021; Pop et al., 2023) to the general need for a reinvention of fashion brand sales and communication methods (Bazaki & Wanick, 2023; Boardman et al., 2020; Xue et al., 2023), which is already happening, and how it could best be developed, including according to the new perception of luxury, which is more oriented towards experience than the possession of material goods (Holmqvist et al., 2020; Lawry, 2022).

As video games are considered precursors and an integral part of the metaverse, not only their definitions but also their practical applications and socio-economic and cultural impacts will be explored. To achieve a deep analysis, the evolution of immersive technologies and the most recent innovations in the field of the Web will also be examined in order to fully grasp the implications analysed this new digital paradigm.

1.1.1 The Gameful World

The main premise of this thesis is that modern society is progressively infiltrated by a developing and strengthening video game culture (Muriel & Crawford, 2018). The direct consideration of video game media is justified because video games are more than just another kind of entertainment. As asserted by Muriel & Crawford (2018), video games transcend mere entertainment and actively mould the culture that impacts our existence, interpretations, and interpersonal connections. Consequently, they embody a manifestation of contemporary life and societal dynamics.

This assertion implies that video games serve as a pivotal perspective through which to engage with the continual and vital societal metamorphoses. In this sense, video games embody some of the most important aspects of wider society, such as a pervasive digital culture (Yoo et al., 2012), the emergence of participatory culture (Delwiche & Jacobs, 2012), and the rise of new modes of meaning construction (García-Magro et al., 2023), to name but a few. Consequently, our world has become thoroughly immersed in digital technology (Castells, 2011), impacting our social interactions in numerous and substantial manners (Gere, 2008) and influencing the manner in which we engage with our surroundings. The impact of digital technology transcends mere social interactions, reaching into the realm of mediating our interactions with the surrounding environment. The ubiquity of digital technology has emerged as a defining element in shaping the intricacies of our social dynamics and our interactions with the external world. Video games, which are digital by definition, are bound to be one of the most important cultural products of this digital age (Kirby, 2009), which makes them one of the best entry points for understanding digital culture. However, video game culture incorporates more collaborative and participatory logic; it is a

'participatory culture', which the sociologist Henry Jenkins (2006) defines as the culture that allows ordinary consumers to actively participate in the construction and modification of media content.

Video games have now emerged as one of our time's most relevant cultural products and objects (Muriel & Crawford, 2018). If, as the philosopher Alan Kirby (2009) suggests, digimodernism—'the cultural impact of computerization'—is the hegemonic cultural logic of contemporary society, and the video game and the video gamer are its primary objects and subjects, then studying video game culture provides us with critical tools for understanding our contemporary cultural landscape.

The fundamental proposition of this thesis is that modern society is progressively infiltrated by a developing and strengthening video game culture (Muriel & Crawford, 2018). The direct consideration of video game media is justified because video games are more than just another kind of entertainment. As asserted by Muriel & Crawford (2018), video games transcend mere entertainment and actively mould the culture that impacts our existence, interpretations, and interpersonal connections. Consequently, they embody a manifestation of contemporary life and societal dynamics.

This implies that video games serve as a pivotal perspective through which to engage with the continual and vital societal metamorphoses. In this sense, video games embody some of the most important aspects of wider society, such as a pervasive digital culture (Yoo et al., 2012), the emergence of participatory culture (Delwiche & Jacobs, 2012), and the rise of new modes of meaning construction (García-Magro et al., 2023), to name but a few. Consequently, our world has become thoroughly immersed in digital technology (Castells, 2011), impacting our social interactions in numerous and substantial manners (Gere, 2008) and influencing the manner in which we engage with our surroundings. The impact of digital technology transcends mere social interactions, reaching into the realm of mediating our interactions with the surrounding environment. The ubiquity of digital technology has emerged as a defining element in shaping the intricacies of our social dynamics and our interactions with the external world. Video games, which are digital by definition, are bound to be one of the most important cultural products of this digital age (Kirby, 2009), which makes them one of the best entry points for understanding digital culture. However, video game culture incorporates more

Manifesto for a Ludic Century
By Eric Zimmerman

Games are ancient.
Like making music, telling stories, and creating images, playing games is part of what it means to be human. Games are perhaps the first designed interactive systems our species invented.

Digital technology has given games a new relevance.
The rise of computers has paralleled the resurgence of games in our culture. This is no accident. Games like Chess, Go, and Parcheesi are much like digital computers, machines for creating and storing numerical states. In this sense, computers didn't create games; games created computers.

The 20th Century was the century of information.
Systems theory, communications theory, cybernetics, artificial intelligence, computer science - these fields, many of them emerging well before electronic computers, helped create the "information revolution. The abstraction of information has made possible massively complex bureaucracies and technologies, from telegraph and telephone networks to NASDAQ and Facebook.

In our Ludic Century, information has been put at play.
Our information networks no longer take the form of vast card catalogs or webs of pneumatic tubes. Digital networks are flexible and organic. In the last few decades, information has taken a playful turn. To take a prime example, Wikipedia is not about users accessing a storehouse of expert knowledge. It is a messy, chaotic community in which the users are also the experts, who together create the information while also evolving the system as a whole.

collaborative and participatory logic; it is a 'participatory culture', which the sociologist Henry Jenkins (2006) defines as the culture that allows ordinary consumers to actively participate in the construction and modification of media content.

Video games have now emerged as one of our time's most relevant cultural products and objects (Muriel & Crawford, 2018). If, as the philosopher Alan Kirby (2009) suggests, digimodernism—'the cultural impact of computerization'—is the hegemonic cultural logic of contemporary society, and the video game and the video gamer are its primary objects and subjects, then studying video game culture provides us with critical tools for understanding our contemporary cultural landscape.

Furthermore, in 2013, game designer Eric Zimmerman published a controversial manifesto titled 'Manifesto for a Ludic Century', in which he declared games to be the dominant cultural form of the twenty-first century, proclaiming that the ways people will 'spend their leisure time and consume art, design, and entertainment will be games—or experiences very much like games'. In response to Zimmerman's essay, Kotaku, a video game website and blog, questioned several game theorists, designers, and writers about whether the 21st century can be, as Zimmerman states, defined by games. Kotaku indeed solicited feedback from a variety of game theorists, authors, and designers before releasing the manifesto, including Frank Lantz, Ian Bogost, Robin Hunicke, and Tracy Fullerton, among others (Chaplin, 2013).

Ian Bogost, in reply, questions whether a ludic century would be one of manifestos or embracing systems. He wonders if the Ludic Manifesto is meant to be the last manifesto that replaces simple answers with the complexity of 'information at play'. The fundamental challenge for the manifesto is whether it will be a century of declaring simple principles or embracing systems[1]. Games writer Leigh Alexander replied to the last point of the manifesto ('Games are beautiful. They don't need to be justified.') focusing the topic on the game's desire for validation. She stated that fans of traditional gaming often seek self-justification, even if it means neglecting the broader concept of games as platforms for digital play, social interaction, and information exchange. The manifesto also opens with a series of considerations from sociologist Zygmunt Bauman, who said that play culture has transcended childhood and evolved into a lifelong mentality.

Fig. 1.1 Manifesto for a Ludic Century by Eric Zimmerman, 2013

In general, the Manifesto for a Ludic Century by Eric Zimmerman received mixed reactions from the gaming community and beyond. Some praised Zimmerman's ideas and saw the potential of games in shaping the future, emphasising the value of play, interactivity, and the exploration of complex systems (Wark, 2013). They agreed with the notion that games can be a powerful medium for creativity, learning, and social interaction (Mäyrä, 2017). Zimmerman's manifesto sparked conversations and debates about the role of games and play in society, generating criticism for its idealistic vision and generalisations, which oversimplified the complexity of human nature (Raessens, 2014) (Ian Bogost). It encouraged people to think critically about the potential impact of games and how they can shape the future.

In response to the criticisms, on the same website, Zimmerman wrote a commentary explaining the tone of his manifesto and specifying its intentions and character. He answers with three points: the manifesto is indeed self-serving, as the first point implies, envisioning a future where games occupy a central role and where everyone can be a game designer. In second place, he replies to the criticism of it being too happy, specifying that loving games should evoke a sense of refined taste rather than blind enthusiasm. Lastly, Zimmerman points out in Fig. 1.2 that, being a manifesto, it is intended to be concise and easily digestible, so complex ideas are summarised and some subtitles are lost for that motif.

Therefore, this trend that some game scholars have also labelled as 'the gameful world' (Williams et al., 2014), the 'ludification of culture' (Raessens, 2014), or 'the ludic society' (Mäyrä, 2017) serves as the starting point for this thesis and will be one of the primary focuses of the initial investigation. The phenomenon of game culture, delineated as the 'institutionalisation of video game practices, experiences, and meanings, permeating our societies and offering a significant framework for analysing broader social issues in contemporary society' (Muriel & Crawford, 2018, p. 2), serves as compelling proof that video games are not confined to niche realms but are, in fact, deeply infiltrating various facets of modern society. This pervasive influence is evident in the distinctive characteristics of video games that extend beyond the confines of their own culture. Thus, game culture provides us with a lens

1. *https:...kotaku. com.will-the-21st-century-be-defined-by-games-1293867009*

through which we can decipher and examine wider societal dynamics in a contemporary context. Joost Raessens (2009) argues that we are now immersed in an unstoppable process of ludification of culture, in which games are not used just for leisure but expand and appear in areas that were once considered the opposite of play, such as education. This ludification process has been introduced and facilitated by more democratised digital technologies (Zimmerman, 2013), which have given games greater social and cultural relevance. As a result, video games and their culture are pervading society, making us spectators of a process of video ludification of society (Muriel & Crawford, 2018).

This study delves into the potential benefits and advantages of leveraging online platforms, particularly video games, to enhance communication and augment the communicative value of a brand. The research aims to contribute insights into the context by conducting thorough investigations, examining current practices, and conducting in-depth research on value creation through innovative communication methods. Ultimately, the focus is on understanding how these approaches can positively impact brand equity. Strong brand equity, in fact, can lead to increased sales, customer retention, and overall profitability (Arvidsson, 2006). Brands with high brand value are often seen as trustworthy, reliable, and desirable, which can be a major competitive advantage in today's crowded marketplace (Jones, 2021).

Fig. 1.2 Eric Zimmerman's declaration on his account on Twitter

1.2 Digital Convergence: Fashion, Communication, and Video Games

Building on this premise, the current research is positioned at the confluence of fashion, communication, and video games. It endeavours to investigate the intricate relationships and dynamics that exist among these domains by analysing and examining the few already existing communication strategies employed by fashion brands within the virtual medium. By delving into the few instances where fashion brands have ventured into virtual realms, this study aims to discern the various communication approaches employed. A broad comprehension of this context serves as a pivotal prerequisite for recognising pertinent challenges and obstacles that must be addressed before delving into the substantive examination. This approach enables the research to anticipate and navigate potential difficulties and errors, contributing to a more robust and insightful exploration of the intersection between fashion, communication, and video games.

In today's context, it is important to underline, for this thesis' sake, the pervasive influence of video ludification that is transforming the way we approach activities, as game-inspired elements and mechanics infuse various domains, enhancing engagement, motivation, and interactivity. Video ludification refers to the process of incorporating elements or principles of video games into non-gaming contexts or activities (Deterding et al., 2011). It involves applying game design concepts, mechanics, or features to enhance engagement, motivation, and interactivity in various fields beyond traditional gaming. Video ludification has gained significance in contemporary discussions due to reasons such as the shifting digital landscape, in which we see that video games, with the widespread adoption of digital technologies, have become increasingly pervasive in society.

In second place, video games are interactive and give the player agency power—the player's ability to make meaningful choices and exert control over the game world (Murray, 2017), so they have the capacity to captivate and engage players through compelling gameplay mechanics, immersive experiences, and intrinsic motivation. By applying ludification techniques, non-gaming activities can increase user engagement (Eisingerich et al.,

Internet users		5,04
Social Media users		5,35

| Number of users in billion | 0 1 2 3 4 5 6 |

Fig. 1.3 Statistics of internet users and social media users in January 2024 by the insights website Statista

2019), motivation (Landers et al., 2017a; Leclercq et al., 2020), and participation (Dichev & Dicheva, 2017; Ekici, 2021). In the last place, recent advances in technology, such as augmented reality, virtual reality, and gamified applications, have expanded the possibilities to obtain easier video ludification, enabling the creation of more immersive interactive experiences that can be integrated in various domains (Dwivedi et al., 2022). In summary, understanding how game features and ideas can be effectively utilised to boost engagement, motivation, learning, productivity, and overall user experiences in a wide range of non-gaming contexts is essential. It provides new insights on planning and arranging activities to better correspond with current audiences' expectations and preferences.

Acknowledging the established discourse and foreseeing its continued exploration in the unfolding study, this chapter, and more expansively, the entire thesis, will intricately blend the realms of video-ludification and fashion branding. This integration aims to analyse the emerging communication methodologies that are currently in development. This chapter in particular provides an overview of the current state of the art in the digitalization of fashion businesses, with a focus on how brands today increase their brand value through new communication strategies and technologies, which are widespread across almost every action in our daily lives. Indeed, according to Statista (2024) (Fig. 1.2), as of January 2024, the global internet user count reached 5.35 billion, making up 64.6 percent of the world's popula-

tion. Out of this figure, 4.8 billion individuals, accounting for 62.3% of the global population, were actively engaged as social media users. The internet has revolutionised the way people shop. E-commerce platforms have played a significant role in this transformation, offering various benefits that have reshaped the retail landscape by allowing individuals to browse and purchase products and services from the comfort of their homes, offering convenience and a wide range of options.

The topic of e-commerce development is central to the research because it was adopted in an accelerated and forced way during the quarantine (Dwivedi et al., 2023).

As the shopping attitude changed, retailer's approaches evolved towards a customer-centric approach. Customers themselves have increasingly preferred, starting from a forced and then evolving approach, digital shopping. This has evolved into a change in attitude and approach to shopping that is fundamental to this research, as it is geared towards a purely digital level of communication and consumption. All of this moves within a totalizing digital platform, which is the metaverse, through which customers find a new way of experiencing sociality while locked in their homes.

The impact of COVID-19

The pandemic had a profound impact on the industry beyond just its economic value (Craven et al., 2020). Hence, understanding the consequences of the pandemic on the video game industry allows us to acknowledge its broader societal implications. It helps us appreciate the industry's value beyond entertainment and recognise its potential for fostering social connections, economic growth, educational innovation, mental health support, and cultural expression in contemporary society.

Before the advent of COVID-19, despite the growing trend of digitalization, there seemed to be little observable effect on the evolution of the luxury fashion industry. Traditionally, a perceived disparity has existed between the Internet and the luxury industry, primarily for two reasons: firstly, the Internet enables broad accessibility and price transparency, while luxury brands typically thrive on exclusivity, scarcity, and sophistication. Secondly, replicating the personalised human interactions, meticulous attention to detail, and in-store service integral to the luxury experience is considered challenging within an online environment (Kapferer & Bastien, 2009). Consequently, with only a few exceptions among luxury firms, the reluctance to

Fig. 1.4 Fashion industry's economic profits evidenced the financial distress in 2020 by McKinsey.

Total economic profit (EP), index (2010=100)

Year	Value
2010	100
2011	101
2012	105
2013	98
2014	85
2015	72
2016	55
2017	77
2018	90
2019	80
2020	-79
2021	212

embrace online operations has left the industry more susceptible, particularly in responding to the challenges posed by the COVID-19 pandemic (Arrigo, 2014; Hoang et al., 2023).

During COVID-19, the industry witnessed a supply chain disruption, with delays and shortages of materials and products. Fashion brands, especially those dependent on extended lead times and rigid supply chains, faced distinct vulnerability owing to the discretionary nature of the category.
The fashion industry encountered greater challenges compared to discretionary goods as a whole. Over 70% of consumers in Europe and the United States anticipate reducing their expenditures on apparel (McKinsey, 2020).
The first months of lockdown caused financial distress in 80% of European and North American fashion business markets, as underlined by the McKinsey (2020) statistics in Fig. 1.3.

Many of these companies have experienced profound changes in a very short time and have been pushed to adapt new internal working processes due to a significant demand to offer items through digital channels, to implement solutions based on digital technologies (Almeida et al., 2020). The consequences were an almost immediate shift to e-commerce and a change in demand for fashion clothing as the occasion of use changed due to the lockdown. During 2020, thus, digital transactions and online experiences were undergoing remarkable expansion.
While it was initially projected that digital sales would constitute 20% of global retail by 2023, this percentage has already been totally surpassed by 2020 (Beauloye, 2021). In fact, 2021 e-commerce sales increased by 50.5% compared to 2019. In particular, the fashion sector experienced 59% growth (Goldberg, 2022). This phenomenon arises from the emergence of the stay-at-home economy during the pandemic, prompting individuals to seek innovative approaches to work, shopping, learning, and daily life. Consequently, the home has transformed into the primary centre for luxury apparel shoppers, who eagerly adopted the digitalization of retail channels from the beginning (Beauloye, 2022).

1.2.1 Fashion trends during COVID-19

Due to the factors delineated above, customers gravitated towards more casual and comfortable attire (McKinsey, 2023), aligning with their requirements during quarantine periods. Indeed, the COVID-19 pandemic has forced many people to work from home, which has resulted in significant changes in their daily lives (Gibson, 2021). With the necessity to maintain social distance to avoid the virus from spreading, many people have had to adapt to a teleworking work model and share their homes with their families (Almeida et al., 2020; Kitukutha et al., 2021). This transition has not been easy for everyone, as it can lead to reduced income or even job loss for some individuals (Craven et al., 2020).

Despite these challenges and problems, studies have shown that work from home guidelines (e.g., total or partial lockdowns, temporary closure of non-essential activities, and mandatory use of face masks in public places) have been successful for many workers (Al-Habaibeh et al., 2021; Almeida et al., 2020; Su et al., 2022). Home offices have thus evolved into hybrid spaces where domestic and workplace activities are shared (Lawry, 2022). According to McKinsey (2020), nearly 60 million Europeans were at risk of losing their jobs or having their salaries cut because of the pandemic emergency; this scenario was an economic and social crisis (Almeida et al., 2020).

The quarantine and the duty to stay at home have led to a decreased interest in clothing aesthetics and the emergence of the 'new comfort fashion' or 'athleisure' trend, which is all about comfortable and functional clothing that can be worn at home or outside (Iran et al., 2022). The emergence of this trend was then consolidated post first lockdown, and throughout Fall 2022, where it was defined as 'casualwear' by Y2K styles like cargo and parachute pants and denim skirts (Larson, 2023).
The hybrid use of home residences for both domestic and work purposes can also be stressful and lead to the development of mental health issues such as anxiety, depression, and stress (Alwan et al., 2023; Su et al., 2022). Therefore, the COVID-19 pandemic has not only impacted the fashion industry but has also altered individuals' perceptions of fashion. Consumers are now looking for comfort and functionality in their clothing choices (McKinsey, 2023).

Fig. 1.4 Pangaia products with athleisure style and completely made of recyclable materials, saw its sales soar during quarantine

After the Great Recession of 2020, the fashion industry's economic values increased by 21% the following year, due to the pandemic's recovery (McKinsey, 2023). The dynamic of using digital channels to substitute physical stores to reach customers has now been fully absorbed post pandemic (Paningrum et al., 2023). Thanks to the high vaccination rates and the end of lockdown, sales improved by mid-2021, and the luxury sector recovered fully by the end of the same year. The overall fashion industry returned to pre-pandemic levels of performance in early 2022, thanks to the phenomenon of 'revenge buying' that has contributed, especially in the U.S. market, to a much faster recovery than predictions made during early 2021 (McKinsey, 2022). During 2021, as the pandemic gradually subsides thanks to vaccines and the return to work, the global luxury market will record 5% to 15% more sales than last year, still dominated by online purchasing, the importance of which is consolidating (McKinsey, 2022).

1.2.2 New perception of luxury

In this context, the perception of luxury is undergoing a transformation. With increased time spent at home, there is a reevaluation of the notion of luxury, shifting its focus from solely material possessions to encompassing a lifestyle that prioritises physical and mental well-being. As of today, luxury has acquired new and different facets. For previous generations predating Millennials, luxury often entailed the ownership of material goods—items that were exclusive, unique, and possessed craftsmanship value. In contrast, the Millennial generation tends to define themselves more by their experiences and actions than their possessions. They place a high value on instant gratification and seek out extraordinary experiences. These traits classify Millennials as a critical sample, with a more experienced view of luxury than previous generations. Additionally, they emerge as a significant part of the purchasing power of future market brands and luxury commodities (von Wallpach et al., 2020). The concept of luxury, then, is directed towards exclusive access to a pleasant temporary experience, which Jonas Holmqvist, Carlos Diaz Ruiz, and Lisa Penaloza (2020) call 'hedonic escapism'.

Consumption has shifted away from prioritising acquisition and prolonged ownership towards temporary utilisation, leading to the emergence of various interpretations of luxury. This transition has introduced the concept of 'luxury moments', which encapsulates the precise instances where the perception of luxury is realised by the consumer (von Wallpach et al., 2020). Thus, luxury is now viewed through a metaphysical lens, emphasising the essential aspects of human existence and life: the uniting element of luxury moments is their capacity to create meaningful breaks (von Wallpach et al., 2020).

The digital solutions embraced by fashion firms during the epidemic have since become customary practices. However, customers continue to value the tactile and in-person elements of the purchasing experience (Rathi et al., 2022). As a result, brands are experimenting with innovative ways to merge digital and physical experiences, such as augmented reality, virtual try-ons, and interactive displays, in order to improve the phygital (physical and digital) buying experience (Lawry, 2022). Phygital stores, thus, emerged as a response to changing consumer preferences and the growing importance of digital technology in retail. The term 'phygital' was coined by Lawry (2022)

to describe the integration of physical and digital elements in retail spaces, creating a unique and engaging shopping environment that combines the best of both worlds. It follows that fashion brands now need to improve their storytelling to create value that fits inside the seamless new world composed of the physical and digital combination. While customers demand an increasingly seamless shopping experience across channels, whether in-store or online, retailers are looking for ways to leverage technology to enhance the in-store experience and drive sales (Xue et al., 2023).

According to Balchandani & Berg (2021), however, only 45% of fashion companies generate real economic profit, and of those, only 27% of them create value. Within that percentage are only strong businesses that have an international presence, with an advantaged position before and during the COVID-19 crisis and a larger exposure in China, where the fashion market is concentrated today. Thus, understanding and studying how to create value through digital channels and merge them with physical ones is crucial because it enables all different types of businesses to reach a wider audience, increase customer engagement, and drive revenue growth in today's digital age.

1.2.3 Comsumption shifts

The COVID-19 pandemic has elevated the prominence of sustainability in the fashion industry, prompting a reconsideration of consumption habits among many individuals. There is a heightened awareness of the environmental footprint and ethical considerations associated with fashion purchases. Fashion production has a very high ecological footprint that generates 10% of global carbon emissions, drains water resources, and pollutes rivers and streams (UNEP, 2022). Additionally, 85% of all textiles are discarded each year, and washing some types of clothing releases considerable amounts of microplastics into the ocean (Geneva Environment Network, 2023). Consumption patterns changed as a result of such a major life change: thus, customers preferred a more sustainable shopping strategy as pandemic issues emphasised the ongoing climate catastrophe. Clothing that is obtained, used, reused, and disposed of in accordance with the philosophy of sustainable development is referred to as sustainable fashion (Iran et al., 2022).

According to Mehta and colleagues (2020), the abrupt and prolonged periods of lockdown and isolation may have provided individuals with a better understanding of their purchasing behaviour, in addition to the urgent need for a more sustainable approach to fashion consumption that has been highlighted already in the last decade (Niinimäki et al., 2020). Thus, COVID-19 represented an unprecedented opportunity and potential motivation for changing attitudes and consumption behaviour, given the constant reminders of mortality as well as huge life modifications undertaken by many people to cope with a variety of challenging circumstances induced by the pandemic (Niinimäki et al., 2020). Peluso and colleagues (2021) conducted a study on Italians' spending on environmentally friendly and sustainable products, reporting an increase of approximately 10% since COVID's emergence. As a result of COVID-19's influence on sustainability views, sustainability ranks first among all the acts that customers expect from brands (Hedges, 2021). In particular, sustainable fashion refers to clothing, shoes, and accessories that are designed, produced, and distributed in a way that is environmentally and socially responsible (Iran et al., 2022). One example of this worldwide tendency is the 'slow fashion' trend, which focuses on creating high-quality, timeless pieces that are made to last rather than fast disposable fashion that is quickly discarded and absolutely not sustainable (Niinimäki et al., 2020). Another trend in sustainable fashion is the use of recycled materials. Some brands have started using recycled plastic bottles to create clothing, while others have used recycled fabrics or repurposed vintage clothing to create new collections (Dangelico et al., 2022; Kitukutha et al., 2021; Okur et al., 2023). Those approaches reduce waste and have a smaller environmental footprint.

As a result of the pandemic destroying supply chains, a greater emphasis on sustainability, and a shift in fashion occasions leading to the use and desire for more comfortable clothes, the forced solution was to rethink fashion business models (Dangelico et al., 2022), and that implies some companies should turn to sustainable practices and reduce waste to improve their environmental impact. Overall, the COVID-19 pandemic has highlighted the importance of sustainability in the fashion industry, and many companies are taking steps to reduce their environmental impact and create a more sustainable future for fashion.

Before the COVID-19 emergence, the challenge of digital transformation was mostly focused on the fourth industrial revolution, as represented by the concepts of Industry 4.0, the Internet of Things (IoT), and Web 4.0 (Almeida et al., 2020; Fonseca, 2018). COVID-19 has brought harsh and unpredictable times as well as promoted the inevitable digital transformation processes and, simultaneously, aggravated the social division between the classes, because not all businesses and individuals possess the same capabilities to meet the challenges of digital transformation (Almeida et al., 2020; C. Milanesi, 2020). To achieve maximum growth and sustainability, each sector, industry, and function needs to reinvent itself (Su et al., 2022). Regardless of the digital solutions adopted by industries, since the so-called 'Great Recession of 2020,' when the crisis actually began, the luxury industry's market sales have inevitably slowed down by 20% compared to 2019 (Lawry, 2022).

On the other hand, digital technologies and the changes they have brought to businesses' daily lives have produced new economic prospects. New online markets for new types of products were opened, and some industries transformed themselves entirely to meet the emergency demand, dematerializing the commercialised products. In particular, the growth of e-commerce during and after the pandemic was phenomenal (Almeida et al., 2020; Alwan et al., 2023). The possibility to facilitate and improve the contact between all these channels is the implementation of pragmatic technology solutions found by the luxury industry, and more generally by the fashion industry, to extricate itself from the initial COVID-19 crisis. The fashion industry had to accelerate the process of digitising sales channels, speeding up potential levels of sales strategies such as omni- or multi-channel and e-commerce, which have created the conditions for the largest technical revolution in the history of the fashion retail industry. (Otto, 2022).
Klünder et al. (2019) argued that this dematerialization process will help corporations significantly cut some fixed expenses. In parallel, the younger generations will adapt their own routines of consumption of products and services in the digital world. Hence, the digitalization of trade has emerged as an answer to a worldwide emergency, although it was, at the beginning, a forced solution. This process, known as digital transformation, is defined as the use of digital technology to improve the business, performance, or reach of a

system (C.-H. Lee et al., 2021). It is important to underline the key difference between digital transformation and digitalization: the first one is a revolution that is transforming the fundamentals of business and adding value to every customer encounter, while digitalization refers to the use of digital data to simplify work (F. Li et al., 2022). This concept is defined and explained in depth in the **Chapter 2**, as it involves several changes within society, culture, and consumer behaviour.

2
Theoretical background

Theoretical
Framework

The Theoretical Framework is built on the theoretical background derived from a triangularization of grey and scientific literature. The framework aims to organise the complex landscape of the use of new immersive technologies and the new possibilities of communicating values through them in the fashion industry.

This framework builds on the theoretical constructs of Chapter 2, which were organised and developed to produce a conceptualization of the themes that emerged from the first State of Art analysis. Through this framework, it is possible to distinguish three macro-dimensions addressed in the thesis, providing a solid theoretical background.

1. Digitalization: covers aspects related to the digitization of business activities, particularly those affected by the COVID-19 pandemic crisis. It focuses on the quality level of immersive technologies and the change in creation processes in fashion business.

2. Metaverse: focuses on the history and evolution of the web, then explores the definitions, applications, and implications of the metaverse concept. With a particular focus on immersive technologies such as AR, VR, and video games, the metaverse represents an evolving dimension that fits within the first macro-argument of digitalization and is explored in more depth here. This dimension is being researched as it is still unclear and recently emerged.

3. Value creation: examines the study of a brand in the context of its brand equity and the core values it represents and communicates to customers. It analyses how new technologies can be used to convey brand values and create emotional experiences. Within this theme, ways of communicating values through the use of immersive technologies and creating engaging emotional experiences for customers are explored.

The Theoretical Framework, with its various implications, is illustrated below as a linear dendrogram.

DIMENSIONS:

DIGITALIZATION
METAVERSE
VALUE CREATION

DIGITALIZATION

Shift in fashion industry
- Strong online presence
- Incorporation of product and service
- Expansion of quantity and informations
- Quality of user experience
- Inspiration
- Presence

Quality and presence
- Innovative offerings
- Incorporation of digital devices
- Focus on CJM
- Accessibility
- Co-creation of value

Co-creational opportunities
- Immersive exp quality
- Collaboration
- Integration in CJM

New methods to sell products and experiences
- E-commerce
- Customer centric approach
- Collaborations and new digital selling tools

METAVERSE

Metaverse
- Definition
- Components
- Applications
- Social and economical implications

- Retail
- Social interaction and communication
- Avatar and digital identity
- Privacy and security concerns
- New business model
- Lack of studies
- Definitions
- Applications

AR and VR
- Potentialities
- Lack of studies
- Perceived usefulness
- Ease of use
- Social Network

Immersive experiences
- Live streaming

Video games
- Immersion
- Narrative debate
- Sense of agency
- Merging of physical and digital
- Ludology
- Types of narrative

Intersection with fashion and engagement
- Engagement

Brands benefits
- Brand loyalty
- Brand awareness

Gamification

Consumer motivations
- Utilitarian motivations
- Hedonic motivations
- Intrinsic motivations
- Mechanisms of engagement
- Personalised experiences

- Self-determination theory
- Value creation
- Autonomy
- Competence
- Relatedness

Advergames
In game advertising
- Distinctive fashion brand details

CREATION OF VALUE

Brand inner cores and values

Brand equity
- Brand awareness
- Brand loyalty
- Brand associations

Brand knowledge
- Brand awareness
- Brand image

- Emotional connection

Brand value generation
- G-D and S-D logic
- Value co-creation
- Utilitarian and hedonic values

Brand values

Value creation in immersive technologies
- New value paradigm
- Emotional experiences
- Hierarchical positions

- Interactive engagement
- Emotional value
- video game as emotional experiences

Value strategies
- Aesthetic solutions
- Customised virtual environment
- Co-creation of storytelling
- Skin

After reviewing the current state of knowledge, the focus shifts to a number of theoretical concepts fundamental to an in-depth analysis. This chapter delves into the analysis of theoretical concepts necessary for effective examination. Three significant dimensions intersect within this discussion.

Firstly, attention turns to the study of digitalization and recently emerged immersive technologies. The impact of digitalization on creative and productive processes, particularly within the realm of fashion, is examined. Additionally, consideration is given to how the quality of a digital experience can influence immersion potential and its importance in achieving engagement. Subsequently, emerging digital tools such as e-commerce and m-commerce are explored in detail, highlighting the transition from a business-centric to a customer-centric and omnichannel approach. The chapter also delves into the significance of partnerships for brands, alongside the exploration of new methods of digital selling, such as NFTs and digital garments.

The second observed dimension fits within the first identified. Further investigation into the metaverse concept and immersive experiences is considered beneficial for the advancement of the thesis. The initial aim is to dissect this 'three-dimensional space' that has been influencing both customers and businesses in recent years through an examination of definitions, components, applications, and social implications of the metaverse. A further dedicated chapter is devoted to immersive technologies like AR, VR, and video games, analysing their role in storytelling and the creation of immersive experiences. A focal point is dedicated to the history of narrative and the role of video games as a new medium, as they serve as communicative vehicles of values for the research aim. Finally, the concept of gamification, its brand benefits, and the distinctions between advergames and in-game advertising are explored, representing the main focus of the investigation.

Lastly, the discussion concludes with an analysis of brand value structures. In the final dimension of value creation and engagement, it examines the evolution of the brand equity concept from an economic perspective to a broader, emotional one centred on creating emotional connections with customers. Two seminal studies (Aaker and Keller) underscore the shift towards a more emotional dimension, emphasising the importance of foste-

Fig. 2.1 The intersection of domains

ring emotional relationships with clients and adopting a holistic approach. The origin of brand value is explored, tracing the transition from goods-centric to service-centric logic and recognising the significance of interactions and value co-creation between firms and customers. Furthermore, the notion of value creation is investigated, specifically value co-creation, which is central to the research. Within this framework, two categories of value, utilitarian and hedonistic, are outlined, driving customer preferences and providing a theoretical foundation for understanding brand structures amidst ongoing digitalization.
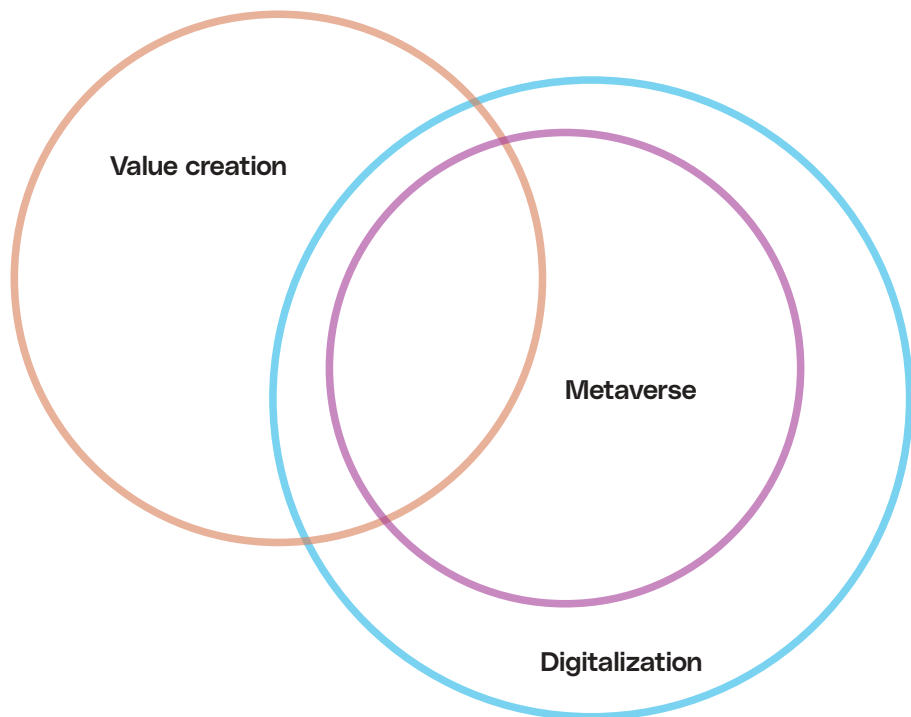
Value creation

Metaverse

Digitalization

Digitalization

In an industrialised digital world where teens and young adults under the age of 25 spend an average of 8 hours per day totally absorbed in their screens (Real Research, 2022, p. 38), it is now clear that fashion luxury brands that wish to attract younger consumers have the duty to incorporate new technologies into their retail and communication strategy. As the online presence increased, the online demand did too (Alwan et al., 2023): for many possible customers, scrolling in isolation or playing in collaborative games or online communities has become a routine every day (Joy et al., 2022) and, as previously anticipated, COVID-19 has accelerated the digital transformation process, and customers' shopping habits have shifted from mostly offline to mostly online, or they move and shop across the online and offline stores simultaneously (Grewal et al., 2020). Thanks to the advantages of online technologies (Hsu et al., 2021), such as the possibility to buy without moving from home or to compare prices and reviews to find the best product (Hagberg et al., 2016; Rooderkerk et al., 2023). Furthermore, customers were observed to prefer online channels when they became aware that local stores might not have the product in stock (Rooderkerk et al., 2023).

Recent key developments such as virtual reality, social and mobile commerce, and gaming employed by tech-savvy firms demonstrate the fashion retail industry's continuous willingness and preparedness (Dwivedi et al., 2022). Another notable shift in the fashion business, according to McKinsey's State of Fashion 2023[1], was the growth of e-commerce and the vertical integration of sale channels. Now it is considered normal and has become a habit for customers to consult online reviews, compare prices, and find the best offer before purchasing any experience products/services, regardless if they're physical or not (Hsu et al., 2021). Overall, digitalization has become a crucial aspect of modern business operations, and it has also created new opportunities for innovation, collaboration, and growth (Almeida et al., 2020; Behl et al., 2023; Szozda, 2023).

[1.] https://www.businessoffashion.com/reports/news-analysis/the-state-of-fashion-2023-industry-report-bof-mckinsey/

To keep up with these changes, luxury brands are increasingly urged to establish a strong online presence (Joy et al., 2022). This involves using various digital marketing strategies such as social media, email marketing, influencer marketing, and, in general, the optimisation of creating value through the establishment of a new direct relationship with the consumer (Bazaki &

Wanick, 2023). Luxury brands have also incorporated virtual and augmented reality technologies to enhance the shopping experience for customers (Billewar et al., 2022).

Virtual reality can be used to provide immersive experiences, such as virtual product try-ons or virtual tours of stores, or to allow customers to virtually try on clothes and accessories, giving them an immersive and interactive experience. Augmented reality can be used to offer interactive features that allow customers to visualise products in their own environment, enhancing the shopping experience and increasing customer engagement through the experience of trying it (Javornik, 2016; Xue et al., 2023). Artificial intelligence is progressively being used by global companies like Gucci, Burberry, Ralph Lauren, and Louis Vuitton to design seamless consumer onsite experiences. Several are also using non-fungible tokens (NFTs) to verify the validity of digital photos for sale (Joy et al., 2022).

In recent years there has been a growing trend among firms to involve consumers in various aspects of the creation of value, a phenomenon called 'co-creation' (Prahalad & Ramaswamy, 2004). Although this phenomenon is not entirely new, it has been further strengthened by digitalization, which enables new ways to include the consumer in the value-creation process (Hagberg et al., 2016). For example, companies can leverage the collective intelligence of online communities to generate new product ideas, involve

Fig. 2.2 DressX website, the largest retailer of digital fashion, uses image/video processing technologies for 3D fashion creation and digital dressing.

customers in the product design process, or encourage them to share their experiences and provide feedback on products and services.

Moreover, digital technologies have enabled consumers to become more and more active in the co-creation process by giving them access to tools and resources that were previously available only to experts (Pascucci et al., 2023). Customers want to be entertained and feel strongly connected to the brand (Prahalad & Ramaswamy, 2004). For the time being, brick-and-mortar retail is having a difficult time, but immersive technology is starting to be used to enhance the shopping experience, regardless of whether it is physical or digital (Billewar et al., 2022).

Direct digital channels will remain a key component of a multichannel mix in the next few years, but direct sales can be adopted and supplemented by a broad channel strategy that engages and draws new customers while providing a solid platform for growth[2].

Consumers are more omni-connected nowadays, having a digital presence and the ability to create an experience that is authentic to your brand and consistent across several channels is vital[3].

Consumers today expect a high level of convenience and accessibility in their interactions with businesses, and by providing a digital presence that is user-friendly, responsive, and available 24/7, businesses can enhance the customer experience and build stronger relationships with their audience.

The role of the digital store is evolving as well, as retailers are increasingly incorporating new technologies and designing solutions to enhance the customer experience. Virtual try-on technologies, augmented reality, and personalised recommendations are all becoming more common in the e-commerce industry. These technologies are helping retailers engage with customers in new ways and create a more personalised shopping experience (Hagberg et al., 2016). The digital transformation is affecting the value chain of retail through new sources of value creation such as automation, individualization, personalisation, interaction, and transparency (Gornostaeva, 2023; Reinartz et al., 2019).

2. https://www.businessoffashion.com/articles/direct-to-consumer/the-state-of-fashion-2023-report-dtc-ecommerce-online-retail-channel-strategy/

3. https://www.mckinsey.com/capabilities/growth-marketing-and-sales/our-insights/the-survival-guide-to-omnichannel-and-the-path-to-value

2.1.1 Context and definition

'Digitalization' refers to the process of converting information or processes from analogue or physical formats into digital formats. It involves the use of digital technology to transform data, documents, services, or systems into a digital form that can be easily stored, processed, and transmitted electronically. Through trend observation, studies, and growing interest, digitalization is now considered a fundamental aspect of the ongoing digital transformation, which is profoundly shaping modern society and its business activities (Almeida et al., 2020; Hagberg et al., 2016; Legner et al., 2017). This implies that digitalization has transitioned from being merely an elective or supplementary element to becoming a vital requisite for maintaining relevance and competitiveness in the contemporary digital era (McKinsey, 2023). Consequently, we aspire to explore this subject matter in greater depth, recognising its significant relevance to our research objectives.

Digitalization is an ongoing process permeating diverse facets of contemporary existence, spanning domains such as data management (A. Suh & Prophet, 2018), operational procedures (Legner et al., 2017), communication strategies (Rubio-Tamayo et al., 2017), business, entertainment, healthcare (Daher et al., 2022), education (Filsecker & Hickey, 2014), and transportation (F. Li et al., 2022). It improves the overall efficiency and effectiveness of various aspects of our personal and professional lives (Muriel & Crawford, 2018). In light of the various post-pandemic trends taking place, including digitalization, it is imperative for our research to conduct an in-depth investigation into the impact of digitization on the fashion industry. This entails elucidating the challenges it presents while discerning the potential avenues of opportunity it may unveil.

While the terms digitalization and digitization are commonly used interchangeably, they refer to two distinct ideas. Digitization refers to the process of converting analogue information into a digital format (Hagberg et al., 2016). The process of transforming a physical document into a digital version, such as scanning it and saving it as a PDF file, is an example of digitization. Digitalization, or digital transformation, refers to the use of digital technologies to transform business processes, create new business models, and enhance customer experiences (Almeida et al., 2020; Legner et al., 2017). Digitalization involves using digital technologies to optimise and automate existing

Fig. 2.3 Burberry launched an AR shopping tool through Google Search technology

processes and to create new products and services that were not possible before (Legner et al., 2017).

In short, digitization is about converting analogue information into a digital format, while digitalization is about using digital technologies to transform business processes and create new value.

2.1.2 The shift in fashion industry

Fashion retail business is indeed being reshaped and swiftly transformed through digital transformation. According to the State of Fashion 2023 report by McKinsey, there is a growing need to reinvent and specifically digitalize the sales channels. A UBS Poll Chinese study conducted in 2020 revealed that 72% of respondents increased their purchases on luxury resale via online platforms, compared to 31 percent in 2018 (UBS, 2020), due to the pandemic lockdown. Current studies are confirming that, post-lockdown, this change in customer behaviour is officially confirmed (Iran et al., 2022; Kitukutha et al., 2021; Pop et al., 2023): COVID-19 has altered selling techniques to a more digital approach, including the use of e-commerce (electronic commerce), VR,

AR, and 3D technologies (Alwan et al., 2023). Notably, the emerging horizon of potentiality lies within the metaverse, which holds the promise of amalgamating these evolving trends (Joy et al., 2022). The metaverse offers a novel realm where fashion, digitalization, and consumer engagement converge, presenting an exciting opportunity for fashion brands to explore and adapt to this new landscape (Petkov, 2023).

The fusion of modern technologies and the integration of physical and digital systems characterise digital transformation (Almeida et al., 2020) and contribute to the blurring of the two services' differences. In fact, defining the difference between products and services has long been problematic (Araujo & Spring, 2006; Levitt, 1981), and digitalization reopens and exasperates this ambiguity, resuming the debate about it. Retailers often provide both items and services, as well as intangible and tangible features (Levitt, 1981), and digitalization supports changing offers by incorporating product digitization and digital technology into what is provided. Digitalization also changes the kinds of offerings that can now be expanded in terms of quantity and information, as well as how these items are priced and paid for (Hagberg et al., 2016). Those new types of offering presentations can evolve into what Shankar et al. (2009, p. 95) defined as 'products and services combined into innovative offerings', illustrating the concept of hybrid offerings. Hybrid offers are thus unique solutions that mix physical items or things with services (Behl et al., 2023). They are distinct from pure service (like financial and health) and pure manufacturing offers (Gebauer et al., 2011). It follows that the impact of digitalization extends far beyond e-commerce and includes the total or partial transformation of physical products into digital services, adding consumer recommendations on social media, and the incorporation of digital devices into the purchasing process—for instance, online information searches leading to offline purchases (Hagberg et al., 2016). Digital transformation can thus help improve the quality of user experiences by providing relevant content anytime, anywhere, and on any device. In fact, businesses that embrace technology can provide an unmatched customer experience, which can lead to increased engagement and satisfaction (Siebert et al., 2020). Research shows that 35% of business executives claim that digital transformation helps them to better meet customer expectations and improve operational efficiency (SuperOffice, 2023). To create value across the customer

journey, the retail sector has already begun to implement various applications of immersive technology as part of marketing and sales strategies, such as virtual mirrors (Javornik, 2016). However, co-creating value across service and product interactions is increasingly defining the current consumer market. Jung et al. (2016) claimed that immersive technology had the potential to operate as a platform for value co-creation among customers, reshaping the design, consumption, and quality of the overall customer experience.

Thus, in an era of growing immersive technologies capable of influencing consumer experiences at several touchpoints during a customer journey, immersive technology placement needs to be reconsidered. Despite their growing importance, there has been little study on the effects of immersive technologies on consumer experiences, but since 2022, that research has been a growing area of interest, with the majority of studies appearing mainly in industry and marketing journals (Tom Dieck & Han, 2022). For example, among the few studies found, the research of Klico & Mahmić-Muhić (2022) needs validation of a broader framework, as the authors themselves write, and 'future research is highly recommended to study how various senses are engaged in immersive environments to stimulate virtual escapes' (Klico & Mahmić-Muhić, 2022, p. 117). Furthermore, (Flavián et al., 2022) also specify that the fields of future research are broad and can focus on how business processes can change, how immersive technologies can influence the customer journey, and how much.

One of the underlying causes of this difficulty in the studies is the ongoing evolution of experiences, which are transforming over time, as well as customer expectations changing and technological advancements affecting our lives. As a result, future goals and ambitions remain uncertain, limiting our understanding and potential application of immersive technologies. Many studies have concentrated on the impact of immersive technologies in various industries, including retail (Boardman et al., 2020; Kang et al., 2023; Wu & Kim, 2022), entertainment, education (Grewal et al., 2020; Rospigliosi, 2022), and healthcare (Daher et al., 2022). These studies examine principally how immersive technologies enhance customer engagement, satisfaction, and the overall experience. Studies are still limited on aspects such as the effectiveness of virtual product experiences, the methods of storytelling, and value communication through immersive technologies.

2.1.3 Quality and presence

Immersive technologies are reshaping and revolutionising the presentation of new digital experiences and collaborative value creation. This needs a fresh approach to managing consumer interactions, driving companies to shift their focus accordingly (Tom Dieck & Han, 2022). Indeed, managing immersive technologies for a better customer experience is essential for businesses (Irfanulla, 2023). In addition, marketing research has begun to investigate the opportunities and challenges of immersive technologies, with a focus on consumer adoption (Dwivedi et al., 2022), brand communication and awareness (Dangelico et al., 2022; Dwivedi et al., 2022), gaming (Arya et al., 2023; Pallavicini et al., 2019), health (Daher et al., 2022), and business models (He & Zhang, 2022).
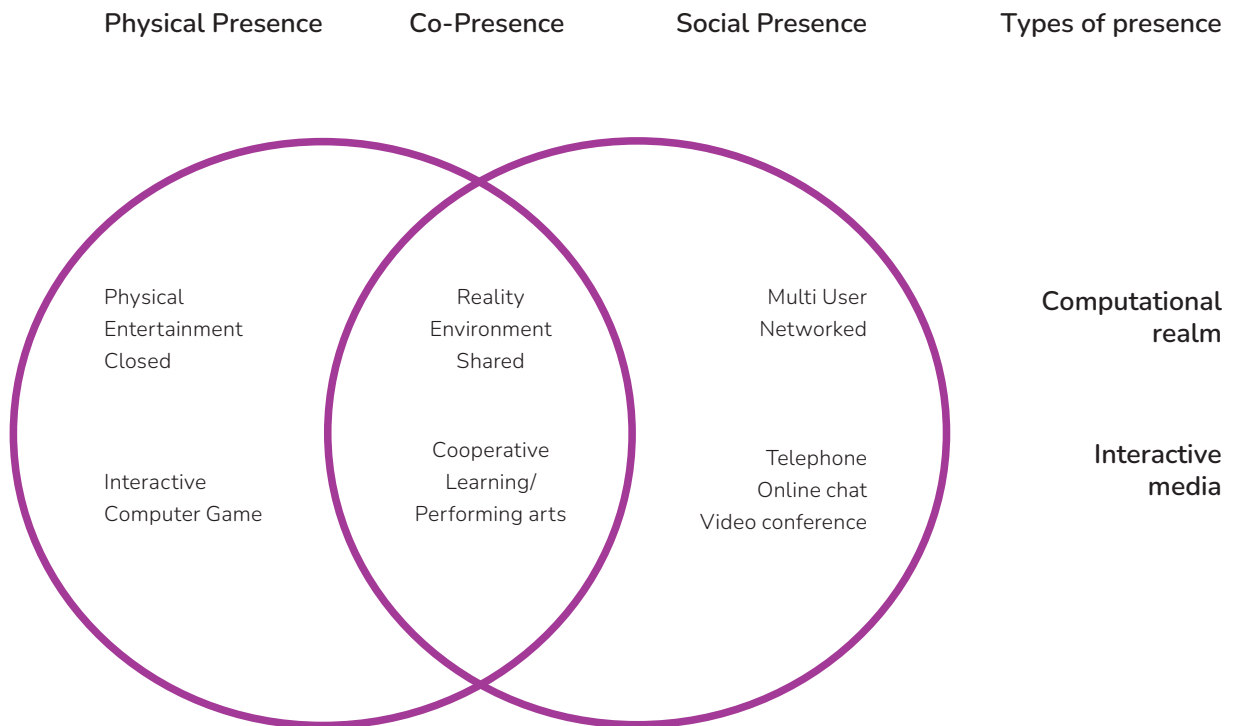
Mechanical and technological advancements within immersive environments have been significantly developed since their introduction to the market (Rubio-Tamayo et al., 2017). These advancements include the advent of increasingly powerful smartphones and more accessible and immersive virtual reality technologies. However, despite these developments, there remains a notable gap in theoretical research regarding how immersion quality within virtual social environments impacts customer experiences, as highlighted by mmel. In the same paper, Savvas Papagiannidis's contribution articulates how customer personas and journeys would need to be redesigned for the metaverse to reflect the new virtual touchpoints and immersive experiences. Furthermore, Tom Dieck & Han (2022) underline that there's a need to explore such experiences because they could be refined to seamlessly replicate real-world social interactions, thus enhancing overall customer satisfaction. The focus is on the quality of immersion. In fact, it is crucial to improve it to achieve those real-world social experiences. With a high-quality immersive experience, the user is more easily able to immerse themselves in the virtual environment and is thus more emotionally stimulated (Shin, 2018). Indeed, the creation of amusing, instructive, escapist, and aesthetic experiences has been found to have a significant impact on the consumer journey, both in AR and VR contexts (Kang et al., 2023). According to Rauschnabel et al. (2019), AR experience researchers, quality itself is a potentially relevant and not explored factor that goes into inspiring the user. Inspiration is defined as when 'insights or ideas imbue a task with a sense

of necessity and excitement' (Thrash & Elliot, 2003), thus an emotional state that goes to involve positive emotions, a motivational condition in which new possibilities are revealed that can lead to the realisation of new ideas (Böttger et al., 2017; Oleynick et al., 2014). Consequently, as Tom Dieck & Han (2022) stated, when consumers perceive emotional gratification (i.e., hedonic value) in an external stimulus, inspiration increases; however, because inspiration provides new opportunities or the realisation of new ideas, inspiration is also encouraged by utilitarian value. Furthermore, Parong et al. (2020) published a study on immersive technology, focused on VR and its potential for learning, and stated that the quality of immersive technologies enhances the sense of presence, of 'being there', and has significant consequences for pleasant learning experiences.

Presence can be defined as a mental state where a user's subjective experience within a mediated environment is influenced by technological aspects of the environment, which may not be immediately apparent to the user (Caroux, 2023; Tamborini & Bowman, 2010). Nussipova et al. (2020) define presence as a subjective sensation of being in an artificial environment while really being in the real world. This sensation, with the gradual implementation of the technologies, could potentially be superior to reality, creating extraordinary experiences. In the context of video games, 'presence' typically refers to the feeling of being physically present in a virtual environment created by the game (Heeter, 1992; Tamborini & Bowman, 2010). Presence is strictly linked with context because we use context unconsciously to make sense of what others are saying and what is happening (Waterworth & Hoshi, 2016). Context refers to the surrounding circumstances of a communication, which contribute to making its meaning understandable (Ravaja et al., 2006). Meaning can be elucidated through contextual cues such as the surroundings, circumstances, environment, background, or setting in which the communication takes place (Waterworth & Hoshi, 2016).

Overall, it involves the degree to which a player feels immersed in and connected to the game world. Achieving a strong sense of presence often involves various factors, such as realistic graphics, responsive controls, immersive sound design, and engaging gameplay mechanics (Farnsworth, 2020; Pallavicini et al., 2019). The quality of the overall experience is thus

Physical Presence   Co-Presence   Social Presence   Types of presence

Physical Entertainment Closed	Reality Environment Shared	Multi User Networked	Computational realm
Interactive Computer Game	Cooperative Learning/ Performing arts	Telephone Online chat Video conference	Interactive media

Fig. 2.4 Waterworth & Hoshi type of presences scheme

strictly linked to the concept of presence, because it is essential for the user to fully immerse themselves in the virtual environment so that it can almost be perceived as a real-life experience. In particular, immersive technologies can enhance presence by providing users with a more immersive and realistic experience. It follows, then, that new immersive technologies have paved the way for experiences of much higher quality than before, with potential that is not yet fully expressed but is immense.

Waterworth & Hoshi (2016) distinguished three kinds of presence: physical presence, social presence, and co-presence. First, the concept of presence was divided into two broad categories: physical and social (Lombard & Ditton, 1997). Physical presence, according to Sheridan and colleagues, is an individual's 'sense of being' in a specific virtual world. Social presence entails the 'sense of being with another' (Biocca & Harms, 2002), engaging in social interactions with a communication partner who is physically remote. Through the use of an avatar, the user within the digital environment assumes the role of a social actor, interacting with the platform or game, solving

problems, achieving goals, or working in a group (McCreery et al., 2015). Social presence has progressed from projecting oneself as an online personal identity to that of a 'shared social identity' (Garrison et al., 2010). Thus, social presence makes immersive technologies an effective tool for marketing and business-related purposes to create engaging, high-quality experiences that can enhance brands' strong social and digital presence, awareness, and engagement. In 2003, Riva and colleagues theorised the concept of 'co-presence', visualised in the common ground of the other two categories: co-presence is defined as a sense of being together, is frequently linked to feelings of psychological proximity, and intimacy with others (van Brakel et al., 2023). Co-presence refers to the shared sense of being together in a space or environment, even if the two individuals are separated (Riva et al., 2003). Co-presence creates a sense of being together that empathises with the feeling of shared presence or shared experience, fostering a sense of togetherness in a virtual or mediated setting (Waterworth & Hoshi, 2016). That concept is often associated with virtual or mediated environments where people can interact in real-time despite being physically distant (Bulu, 2012; Waterworth & Hoshi, 2016). In the context of technology and communication, co-presence can occur through various channels, such as video calls, virtual reality, online chat, and social media (van Brakel et al., 2023). For instance, during a video conference, individuals may feel a sense of co-presence as a result of real-time visual and audio engagement, creating a virtual perception of shared physical presence. Still, Waterworth & Hoshi (2016) stated that the quality of interaction that produces the sense of presence depends on how effectively a reality fits its own contexts. It's the 'contextual reality', which is conveyed in the blended reality space and shared between users in communication and collaboration. The more appropriate sensual perception is created during interaction in blended reality space, the more tangible co-presence users feel.

Immersive technologies are highly experiential (Boardman et al., 2020; Scholz & Smith, 2016), and the quality of the immersive experience will continue to improve as immersive technologies evolve and become more democratised, and that is something that has already happened in part through the digitalization process during and after COVID-19. Furthermore, they provide customers with higher-quality experiences in terms of both utilitarian and hedonic value, as well as a greater understanding of how commodities,

products, and experiences might impact their offline lives (Kang et al., 2023). Additional studies have shown that people can react socially to virtual environments and that virtual reality can evoke a strong sense of presence (Bombari et al., 2015; Nussipova et al., 2020), particularly in immersive virtual environments. If social presence, and thus social interactions, will be equally engaging and enjoyable in the immersive environment as in real life, a global increase in the adoption of immersive technologies is consequently expected (Dieck & Han, 2022). Furthermore, meaningful designs will make sure that immersive technology is not merely an attraction to draw people but rather a real tool to engage, capture, and maintain them over the long haul (Tom Dieck & Han, 2022), in both online and physical experiences, which can lead to increased customer satisfaction and loyalty.

However, it is not yet thoroughly explored how new digital immersive technologies can be incorporated and used within the customer journey because it is still required to investigate how value created and co-created originates through immersive technologies during purchase (Abdel et al., 2023; Barann et al., 2022). In addition, as Rauschnabel et al. (2019) demonstrated, immersive technologies are frequently used in isolation and are not properly integrated into the customer journey. Indeed, in an era of digitalization, insights into the administration of immersive technologies and how they are co-created with numerous stakeholders are still contested and unclear. It is thus fundamental for businesses to recognise the need to understand and manage the complete picture of the customer experience through the new immersive technologies to better control engagement (Tom Dieck & Han, 2022). Jung & Dieck, (2017) demonstrated that interactive immersive technologies offer the potential to personalise customer experiences and journeys, adding greater value and co-creational opportunities.

Furthermore, according to Tom Dieck & Han's research, (2022), the capability to personalise the customer experience means that the new immersive technologies have the power to match individual needs and preferences, creating an interaction of much greater emotional value and relevance for the customer. Thus, these technologies can potentially add great value to both experiences and the entire customer journey. By providing more personalised and engaging interactions, businesses can enhance the overall perceived value of their products or services. Additionally, 'co-creational opportunities' are

also addressed within the research, as digitalization through immersive technologies is making the direct collaborative process between businesses and customers easier and more immediate. This partnership can result in the creation of one-of-a-kind and personalised solutions, goods, or experiences by the business and the client. With the co-creation of personalised output, this will also generate additional value for the customer. In summary, the studies (Abdel et al., 2023; Barann et al., 2022; T. H. Jung & Dieck, 2017; Tom Dieck & Han, 2022) suggest that by leveraging interactive immersive technologies, businesses can enhance customer experiences by personalising interactions, adding value, and creating opportunities for collaboration in the creation of products or services. This is particularly relevant in a contemporary business context where customer-centric approaches and technological innovations are crucial for staying competitive in the market.

2.1.4 New methods to sell products and experiences

In the rapidly evolving landscape of commerce and consumer engagement, the integration of digital methods has become an advantage for firms aiming to succeed in the digital age (Bazaki & Wanick, 2023). This chapter moves into the most recent generation of innovative approaches, concentrating on the new digital ways used to market products and offer immersive experiences. As technology continues to reshape the way we interact with the marketplace, the intersection of innovation and consumer expectations is giving rise to a new era of digital commerce.

The advent of advanced digital technologies has not only altered the traditional paradigms of selling but has also opened up avenues for businesses to connect with their audience in unprecedented ways. From leveraging augmented reality (AR) and virtual reality (VR) to crafting immersive digital environments, and producing through 3D technologies digital garments and NFTs, companies are redefining the boundaries between the tangible and virtual realms. This chapter aims to explore the diverse array of strategies employed by forward-thinking enterprises to not only sell products but also to create memorable and interactive experiences for their customers.

2.1.4.a Electronic and Mobile commerce

Electronic commerce (or "e-commerce") is the purchase and sale of products and services over the Internet (Kitukutha et al., 2021). Payments for such a transaction can be made online, removing the requirement for the seller and buyer to meet in person (Alwan et al., 2023): only the ability to have online access is required to make a purchase using e-commerce.

According to global Internet (Statista, 2024)) at January 2024, there were 5.16 billion internet users worldwide, which is 64.4% of the global population, and 85% of those use it for online shopping and to search for information: 81% look for a product or service to buy online, while 66% use a mobile app to shop online, and 74% buy a product or service online at least once a week. 51% use mobile commerce (MC) as well as social commerce (SC) (Kitukutha et al., 2021). With a revenue of 759.5 billion US dollars in 2021, fashion was the world's largest e-commerce segment (Aaron, 2022).

The advancement of information technology (IT) has enabled society and customers to engage in e-commerce. Most young people now have access to the Internet and online shopping because of mobile phone saturation and inexpensive costs. Mobile phones account for 80% of global e-commerce growth; most online purchases are made via phones (Chopdar & Balakrishnan, 2020; Gyenge et al., 2021). Mobile gadgets, which were once considered a luxury, are now an integral component of many people's lives all around the world (Ciupac-Ulici et al., 2023). The global number of people who own a unique mobile phone had reached 5.31 billion at the start of 2022 (Kemp, 2022). After the rise of mobile devices, different mobile applications, including retail mobile apps, became more and more numerous and widely used by clients (Ciupac-Ulici et al., 2023).

The spread of COVID-19, as previously said in **Chapter 1.2**, has accelerated the digitalization and thus the expansion of e-commerce (Kumar & Somani, 2020), causing a paradigm shift with 30% growth in online purchases (Alwan et al., 2023; McKinsey, 2023). E-commerce is not only supported by the internet of things but also by the supply chain and logistics. During the COVID-19 crisis and lockdown, e-commerce was hardly hit due to the disruption and breakdown of the supply chain; indeed, businesses suffered huge losses (Kitukutha et al., 2021).

E-vendors played a key role during this difficult period, working together to make sure that goods got to their destinations as quickly as possible.

These actions permitted e-commerce businesses to develop more and to open up to the international market, maintaining the appearance of a local, private market (Kitukutha et al., 2021). If travel limitations and smart working caused problems for e-vendor businesses, on the other hand, customers turned, thanks to the technological developments that now provide a perfect platform to shop, to online shopping, which has many advantages, both from the customer point of view and from the business point of view (Baskaran, 2019; Fazal-E-Hasan et al., 2020).

Internet shopping for customers is simple, intuitive, and permits them to have more control over the product's information through reviews and details written directly by the seller. Clients can place orders at any time, making online shopping incredibly effortless. That indicates a more relaxed shopping experience that is convenient and time saving, providing pleasure and maximum satisfaction for online consumers (Collinson et al., 2020; F. Li et al., 2022; Mainardes et al., 2020).

Furthermore, mobile commerce (m-commerce) is also growing: the purchase and sale of products and services via wireless handheld devices such as smartphones and tablets, thus without using a desktop (Pop et al., 2023). From being at first an extension of e-commerce, it has recently emerged as its most important component. This happened because of its greater convenience, for providing a faster experience (Ciupac-Ulici et al., 2023), and having a more intuitive user interface (Sarkar et al., 2020). Social media platforms such as Instagram and Facebook now offer shopping features, allowing customers to purchase products directly from the social platform (Mazzucchelli et al., 2021). Mobile apps had already made significant market inroads in the fashion retail business before the COVID-19 pandemic (Torok, 2020), but in the second quarter of 2020, mobile retail spending increased vertiginously, amounting to over US $47.8 billion (Statista, 2020). This widespread use of phones, and thus mobile and social commerce, has driven the emergency of developing brand's mobile applications (Pop et al., 2023): in fact, previous research has discovered that mobile shopping has unique utilitarian features, such as usefulness, localization, ease of use, a personalised shopping experience through user-friendly design, omni-channel integration, identifying ef-

ficiency, and time savings (Moon et al., 2017): all these findings are important and influential factors on customer engagement and customer positive attitude towards mobile commerce (Chi, 2018; Pop et al., 2023). Mobile commerce, moreover, allows customers to shop from their mobile devices, making it convenient for them to make purchases on the go (Fang et al., 2021).

The growth of m-commerce depends also on increasing trust in online payments (e-trust) (Ciupac-Ulici et al., 2023): the apparent benefits of Internet-enabled transactions are frequently outweighed by uncertainty and anxiety about payment security, which may cause potential buyers to be uncomfortable or hesitant to engage in online transactions (Jaradat et al., 2018).
For this reason, trust in m-commerce is required for its uptake and use (Sarkar et al., 2020), essential for building confidence in the online environment and ensuring that customers feel comfortable making purchases through mobile devices (Xiao et al., 2016). Trust is even more critical in m-commerce transactions than in offline transactions because online transactions are typically blind, borderless, non-stop, and non-instantaneous (Ciupac-Ulici et al., 2023): thus, trust plays an important role in mitigating the negative consequences of risk perceptions in m-commerce transactions (Marriott & Williams, 2018). In addition, researchers believe that trust is related to how private and secure people feel (Ozturk et al., 2017; Zoghlami et al., 2018).

It follows that it is essential to ensure that customers' privacy is protected and they trust the platform, so it's needed to reduce the perceived risk (Sarkar et al., 2020; Xiao et al., 2016) and augment the perceived security. To build trust and maintain privacy in mobile commerce, businesses are trying to embrace more transparent data policies. Indeed, the new generation that holds the most spending power, gen-z (McKinsey, 2023), adopts a more rational approach to e-commerce, and their consumption decisions are based mostly on transparent information (Liu, 2023). Mobile commerce platforms should thus have clear data policies that explain how consumer data is collected, stored, and used (Ciupac-Ulici et al., 2023. Trust is also built through secure payment gateways implemented to ensure that customers' payment information is protected (Ciupac-Ulici et al., 2023. Mobile payments, as defined by Karnouskos (2004), are "any payments where a mobile device is used to initiate, activate, and/or confirm a payment" for goods and services.

Mobile commerce can give customer support directly through AI chat, which is available 24/7 to help with any concerns or issues that customers may have. In that way, mobile commerce can establish a trusted relationship with their customers and protect their privacy by being transparent, which can ultimately lead to increased customer loyalty and improved sales (Mainardes et al., 2020). Brands can use these platforms to engage with customers and build relationships through personalised content like website aesthetics that can improve the hedonic value of m-commerce and trust (Li and Yeh, 2010). Furthermore, retailers are increasingly investing in mobile apps that offer features such as push notifications, personalised recommendations, and easy checkout processes (Kitukutha et al., 2021).

This implies that the impact of e-commerce extends and includes the transformation of physical products into digital services and the incorporation of digital devices into the purchasing process, such as online information searches leading to offline purchases, including the use of social media as a vehicle to engage customers through communication of brand values and product information (Hagberg et al., 2016).

2.1.4.b The Customer Centric approach

With the increasing use of technology and data analytics, businesses are now able to gather and analyse vast amounts of customer data (Wang et al., 2018), which brands can use to establish more intimate and personalised relationships with their customers (McKinsey, 2023). By leveraging this data, businesses can gain insights into their customers' preferences, behaviours, and purchasing habits, and tailor their marketing, products, and services accordingly.

This shift towards a more customer-centric approach has also led to the rise of customer relationship management (CRM) systems, which enable businesses to track and manage interactions with their customers across multiple channels, including social media, email, and in-store (Jackson, 2007), also with AI support (Rahman et al., 2023). By using CRM systems, businesses can better understand their customers' needs and preferences, and provide more personalised and targeted communications and services (Rahman et al., 2023).

As consumers become more familiar with the comforts of digital purchasing, it is expected that this channel will become their preferred method of shopping once the pandemic has completely passed (McKinsey, 2023). Even older generations, which first established a non-adoption behaviour before COVID-19 (Mainardes et al., 2020), are now fully engaged in online shopping. Furthermore, the pandemic encouraged a variety of smaller retailers to enter in the market by starting their own online services (Billewar et al., 2022). Starting an online store, in fact, has become increasingly accessible and affordable, with a range of e-commerce platforms and tools available that enable retailers to set up an online store quickly and easily (PwC, 2018). This trend has been particularly pronounced among smaller and independent retailers, who may have previously relied on foot traffic and word of mouth to drive sales (PwC, 2018). By establishing an online presence, these retailers have been able to expand their reach beyond their local communities and tap into new markets and customer segments.

Meanwhile, established brands have also started to adopt this model in order to stay competitive and adapt to changing consumer preferences by diversifying their channel mix, building an online store related to the physical store, and adopting the direct-to-consumer approach (McKinsey, 2023). Direct-to-consumer (DTC) sales are business models where brands sell their products directly to customers without the need for intermediaries such as wholesalers, retailers, or distributors (N. L. Kim et al., 2021). This allows companies to have greater control and direct contact with the customer experience (Szozda, 2023), from the marketing and promotion of their products to the delivery and post-sale support, reinforcing a stronger sense of exclusivity: customers must seek out the brand rather than come across it by chance (McKinsey, 2023). DTC sales are usually conducted online through the brand's own e-commerce platform, but some companies may also operate physical retail stores or pop-up shops as part of their DTC strategy (PwC, 2018). By selling directly to consumers, brands can often offer lower prices, faster delivery times, and a more personalised shopping experience (Hagberg et al., 2016). DTC sales have become increasingly popular in recent years, especially among new and emerging brands in industries such as fashion, beauty, and food (McKinsey, 2023).

An important point about this development is the solidified presence of a new shopping space, which is much less wasteful than a physical space but a 'digital virtual place' that enables 'digital virtual consumption' (Dene-gri-Knott and Molesworth, 2010a, p. 58). The role of the digital store, thus, is changing (PwC, 2018): 'The retail store is the last point where you can actually solidify the connection that you have already built through wholesale and through DTC [online]' said Andrea Baldo in the last State of Fashion by McKinsey, chief executive of Ganni, which has developed from digital channels and wholesale partnerships to mono-brand storefronts.

The quote from Andrea Baldo highlights that the physical retail store can serve as a way to enhance the relationship between the customer and the brand. With the rise of online shopping, physical stores need to adapt and offer unique experiences that cannot be replicated online (PwC, 2018). Physical stores can complement digital channels by providing convenience, such as by offering buy online and pick up in-store options (BOPIS) or enabling customers to try on products before purchasing them online. Buying online and picking up in-store requires trustworthy store inventory information available in real-time (Rooderkerk et al., 2023). This type of customer engagement can also be done by creating an environment that encourages active participation by offering exclusive products, providing personalised services, and creating a welcoming atmosphere that fosters a sense of community (Mainardes et al., 2020). This is considered an omnichannel approach between new strategies in the physical store and the improvement of the online store, which can help retailers capture a wider audience and provide a seamless shopping experience across different touchpoints (Lorenzo-Romero et al., 2020).

The omnichannel strategy derives from a shift in the notion of multi-channel strategy (Bijmolt et al., 2021; Lorenzo-Romero et al., 2020; Rooderkerk et al., 2022; Szozda, 2023). If a multi-channel strategy involves a division among channels, the omnichannel strategy is centred on enabling customers to transition seamlessly between channels throughout their purchasing process within their customer journey, ensuring they experience a cohesive and integrated journey (R. Rooderkerk et al., 2023). This strategy primarily targets Millennials and Generation Z consumers, who have been raised in a digital environment and exhibit distinct behaviours compared to the previously dominant Generation X. Consequently, they expect more sophisti-

cated and digitally integrated purchasing experiences (Parker and Kuo, 2021). The implementation of technology allows for omnichannel communication across all channels, which facilitates direct and rapid connection between the brand and the consumer (Lorenzo-Romero et al., 2020; Szozda, 2023). Initially, the technology utilised in omnichannel retail often concentrated on enhancing the mobile user experience (Fang et al., 2021) This channel, prioritising consumer interaction, serves as the primary platform for brands to establish their digital presence across various social networks (Chrimes & Boardman, 2023; Joy et al., 2022). As a result of the digitalization trend, omnichannel retail has expanded to include a wide range of channels, including websites, online stores, mobile applications, brick-and-mortar stores, social media platforms, email marketing, home services, device services, smart TVs, and even gaming consoles (Szozda, 2023).

As a result, the customer is considered the centre of all the selling processes, which signals a transition in the fashion industry and a significant trend in which digital media, particularly social networks, provide a new type of direct communication between the brand and the consumer, previously mediated by commercial intermediaries (Lorenzo-Romero et al., 2020). Customers are now viewed as active participants rather than passive recipients, engaging in the process by seeking information and acquiring knowledge about a particular product. As a result, it is up to the brand to establish and strengthen an emotional link, a dynamic digital interaction, and open communication with the customer. This requires the customer to acknowledge the brand on a personal level in order to form an emotional connection. As a result, the consumer can recognise and enjoy the brand while actively interacting with and comprehending the value given by the brand (Lorenzo-Romero et al., 2020). For that reason, there is now a growing interest in investigating consumer motivation, trust, preference, value, and fear in the omnichannel retail setting (Mishra et al., 2021): It is important to understand the behaviour and preferences of the clients in this new context by considering behavioural, cognitive, and emotional aspects, because they constitute a component of the purchasing motivation. This shift can be considered to have already happened, as in a category such as fashion, in 2023, according to Harvard Business Review, 73% of consumers already use multiple channels during their purchase journey (Kaushik, 2023)

2.1.4.c Collaborations and new digital selling tools

As part of the omnichannel strategy, numerous steps are integrated that are mainly based on digital tools. In addition to social media and e-commerce, new technologies for digital sales and production have been adopted in the fashion industry as a result of digitalization. These innovative methods include production through 3D printing, digital fabrication of clothes (so-called digital garments), NFTs, and other advanced forms of digital production that allow for greater flexibility and customisation of products, thereby strengthening integration between channels and improving the overall customer experience.

Before exploring in detail the new digital methods for selling products and experiences, it is essential to pay attention to brand partnerships, as they represent a fast-growing trend offering significant advantages. Collaboration between fashion brands and other industries is a growing trend that has transformed the fashion industry landscape (McKinsey, 2023). These strategic partnerships allow fashion brands to expand their influence beyond traditional industry boundaries by creating synergies with other industries. Therefore, analysing the dynamics and benefits of brand partnerships is a key step in fully understanding the current digital marketing and sales landscape.

Co-branding is a marketing strategy that uses multiple brand names on the same product or service (Kenton, 2022; Mróz-Gorgoń, 2016). The purpose of co-branding is to capitalise on the reputation of the partner brands in an attempt to achieve immediate recognition and a positive evaluation from potential buyers, offering the opportunity to reach new market segments and explore new distribution channels (Mróz-Gorgoń, 2016). Co-branding is possible with almost two brands, distinguished as the 'inviting/accepting brand' and the brand invited for cooperation (Grebosz, 2012). The presence of a second brand strengthens the perception of excellent product quality, leading to higher product evaluations and increased market share (Mróz-Gorgoń, 2016). Indeed, two partner brands employed in co-branding may provide additional information to the customer, making the co-branding product more appealing.

As a result, co-branding may contribute to the development of positive attitudes towards the co-branding product and partners' brands. Furthermore, it can attract new buyers to products, refresh brand image, increase market share, or improve technologies in businesses through technical information exchange (Grebosz, 2012). In particular, marketing strategies based on co-branding focus on the synergy between brand symbolism and customer personality (K. Li & Wang, 2019). This approach implies a deep understanding of the distinctive characteristics and intrinsic values of each brand involved in order to create a shared narrative that can resonate meaningfully with the target audience. Through co-branding, companies seek to exploit consumers' existing positive associations and perceptions of participating brands to enhance the attractiveness and recognizability of the products or services resulting from the collaboration (K. Li & Wang, 2019; Mróz-Gorgoń, 2016). In addition, co-branding offers the opportunity to reach new customer segments and to diversify the offering, as the two collaborating brand entities may present complementarities or synergies that attract a broader consumer base (Grebosz, 2012; K. Li & Wang, 2019). Ultimately, co-branding

Fig. 2.5 Prada time capsule collection NFT of October 2022

represents a powerful marketing strategy that can generate added value for both the companies involved and consumers through creating emotional connections and offering unique and desirable products or experiences (Blackett & Russell, 2000).

Collaborations between video games and fashion brands fit into this landscape. These collaborations combine the creative and innovative forces of both sectors to create unique experiences that fuse elements of gaming and aesthetics. Through the integration of characters, settings, and play styles into fashion products such as clothing, footwear, and accessories, new narratives are created to capture the imagination of consumers and engage them emotionally. Moreover, as collaborations, they offer the opportunity to reach new audience segments and expand product appeal beyond the traditional boundaries of their respective industries. These partnerships can also generate buzz and media attention, increasing the visibility and attractiveness of both brands involved (Gibson, 2021). Finally, collaborations between video games and fashion brands represent an opportunity for both sectors to take advantage of evolving cultural trends and consumer tastes, while staying abreast of changes in the fashion and digital entertainment landscape. It is therefore examined in more detail the new technologies emerging from digitalization, which some fashion brands have already adopted, taking on the role of forerunners in a new distribution paradigm.

NFTs. According to Dwivedi et al. (2022), crypto-assets, including non-fungible tokens (NFTs), are fundamental components of the metaverse economy. NFTs are digital assets that represent ownership or proof of authenticity of a unique item or piece of content, such as artwork, collectibles, music, videos, virtual real estate, and more (Kaczynski & Kominers, 2021). The particularity of NFTs is that they are not duplicable, as each NFT has distinct properties that make it irreplaceable and unique. NFTs are typically stored on a blockchain, providing a secure and transparent record of ownership and transaction history.
Luxury brands, in particular, are swiftly venturing into this domain (Joy et al., 2022). A notable instance is Burberry's collaboration with Mythical Games' multiplayer online Blankos Block Party to develop a limited edition NFT game character named Sharky B, available for purchase within the game (Burberry, 2022). Burberry's motivation behind this NFT initiative was to merge the

realms of gaming and fashion, providing players with a deeper immersion into the brand and its offerings.

Moreover, in 2021, Dolce & Gabbana introduced a nine-piece NFT collection created in partnership with UNXD (a digital marketplace), for a total of 1,885.719 Ether (Ethereum cryptocurrency), or the equivalent of nearly $5.7 million (Thomas, 2021). This underscores the significant business growth potential within this market.

Also, Prada introduced in December 2019 in Europe its 'Timecapsule' NFT Collection, which links a gender-neutral physical product to a complimentary NFT (Marini, 2022). The Timecapsule became an event occurring monthly that offers limited edition items associated with unique serial numbers and custom packaging. Timecapsule customers can purchase products to become initial owners of Prada NFTs, with additional NFTs gifted in a subsequent phase, creating synergy between the Timecapsule concept and the allure of NFT scarcity.

The examples provided above clearly illustrate how NFTs are elevating brand affection and fostering loyalty by offering an engaging and highly personalised experience, fueled by hype (Chrimes & Boardman, 2023). In the realm of fashion, NFTs hold significant value primarily because of their inherent scarcity, which contributes to the hype surrounding them (Wang et al., 2018). This scarcity not only enhances the exclusivity of the items but also adds a layer of uniqueness that resonates deeply with consumers, thereby augmenting their connection to the brand. In this manner, NFTs have revolutionised the way brands interact with their audience, generating immense hype and anticipation. By leveraging blockchain technology, brands can offer one-of-a-kind digital assets, such as limited edition designs, virtual fashion items, or exclusive experiences, which further amplify the hype surrounding them (Kaczynski & Kominers, 2021). This personalised and interactive approach not only strengthens brand affinity but also encourages repeat engagement and advocacy among loyal customers, fueling the ongoing hype cycle (Chrimes & Boardman, 2023; Scheiding, 2023).

Furthermore, the scarcity aspect of NFTs aligns perfectly with the luxury and exclusivity often associated with the fashion industry, driving up the hype even further. Just as rare couture pieces or limited-edition collections command high value and demand, NFTs represent a digital manifestation of

Fig. 2.6 Sharky B, game character developed by Burberry and Blankos Block

this scarcity, appealing to collectors and enthusiasts alike. The combination of cutting-edge technology, personalised experiences, scarcity, and hype makes NFTs a powerful tool for fashion brands seeking to differentiate themselves in a crowded market and forge lasting connections with their audience (Chrimes & Boardman, 2023).

Digital garments and skins. Digital garments, also known as virtual or digital clothing, are pieces of clothing that exist purely in digital form. These garments are created using computer-generated imagery (CGI) or other digital design techniques, or superimposed on people using AR to create images of them wearing outfits (Chrimes & Boardman, 2023). Digital garments can range from simple 2D images to complex 3D models that can be manipulated and worn in virtual environments, such as video games, virtual reality simulations, or augmented reality applications. Digital clothes reached the spotlight of general attention following a breakthrough event: the sale of a virtual dress, precisely constructed by Dapper Labs and designed by The Fabricant, for an astonishing $9,500 (Gharegozlou, 2019). As this virtual fa-

Fig. 2.7 One of the nine pieces of Dolce and Gabbana sold on UNXD

shion frontier expands, brands are quick to recognise the immense potential it holds. With consumers increasingly immersed in virtual spaces, the demand for digital clothing that mirrors real-life fashion sensibilities is palpable. Seizing this opportunity, forward-thinking brands are stepping into the virtual arena, offering consumers the chance to adorn themselves with branded attire within the digital realm. This strategic move not only extends their reach into new and immersive platforms but also cultivates deeper connections with consumers who seek authenticity and personalisation even in the digital landscape. As a result, digital platforms that sell digital garments, providing a marketplace for creators to design, showcase, and sell their digital clothing, have emerged. DressX, Digitalax, and The Dematerialised, among others, are the major platforms that serve as marketplaces for digital garment creators and consumers alike.

Moreover, Meta, the social media giant, is launching an e-commerce platform dedicated to selling fashion items for its virtual avatars, with luxury brands like Balenciaga, Prada, and Thom Browne being some of the first

brands to join. Avatars can wear designer outfits across Instagram, Face-book, and Messenger, enabling users to showcase their identity and fashion style online (Brandoli, 2022). This highlights a brand-new revenue stream for fashion brands: the selling of virtual fashion products for avatars (also known as avatar skins) as well as digital fashion items for people on social media. Indeed, in June 2021, a digital Gucci Dionysus bag fetched 350,000 Roblox, the virtual currency of Roblox, amounting to approximately 4115$. This exclusive item was part of the 'Gucci Garden Experience' hosted within the Roblox gaming metaverse, strategically targeting the Gen-Z demographic (Hypebeast, 2021).Brands are definitely capitalising on these virtual opportunities, providing consumers with branded experiences that transcend beyond the physical world (Chrimes & Boardman, 2023).

One of the most intriguing aspects of digital garments is their role in virtual environments. In video games, for example, players can customise their avatars with virtual clothing, known as skins (F. Li et al., 2022). These skins range from armour and costumes to stylish outfits and accessories, allowing players to express their personalities and individuality within the game world. Moreover, digital garments in video games often serve as status symbols or rewards, incentivising players to emotionally engage with the game and unlock exclusive items (Reay & Wanick, 2023). While digital garments and virtual video game skins offer exciting opportunities for self-expression and customisation, they also raise important questions about identity, ownership, and sustainability. As consumers increasingly embrace digital fashion and virtual goods, issues such as digital ownership rights, copyright infringement, and environmental impact come to the forefront (Boardman et al., 2020; Kulsum, 2020). In conclusion, digital garments and virtual video game skins represent a convergence of fashion, technology, and gaming culture, reshaping the way we perceive and engage with clothing in the digital era. As these phenomena continue to evolve, they promise to redefine the boundaries of creativity, commerce, and community in the virtual world.

In conclusion, it can be observed that establishing client relationships and creating value through physical or entirely digital shopping experiences are two critical components of e-commerce that can have a direct impact on the success of an online business. Indeed, e-commerce enterprises prio-

Fig. 2.8 Iridescence, the first NFT blockchain dress sold

ritising value creation often establish a more loyal customer base and attain recurring business (Cross, 2022). By focusing on delivering value to customers and building strong relationships with them, e-commerce businesses can establish a competitive advantage in the marketplace and achieve long-term success. E-commerce businesses, thus, need to implement competitive strategies that can make digital platforms durable and capable of communicating value in order to get through in the post-pandemic period (Alwan et al., 2023). How to build value through online channels is a method that has only begun to be more fully explored during and after the pandemic, which still lacks studies and direct experimentation on different countries or different ages (Abdel et al., 2023; Mujahid et al., 2023). Various luxury brands for the past few years have been trying and succeeding in building value through online channels even before selling via e-commerce, using innovative ideas that involve the use of democratic technologies, thus conveying a sense of exclusivity without going through any material steps (Hoang et al., 2023; Joy et al., 2022; Lawry, 2022).

Metaverse

Since the advent of the third industrial revolution, characterised by the proliferation of digital technologies and automation, there has been an exponential growth in the development of information display technologies. This evolution has been marked by a swift progression from traditional displays to cutting-edge next-generation display technologies that transcend the limitations of flat screens. These emerging technologies aim not only to present information but to fundamentally alter the way users interact with and perceive their surroundings (Boardman et al., 2020). In this context, augmented reality and virtual reality have in the first place emerged as transformative technologies, poised to revolutionise various aspects of consumer behaviour and experience (Scholz & Smith, 2016; Tom Dieck & Han, 2022). Over the past two decades, AR and VR have garnered significant attention for their potential to redefine the retail landscape and reshape consumer purchasing habits (Bazaki & Wanick, 2023; Kang et al., 2023). These immersive technologies offer users unprecedented opportunities to engage with products and services in virtual environments, blurring the lines between the physical and digital worlds (A. Suh & Prophet, 2018).

Researches in the retail sector has focused on understanding consumer responses to technology and evaluating the perceived usefulness of AR and VR applications. Scholars have explored how these technologies enhance product visualisation (Scholz & Smith, 2016), facilitate experiential shopping (Kang et al., 2023), and influence purchase decisions (Lau & Ki, 2021). However, as the capabilities of AR and VR continue to evolve, there is a growing recognition of the need to delve deeper into their impact on consumer behaviour across various retail contexts. By investigating the intricate interplay between technology-mediated experiences and consumer psychology, researchers aim to provide insights that can inform strategic retail initiatives and optimise the integration of AR and VR solutions into the consumer journey (Wu & Kim, 2022).

This chapter analyses the two main technologies that enable customers to have immersive experiences, focusing on the value of immersion itself and how video games are counted as one of them.

2.2.1 The social dimension of the Metaverse

2.2.1.a The history of webs

Tim Burners-Lee coined the name "Web" in late 1989. The terms Web 4.0, and then before Web 1.0, Web 2.0, and Web 3.0, describe and characterise the social dynamics and information processes that are part of the Internet (Fuchs et al., 2010).

Initially, there was Web 1.0, the earliest phase of the Web, which spanned over the 1990s and lasted until 2005 (Fuchs et al., 2010). The Web 1.0 was a network of interconnected hypertext documents accessed throughout the Internet (Choudhury, 2014), distinguished by being a read-only Web in which the user adopts a passive role as a simple spectator, unable to create or upload anything on the sites visited (Almeida et al., 2020). Between the years 2000 and 2009, the second phase of the Web and its first implementation, generally known as Web 2.0, developed.

Web 2.0 introduced important qualities such as participatory, colla-borative, and distributed practices, which enable formal and informal domains of daily activities to take place on the web (Choudhury, 2014). This evolution led to the social network revolution, unprecedented levels of engagement, and user-generated content. Popular websites such as Wikipedia, Facebook, Youtube, Twitter, or Instagram were created, contributing to the development of a more interactive web through user participation (Almeida et al., 2020). For that reason, it's defined as the "read-write web" thanks to its new cha-racteristics, which make it more receptive not only for reading but also for creating. It thus becomes a Web more centred on the people who use it and participatory, hence bidirectional (Almeida et al., 2020).

The third phase, Web 3.0, was between 2010 and 2019. Web 3.0, or the' semantic web', aimed to enable machines to capture, internalise, and respond to complex human requests based on their meaning. This evolution, thus, was not limited to only publishing data but was also intended to make links and connect the information to organise how users search for and see content (Choudhury, 2014). The aim was to personalise and optimise internet search depending on user history, interests, and preferences (Almeida et al., 2020). The idea of a website or webpage disappeared, leading to shared ra-ther than owned data. The focus of Web services - like applications, devices,

Web 1.0	Web 2.0	Web 3.0	Web 4.0
1996-2004	2004-2016	2016-2019	2019-+
Web of cognition: reading	Wisdom, people-centric, participatory, and web of human communication	Portable personal web, semantic executing web, web of co-operations	Read-write-execution-concurrency web
Hypertext Web	Social web	Semantic web	Symbiotic web
Web of documents	Web of people	Web of data	Intelligence web
Read only	Read and write web	Executable web	Open Source Software Platforms
Anonymous users download content	Registered users download and upload content	Authorised users assess and improved content - a defined profile on sn	Personalised data streams to and from users
Static web pages, Hypertexts	Blog as main technology with keywords, principally textual	Semi Blog, Online Social Networks	Online networks, Web personalisation
One directional	Bi-directional	Multi-User Virtual Environment	User Co-created Immersive Environment
Companies	Communities	Individuals	Collaborations

Tab 2.1 The evolution of Webs

or others, - changed to context and personalisation (Fuchs et al., 2010). Those services can be devices, apps (like browsers, virtual worlds, or anything else), or anything else (Torres, 2007). Since Web 3.0's functions go beyond the bounds of conventional search engines, it is also referred to as "the intelligent Web" by certain authors. For instance, in Web 3.0, advertisements can be tailored to the tastes and behaviours of the user. The advancements of Web 3.0 go beyond personalised advertisements, but extend to tailoring the entire online experience to the individual user's preferences and behaviours, revolutionising not only how ads are delivered but also how content, services, and interactions are customised to enhance user satisfaction and engagement (Bharadiya, 2023).

Web 4.0 is characterised by a more collaborative and interactive approach to web development (Agile District, 2022), known as 'The Symbiotic Web', as it intends to create symbiotic links between people and machines (Seshadri, 2023). Kambil (2008) predicted correctly that the development of wireless communications will make Web 4.0 a tool capable of connecting people and objects at any time, everywhere in the real world and the virtual world: indeed, Web 4.0 applications, like social networking sites, blogs, wikis, and video-sharing sites, are intended to be more user-friendly and to facilitate the sharing of information and ideas (Agile District, 2022). Web 4.0 is built on a variety of models, technologies, and social interactions that represent a shift from traditional web development models to a collaborative and user-centred approach (Almeida, 2017). Consequently, Web 4.0 can be thought of as a mobile space where users and real and virtual objects are integrated together to create value. Web 4.0 services combine hardware, software, and data to produce individualised experiences, real-time data processing, and insights for wise decision-making (Choudhury, 2014). Thus, Web 4.0 is distinguished by a more immersive and intuitive user experience, which will most likely be facilitated by virtual reality and augmented reality technologies, which enable users to engage more directly with digital content (Ijaz, 2022). Web 4.0 is still in a nascent phase, but it has already exerted a significant influence on how we engage with the internet (Ash, 2023). Combined with the pandemic emergency, the growth is now characterised by increasing collaboration and more seamless integration between the physical and virtual worlds (Patil & Surwade, 2018; Seshadri, 2023).

Of the issues Web 4.0 is facing, security is one of the most difficult. As more personal data is stored online, the risk of identity theft and other cybercrimes increases (Dwivedi et al., 2022; Petkov, 2023). An additional obstacle on the path of Web 4.0 is accessibility. As technology advances, it will become more difficult for users with limited technical expertise to effectively navigate and utilise it. Such a scenario could result in a digital gap, separating individuals who can fully leverage the array of new features from those who cannot (Agile District, 2022; Nuzhnyi, 2023). Meanwhile, even for someone, this could be a new challenge. According to Grewal et al. (2020), the digitization of the economy allows the supply of highly personalised goods directly from businesses at much lower costs. With technological advancements and

the continual presence of the Internet in people's daily lives, the use of digital services is becoming an appealing alternative to choosing and buying physical products. They provide, in fact, high accessibility, as they may be accessed from any location and are available 24/7. In addition, the pandemic led to an increased reliance on video games, considered a subset of metaverse platforms, as video games share key features with the metaverse as a source of entertainment, social interaction, and distraction (Dwivedi et al., 2022). Video games became a new social environment where people could connect with others, playing a vital role in maintaining social connections during a time of physical distancing (Gibson, 2021). People could attend virtual events and engage in vicarious forms of entertainment, contributing to their sense of community and well-being during challenging times. In general, Web 4.0 represents a significant evolutionary phase in the digital ecosystem, characterised by a convergence of advanced technologies and an increasing interconnection between devices, services, and users (Ash, 2023). The potential of Web 4.0 is broad and diverse, extending beyond the mere enjoyment of online content to embrace an interactive and highly personalised ecosystem. Through the integration of artificial intelligence, the Internet of Things (IoT), augmented reality, virtual reality, and other emerging technologies, Web 4.0 offers extraordinary possibilities for the creation of immersive and highly engaging experiences. This new digital era promises to radically transform key industries. In summary, Web 4.0 represents fertile ground for the development of cutting-edge technology solutions and the creation of increasingly immersive, interactive, and personalised digital experiences.

2.2.1.b Definitions

In the realm of technology and digital innovation, the concept of the metaverse has emerged as a transformative force with the potential to redefine the way we interact, socialise, work, and entertain ourselves in the digital age (Dwivedi et al., 2022). As the boundaries between physical and virtual realities blur, the metaverse represents a virtual universe where individuals can create, explore, and connect in ways previously unimaginable (Hollensen et al., 2022), immersing themselves in virtual reality.
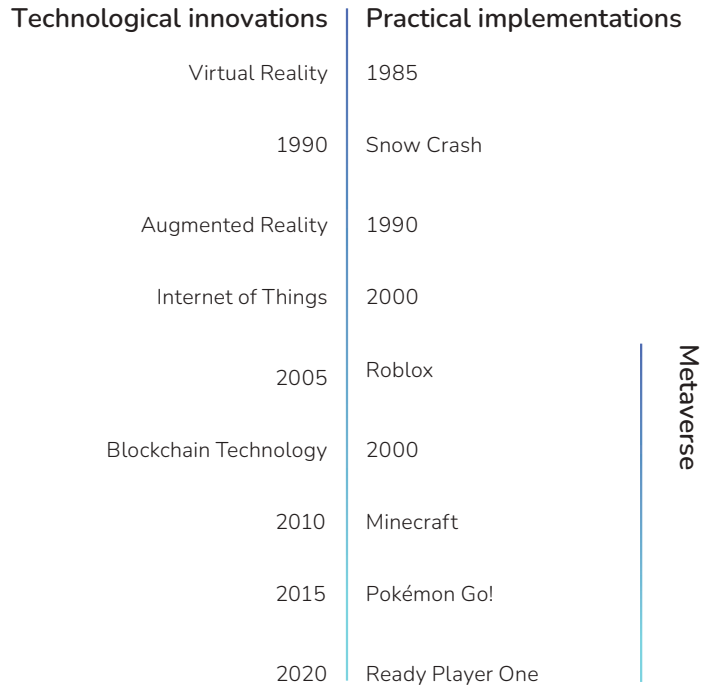In this thesis, we embark on a comprehensive exploration of the metaverse, aiming to elucidate its multifaceted dimensions, including its technological

foundations, sociocultural impact, economic opportunities, and ethical considerations. We endeavour to navigate the complex and evolving landscape of the metaverse. We delve into its historical roots, define a proper definition, analyse the components and applications, and consider the social, economic, and cultural implications. In a world where the boundaries between physical and virtual realities continue to blur, understanding the metaverse becomes not only an intellectual pursuit but a necessity for anyone seeking to comprehend the dynamics of our increasingly interconnected and digitised world. By delving into the heart of the metaverse, we seek to understand and research the potential unforeseen consequences of this emerging phenomenon in the near future.

As previously stated, the definition of the metaverse is not yet clear and universally defined. In the first place, as Dinh (2023) states, 'the universe of the metaverse is limitless and seamlessly connected, containing endless potential, objectives, and life-changing events'. The concept of the metaverse is thus undefined and blurred. It is clearly tied to technological advancements, particularly the ones that favour immersion, such as virtual reality and augmented reality. As these technologies continue to evolve rapidly, the understanding of what constitutes the metaverse also evolves, making it challenging to arrive at a fixed, universally accepted definition. This evolving nature contributes to a lack of a singular, universally agreed-upon definition. For this reason, the metaverse remains a developing concept, and its potential and effects have yet to be fully understood (Weinberger, 2022).

The metaverse, a term coined from 'meta-' (meaning beyond or transcending) and 'universe,' signifies an interconnected virtual universe that encompasses a myriad of digital spaces and experiences. This virtual realm is not a monolithic entity but a diverse ecosystem of virtual environments, augmented reality experiences, and immersive online platforms (Dwivedi et al., 2023). In historical terms, the term 'metaverse' made its inaugural appearance in 1992 within Neal Stephenson's novel 'Snow Crash', a science fiction post cyberpunk story. The noun referred to a synthetic three-dimensional space within which individuals can move around and practise their human activities with specific rules. Throughout the late 20th and early 21st centuries, advancements in computing, networking, and virtual reality technologies further fueled the development of the metaverse concept. Online multiplayer

Technological innovations	Practical implementations	
Virtual Reality	1985	
1990	Snow Crash	
Augmented Reality	1990	
Internet of Things	2000	
2005	Roblox	Metaverse
Blockchain Technology	2000	
2010	Minecraft	
2015	Pokémon Go!	
2020	Ready Player One	

Fig. 2.9 Overview of the historical development and background of the metaverse

games like Second Life (2003) and World of Warcraft (2004) offered early glimpses into virtual worlds where users could socialise, create content, and engage in commerce. Over the years, different mediums have contributed to unfolding the concept of the metaverse in view of making it more tangible and understandable for the audience. Works such as the game 'Pokémon Go!' (2016) and 'Ready Player One' (2018) introduced audiences to central ideas and concepts of the metaverse, showing the possibilities of interaction and immersion offered by shared digital environments. The last major push towards understanding and realising the metaverse came with the rebranding of Mark Zuckerberg's company in 2021, now known as 'Meta'. As a statement, Meta sees the metaverse as the next evolution of the internet, where virtual and augmented reality technologies enable more immersive and immersive experiences (Clegg, 2023). Through massive investments in virtual reality hardware such as the Oculus Rift and the development of platforms such as Horizon Worlds, Meta aims to shape the future of the metaverse and lead its development. However, it should be noted that the metaverse concept goes beyond Meta's own initiatives, with other companies, developers, and innovators contributing to its development and evolution.

In view of the absence of an established definition of the metaverse concept, this research adopted an analytical approach to examine the various definitions proposed in the literature. Google Scholar was principally employed to find sources, including papers, articles, books, and grey literature. Some of these sources were either previously identified in the thesis during the analysis of immersive technologies or are closely related to the metaverse.

The analysis was initiated by searching for a definition of 'metaverse' on Google Scholar. Through a review of the literature already present in the context of the thesis, it emerged that several articles referred to specific literature studying the metaverse. As a result, most of the names mentioned in these articles were integrated into the research, and the definition of the 'metaverse' was explored through them. A large part of the identified literature explores this definition with the help of citations and studies, which I incorporated into my work. In general, the search was conducted with a method that, from a single article, led to numerous others. After reaching a significant number—a total of 31 definitions—the analysis continued with the identification of fundamental criteria intrinsic to the key topics of the current study that must

Tab 2.2 Criteria utilised for choosing the definitions of metaverse

Criteria	Topic	Description
C-1	Direct link to video games	Do the definitions relate to video games or use terminology and concepts traditionally associated with video games?
C-2	Immersive experience	Do the definitions focus on creating a deeply immersive experience that enhances user engagement?
C-3	Relation to social interaction and brand-user dynamic	Do the definitions enhance social interaction towards cooperation and communication among players and/or the brand?

be met by the definitions considered.

The criteria are based on the identification of key concepts crucial to the thesis, aiming to concisely summarise all the essential aspects of the topics that form the basis of the research.

Firstly, it is necessary, for this thesis' sake, to define the metaverse in such a way that it directly relates to video games; this connection constitutes the first essential criterion to choose the definition. One aspect closely related to video games and the metaverse is immersive technology. As will be pointed out, when such technologies are deeply immersive, they are able to amplify user engagement and, consequently, their communicative effectiveness. Therefore, the second criteria is based on the extent to which the definition of the metaverse focuses on the ability to create a deeply immersive experience capable of enhancing user engagement. The first two criteria are related to a social dimension, mainly due to their ability to facilitate interaction, participation, and virtual connections between individuals. Video games are increasingly adopting online multiplayer modes, where players can communicate through voice or text chat and collaborate in order to achieve common goals. Moreover, the more immersive the virtual environment, the more the experience contributes to intensifying the perception of collaboration and sharing experiences, thus supporting the formation and building of social relationships. Thus, the last criteria focuses on the construction or amplification of social interactions that are based on cooperation or virtual communication, whether between players, between players and brands, or between industries.

Subsequently, these criteria were synthesised and formalised to outline a coherent framework. Within a table, all metaverse definitions found were collected and subjected to careful examination in order to assess their compliance with the previously identified criteria. In the absence of a definition meeting any of the criteria, it was excluded, as its validity must depend on the fulfilment of at least one of the defined parameters. In the event that a definition meets all three criteria, it is considered to be close to the object of this study.

Of the 31 chosen, the following seven definitions fit all three criteria:

IDs and reference	Definition
ID04 *Let's connect in the metaverse. Brand's new destination to increase consumers' affective brand engagement & their satisfaction and advocacy* *Bousba et al., 2022*	The Metaverse refers to an experience in a virtual environment in three dimensions where development is possible thanks to avatars or holograms. This alternative reality allows us to converse with others, study, work, or play. Metaverse uses augmented reality (AR) and virtual reality (VR) to create a collective universe (Zarantonello & Schmitt, 2022). Thanks to these modern techniques, the Metaverse adopts the same verbal and non-verbal communication rules as reality: gestures, mimics, and tone of voice. […] Previous research emphasised the integration of gamification-based activities in various areas, such as gamification-based activities in the medical-care sector (Tuah et al., 2021), organisation and well-being of employees (Hammedi et al., 2021), education domain (Mathew and Pillai, 2022; Sethi et al., 2021), retailing (Lau and Ki, 2021), tourism (Jang and Hsieh, 2021) and, banking (Nasirzadeh and Fathian, 2020). […] It is based on the convergence of technologies that allow multi-sensory interactions without the need for virtual environments, digital objects and people, unlike Virtual truth (VR) and augmented truth (AR). […] The Metaverse is nothing other than a virtual world but also immersive. […] The Metaverse is the future of social connections, a social network with a complete universe in 3 dimensions in which one can walk, pose and evolve with zones; landscapes; people, and avatars embodied by the users; a complete universe. [Anderson, T.; Rivera-Vargas].

IDs and reference	Definition
ID10 *Metaverse beyond the hype: Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy* *Dwivedi et al., 2022*	The metaverse has been described as a new iteration of the internet that utilises VR headsets, blockchain technology and avatars within a new integration of the physical and virtual worlds (Lee et al., 2021a; The Verge, 2021). Immersive and interactive multimedia style online games have been available for a number of years, allowing users to experience social interaction within a virtual world using VR headsets and avatars. […] Other 3D interactive platforms such as Roblox and Fortnite have also been described as precursors to the metaverse, where the functionality allows users to create avatars and interact with other gamers within their own virtual universe (Damar, 2021). […] The new metaverse concept as outlined by Mark Zuckerberg, describes an integrated immersive ecosystem where the barriers between the virtual and real worlds are seamless to users, allowing the use of avatars and holograms to work, interact and socialise via simulated shared experiences (Meta 2022). An agreed upon definition of the term metaverse within the literature has yet to be agreed on, however, we align with succinct definition as detailed in Damar (2021) where the study describes the metaverse as: "the layer between you and reality" and the metaverse referring to a "3D virtual shared world where all activities can be carried out with the help of augmented and virtual reality services.

Tab 2.3 The definitions that fit all three criteria

IDs and reference	Definition
ID12 *Facebook and the creation of the metaverse: radical business model innovation or incremental transformation?* *Kraus et al., 2022*	According to the company, now named Meta, the metaverse will resemble a mix of today's online social experiences in a three-dimensional space or projected into the real world (Meta, 2021a). [...] Moreover, academics have been writing about ideas such as "extended reality" and "virtual worlds" for decades (Dionisio et al., 2013; Kelly, 2021; Lee et al., 2021; Payne, 2021). [...]: a new form of social network in an interactive virtual world that connects different users for the purpose of gaming, working and entertainment (Forman, 2021). [...] The context of the metaverse inhabits both the present and the future as an accumulation of different technologies that will be developed in the next decade (Velazco, 2021). [...] From an overarching perspective, a clear definition of the metaverse remains to be established, but experts assume that it will be a combination of technologies currently known as virtual, augmented and mixed realities (Hall and Li, 2021; Lee et al., 2021). [...] Thus, the metaverse promises to provide a new experience for users and customers in terms of communication, work and entertainment.

IDs and reference	Definition
ID14 *Metaverse – the new marketing universe* *Hollensen et al., 2022*	For companies that exist primarily in the physical world, the metaverse concept is first and foremost a giant laboratory with direct access to especially the younger demographic target groups. The Metaverse is mostly well-known for virtual gaming through online worlds like Fortnite or Roblox. It would be shortsighted to think the metaverse ends with gaming. The Metaverse can have an all encompassing impact. [...] This Metaverse refers to a series of interconnected virtual worlds where users can leverage virtual and augmented reality, navigating these spaces using personal avatars, who interact with each other in the Metaverse. [...] Metaverse iterates further by placing everyone inside an 'virtual' or '3D' version of the internet and on a nearly unending basis. In other words, we will constantly be 'within' the internet, rather than have access to it.

IDs and reference	Definition
ID17 *The Metaverse: All you want to know about the Metaverse* *METAV.RS, 2023*	The metaverse seems more like a natural extension of our digital lives. At its core, it is a virtual world designed to simulate real-life experiences. It is a place where people can interact in new and augmented environments. But it's much more than just a game or a virtual reality experience. The metaverse is a platform for building communities, sharing content, and driving engagement. [...] It's also to foster connections between people who share common interests. As people tend to spend more time online, the metaverse will create new pathways for small businesses to expand their reach beyond physical borders and compete on a global scale. [...] The concept of the metaverse envisions an interconnected universe of information and experiences, spanning physical and digital realms. [...] What sets this virtual universe apart is its persistent nature, meaning that any changes made to it are permanent and available to all users. This eliminates the possibility of the Metaverse being limited to a VR setting, as it should be accessible through any device. In essence, it is a universe of endless possibilities that provides a continuous, intense experience for all who engage with it.

IDs and reference	Definition
ID23 *Designing the Metaverse* *Seidel et al., 2022*	The term 'metaverse' has captured the imagination of the gaming industry for more than a decade. [...] We define the Metaverse as the networks of digital technologies and people providing immersive, interconnected experiences. We further conceptualise the Metaverse as a meta design space, where Metaverse designers create various interconnected design spaces, each of which creates unique experiences. [...] In this sense, we can think of the design of the Metaverse as the design of an infrastructure upon which experiences can be interconnected. [...] The Metaverse is a distinct socio-technical phenomenon [7] that now exists in different academic and popular discourses. First, it is built on the complex technology stack that we call the Internet and requires advanced computational capabilities to visualise complex 3D worlds. Second, these worlds need to fit a likewise complex social system that participates and actively shapes this world. [...] First, the Metaverse integrates and interconnects varied social experiences in one encompassing system. Second, the Metaverse does this without the need for game-specific rules and goals. That is, the Metaverse provides a digital infrastructure [4, 16] that allows a wide range of experiences to be composed into a whole.

IDs and reference	Definition
ID29 *Let's Rename everything "the Metaverse!* *Zyda, 2022*	The Metaverse is a shared virtual space that people can move through and interact with, using a personalised avatar as they pursue communication and commerce with like-minded virtual friends. [...] And so that is what the Metaverse is becoming, a place where salesmen will come to sell their wares, virtual and real. And everyone is rebranding their games as the portal to the Metaverse. [...] We can see that these worlds are 3D, and that each world is providing users the ability to stylize and create their own 3D avatar and create and develop their own island/space/games imbued with gameplay, social communication, and commerce.

The definitions in the chart share common themes and keywords, as they were all selected on the basis of meeting the three specific criteria defined above. Although they are detailed and articulated differently, they manifest an internal coherence that suggests a clear relationship between them. Through a process of grouping and synthesising the definitions, it is possible to identify the main themes that emerge and that represent the common thread of these different definitions.

Tab 2.4 Thematic clusterisation of the definitions

IDs	Thematic clusters	Definition highlight
ID04	1. Immersive interactions for virtual communication through virtual technologies 2. Future of social connections 3. Integration of gamification	The metaverse as a three-dimensional virtual environment enabling immersive experiences and social interactions through avatars and holograms, utilising augmented and virtual reality technologies.
ID10	1. Immersive technologies interactions 2. Social virtual worlds (games) and avatars 3. Blurring realities	The metaverse as a 3D virtual shared world integrating immersive technologies, blockchain, and avatars, blurring physical and digital boundaries.
ID12	1. Interactive connected virtual word 2. New type of easier communications	The metaverse as a three-dimensional interactive virtual space merging online social experiences with real-world projection, facilitating gaming, work, entertainment and communications
ID14	1. Interconnected virtual worlds 2. Navigation and interaction within virtual spaces through an avatar	The metaverse as a vast interconnected virtual realm leveraging virtual and augmented reality, where users can enhance social interactions and navigate with personal avatars within it.
ID17	1. Interconnected digital universe of informations and experiences 2. Extension of our digital lives 3. Persistent nature	The metaverse as a persistent, interconnected virtual universe offering immersive real-life experiences, community building, better communication and global economic opportunities across diverse digital platforms.

IDs	Thematic clusters	Definition highlight
ID23	1. Network of digital immersive technologies 2. Socio-technical phenomenon 3. Interconnects social experiences in a surrounding system 4. Digital infrastructure required	The metaverse as an immersive, interconnected digital environment facilitating diverse experiences and social interactions across complex technological and social systems.
ID29	1. Shared virtual environment accessible to multiple users 2. Ability to interact with each other and communicate 3. Customisation and personalisation possibilities 4. Avatar as representation of users	The metaverse as a shared virtual space enabling interaction, communication, commerce, and personalised experiences through avatars and user-created environments.

Tab 2.4 highlights a constant in the definition of the metaverse: its nature as a shared virtual space offering a wide range of possibilities. Interestingly, most of the definitions selected to describe the metaverse use the term 'three-dimensional'.

This concept emphasises the presence of three spatial dimensions - length, width, and depth - within the virtual environment. Three-dimensionality allows users to explore and interact with objects in the environment from different perspectives, thus contributing to the increased immersion and realism of the virtual experience. This fundamental feature of the metaverse allows participants to perceive the virtual space in a more immersive way, facilitating greater interaction and a heightened sense of presence.

Immersive technologies are often associated with virtual environments, as they are a key component of access and experience within the metaverse. These technologies provide a range of technological tools that are essential for creating immersive and realistic virtual experiences within the metaverse, thereby enhancing user immersion. In particular, according to Bousba & Arya (2022); Dwivedi et al. (2022); Hollensen et al. (2022); Kraus et

al. (2022), virtual reality and augmented reality play a crucial role in enriching the experience of the metaverse. In general, there's a recognition of the integration of immersive technologies in defining the metaverse: this reflects the complex technological landscape that underpins the concept. Furthermore, being defined as a virtual realm, there's an emphasis on the persistent nature of the metaverse, meaning that changes made to it are permanent and accessible to all users.

The definitions of the metaverse provided highlight its significant connection to the gaming industry. The metaverse is depicted, as Dwivedi et al. (2022) state, as 'interactive platforms such as Roblox and Fortnite'. Hollensen et al. (2022) also refer to video games as an integral part of the metaverse, embedded in it. In particular, these definitions emphasise the evolution of the metaverse from traditional gaming platforms such as Roblox and Fortnite to a broader virtual world in which users can engage in various activities besides gaming, such as communication, work, and commerce.

Lastly, several definitions (Bousba & Arya, 2022; Dwivedi et al., 2022; Kraus et al., 2022; Seidel et al., 2022; Zyda, 2022) highlight the social aspect that the metaverse enhances, describing it as a virtual platform for communication, collaboration, and community building. It enables users to participate in social interactions and a diverse array of activities, blurring the distinction between the physical and digital realms and effectively extending our digital presence into a seamless continuum (METAV.RS, 2023). Regarding the potential social dimension underlined—many definitions dwell on the fact that it is not yet fully expressed—the future impact on various aspects of society is discussed, in particular social relations and communication, but also work and commerce. Bousba & Arya (2022); Kraus et al. (2022); Seidel et al. (2022), express conviction that the metaverse is reshaping the way we interact, collaborate, and conduct business.

The selected definitions of the metaverse highlight three key macro-themes, which correspond to the criteria used to select the definitions. This process allowed us to deepen the concept of metaverse and clarify its meaning in the context of the thesis. The concept of the metaverse is already widely integrated into various gaming platforms and has become fertile

ground for the development of increasingly immersive entertainment experiences similar to those offered by video games and, in the past, traditional non-digital games. This environment offers significant opportunities both to emotionally engage users and to explore new forms of communication and storytelling that can potentially blur the boundaries between reality and the virtual. Moreover, it is already possible to participate in virtual events, performances, and concerts in the metaverse. In addition, the definitions chosen highlight the possibility of customising avatars and, to an extended extent, the virtual environment itself. Indeed, metaverse platforms can offer the possibility to explore and create virtual worlds, promoting an increasing co-creation between brands and users in the creation of shared experiences.

In conclusion, it is clear from the definitions that the potential of the metaverse is immense and evolving, opening up new possibilities for human interaction, creative expression, communication, and economic and social development.

2.2.1.c Metaverse components

Given the absence of a standardised definition, it's challenging to precisely outline the essential components necessary to characterise the metaverse. However, a clear pattern arises from this semantic ambiguity, with certain recurring features acting as basic pillars, allowing for the creation of immersive virtual places with a palpable sense of presence and seamlessness. These basic aspects, while diverse in their manifestation, all revolve around the seamless integration of augmented physical reality with persistent virtual environments, promoting an environment advantageous to enhanced user experiences and greater interactivity.

These are the components that typically involve the integration of augmented physical reality with a persistent virtual environment.

1 | **Immersive technologies:** VR and AR technologies form the foundation of the metaverse, enabling users to immerse themselves in virtual environments or overlay digital content onto the real world (Hollensen et al., 2022).

Artificial intelligence (AI): in addition to immersive technologies, artificial intelligence-driven algorithms enhance the user experience within the metaverse by enabling realistic simulations, intelligent avatars, personalised content recommendations, and natural language interactions (Bousba & Arya, 2022).

2 | **Networking infrastructure:** robust networking infrastructure, including high-speed internet connections and low-latency communication protocols, ensures seamless connectivity and real-time interactions among users across virtual environments.

3 | **User-generated content tools:** within the metaverse, it is possible to have user-generated content tools that empower individuals to create, customise, and share digital assets, environments, and experiences, fostering creativity, collaboration, and community engagement (Malthouse et al., 2016; Weinberger, 2022).

4 | **Social interaction features:** social interaction features, such as virtual chat, voice communication, and social networking functionalities, enable users to connect, communicate, and collaborate with others in the metaverse, forming communities and fostering social interactions (Rospigliosi, 2022).
Persistent virtual worlds: persistent virtual worlds serve as the backdrop for the metaverse, providing users with a shared, continuously evolving digital space where they can explore, interact, and engage in various activities over time (Babu & Mohan, 2022).

5 | **Blockchain technology:** blockchain technology facilitates the creation of secure, decentralised virtual economies within the metaverse, allowing for the ownership, trade, and authentication of digital assets such as virtual land, currency, and collectibles (Ryu et al., 2022).

6 | **Cross-Platform compatibility:** cross-platform compatibility ensures that the metaverse can be accessed and experienced across a diverse range of devices, including desktop computers, mobile devices, VR headsets, and AR glasses (Schöbel et al., 2023).
Privacy and security measures: privacy and security measures are essential to protect users' personal data, digital assets, and identities within the metaverse, mitigating risks such as identity theft, cyberattacks, and unauthorised access (Wang et al., 2018).

In summary, the metaverse's emergence can be traced to the convergence of several key technological trends (Petkov, 2023). These technological pillars have slowly enabled the creation of increasingly immersive and interconnected digital spaces, facilitating not only entertainment and gaming but also applications in education, telecommuting, healthcare, and beyond (Dwivedi et al., 2022; Joy et al., 2022).

In its early stages, the metaverse concept predominantly impacted the realm of internet-based video games and the development of social media (Babu & Mohan, 2022). The virtual world platform 'Second Life' became a popular example of a metaverse-like experience in the early 2000s. Linden Lab launched Second Life in 2003, allowing users to create avatars, build virtual things, and interact with others in a persistent, user-generated world (Sanchez, 2007). This immersive environment served as a precursor to the broader metaverse concept, demonstrating the potential for rich, interactive virtual spaces that transcend traditional boundaries.

2.2.1.d Applications

In recent years, the concept of the metaverse has transcended its origins in speculative fiction to become a focal point of discourse across various industries and academic disciplines. The metaverse holds immense potential for reshaping how we interact, collaborate, and create in the digital realm (Dinh, 2023; Scheiding, 2023). As discussions surrounding its definition and scope continue to evolve, attention has increasingly turned towards exploring its practical applications and implications in real-world contexts (Hollensen et al., 2022; Schöbel et al., 2023).

From immersive virtual experiences (Babu & Mohan, 2022) to novel forms of commerce (Hollensen et al., 2022) and social interaction (Rospigliosi, 2022; A. Suh, 2023), the metaverse presents a landscape ripe with possibilities for innovation and disruption. In this section, an examination will be conducted of the applications of the metaverse, which are abundant. The metaverse, renowned for its boundless potential, incrementally permeates various domains in alignment with the advancement of immersive technology. Attention will be directed towards the principal applications pertinent to the thesis: specifically, an analysis of the retail sector, with a particular emphasis on fashion, alongside an exploration of the communication and social interaction prospects facilitated by the metaverse.

Retail. Although it has been expected that the metaverse will cause significant changes in the fashion and retail industries (Stephens, 2021), there is currently no agreement on its nature and manifestation in the fashion business and limited academic research on the impact of the metaverse on fashion brands' marketing strategies and brand experiences (Park & Lim, 2023). Yet, the retail industry was among the first to be transformed by digitalization (Park & Lim, 2023). In general, all the fields of marketing related to the metaverse are still in their early stages, but they are expanding rapidly across multiple subdomains, including advertising, luxury, retail, sales, and branding (Dwivedi et al., 2023; Joy et al., 2022). At present, the majority of research is concentrated in the realm of retail, with fashion brands taking the lead and setting the stage for the potential inclusion of more affordable retail brands in the metaverse's future joy (Chrimes & Boardman, 2023; Petkov, 2023). The fashion industry is already exploring a future in which boutiques are not the only place to shop. Fashion and retail businesses are leveraging the metaverse to promote their marketing strategies, primarily by offering digital products and immersive brand experiences. The most prominent example is the creation of digital clothing for virtual avatars or NFT-based digital assets (Arya et al., 2023; Wang et al., 2018). By collaborating with gaming platforms or NFT marketplaces, brands can develop highly immersive and engaging retail experience, making market in-game outfits and accessories, and this has been the primary driver of short-term revenue in the metaverse (Arya et al., 2023; Yoo et al., 2012)23). In 2021, Nike took a significant step in this direction by acquiring RTFKT, a company specialising in virtual sneakers and digital artefacts, to propel its digital evolution within the metaverse. Subsequently, in 2022, prominent brands like Nike, Dolce & Gabbana, and Tiffany collectively generated $232 million in revenue from non-fungible tokens (NFTs) (Cappasity, 2022). Moreover, brands including Gucci, Ralph Lauren, and H&M embraced this trend by launching virtual stores on Roblox, a gaming platform, offering digital-only clothing and accessories (Hypebeast, 2021).

Social interaction and communication. In the metaverse, brand communication can achieve a heightened level of immersion through virtual marketing tools, enabling brands to connect with consumers in previously unattainable ways (Dinh, 2023). The metaverse's virtual essence, in fact, presents an

opportunity for brands to engage with a diverse audience in a more deeply immersive manner (Dwivedi et al., 2022; Petkov, 2023). Within the metaverse, advertisements can offer an exceptionally interactive experience that surpasses the possibilities of other media (Mandal, 2023); potentially, these ads can incorporate immersive content and features that transcend reality, delivering a truly ethereal encounter for users. This heightened level of immersion and interactivity empowers consumers to virtually engage with products, fostering stronger purchasing habits and enabling brands to build more resilient consumer patterns (Chrimes & Boardman, 2023). Thus, the metaverse presents distinctive possibilities and adventures for consumers. Within this virtual realm, consumers have the opportunity to engage in conversations with brands and fellow consumers (McKinsey, 2022). The metaverse's remarkable interactivity and immersive qualities enable consumers to transform shopping into a grand adventure, all within a hyper-personalised experience from the comfort of their own personal space. In such a metaverse, users can access numerous online destinations and platforms (such as social media, e-commerce websites, and applications) concurrently, eliminating the need for constant switching between offline and online channels, as highlighted in studies by Kraus and colleagues (2022) and Berman & Thelen (2018).

Within the metaverse, individuals fashion customised digital embodiments known as avatars (Cesmeli, 2023; Papale, 2014). Avatars are defined as the projection of the player to other players (Green et al., 2021), a digital or graphical representation of an individual within a virtual environment, such as a computer game (as Second Life), but also online communities (Arya et al., 2023). Avatars are not just the interface through which players operate the game, but they can additionally reflect the players' personal or constructed identity (Trepte & Reinecke, 2010; Vasalou & Joinson, 2009). They are used to represent users or players and typically take the form of a character, image, or icon that users can customise to some degree, allowing them to show their distinct identity and personality. These avatars serve as the users' virtual alter egos, indeed allowing them to explore and interact with the virtual environment, often serving as a means for self-expression and identity within the digital realm (Zimmermann et al., 2023). In addition, avatars enable users to meet, socialise, and interact with other users in a virtual setting in an embodied form (Arya et al., 2023). This is possible thanks to real-time com-

munication, which is enabled by means of messages, voice chats, video calls, or gestures for your avatar to perform. This translates into the presence of immersive, virtual social events that one can share directly from one's seat. A very famous example are the music events on Fortnite, where players can watch together in real time the performances of singers (Ariana Grande, Eminem, and Travis Scott are the biggest names we can refer to) with whom the video game has collaborated. These experiences transcend physical limitations, allowing users from around the world to come together in shared virtual spaces and engage in meaningful interactions and shared activities.

This intense communication and social interaction is not only limited to consumers but is also amplified between the brands themselves. Currently, there is the emergence of a wide range of collaborations spanning multiple sectors and fields. A recent, notable partnership is between Warner Bros and Roblox, who have joined forces to create immersive virtual experiences based on iconic film franchises. Microsoft has integrated its popular game Minecraft into various initiatives, such as educational projects and the creation of shared virtual worlds, and Coca-Cola x Decentraland and Disney x Epic Games, have brought immersive and engaging experiences to their respective platforms.

Fig. 2.10 Travis Scott's digital concert on Fortnite

Interestingly, most of these collaborations take place primarily through gaming platforms, suggesting a trend towards integrating brands into virtual environments already populated and enjoyed by the gaming community. This approach not only allows brands to reach a wide audience (Bazaki & Wanick, 2023), but also offers the opportunity to engage users in an interactive and creative way, turning the brand experience into a shared and engaging adventure (Bousba & Arya, 2022).

2.2.1.e Social and economic implications

As the metaverse continues to evolve, it raises fundamental questions about social implications, identity, privacy, governance, and the very nature of human existence in an increasingly digitised world (Babu & Mohan, 2022). This section examines the main aspects of the metaverse's shifts that are relevant to the thesis research, such as the social implications of identity and communication, the economic impacts of new business models, and the gaps in studies needed to fully understand the direction in which this change will develop.

Avatars and digital identity. The first social implication intended to be analysed is the presence of these character-driven digital extensions (avatars) in video games. This has sparked a central question for theorists, critics, scholars, and psychologists alike: as players utilise an alternative persona to engage with the game's universe, what is the link between the player's inherent personality and that of the character? The prevailing answer posits that players establish a strong identification with the character (Papale, 2014). The process of identification has been a motif of research closely associated with the moment of play and, even earlier, with the moment of viewing a medium such as fiction, film, or a book (Murray, 2017).

In particular, identification in the context of video games refers to the psychological and emotional connection that players develop with the characters they control or the narrative elements within the game (Szolin et al., 2023). It's a process through which players relate to and immerse themselves in the virtual world, often experiencing a sense of being the character or fee-

ling deeply involved in the game's story (Green et al., 2021). The process of identification in video games is influenced by various factors that depend on the video game itself, including game design, storytelling, graphics, audio, interactivity, and the player's personal experiences and preferences (Green et al., 2021; Trepte & Reinecke, 2010). Game developers often aim to facilitate identification as it enhances the overall gaming experience and can lead to increased player enjoyment and satisfaction (Flatla et al., 2011; Yang et al., 2017). It's important to note that identification can vary from player to player and from game to game. Some players may strongly identify with characters and narratives, while others may prioritise gameplay mechanics or competition (Green et al., 2021). The notion of identification grants agency, the power and ability to operate on, to the video game and its characters, to manipulate, to persuade the subject player, to the point of potentially altering the player's personality (Papale, 2014). The concept of immersion will be explored in greater depth in **Chapter 2.2.2**, with a particular emphasis on its relevance to the transformative effects of emerging technologies such as augmented reality (AR), virtual reality (VR), and their application in the domain of video games within the metaverse.

Privacy and security concerns. Issues of privacy within the metaverse are multifaceted and warrant careful consideration. As virtual environments become increasingly integrated into daily life, concerns arise regarding the collection, storage, and usage of personal data within these digital realms. Security and privacy concerns are the primary impediments to the further growth of the metaverse (Cesmeli, 2023; Wang et al., 2018). It may experience a wide range of security breaches and privacy invasions, including the management of huge data streams, pervasive user profiling activities, unfair AI algorithm outputs, and the safety of physical infrastructure and human bodies. For instance, because the metaverse incorporates a variety of cutting-edge technologies and systems based on them, its weaknesses and inherent defects may be inherited (Wang et al., 2018).

As highlighted by the studies of Alrawad et al. (2023), perceived financial risk has emerged as the predominant factor influencing customers' intentions to make online purchases. This form of risk is rooted in three primary sources of uncertainty: the potential for finding the product at a lower price elsewhere, concerns about overpricing, and apprehensions regarding additional char-

ges such as shipping and handling fees imposed by the website. The study findings further suggest that information and privacy risks exert a negative impact on customers' inclination to utilise online shopping services. Privacy risk encompasses individuals' apprehensions that their personal information may be exploited by online marketers and shared with third parties, as well as their perception that service providers may fail to adequately safeguard their data against cyberattacks. One of the crucial challenges that brands will face is ensuring that customers have easy and immediate access to the metaverse's platforms, while maintaining a high level of perceived security (Wang et al., 2018). Without this guarantee, investment and development in the metaverse could be compromised (Chrimes & Boardman, 2023). Ease of access is critical to encourage user adoption (Joy et al., 2022) and interaction in the metaverse, while security is essential to instill trust and protect the privacy of individuals ((Wang et al., 2018)). Without an appropriate balance between accessibility and security, brands risk alienating potential users and undermining the metaverse's credibility as a trusted and welcoming environment for digital experiences (Njeru, 2024).

Therefore, ensuring smooth and secure access to metaverse platforms will be a prerequisite for the development and prosperity of this new digital paradigm.

New business model. The integration of many forms of technology, such as NFT, cryptocurrencies, blockchain, IoT, artificial intelligence, and machine learning, has proved advantageous to the metaverse's platform business model (Periyasami & Periyasamy, 2022). This is a transformative opportunity for businesses, including those in the fashion industry, to adapt and innovate their traditional business models. This also means the disruption of traditional industries, including retail, entertainment, and education, as the metaverse transforms how goods and services are produced, distributed, and consumed (Bazaki & Wanick, 2023). Changing the mindset and approach is essential for aligning with end-customer expectations (Periyasami & Periyasamy, 2022).

In particular, in the realm of fashion, this shift in the business model involves several key aspects. Indeed, this shift within the metaverse offers fashion brands opportunities to engage with consumers in innovative ways, expand their reach beyond physical boundaries, and unlock new revenue streams through virtual experiences and digital assets (Petkov, 2023). Some exam-

ples are constituted by virtual fashion shows and events. Virtual fashion shows and events, such as those organised by GCDS since 2020, feature instances where guests participate as avatars, as in Fig 2.11. Fashion brands can, in fact, leverage the metaverse to host virtual fashion shows and events, reaching a global audience without the limitations of physical venues (Joy et al., 2022; Park & Lim, 2023). These are immersive experiences that allow brands to showcase their collections in dynamic virtual environments, fostering creativity and engagement among consumers (Bousba & Arya, 2022). Other examples are the use of immersive technologies to enable virtual try-on experiences or to create and sell digital fashion assets, ranging from virtual clothing, to accessories and even cosmetics (Xue et al., 2023).

In general, what is fundamental is now establishing a presence in the metaverse, to allow fashion brands to connect with consumers in new and interactive ways. By creating branded virtual spaces, such as virtual stores or showrooms, brands can offer personalised shopping experiences, virtual styling sessions, and social interactions within immersive environments (Bazaki & Wanick, 2023).

Lack of studies. What still needs to be understood is how fashion brands can effectively navigate this domain. Currently, there is a noticeable absence of academic discourse regarding the potential advantages and obstacles presented by the metaverse (Zhao et al., 2022). The definition of the metaverse is still not completely defined, given the evolving nature of technology, the emerging use cases, the interdisciplinary aspects, the hype, and the ethical considerations that all contribute to the ongoing lack of a fully defined and universally accepted concept of the metaverse. As the technology and discussions surrounding it continue to progress, we can expect ongoing refinement and evolution of the definition. While the precise definition may evolve over time, it's evident that a mature metaverse will offer seamless and integrated virtual experiences. At this moment, brands are initiating their presence in the metaverse through two distinct approaches: the first approach involves brand investments in specific digital tools and technologies, including AR, VR, NFTs, and gamification, to develop proprietary brand-driven experiences (Hollensen et al., 2022).

The second approach consists of an effort to reduce the fragmentation of digital spaces. Brands are now collaborating with platforms like Discord, Roblox, and Twitch. This allows them to link users with metaverse destinations and facilitate interactions among them. This fosters an aspect of social interaction within the metaverse, which is a fundamental aspect of this interconnected virtual world. Users have the capability to engage and cooperate with others in real-time, irrespective of their geographical locations. This nurtures a feeling of presence and social immersion, akin to in-person interactions. Virtual meetings, events, concerts, and gatherings are becoming the norm, erasing the distinction between physical and virtual social experiences.

This strategy substantially mitigates the risks associated with entering the metaverse. Brands can partner with well-established gaming platforms either as event sponsors or by adopting a direct-to-avatar model. Virtual realms are interconnected seamlessly, permitting users to navigate between diverse environments without interruptions. The interoperability between metaverse platforms guarantees a uniform experience spanning various applications and ecosystems (METAV.RS, 2023). In the latter, users can purchase virtual clothing for their avatars directly from the brand. Notably, luxury brands are beginning to incorporate this approach into their marketing strategies (Chrimes & Boardman, 2023).

Moreover, what is difficult to investigate is the co-creation relationship that the metaverse, and more broadly, Web 4.0, introduces (Dwivedi et al., 2022). Indeed, the primary users of the metaverse are typically members of Generation Z, referring to individuals born after 1995. This generation actively wants to be part of the creation process and, with the metaverse, has a real chance to do so (C.-H. Lee et al., 2021). For this reason, research should focus on how to emotionally engage this generation and, in this way, increase the chances of purchase. Furthermore, this generation exhibits distinct characteristics compared to previous generations; in particular, researchers have honed in on their inclination towards gamified experiences (Lau & Ki, 2021). This affinity stems from growing up during a period of rapid technological advancement, with the proliferation of PC and mobile technologies featuring games.

2.2.2 Immersive experiences

2.2.2.a AR and VR

Augmented reality (AR) is a visual technique, a form of digital content or interactive technology, that superimposes digital content onto the user's view of the real world, overlaying it in real time using devices like smartphones, tablets, and smart glasses (Ames, 2021; Javornik, 2016; Kang et al., 2023). This technology enables users to experience a digitally enhanced environment in real-time and interact with it in various ways, such as by moving or manipulating virtual objects. The process of adding digital content to the real world and thus the capability of enhancing the physical reality by overlaying virtual elements on people, products, or surrounding space is commonly referred to as "augmentation" (Javornik, 2016; Preece et al., 2015).

This definition emphasises not only the coexistence of virtual and physical realities in the same location but also the persistence of AR in real time (as opposed to virtual reality) and its interactive nature (Javornik, 2016). AR, on the other hand, 'does not replace the real environment; rather, it uses the real environment as a background' (Fonseca et al., 2014).

The principal characteristics of augmented reality, according to Javornik (2016), are interactivity, virtuality (presence of virtual reality's elements), geolocation features, mobility (in relation to portability and wearability), and synchronisation of both the virtual and physical worlds. According to the International Data Corporation (IDC, 2022), global spending on augmented reality and virtual reality (AR/VR) is expected to reach $13.8 billion this year and climb to $50.9 billion by 2026. AR/VR spending will expand at a compound annual growth rate of 32.3% during the next five years. Throughout the projected period of 2022–2026, virtual reality will account for more than 70% of all AR and VR spending, with overall spending split almost evenly between consumer and business applications.

AR technology has a wide range of uses (Papagiannidis et al., 2017): retailers can use AR to optimise warehouse space through improved navigation and enhance brand recognition by incorporating gamification, enabling customers to interact with virtual objects in real-time and thus creating a new gaming experience (Thorhauge & Nielsen, 2021). In recent years, AR has

also been used to create interactive and engaging educational content that can help students better understand complex concepts. For instance, AR can be used to create virtual 3D models of scientific concepts or historical events (Javornik, 2016). In mobile apps or for advertising, AR can be used to create interactive and engaging advertising campaigns, like virtual try-ons for clothing or makeup products (Kang et al., 2023). Augmented reality provides customers with more product information than a physical store because it allows the user to interact with a virtual 3D model of the product, giving customers a better sense of the product they are buying (Alves & Luís Reis, 2020). Furthermore, AR can provide critical product information through AI maintenance and user manuals, leading to proper feature adoption and customer satisfaction (Flavián et al., 2022).

AR applications for shops can allow customers to virtually 'try-before-you-buy' experience, to allow customers to see how the product will look on them before making a purchase (Papagiannidis et al., 2017), in a variety of scenarios both in and out of the shop (Välkkynen et al., 2011), thus providing meaningful experiences for online consumers (Ames, 2021; MacIntyre et al., 2001).

Overall, AR can improve customers' experiences, provide valuable product information, increase engagement, increase their revenue, and form brand loyalty (Papagiannidis et al., 2017; Williamson, 2020). Converse's AR software Sampler, for example, allows users to select different trainers from a catalogue, digitally try the selected trainers on by putting their smartphone camera right to their feet, and then take a photo of how the shoes would look using AR technology, allowing users to post the shot on social media before ordering and purchasing a pair of the chosen trainers directly from the AR app (Cosco, 2016). Amazon has used a new augmented reality shopping function to create an image of your room, allowing users to view some furnishings and home décor in their own environment (Perez, 2020). Ikea has launched an application on which AR can be used to furnish the entire room, developing the entire catalogue in 3D and rendering it, as well as making it possible to place multiple pieces of furniture at once (Ayoubi, 2017). Sephora added in its application and website live 3D facial recognition that allows users to upload a still selfie to virtually try on various Sephora items, enabling users to observe themselves moving in real time with the digital makeup (Kang et al., 2023).

On the other hand, according to Zheng et al. (1998), virtual reality (VR) is an advanced, human-computer interface that simulates a realistic environment. The participants can move around in the virtual world. They can see it from different angles, reach into it, grab it, and reshape it'. From this definition, we realise that virtual reality is innovative because it allows for the creation of immersive experiences that were previously impossible. Virtual reality is a computer-generated simulation that creates a realistic environment, and it can be used for a variety of purposes, including entertainment (Boardman et al., 2020; Papagiannidis et al., 2017), education (Ausburn & Ausburn, 2004; Kustandi et al., 2020), or training (Pantelidis, 2010). It has also been studied with the purpose of enhancing marketing strategies like in-store advertisement (Ketelaar et al., 2018), customer service (Boardman et al., 2020; Zhao et al., 2018), or product presentation (Zhao et al., 2017). For example, VR can be used to simulate dangerous situations, allowing individuals to practise their responses in a safe environment.

Virtual reality creates a three-dimensional virtual environment through simulation, allowing users to enter and interact with the virtual world (Makarov, 2022). According to the Market Research Report (2022), the global virtual reality market is projected to grow from $16.67 billion in 2022 to $227.34 billion by 2029. The content represented by the VR system is usually referred to as a 'virtual world' (Wu & Kim, 2022). When a virtual world is provided with a VR system, it's referred to as a virtual environment for one or more people (Leclercq et al., 2020).

Virtual reality technology creates a computer-mediated environment in which the user feels a sense of presence (Biocca, 1992) and can engage the human senses such as vision, hearing, as well as kinematic and proprioceptive experiences (i.e., the ability to look around 360 degrees or the sensation of moving, falling, etc.) (Walsh & Pawlowski, 2002). This sense of being 'there' (Murray, 2017) results from immersion in the virtual environment and allows users to 'escape' from the real world for a brief moment (Huang & Hsu Liu, 2014). When researching the value of VR in retail, most studies focused on the value of immersive experiences, with telepresence being one of the most frequently mentioned technological factors (Wu & Kim, 2022). Telepresence, the perception of presence within a physically remote or simulated site

Fig. 2.12 Amazon AR included directly in the application

(Draper et al., 1998; Klein, 2003), influences persuasion to buy (Klein, 2003), and creates shopping pleasure and so forth experience value by influencing consumer imagination, which contributes directly to the desire to purchase from online retailers (Wu & Kim, 2022; Xue et al., 2023). In addition, vividness and interactivity are the key features that stimulate the user, and determine the quality of the VR experience (Li & Yeh, 2010). These features influence and lead to a positive consumer attitude (Van Kerrebroeck et al., 2017).

Indeed, immersion is a part of virtual reality itself, allowing the users to completely or partially escape the real environment for a moment (Van Kerrebroeck et al., 2017), due to the high simulation characteristics (Wu & Kim, 2022). This technology can be used for hedonic, entertainment purposes (Van Kerrebroeck et al., 2017), and to create value for consumers (Kusumawardani et al., 2023). Shahrbanian et al., (2012) distinguish two types of VR systems: immersive and non-immersive. The main criteria for classification is the difference between the output equipment and the effect achieved. Non-immersive VR systems output to infrared monitors, whereas immersive VR systems output to head-mounted displays (Ausburn & Ausburn, 2004). In addition

to the monitor, the user can use a mouse, keyboard, or manual control via a touch screen controller. More immersive VR devices rely on gestures or eye gazes for input (Wu & Kim, 2022; Zhan et al., 2020). Users interact with the environment primarily through intermediaries (i.e., avatars) in their environment to create a simulated experience (Papale, 2014; Wu & Kim, 2022). Those simulated experiences can be similar to or entirely different from reality. Companies that use VR technology can benefit from improved product knowledge and marketing communications (Van Kerrebroeck et al., 2017). This technology may enhance communication while also improving customer perception of the product (Grudzewski et al., 2018).

Immersive technologies such as AR and VR can bridge the gap between online and physical shopping experiences, allowing users to gain the benefits of both worlds (Kang et al., 2023). As a result, businesses employ augmented reality immersive technology to mix augmented content and physical background variables, as well as to deliver informational value regarding marketplace offerings and their integration into consumers' lives (S. H.-Y. Hsu et al., 2021). Thus, implementing AR in a retail setting provides an opportunity to bridge the information gap, increase consumer satisfaction, and positively impact customer satisfaction (Xue et al., 2023).

Moreover, AR technology can make the shopping experience fun and memorable by helping brands build a personalised shopping experience and engaging clients with co-creation while shopping. AR technology allows users to create personalised and playful experiences that they can then share with others on social networks using co-creation (Huang & Hsu Liu, 2014), allowing users to express themselves creatively and in new ways (Scholz & Smith, 2016). As many users can share and collaborate with the brand to create new AR contents, as much playfulness, experience, and brand promotion can be enhanced (Huang & Hsu Liu, 2014; Xue et al., 2023). Sharing AR experiences on social networks can help promote products and brands by allowing users to showcase products in creative and engaging ways that capture their followers' attention: Xue et al. (2023) demonstrate how AR technology can be used to improve the shopping experience. As a result, developing AR (smartphone) applications that combine significant functional benefits with enjoyable elements will encourage consumers to shop in person. It

follows that AR will increase consumer engagement and encourage clients to stay in the store longer by providing a personalised experience and allowing them to experiment with in-store AR applications. Retailers are thus challenged to support their efforts with augmented reality (AR) that can deliver the required level of personalisation and new product information while protecting customer data.

Leading fashion companies such as Gucci, ZARA, H&M, Nike, and Myer Department Store, as well as cosmetic companies such as Estee Lauder, Sephora, L'Oreal, and Oliveyoung, are actively developing AR and VR shopping platforms to increase consumption by enhancing the shopping experience (Makarov, 2022; Wu & Kim, 2022). During Vetements' spring/summer fashion show in 2019, the brand unveiled a unique hoodie. When scanned using a phone, cartoon mascots on the yellow hoodie would dash and flail within a red circle positioned around a target printed at the hoodie's centre. Due mainly to difficulties with hygiene and safety in brick-and-mortar businesses during the coronavirus pandemic, Sephora and Ulta Beauty incorporated AR to assist customers in digitally testing beauty goods in-store to facilitate customers' purchasing decisions (Papagiannidis et al., 2017). Amazon has used a new augmented reality shopping function to create an image of your room, enabling users to view furniture and home decorations in their own environment (Perez, 2020), IKEA did similar with their personal application (Alves & Luís Reis, 2020).

Mobile augmented reality applications have launched in consumer markets and are being embraced by retailers (e.g., Gucci, Vetements, De Beers, M.A.C., and Burberry) to integrate consumers into an immersive world as a tool to create the best customer experiences (Hsu et al., 2021). AR technology has the potential to enhance the online shopping experience by providing users with a more immersive and interactive way to explore and evaluate products (Scholz & Smith, 2016) before making a purchase, producing hedonic experiences for online shoppers (MacIntyre et al., 2001). That is, using AR apps, consumers can dynamically interact with products, which can help online shoppers select products that better meet their needs (Smink et al., 2020). Therefore, retailers should build a good AR app experience to eliminate customers' uneasiness with online shopping. For example, experiential AR app categories, such as make-up, sunglasses, furniture, and clothing,

allow consumers to visualise products on their own faces or bodies or within their personal surroundings. These product categories have high levels of experience and can easily produce service gaps between pre- and post-consumption (Hsu et al., 2021). AR apps are real virtual touchpoints of interactive technology that can enhance consumers' perceptions by directly overlying virtual elements onto the real environment (Yaoyuneyong et al., 2016).

On the other hand, through VR technology, consumers can freely explore the virtual environment and fulfil their emotional needs through a more immersive, interactive, and engaging shopping experience (Smink et al., 2020; Wu & Kim, 2022). The VR expansion is slower than the AR expansion because its technology is new and thus undemocratic, still difficult, and overpriced to find the material components and to use (Boardman et al., 2020). Another reason is the intensified and generalised fear of growing children addicted to online technologies or games (Walker, 2016) and the possibility of growing an 'anti-social' behaviour (Carmigniani et al., 2011). In addition, like other types of technology, VR and AR have issues with data breaches and online security (Boardman et al., 2020). Virtual reality, with that degree of immersion and with a completely virtual environment, conflates the degree of immersion with the lack of contact of real space; this problem does not arise in AR, which uses reality as a base to add virtual objects.

During the pandemic lockdown, an increasing number of fashion retailers started to develop VR apps to engage customers (Lau & Ki, 2021). Alibaba, the Chinese retail giant, for example, just launched a 3D avatar-based virtual world in their Taobao app, which includes a game called Taobao Life. Taobao Life allows users to personalise their avatars and navigate a game-like virtual world with them. Furthermore, Amazon, the world's largest retailer, is creating a virtual reality programme known as a 'virtual fitting room,' which will allow customers to try on garments with a personalised virtual model of themselves (Lau & Ki, 2021). Gucci built a virtual world about their own new fragance 'Gucci Flora' on Roblox.
However, for fashion products, it is more important to provide sensory and detailed information about the product and brand. For this reason, AR try-on technology allows customers to experience virtual products within physical reality, making the experience similar to trying the physical product while ad-

ding information about the product itself (Alves & Luís Reis, 2020; Kim & Forsythe, 2008). This feature makes it an excellent tool for marketing products that require a high level of body engagement (e.g., clothing and cosmetics) (Baker et al., 2018). Existing studies have examined several aspects of AR that allow for a better understanding of customer responses to individual technological experiences, such as presence (Huang & Liao, 2015), interactivity (Poushneh & Vasquez-Parraga, 2017), technological embodiment (Flavián et al., 2021), informativeness (Rese et al., 2017), comparison of AR to non-AR (Gäthke, 2020; Watson et al., 2018), simulated physical control, and environmental embed (Hilken et al., 2017)).

Previous research on mobile apps has declared that app attributes bring forth internal reactions in users (e.g., utilitarian benefit or hedonic benefit) (Fang et al., 2021). To fully comprehend the experiential value generated by consumers by engaging in experiential AR apps, it is necessary to take into account the app features that can provide the best experience to customers (Hsu et al., 2021). Only a few studies have discussed the use of AR apps in the

Fig. 2.13 The Vetements hoodie that is augmented reality functional

retail environment (Dacko, 2017) or have investigated customer experiences through the motivations and responses of customers using AR apps (Hsu et al., 2021). Nilsen et al. (2004) stated that AR apps can be used for entertainment purposes, such as superimposing game elements onto the real world to provide users with a fun and engaging experience. According to Javornik (2016), augmented reality apps are an excellent tool for augmenting the real world by adding virtual elements, providing users with an immersive and interactive experience that can improve their perception of the world around them. Interactivity, in fact, has been identified as a critical factor in understanding the user's experience with technology in existing computer-mediated media environments (Cyr et al., 2009; Voorveld et al., 2011). The current trend is to develop a new system of shopping, with new technologies able to provide immersive, interactive, and thus engaging experiences (Papagiannidis et al., 2017).

According to Xue et al. (2023), no fashion retailer has yet successfully implemented AR in a way that captures the public's imagination or improves the retail experience exponentially. Despite the growth of e-commerce, retailers are still in need of physical stores to maintain brand value and improve the customer experience. Yet although augmented reality has received increased attention, and consumers and retailers alike have expressed interest in and tried its integration, the technology has not yet reached complete maturity: one-third of purchasing decisions are still made in the physical store (Billewar et al., 2022), and there's still limited awareness of how to use this technology most effectively and how it can transform service touchpoints (Bazaki & Wanick, 2023).

One way to evaluate the efficacy of AR and VR technology applications is to consider their perceived usefulness and ease of use, which are influenced by the intention to use these technologies (Davis et al., 1989). Furthermore, perceived usefulness and ease of use determine the perceived value, which can have a direct impact on client purchase intent (Ishaq, 2012). While AR technologies may be regarded as useful and possibly easy to use, consumer intention to use them may be limited owing to their availability in physical stores and online, or they may simply not be of interest to consumers because they may target a specific group (Billewar et al., 2022). On the other hand, it can also be risky not to be a part of the wave, because consumers can switch brands at any time (Boardman et al., 2020).

According to Billewar et al. (2022), VR is going to be the technology that can be used in the retail market. The goal is to give VR technology a more immersive and hedonistic experience for the customer through its technology improvement and democratisation, thus increasing its easy-to-use value. It follows that the aim is to provide a more authentic shopping experience without having to leave the house: the user will enjoy a store experience by searching for items in the islands and evaluating them by picking them up, just like in a physical store. This will happen, according to Billewar et al. (2022), because the satisfaction from virtual immersion - thus using VR instead of AR technology - is enormous, which is why it produces joy of interaction during the shopping experience. Additionally, ReAnIn (2023) estimates that the global virtual reality market will be worth USD 4,101.66 million in 2022. The size of this market is estimated to rise to USD 29,253.34 million by 2029, at a compound annual growth rate of 32.4%. Lastly, according to the Statista Report (2020), gamification will be integrated into e-commerce and VR technology. Thus, with the advancement of new technologies and the increased commercial availability of headsets needed for using VR technology, e-commerce will upgrade to a more immersive experience that can compete with in-person purchasing in terms of realistic information. According to (Kim et al., 2021), gamification allows customers to immerse themselves in and experience the brand, for example, by choosing garments that fit their body types thanks to avatars formed based on their body dimensions. Because product and brand gamification promotes enthusiasm and a delight for exploring the unexpected, the company develops a strong link with their consumers (Xue et al., 2023).

2.2.2.b Video games as narrative immersive technologies
Video games are often regarded as immersive technologies due to their unique ability to transport players into virtual worlds where they can actively participate in dynamic narratives and experiences. For Janet Murray, research scientist of digital media, immersion is a 'metaphorical term derived from the physical experience of being submerged in water' (Murray, 1997, p. 98). The immersion feeling occurs when a person is carried away by the flow of information and sensations or through simulated experiences (Lescouet et. al., 2023). Csikszentmihalyi & Larson (2014, p. 232) define immersion as 'the activity producing, as one of its consequences, a loss of self-consciou-

sness'. However, why do video games possess this immersive aspect? To comprehend this, we need to navigate through the concept of narrative in video games, a topic still subject to ongoing debate, and subsequently understand how this concept implies a sense of immersion.

Narrative in video games is a crucial element that has provoked much debate in the gaming community and beyond. As Koenitz (2018) points out, a fundamental issue with these approaches is a lack of an accepted definition of 'narrative'. The term can denote various aspects within the realm of video games, referring to an ornamental function to furnish context (Juul, 2005) or an 'experiential', 'performative', 'augmentary', 'descriptive' structure during the experience of video game (Pearce, 2004).
However, in recent years, there has been a growing awareness of the importance of narrative in games and its evolution towards more sophisticated forms. Today, many video games feature rich narratives characterised by well-developed characters, complex plots, and moral decisions that involve the player in a meaningful way (Landers et al., 2019). This evolution has led some to consider video games as a new medium for storytelling, capable of offering interactive and immersive experiences that can re-evaluate traditional forms of storytelling (Aaron, 2023). However, the debate continues, with some arguing that the interactivity of video games may limit narrative depth compared to other media, while others see this interactivity as a new frontier for narrative exploration. In any case, narrative in video games continues to be a topic of interest and discussion, reflecting the complexity and diversity of the video game medium.

The debate involves two distinct topics: the subject of video games as a medium for narrative and the applicability of analytical tools from the study of narratology to video games (Koenitz, 2018). It began in 1999, when Jesper Juul declared that computer games are simply not a narrative medium (Juul 1999), a position he later modified to 'games and narratives share some structural traits [...] Games and stories actually do not translate to each other in the way that novels and films do' (Juul, 2001). Gonzalo Frasca (1999) wrote as a response about replacing the term 'ludology' with Juul's narrative analysis, suggesting it as a more effective tool to fully understand the medium of

Type of narrative	Description
Evocative	Narrative that refers directly to a prior work in a different medium (e.g., Star Wars video games refer to the film series). They thus evoke a range of emotions in the audience already familiar with the prior work.
Enacted	Narrative that allows the player to impersonate roles within a fictional universe, helping to shape it through their actions and choices.
Embedded	Use game components to convey information and narrative elements, which enrich the main narrative.
Emergent	Narratives that are spontaneously created by the interaction between the player and a game system and are thus de facto unpredictable (i.e., The Sims).

Tab 2.5 Types of game narratives identified by Henry Jenkins in 2004

video games. He believes that the narrative dimension, traditionally employed in other media, is not adequate to fully describe the essence of video games. Frasca later described games as 'simulations' having specific rhetorical possibilities as opposed to narratives (Frasca, 2013). In particular, Frasca and the pioneering ludology scholars directed their criticism against Murray and Jenkins. Murray's analysis of Tetris as a narrative (of an overwhelming onslaught of tasks in contemporary society) in Hamlet on the Holodeck (Murray, 1997) provided a specific target for their critique, while in Henry Jenkins' case, the understanding of transmedia narratives and video game design as 'narrative architecture' (Jenkins, 2004). Specifically, in that paper, Jenkins identifies four different game narratives.

This subdivision of narratives within video games, which manifest themselves in various forms and measures, emphasises the importance of immersion and interaction, providing the player with a sense of agency and stimulating reflection. Enacted narratives, in particular, aim to create an immersive experience through identification with the video game character. Both enacted narratives as well as embedded narratives and emergent narratives involve interaction as a fundamental part of the narrative process. In fact, players are encouraged to interact with the plot, characters, and objects

to create a unique narrative. This involvement gives players a sense of agency, allowing them to influence the development of the story with their own actions and choices, which can have tangible consequences for the course of events and the game's ending. Following Jenkins and Murray's analysis, it follows that video games are not only an immersive technology, but also a medium capable of evoking emotions and promoting personal reflection.

The fervour of the debate notably diminished after 2004, and Murray sought to formally conclude it during a keynote speech at the 2005 DIGRA (Digital Games Research Association) conference (Murray 2005), but the fundamental issues remain unresolved. As a result, fundamental dualism continues to have a significant impact on video game studies and related subjects, as well as on the video game industry as a whole. This enduring impact is evident in the emergence of the term "ludonarrative dissonance" (Hocking 2009), which aims to capture a perceived conflict between gameplay mechanics and narrative elements within video games. This concept highlights an ongoing tension between the interactive aspects of gameplay and the linear storytelling traditionally found in other media forms. Such discussions underscore the enduring relevance of the dichotomy between ludology and narratology in shaping both scholarly discourse and practical considerations within the video game industry. Ludonarrative dissonance happens when a character is portrayed as mild-mannered and compassionate in the narrative but murders hundreds of virtual characters in gameplay (Koenitz, 2018).

Beyond the concept of narrative, Murray's immersion deepens in complexity with the incorporation of concepts of agency and interactivity. In the revised edition of her book 'Hamlet on the Holodeck' in 2017, she refined her definition: 'as we engage with a coherent environment, we are compelled to take actions that foster a sense of agency, consequently enhancing our immersion. This process can be conceptualised as the Active Creation of Belief' (Murray, 2017, p. 114). Players thus have the agency to make decisions that directly influence the outcome of the game, creating a sense of involvement and investment in the virtual environment. In general, it is undeniable that video games and virtual realities offer unique tactics and opportunities that improve immersion and players' presence in the fictitious world, making the experience compelling and encouraging player interaction. Moreover, they are a form of media with a great impact on contemporary culture and society.

2. Theoretical Background

According to Csikszentmihalyi & Larson (2014), individuals typically engage in activities that offer optimal experiences either unintentionally or for external reasons initially. However, once they encounter the gratification derived from structured engagement, they continue for intrinsic reasons. Video games, being optimal experiences and inherently rewarding (defined as 'autotelic'), may eventually lead to addictive behaviours over time. Csikszentmihalyi & Larson, (2014) also posit that activities freely chosen and pursued for their own sake, and autotelic in nature, can be termed as flow experiences. These experiences are commonly reported when individuals describe their encounters as optimal or intrinsically fulfilling. Activities that tend to induce such experiences are referred to as flow activities, which can include video games, among others.

Through immersion, agency, gameplay mechanics, flow activities, captivating storytelling, stunning visuals, and interactive video games, we engage players on multiple levels, drawing them deeply into the game's universe. Indeed, advancements in graphics, sound design, and artificial intelligence (and digital advantages in general) further enhance immersion by creating more realistic and immersive worlds. This immersion is heightened by the integration of virtual reality (VR) and augmented reality (AR) technologies, which allow players to physically interact with the game world, blurring the lines between the virtual and the real. As a consequence, video games serve as immersive technologies by providing players with rich and engaging experiences that captivate their senses and imagination, fostering deep emotional connections and lasting memories.

In general, considering those theories in video games implies recognising that these entertainment media are capable of conveying complex messages and communicating across a multiplicity of dimensions. Indeed, in addition to the narrative component, which may be structured in a traditional way or emerge more dynamically through player interactivity, video games also offer an aesthetic and mechanical dimension that contributes to their artistic and communicative expression. Immersion, interaction, and agency, key values in the video game context, amplify the communicative reach of video games, allowing players to enjoy immersive and personalised experiences. Furthermore, the combination of visual, sound, and gameplay elements can convey complex meanings and evoke intense emotions, allowing video games to communicate effectively beyond simple storytelling. Ultimately, the

analysis of narrative theories in video games leads us to recognise their ability to express profound messages and communicate through a wide range of artistic and interactive dimensions.

2.2.3 Gamification

2.2.3.a The intersection with fashion and engagement

Digitalization has also developed the success of the digital game medium, which has now prompted its use for purposes other than entertainment. In particular, the emergence of the phenomenon of gamification marks a significant evolution in how businesses and organisations engage with their audiences across various sectors.

There are different definitions of gamification. According to Deterding (2012) and Deterding et al. (2011), gamification is a method that has been defined as the selective introduction of game components into an interactive system without the end result being a full-fledged game. Gamification was also defined by Zichermann & Cunningham (2011) as the process of game-thinking using game mechanics to engage and solve problems. According to Kapp (2014), gamification uses aesthetics, game mechanics, and game thinking to engage people, promote action, improve learning, and solve problems. Seaborn & Fels (2015), finally, provide a proposed standard definition of gamification, as 'the purposeful use of game features for a gameful experience of non-game tasks and environments.

Gamification plays an important role in our research, as it is one of the marketing methods widely adopted by fashion companies. This approach allows companies to create engaging and immersive experiences for consumers, combining the act of purchasing a product with a playful experience. Through the integration of playful elements such as points, badges, challenges, and rewards, gamification turns the purchasing process into an exciting and rewarding adventure for consumers (Hamari & Koivisto, 2015). In particular, fashion companies use gamification to engage audiences, stimulate interest in their products, and strengthen the emotional bond with the brand (Milanesi et al., 2022). Moreover, gamification offers companies an innovative way to collect data on consumer behaviour and preferences, enabling them to further personalise the shopping experience and improve their marketing strategies (Nobre & Ferreira, 2017). Therefore, understanding the role and

impact of gamification in the fashion industry is crucial to identifying best practices and innovation opportunities that can drive business success in this competitive sector.

A game refers to a structured play with rules, goals, and challenges for entertainment purposes (Cheng et al., 2015), meanwhile, the term 'gamification' first appeared in 2008 and has grown in popularity since the 2010s (Deterding et al., 2011; Seaborn & Fels, 2015). Indeed, in increasingly competitive markets, guaranteeing a positive interactive experience has become a critical factor in ensuring the success of products and services (García-Magro et al., 2023). Gamification definitions differ and typically focus on either game features and mechanics or the process of gaming and gameful experiences in serious contexts (Krath et al., 2021). Levels, points, badges, leader boards, avatars, missions, social networks, and certifications are examples of game elements (Bogost, 2010). Gamification, as opposed to games, is distinguished by its serious intent (Krath et al., 2021): it simply uses game components and applies them to the real world, making all approaches share the idea of employing pleasant gameful experiences for a serious purpose, such as education or behaviour change, rather than for amusement (Krath et al., 2021). Gamification is conceived as the process of integrating game mechanics and design principles into non-gaming situations (Deterding et al., 2011) to encourage people to take part in some activity (Lee & Jin, 2019) using game design elements to make a non-game application, product, or service more engaging and compelling, such as retail or marketing (Deterding et al., 2011).

Since the first decade of the 20th century, a growing number of brands have been developing gaming experiences that allow customers to connect with them in a fun and interactive way (Takahashi, 2011). Gamification in particular received broad attention in the 2010s as a result of the proliferation of smartphones, which led to the widespread usage of interactive applications, requiring the development of new business strategies based on the use of game components to engage people (Rocha Seixas et al., 2016; Deterding, 2012; Maican et al., 2016). The idea of gamification was growing based on studies that explain individuals' need and instinct to have fun and engage in enjoyable activities (Lee & Jin, 2019).

2.2.3.b Brands benefits

The term's current industry usage alternates between two related notions: the first is the growing acceptance, institutionalisation, and pervasiveness of video games in everyday life (Schell, 2010), becoming an established form of entertainment and consumer culture (Malaby, 2007). The second, more specific idea is that since video games are designed for entertainment and can demonstrably inspire users to engage with them with exceptional intensity and duration, game components should be able to make non-game products and services more entertaining and engaging as well (Flatla et al., 2011; Zichermann & Cunningham, 2011).

Gamification is a powerful tool for creating immersive and engaging experiences for customers or users, using game-like elements, such as points, badges, leaderboards, and challenges (Zainuddin et al., 2020), to create a sense of accomplishment and motivation and to encourage users to participate and engage with the application, product, or service (Sailer et al., 2017; Milanesi et al., 2022). Gamification enables immersive experiences by creating new and personalised consumer journeys and high levels of engagement (Milanesi et al., 2022).

Overall, gamification not only enhances user engagement and motivation but, through creating a more immersive and enjoyable experience for customers and users, can increase user loyalty and fidelity (Xi & Hamari, 2019a), improve brand awareness (Lee & Jin, 2019), and ultimately, through cross-fertilization with e-commerce (Milanesi et al., 2022), drive sales and revenue. It is therefore important for brands to direct themselves towards an increasingly fluid and seamless gamification that makes the customer participate and be active in the purchase, as opposed to the passivity they have always been accustomed to; this is in fact positively associated and can improve brand engagement (Suh & Lee, 2023; Y. Yang et al., 2017), brand co-creation experiences, brand love (C.-L. Hsu & Chen, 2018), brand awareness (Y. Yang et al., 2017), and customer loyalty (Hwang & Choi, 2020; Zichermann & Linder, 2010).

Gamification has emerged as a technology trend that attempts to further transfer these benefits to a variety of services and systems (Koivisto & Hamari, 2019), and it has already been employed in non-game environments (Kusumawardani et al., 2023), such as education (Filsecker & Hickey,

2014; Simões et al., 2013), crowdsourcing (Morschheuser et al., 2017), health (Alahäivälä & Oinas-Kukkonen, 2016; Hamari & Koivisto, 2015; Jones et al., 2014), marketing (Hamari & Koivisto, 2015; Huotari & Hamari, 2017), and social networks (Sailer et al., 2017; Terlutter & Capella, 2013). It can be applied in retail or marketing to incentivize customers to make purchases, provide feedback or reviews, or share items or services on social media (Sailer et al., 2017). A brand, for instance, may reward customers with points or badges for completing purchases, submitting reviews, or referring friends to the brand (Harwood & Garry, 2015). One area in which digital platforms have been particularly successful is in the development of mobile phone applications with gameful elements (García-Magro et al., 2023). These types of applications are designed to be fun and engaging, often incorporating elements of gamification to encourage users to interact with the platform and achieve specific goals (Y. Yang et al., 2017). Consequently, comprehending the creation and communication of value via digital platforms has evolved into a new business model that employs technology to connect people, organisations, and resources in an interactive ecosystem where incredible amounts of value may be created and traded (Ruggieri et al., 2018). Platform-based technologies, such as mobile phone applications with game components, are becoming increasingly essential because they enable companies and game users to engage in a controlled environment (Kusumawardani et al., 2023). In addition to providing entertainment and motivation, platform-based technologies also allow companies to collect valuable data on user behaviour and preferences (Nobre & Ferreira, 2017). This data can be used to improve the overall user experience as well as to develop more targeted marketing strategies that are tailored to individual users.

Despite this increased importance, there is no standard approach to developing and successfully implementing gamification features in an existing process (Y. Yang et al., 2017). As a result, there is a lack of understanding of how gamification might be structurally used in numerous processes. It is still unknown whether gamification can be used to change people's behaviour or attitudes in all types of corporate operations (Y. Yang et al., 2017).
In addition, academic evidence of the effects or benefits of gamification (Y. Yang et al., 2017), and studies about the convergence of marketing and gamification (Lucassen & Jansen, 2014) are currently lacking.

Despite the importance of gamification in the context of e-commerce applications, there is a scarcity of studies between gamification's social motivation and the buying motivation that may inspire customers' behaviour (Kusumawardani et al., 2023). Moreover, actual research on the intersection between gamification and luxury is scarce and primarily concerned with branding (C.-L. Hsu & Chen, 2018). Gamification is still under-researched in the context of e-commerce, despite its practical contributions in many other sectors. Because of its popularity, the persuasive method via gamification has been adapted to a variety of non-game products or services. Yet, research on gamification in the e-commerce industry that takes into account both social motives and purchasing value is still limited (Kusumawardani et al., 2023).

Some potential research could include, according to the previous literature that already stated that it's needed further research, what are the individual purchase intention, customer loyalty and customer satisfaction through gamification (Kusumawardani et al., 2023), what is the relationship between gamification and other forms of user engagement, such as social media or community building (Huotari & Hamari, 2017), the role of gamification in enhancing the perceived value of products or services (Lopes et al., 2023), the effectiveness of different gamification strategies in creating value (Nobre & Ferreira, 2017), the potential for gamification to create value beyond traditional financial metrics (Hwang & Choi, 2020), and, lastly, the relationship between intention of engagement with the gamification marketing process and attitude towards a specific brand that may potentially allow marketers to increase participants' intention when carrying out marketing activities (Y. Yang et al., 2017). In general, further research into the relationship between gamification and value creation could help to better understand how these principles can be used to create more engaging and impactful digital experiences for customers.

2.2.3.c Consumer motivations and marketing engagement

One of the reasons why gamification has grown in popularity is that gaming is thought to be motivating (Bai et al., 2020). Motivation explains the 'why' of human behaviour: it encompasses the internal processes that provide energy and direction to that specific behaviour (Silva et al., 2023). Motivation is a concept that manifests in a behaviour and can lead to positive cognitive consequences such as enhanced learning and accomplishment (Keller, 2008).

2. Theoretical Background

To understand the already existing marketing gamification strategies, we need to explore customer's motivations for shopping. In literature, they are basically divided into two categories: utilitarian and hedonic shopping motivation. Utilitarian shopping motivation is concerned with the efficiency of the shopping process and is associated with goal-oriented customers whose primary goal is to complete the shopping task (Krath et al., 2021). Hedonic shopping motivations, on the other hand, are defined as a person's drive to shop in order to satisfy psychological requirements such as emotion, satisfaction, prestige, and other subjective experiences (Widagdo & Roz, 2021). Thus, emotional elements that drive buying behaviour support hedonic consumption. Furthermore, hedonic consumption has been shown to influence people's spending habits (Muruganantham & Bhakat, 2013), making them do impulsive buying, the unplanned purchase of goods and services owing to a sudden desire or drive (Widagdo & Roz, 2021). Hedonic experiences are usually provided by audiovisual content and are enjoyable, whereas utilitarian value is provided by pecuniary incentives in the loyalty programme through gamification and the creation of a sense of productivity. Hence, gamification can be viewed as a tactic for encouraging users to pursue utilitarian goals through hedonic, intrinsically motivated behaviour. As a result, gamification may be seen as a hedonic productivity tool (Hamari & Koivisto, 2015; Koivisto & Hamari, 2019; Wünderlich et al., 2020). In the context of online gamification, both utilitarian and hedonic characteristics significantly impact users' experiences, which in turn influence their value assessment and attitude (C.-L. Hsu & Chen, 2018).

Gamification and game-based learning have been linked to beneficial behavioural outcomes (Krath et al., 2021) in research ranging from education to innovation (Filsecker & Hickey, 2014). Engagement and participation (Dicheva et al., 2015; Ekici, 2021) are examples of such outcomes (Bai et al., 2020; Koivisto & Hamari, 2019; Liu, 2023). Because of these positive impacts, gamification is increasingly being used to encourage behavioural change in a variety of contexts. Gamification is a unique method to influence user behaviour since it may combine both hedonic and utilitarian values at the same time (Hamari & Koivisto, 2015), but it does so through a gaming-like experience that involves a sense of flow as well as emotions of mastery and autonomy (Hamari & Koivisto, 2015).

Gamification provides people with an engaging, amusing, and enjoyable experience, which instils intrinsic motivation in them (Y. Yang et al., 2017). Intrinsic motivation refers to actions that are driven by internal rewards. Whereas intrinsic motivation refers to the pleasure and inherent satisfaction derived from a specific activity (Venkatesh, 1999), extrinsic motivation 'emphasises performing a behaviour to achieve a specific goal' (Deci & Ryan, 2013; Leclercq et al., 2020).

The motivation to engage in a behaviour arises from within because of the inherent satisfaction of the activity rather than the desire for a reward or specific outcome (Cherry, 2022). In games, people are frequently rivetingly engaged and intrinsically motivated, as well as able to gain cognitive, emotional, and social advantage (Xi & Hamari, 2019b). Intrinsic motivation drives acts that result in internal achievement or perception, such as happiness or other pleasant emotions. Intrinsic motivation drives behaviours such as enjoyment or other positive feelings that result in internal achievement or perception (Widagdo & Roz, 2021). As a result, when people are intrinsically motivated, they have a genuine desire for the activity itself and thoroughly enjoy it. Furthermore, game studies show that the motivational and emotional involvement during play can be enormous (Y. Yang et al., 2017), and in particular, intrinsic motivation is directly connected to loyalty (Milanesi et al., 2022). Extrinsic motivations (e.g., material or financial benefits) can also be used to motivate people to achieve their goals, but their effects are only temporary (Deci & Ryan, 2013; Leclercq et al., 2020). Consequently, research has demonstrated the better efficiency of intrinsic motives (Bauer et al., 2020; Kim and Ahn, 2017). An example of a video game with elements that intrinsically motivate players is 'The Legend of Zelda: Breath of the Wild'. In this game, players are immersed in a vast open world full of puzzles, quests and places to explore. Intrinsic motivation is aroused by exploring the game world, solving puzzles and riddles, discovering new places and secrets, and progressing through the game's story. The elements of freedom and discovery offered by the game encourage players to explore and take on challenges on their own, generating intrinsic gratification related to the personal satisfaction derived from overcoming obstacles in the game.

The underlying concept is that the immersive and engaging qualities of games may be transferred to other domains to produce good experiences and drive desirable behaviours (Landers et al., 2019). Thus, companies can improve their interactions with customers by stimulating psychological and affective states such as pleasure, fun, and enjoyment (Landers et al., 2019; Leclercq et al., 2020); it follows that they can increase marketing outcomes such as purchase intentions, loyalty, brand engagement, and word-of-mouth (Kusumawardani et al., 2023; Xi & Hamari, 2019a).

Krath et al. (2021) identified three major theories that have been used to describe the psychological mechanisms of gamification that can help engage customers: goal-setting theory (Locke & Latham, 2002), self-determination theory (Ryan & Deci, 2017), and flow theory (Csikszentmihalyi & Larson, 2014).

According to goal-setting theory, the specific definition of goals, also called quests (such as those found in game rules), can psychologically inspire and motivate individuals (Locke & Latham, 2002). As a result, when consu-

Fig. 2.15 Map of 'Legend of Zelda: Breath of the Wild'

mers perceive gamification goals as non-trivial and attainable tasks, they are more likely to pursue them as players (Landers et al., 2019). While the design of gamification influences users' intrinsic motivations, most gamified activities also include rewards and reward systems that may elicit extrinsic motivations (Rapp et al., 2015). Games drive players using nonmonetary rewards such as points and badges, which have primarily symbolic significance, particularly in terms of status signalling (Deterding, 2019).

According to self-determination theory (Ryan & Deci, 2017), intrinsic motivations are related to three basic psychological needs:

Autonomy:	an individual's sense of being free to act according to their will in a scenario;
Competence:	an individual's drive to learn new talents and master them;
Relatedness:	the social interaction and sense of belonging to a group or community.

As a result, depending on how users understand extrinsic rewards, they may have an effect on intrinsic motivation (Deci & Ryan, 2013). Leclercq et al., 2020 hypothesise that intrinsic incentives will grow if users believe that rewards convey good information about their own competence and self-control over results.

Finally, according to the flow theory (Csikszentmihalyi & Larson, 2014), the means to achieve intrinsic incentives is the flow, which relates to the user's psychological state of total delight, immersion, and involvement in an experience (Berger et al., 2018; Csikszentmihalyi & Larson, 2014). As a result, gamification aims to achieve the user flow state and spontaneously encourage people to pursue a set of goals that should correspond with their ambitions and result in behavioural outcomes (Robson et al., 2015).

People's behavioural intentions are influenced when they are motivated and have a favourable attitude or emotion about something (Casaló et al., 2021). Many aspects influence continued use intention, including the quality of operation, of information, and of the system (Ramayah et al., 2010), as well

as the convenience of use and utility of the system (Flavian et al., 2022). Continued intention to use is heavily affected by many factors, such as quality of operation, quality of information, and quality of the system (Ramayah et al., 2010), as well as ease of use and usefulness of the system (Flavián et al., 2022).

Furthermore, based on the expectation-confirmation model theory, the hypothesis that a consumer's level of satisfaction with a product/service is directly related to re-purchase intention (Thong et al., 2006), social motivations, particularly those connected to social influence, as well as purchasing value, the primarily utilitarian value associated with gamification, are key indicators of how gamification is perceived or if the user intends to continue using and promoting the service (Kusumawardani et al., 2023).

The more users are exposed to other users in the network, the more active they will be in the gamification system. As a result, as the network grows in size, so does the possibility of being recognised and exposed to more social influence. This theory may imply that network size is not inherently important in terms of recognition and reciprocal benefits; rather, the effect is derived from the quality of the connection with other users (Kusumawardani et al., 2023).

Customised experiences. One of the most important advantages of gamification is its capacity to deliver a personalised experience for each unique consumer (Nobre & Ferreira, 2017). Brands may personalise the gamification experience to each customer's interests and needs by tracking consumer data and preferences, making the experience more relevant and engaging (McKinsey, 2023). In particular, gamification encourages luxury brands to provide a more personalised and immersive experience for their customers, which can help to attract and retain younger customers who are increasingly seeking more dynamic and engaging brand experiences (Milanesi et al., 2022). A luxury fashion brand, for example, may develop a mobile app that allows clients to win rewards or discounts by completing challenges relating to the brand's history, values, or products. Numerous e-commerce platforms are already using the gamification strategy to keep users engaged and using the service (Kusumawardani et al., 2023; Milanesi et al., 2022).

Fig. 2.14 The 'Gucci Garden' virtual world on Roblox

2.2.3.d Advergames and IGAs

As already said, fashion retailers are increasingly incorporating game dynamics into their mobile apps to reward consumers' intrinsic need for mastery (Xi & Hamari, 2019b), which can be satisfied particularly when they sense a degree of difficulty (e.g., gradually improving through the course of the game) and achievement (e.g., achieve higher levels or points) (Sailer et al., 2017). Previous research on the use of gamified interactions in digital contexts is frequently classified as advergames and in-game advertising. While advergames are custom-made games created to promote a company's brand or products (Waiguny et al. 2012), in-game advertising is the placing of a brand or product into an existing game (Schneider and Cornwell 2005). The purpose of both forms of gamified interactions is to provide consumers with pleasant experiences while interacting with a company's brand. According to Nelson and Waiguny (2012), it is critical to distinguish between advergames and games with in-game advertising because the purposes for the games are different and they may not be equivalent in effectiveness: advergames are created with a commercial goal in mind, whereas games with in-game advertising are not.
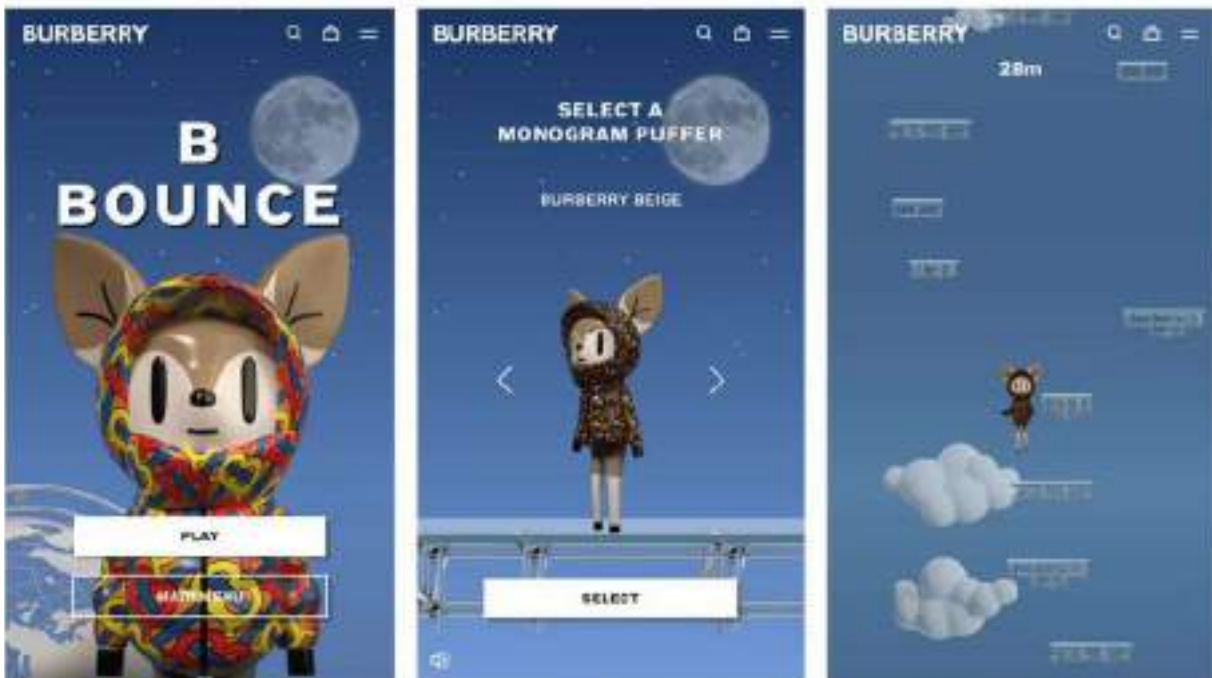
2. Theoretical Background

Several luxury fashion Maisons have adopted advergames as a technique to express their values interactively, particularly for younger generations (Milanesi et al., 2022). Burberry in 2019 included on its site 'B-Bounce', a game where you can accumulate points until you win items from the collections. In the same year, Gucci, within its app, dedicated a section called 'Gucci Arcade' inspired by retro-style video games. Kenzo in 2021 launched a virtual competition called 'Kenzo Shopping League' in partnership with WeChat Games where players had to fight in an arcade game similar to Fruit Ninja to win a limited edition of the Sonic sneakers. Advergames are generally considered to be more engaging than non-gamified advertising due to their gamified element (van Berlo et al., 2021). Advergames are a type of online game in which the brand is integrated into the gameplay but not as a product placement, instead as an evolved form in which the game is designed around the brand rather than the brand being placed in the game (J. Yang et al., 2015). In this way, with advergames, the brand has a chance to communicate itself by using the game that will be shaped by its values, as long as the brand is the central part of it (Gross, 2010). Advergames are seen as highly convincing because, unlike most other forms of advertising, they can engage customers with their commercial content. The persuasiveness of advertisements has been explained from several theoretical perspectives in the literature (Bogost, 2010; Waiguny et al., 2012; Zhao et al., 2018). The amusing and emotionally exciting design of advertisement games is a commonly recognised explanation for their persuasiveness. Advergames outperform non-gamified advertising and non-branded messages in terms of persuasion (van Berlo et al., 2021).

On the other hand, in-game advertising (IGA) requires the brand to submit to an already established game, but it may be used to intelligently blend advertising messages into the carrier context. (J. Yang et al., 2015). Most people are thought to be critical of advertising and consequently have negative or mixed opinions about it (Obermiller & Spangenberg, 2000), but, since information about advertising has become a part of the game, it is possible to enable consumers to accept advertising messages in a natural and enjoyable way (Xu, 2010). Second, IGA can be repeated. In contrast to traditional advertising, IGA has no time or space constraints (J. Yang et al., 2015). Lastly, there is interactive entertainment at IGA. A powerful interactive game can improve the player's sense of belonging and brand identity (Hamari

& Koivisto, 2015). When users interact with the game, they will feel different emotions and have different experiences, which will directly or indirectly influence the brand's evaluation (Herrewijn & Poels, 2013). Thus, IGA will have an impact on player brand judgement, inducing the gamer to associate products and therefore boost the brand's promotion effect (J. Yang et al., 2015). For instance, Valentino in 2020 collaborated with Animal Crossing: New Horizon, recreating twenty looks from the spring/summer 2020 collection within the game, worn by the avatars in the game. Using Roblox as a platform, a sandbox game where you can build and shape the environment in which gamers play, v, Ralph Lauren, Nike, Givenchy, and other fashion brands have designed in-game landscapes and virtual experiences for their customers (Rospigliosi, 2022). Currently, Fortnite and Roblox are the games that are most conducive to such collaborations. In recent years, Fortnite has partnered with Moncler, Jordan, as showed in Fig. 2.17 and 2.18, Adidas, Nike, Balenciaga, and other fashion brands. In this specific case, those brands are using an online social area (Joy et al., 2022) where the customer has to use an avatar to interact with the branded experience, so this marketing strategy is entirely performed in the metaverse (Sutciffe, 2022).

Fig. 2.16 B-Bounce, advergame included in the Burberry's website and application

Fig. 2.17 Fortnite x Jordan, launched the 22th of May 2019

Fig. 2.18 Fortnite x Moncler, launched on November the 20th 2021

In terms of gamification's implications, past studies have demonstrated that exposure to companies featured in video games affects players' recall of the brands (Milanesi et al., 2022; Nobre & Ferreira, 2017; Yang et al., 2017). Despite the fact that the psychology perspective regards users as passive actors who can be influenced, the service perspective sees gamification as a tool for users to create experiential value through consciously incorporated gamification design (Leclercq et al., 2020), thus it becomes a co-creation. If not legitimised, gamification risks being regarded as a type of manipulation or exploitation of users through a game-like environment (Deterding, 2019). Generating value through games thus requires users to legitimise the gamification process in which they are engaged by considering their participation in the gamified activity (Landers et al., 2019). In fact, the level to which consumers see the gameplay as contributing to their experience is indicated by legitimating gameplay (Hassan, 2017). When users regard gamification as legitimate, value may be generated at that moment (Deterding, 2019).

The research, thus, focuses on analysing how to create value through in-game advertisements, a constantly evolving sector that has undergone a significant acceleration as a result of digitalization accentuated by the COVID-19 pandemic. A crucial aspect of this form of advertising is the collaboration between two brands, which must identify and transform common values into a harmonious and engaging gaming experience for both target audiences. This research topic is particularly relevant as it requires an in-depth exploration of the intricate processes of brand integration in video games, taking into account the challenges and opportunities that emerge from such collaboration. In an ever-changing landscape, understanding how to maximise the value generated by in-game advertisements becomes a key strategic objective for companies wishing to fully exploit the potential of this communication and marketing channel.

Value creation

2.3.1 Brand inner cores and values

In order to truly understand and enhance a brand's impact and resonance in the market, it is essential to explore the intricacies of its intangible qualities. These intangible elements, often overlooked but profoundly influential, constitute the essence of a brand's identity and perception.
In this section, we unravel these elusive components that imbue a brand with its unique character and allure. The thesis aims to unlock strategies aimed at amplifying these intangible qualities, thereby enriching the brand's value proposition and fostering novel avenues of communication.

To begin, it's essential to analyse the components of a brand's values and understand their origins. In addition, the growth of the metaverse, like the emergence of e-commerce two decades ago, poses an unprecedented challenge to the retail sector (Yoo et al., 2023), as it puts retailers in a position to adapt their communication methods to the values and expectations of the metaverse community. Studying and understanding brand equity, in fact, enables marketers to adapt their communication methods more easily and appropriately, ensuring that they align with the metaverse user collective and their envisioned future (Mandal, 2023). The metaverse is not a passing trend (Petkov, 2023); it is likely to play an increasingly significant role in the future of digital communication. Thus, analysing brand equity helps build a foundation for long-term brand development and sustainability in this evolving space (Petkov, 2023). For those reasons, the in-depth study of brand equity and brand value is imperative for this research, as they must be communicated on new platforms in the clearest and simplest way possible (Dwivedi et al., 2023). By doing so, brands can effectively navigate this novel landscape, create compelling user experiences, and ensure their messages align with their core identity, fostering brand growth and relevance in the metaverse.

Examining the relevance of brand equity and brand value becomes even more critical when exploring new methods of communication through the metaverse for several compelling reasons: in first place, the metaverse represents a new and innovative frontier in communication and marketing (Dos Remedios, 2023). Understanding brand equity and value in this context ensures that the brand's core attributes are preserved while exploring exci-

ting and cutting-edge communication methods and can help strike the right balance between innovation and maintaining a brand's identity (Dwivedi et al., 2021). Furthermore, in the metaverse, brand interactions occur in virtual and immersive environments (Schöbel & Tingelhoff, 2023). Studying brand equity helps gauge how users perceive the brand in this digital landscape, allowing marketers to adapt and optimise communication to fit the unique characteristics of the metaverse. In conclusion, the metaverse presents exciting opportunities for brand communication, but it also demands careful consideration of a brand's equity and value.

2.3.1.a The holistic perspective

The term 'brand equity' has undergone a significant shift in its meaning and perception over time. Originally, brand equity was primarily associated with financial metrics and the value a brand added to a company's bottom line. It was viewed as the financial worth of a brand based on customer perception, loyalty, and the ability to charge a premium for products or services due to brand recognition and reputation (Hayes, 2023). Since the late 1980s, with the emergence of the value-based management philosophy, brand equity has grown to become a pivotal marketing concept in both management theory and practical applications (Srinivasan et al., 2005).

Brand equity has developed over time in reaction to changes in marketing practices, consumer behaviour, and technological advances (Baalbaki & Guzman, 2016). In its early stages, brand equity was primarily seen as a financial metric, measuring the monetary value and financial performance of a brand. It focused on factors such as brand valuation, market share, and revenue generation (Simon & Sullivan, 1993). As marketing and consumer behaviour evolved, the concept of brand equity expanded to include consumer perceptions and attitudes towards a brand (Keller, 1993).

Consumers nowadays discover brands in a personalised and unique way, and the value each customer obtains from a brand is ultimately subjective (Baalbaki & Guzman, 2016).

However, over the years, the concept of brand equity has evolved to integrate a broader and more holistic perspective (Oliveira et al., 2023): it is no longer solely focused on financial aspects but also includes non-financial elements that contribute to the overall value and impact of a brand on various stakeholders and society as a whole (Parris & Guzmán, 2022). Farquhar

(1989, p. 24) originally defined brand equity as 'the added value with which a given brand endows a product', a definition widely accepted by most authors. Among various brand equity conceptualizations, Aaker (1991) and Keller (1993) developed the most influential ones. (Aaker, 1992, p. 15) defines brand equity as 'a set of brand assets and liabilities linked to a brand, its name, and symbol that contribute to or detract from the value provided by a product or service to a firm and/or its customers.'

Brand equity, according to Aaker, has three dimensions: brand awareness, 'the ability of a potential buyer to recognise or recall that a brand is a member of a certain product category' (Aaker, 1992, p. 63); brand loyalty, a firmly held commitment to repurchase or repeat a preferred product or service in the future, resulting in repetitive same-brand or same-brand sets (Dietz, 1997); and brand associations,'representations of what a brand means for a consumer and are anything linked in memory to a brand' (Aaker, 1991, p. 109). Since the seminal works of Aaker (1991), which attributed brand loyalty, and Keller (1993), which attributed brand image, both dimensions have been considered fundamental components of brand equity. In the 21st century, the most prominent branding concepts that have been widely published are brand equity, brand image, and brand loyalty (Parris & Guzmán, 2022).
Following those contributions, the purpose of branding has undergone a transformation from merely focusing on maximising shareholder wealth to adopting a more comprehensive approach that considers the interests of multiple stakeholders, environmental concerns, economic development, and human well-being (Albayrak et al., 2020; Hunt, 2019).

Meanwhile, Keller (1993, p. 2) defines brand equity as 'the differential effect of brand knowledge on consumer response to the marketing of the brand', thus bringing into the discussion the approach and response that the consumer has. He distinguishes two major components of brand knowledge: brand awareness and brand image. Brand awareness may be measured relatively easily using recognition and recall. Recognition refers to consumers' capacity to confirm prior exposure to the brand when presented with the brand as a cue (Baalbaki & Guzman, 2016). In other words, it is the ability of consumers to recognise the brand when they encounter elements like the brand logo in a picture, for instance. Recall represents the consumer's ca-

pability to retrieve the brand when provided with the product category as a prompt. In other words, it is the ability of consumers to remember and name the brand when asked about products within a specific category.

Through these two seminal studies conducted in the 1990s, a shift towards a more holistic perspective of brand equity was evident. They underscored aspects that had previously been overlooked, moving away from a purely material interpretation. This shift recognised that consumer perception and emotional connections are significant drivers of brand value (Baalbaki & Guzman, 2016; Dos Remedios, 2023). With the rise of customer experience and emotional branding, brand equity began to incorporate experiential and emotional dimensions (Kim & Sullivan, 2019). Brands started focusing on creating positive experiences, building emotional connections, and delivering value beyond functional attributes (Hayes, 2023). This approach recognises that emotional resonance and memorable experiences can enhance brand loyalty and advocacy. In recent years, brand equity has increasingly incorporated the importance of building and nurturing relationships with customers. For example, by building a memorable experience, brands have realised that they can establish strong customer relationships (Arya et al., 2023; Rosado-Pinto et al., 2020; Zaheer, 2022).

This new type of emotion-based and thus customer-centred communication places the emphasis on emphasising and researching how to successfully have two-way communication, how to create new types of customer engagement, and how to create new brand communities. The focus has shifted from passive brand perception to active brand participation and co-creation, recognising the role of consumers as brand advocates and influencers (Dos Remedios, 2023).
Now, the digital era has profoundly influenced brand equity (Petkov, 2023; Zaheer, 2022). Social media and digital platforms have provided new avenues for brand engagement, interaction, and measurement (Dwivedi et al., 2021). Brand equity models now include metrics related to social media reach, online reputation, customer sentiment, and digital engagement, reflecting the evolving digital landscape (Dwivedi et al., 2021). In recent years, there has been a growing emphasis on the role of sustainability and corporate social responsibility (CSR), which had already seen a moment of popularity

during the 1990s, in building brand equity (Parris & Guzmán, 2022). Brands are increasingly evaluated based on their environmental and social impact, ethical practices, and alignment with consumer values: brand equity models now consider sustainability and CSR as factors influencing brand perception and loyalty.

The evolution of brand equity has thus shifted from a narrow financial perspective to a more holistic approach, encompassing consumer perceptions, emotions, experiences, relationships, and societal impact (Oliveira et al., 2023). It recognises the multidimensional nature of brand value and the need to create meaningful connections with consumers in a dynamic and socially conscious marketplace. Consequently, a significant portion of a brand's worth resides in the imaginations of consumers (Hayes, 2023).

2.3.1.b Where does a brand's value originate?

Brand value can also be cultivated and shaped within the imagination of consumers through the process of value co-creation, which exploits consumers' creative and imaginative talents to shape and increase the value they receive from products, services, and brand experiences (Grönroos & Voima, 2013; Petkov, 2023). For that reason, in recent years, the concept of value co-creation has gained significant importance in the realms of branding and business (Mujahid et al., 2023). This is due to a paradigm change identified by Vargo & Lusch (2008), from goods-dominant logic (G-D logic) to service-dominant logic (S-D logic), that represented a significant evolution in the way businesses and scholars understand value creation, exchange, and the nature of economic systems. This shift has led to a more holistic and customer-centric perspective on business activities. Before the shift, business focused on the tangible products or goods being exchanged in economic transactions; thus, value was primarily seen as residing in the physical attributes and features of the product itself. The G-D logic assumes that businesses produce goods, which consumers purchase and use to satisfy their needs, while the S-D logic shifts the focus from goods to services and emphasises the active role of both customers and businesses in value creation. In S-D logic, value is not solely contained within the product; instead, it emerges from the collaborative interactions between customers and businesses (Hansen, 2019). One of the key characteristics of this logic is value co-creation, where both parties bring resources, skills, and knowledge to these interactions,

contributing to the overall value experienced. Value co-creation is defined by Prahalad & Ramaswamy (2004) as the process in which the customer and the firm are intimately involved in jointly creating value that is unique to the individual customer and sustainable to the firm. This method suggests an emphasis on developing a long-term relationship between the customer and the business, as well as a customer-centric mindset. Customers are not passive recipients but active participants in value creation: their preferences, needs, and context play a central role in shaping the value they derive. Prahalad and Ramaswamy (2004) used marketing's service dominant logic (SDL) as a starting point for a value co-creation study. According to the SDL, 'value is defined and co-created by customers rather than being embedded in the output product or service' (Yazdanparast et al., 2010, p. 379). Customers are viewed as active players in value co-creation rather than passive receivers (Vargo & Lusch, 2008), establishing customers as an essential source of corporate proficiency. The shift from goods-dominant logic to service-dominant logic reflects a broader recognition of the dynamic and interconnected nature of value creation. It acknowledges that value is not inherent in products alone but emerges from the interactions, contexts, and relationships in which those products are used. This paradigm shift has profound implications for how businesses design their offerings, engage with customers, and approach marketing and innovation strategies.

A distinction emerges between two value categories that drive consumer decisions and preferences, as highlighted first by (Hirschman & Holbrook, 1982): utilitarian values and hedonic values. These two value dimensions play a significant role in shaping consumer choices and have profound implications for companies' marketing and product strategies. Understanding these two value categories in depth is crucial to effectively addressing consumer needs and desires, and to understanding what kind of value creation this research will focus on.

Utilitarian values are based on the idea of usefulness, or utility (Batra & Ahtola, 1991). In the context of decision-making and satisfaction, utilitarian values focus on the practical benefits or outcomes that a choice or action can provide (Kusumawardani et al., 2023; Moon et al., 2017). Hedonic values are associated with pleasure, which is considered intrinsically valuable (Childers et al., 2001).

In the realm of psychology and well-being, hedonic values emphasise the pursuit of happiness, enjoyment, and emotional well-being (Huta, 2015). Hedonic experiences that create hedonic value refer to the subjective experience of pleasure, enjoyment, and positive emotions that a person may feel during an activity or interaction (Huta, 2015; Stelmaszewska et al., 2004). Research has shown that hedonic experiences can have a significant impact on well-being and happiness, and that people who prioritise such experiences tend to have higher levels of life satisfaction and continue usage intention (Holmqvist et al., 2020; Hsu et al., 2021; Widagdo & Roz, 2021). In fact, many products and services are designed with the goal of providing hedonic experiences, such as luxury goods (Holmqvist et al., 2020), entertainment media (Moon et al., 2017), and travel experiences (Akdim et al., 2022). Hedonic experiences are directly derived from the 'hedonic attributes' that Hassenzahl (2003) confers on the product, encompassing it between hedonic attributes and pragmatic attributes. Various studies on the use of AR technology for marketing engagement have confirmed that AR offers digital information, hedonic performance, and a positive impact on user experience (UX) (Poushineh & Vasquez-Parraga, 2017; Kang et al., 2023).

Furthermore, hedonic experiences are directly linked to the concept of 'flow', which describes a state of being completely involved in an activity for its own sake, so satisfying that individuals want to repeat the activity continually (Csikszentmihalyi, 1988). The concept of flow has been applied to user interactions with new technologies (Stelmaszewska et al., 2004). Thus, immersive technologies, particularly (for now) AR, help the user directly and more intuitively to experience both hedonic values and utilitarian values, thus helping the user to live a positive experience that the user will reconnect with the brand that promoted it.

Value Creation. In the traditional perspective on value creation, consumers were typically regarded as external entities to the firm (Prahalad & Ramaswamy, 2004). Value was predominantly generated within the confines of the firm through its various operational activities and subsequently exchanged with external markets. The brand and the consumer were assigned distinct roles: production was the domain of the firm, while consumption was the responsibility of the consumer (Klein & Dawar, 2004). The conventional notion of a market was heavily oriented towards the interests of the com-

pany, much like the value creation process itself. Consequently, firms often approached customer relationship management with the goal of targeting and managing the 'right' customers (Li et al., 2011). Hence, it's understandable that communication primarily originates from the firm and is directed towards the consumer.

However, Internet 2.0 facilitated hyperconnections and raised informed, connected, empowered, and active consumers (Patil & Surwade, 2018). Hence, there was a growing recognition that consumers too can derive value at the point of exchange traditionally dominated by firms (Prahalad & Ramaswamy, 2004). Consumers are increasingly scrutinising, analysing, and evaluating the industry's value creation processes. Peer-to-peer communication and dialogue among consumers offer an alternative source of information and perspective (Grönroos & Voima, 2013). Furthermore, consumer-to-consumer communication and interaction offer consumers a different source of information and opinion (Moon et al., 2017). Thus, consumers are empowered to choose which brand they wish to engage with based on their own perceptions of how value should be created for them. If value is the result of an implicit negotiation between the individual consumer and the firm, value creation, for a brand, is the result of individualised negotiations with millions of consumers (Prahalad & Ramaswamy, 2004).

As a result of this change, companies have had to abandon the firm-centric view and move towards a collaborative method of value creation through a focus on product or service customisation (Prahalad & Ramaswamy, 2004). The roles between customer and firm, previously distinct, now converge in a continuous exchange of value. Now, high-quality interactions that allow each individual consumer to co-create unique experiences with the organisation are critical to unlocking new sources of competitive advantage. Co-creation is therefore a pivotal aspect of value creation (Grönroos & Voima, 2013). In the co-creation perspective, every single point of contact or interaction between the company and the consumer represents an opportunity to generate and obtain value (Behl et al., 2023). This implies that not only the conventional moments of purchase are crucial, but also every stage of the customer journey, including online interactions, customer service, after-sales support, and even engagement through social media, are crucial to building shared value and meeting consumer needs. In this perspective,

the active involvement of consumers becomes essential, as it contributes to the creation of products and services that better meet their needs and desires while generating a stronger and more lasting relationship between company and customer.

The role of customers in value co-creation is determined by their interactive engagement (Edvardsson et al., 2011). The term interactive engagement refers to the active and two-way participation, involvement, or interaction between individuals or entities in a particular activity or process (Brodie et al., 2011; Cantone et al., 2022). In the context of business, marketing, and customer relations, interactive engagement typically involves the dynamic exchange of information, ideas, feedback, and experiences between a business or organisation and its customers or stakeholders (Lim & Rasul, 2022; Vivek et al., 2012). Interactive engagement differs from engagement: both are based on experiences, and all experiences are interactive and co-creative to some extent; however, this does not imply that engagement requires active participation (Malthouse & Calder, 2011), whereas interactive engagement does. This evolution from engagement to interactive engagement is related to a major paradigm shift in marketing, from customer-centric marketing (in which customers are put at the centre of all marketing efforts) to customer-driving marketing (in which customers are actively involved, co-creating products or services) (Merrilees, 2016).
With the rising use of technology, customer engagement frequently occurs in online environments (Venkatesan, 2017; Wirtz et al., 2013), where interactivity is easy to achieve and embed within the experience. Online customer engagement has been examined in conjunction with value co-creation conceptualizations in the last decade (Mujahid et al., 2023). The value of co-creation in S-D logic is generated by the collaborative actions implied in the co-creation process between customers and brands; this leads to the assumption that customers co-create value with brands in a two-way communication that requires active participation by both parties, creating active involvement within a conversation or activity (Zhang et al., 2018). That's why value co-creation is considered unachievable without customer engagement (Prahalad & Ramaswamy, 2004).

Retailers, thus, are progressively rethinking their offerings, processes, and interfaces holistically in order to create value through interactions via digitalized interactive platforms (He & Zhang, 2022). Value creation is also an area that has been affected by the implementation of DIPs (digital interactive platforms) (Roy et al., 2023): customers' buying desires have shifted from purchasing products to obtaining services to becoming engaged actors within the retail ecosystem as DIPs emerged in retail (Ramaswamy & Narayanan, 2022; Ramaswamy & Ozcan, 2019).

Customers have become active co-creators of their own experiences as a result of the spread of digital technology in commerce through continual continuing interactions (Roy et al., 2023), through product customisation (Green et al., 2021), user-generated contents (UGC) (Malthouse et al., 2016), virtual try-ons (Baker et al., 2018; Wu & Kim, 2022), personalised recommendations (Flavián et al., 2022), interactive in-store displays (Wu & Kim, 2022), augmented reality games (Xue et al., 2023), social commerce (Cuesta-Valiño et al., 2022; Gornostaeva, 2023), and online communities (García-Magro et al., 2023).

Within this discourse is the concept of the metaverse, a virtual, interconnected, and immersive digital universe (Hollensen et al., 2022), with the potential to significantly enhance interactive engagement in various ways. As the metaverse matures and potentially transitions into a fully immersive mixed and augmented reality ecosystem that is widely adopted by businesses and consumers, it presents an enormous transformation opportunity for brands and marketers to strengthen their relationships with consumers by delivering new levels of customer interaction and engagement (Dwivedi et al., 2023). Furthermore, the ability to apply additional segments based on immersive degrees of contact and new sensory qualities such as haptic feedback demonstrates marketers' immense potential (Dwivedi et al., 2022). According to a recent assessment of marketing opportunities in the metaverse by McKinsey & Company (2022), it has been emphasised that the virtual sale of products through direct transactions with avatars is anticipated to represent a market worth $54 billion. The metaverse thus signifies a significant shift in digital marketing, enabling companies to interact and establish connections with consumers within a fresh virtual realm (Petkov, 2023). Metaverse's purchasing, in fact, allows customers to explore immersive virtual environments

and engage with avatars that represent other customers or retail employees (Petkov, 2023), which means the metaverse itself heavily revolves around user experiences (Hollensen et al., 2022). It follows that brands that align their communication methods with positive brand equity can create more engaging, enjoyable, and memorable experiences for users in the metaverse, leading to increased brand affinity (Dwivedi et al., 2023).

Furthermore, the metaverse has an impact on the nature of marketing communications as well as brand personality (Dwivedi et al., 2023). Therefore, brands that already have a reputation and image in the real world need, according to Petkov (2023), to be careful when branding in the metaverse, which must be consistent and coherent with the brand philosophy. It follows that brands that approach the creation of interactive and engaging content through the use of the metaverse face the challenge of remaining consistent with their brand philosophy.

Brand equity is widely recognised as one of the most essential competitive weapons, giving a critical point of differentiation, adding value, and assisting in the face of price pressure in the globalisation and information eras (Zhang & He, 2014). Meanwhile, the value co-creation perspective has evolved as a new logical starting point for understanding B2B services that incorporate interactions and relationship marketing. Recent literature on SDL, value co-creation, and branding, on the other hand, reveals that value co-creation has become a vital method to cultivating powerful brands. Inside these statements is the new metaverse communication and marketing opportunity, which will be the starting point of our research.

2.3.2 Immersive Technologies and Value Creation

2.3.2.a The new (value) paradigm

Digital transformation has paved the way for the development of immersive online environments like the metaverse, which can connect different worlds and communities. Within the digital transformation are immersive technologies, capable of blurring the boundary between the physical and virtual worlds and allowing users to experience a sense of immersion (Suh & Prophet, 2018). The primary theory advanced in the literature is that immersive technologies enable specific experiences or emotions by improving users' capacities to accomplish various tasks and do things differently (Scholz &

Smith, 2016; Suh, 2023; Suh & Prophet, 2018). As a result, immersive technologies have the ability to enhance value formation for individual team members, the business as a whole, and customers (Nussipova et al., 2020). Immersive technologies have revolutionised value creation by deeply engaging users in interactive and immersive experiences, unlocking new dimensions of customer satisfaction and business potential (Li et al., 2022; Nussipova et al., 2020; Tom Dieck & Han, 2022). Furthermore, over the past decade, the concept of value has gained prominence in marketing, mainly due to the theorization of the service-dominant logic paradigm, which includes the concepts of value-in-use, exchange value and co-creation of value (Ravald, 2010; Vargo & Lusch, 2008).

Value-in-use refers to the utility or benefit that a product, service, or offering provides to a specific individual or entity when it is actually used or consumed in a particular context (Vargo & Lusch, 2008). The introduction of immersive technologies (AR, VR) or mixed reality (MR), contributed to enhancing the value-in-use of certain experiences or offerings by providing a more engaging, interactive, or customised user experience (Flavián et al., 2019). Value-in-exchange, defined by Macdonald and colleagues (2011), can be considered an inherent quality of a specific physical device, such as VR or AR glasses, pertains, to the economic or market value of a product or service in terms of its price or what it can be exchanged for in a market transaction.

Third, value co-creation, which involves active consumers and brands in creating value through the participation and involvement of customers, is the process by which mutual value is expanded together (Prahalad & Ramaswamy, 2004; Ramaswamy, 2011). This emphasises the collaborative process between businesses or organisations and their customers or stakeholders in the creation of value, confirming that value is not solely determined by the producer but is co-created through interactions, engagement, and the active participation of customers and other stakeholders.

In the second and third scenarios, it is implied that value creation is a process rather than the consequence of a series of value-generating activities and the experiences that follow from them (Ravald, 2010). Thus, value is generated through physical and mental actions throughout the usage of immersing technologies (Heinonen et al., 2010; Mickelsson, 2013), and it is socially constructed through the actor's experiences (Grönroos & Voima, 2013). Physical

actions are generally concrete activities that occur while using technology (e.g., achieving a clear goal through engaging with the technology and completing a specified task). Mental activities, on the other hand, are the actors' more abstract and cognitive experiences from physical actions and technological use (Heinonen et al., 2010). Thus, the benefit of creating value by utilising immersive technologies is always decided individually and in a given situation (Vargo & Lusch, 2016). The tangible sensations associated with these activities, as well as the experience of being immersed in a virtual world, can provoke emotions and mental reactions (Nussipova et al., 2020); indeed, consumer experience is perceived to be internal and emotional (Hollebeek et al., 2019). Thus, experiences are not just composed of cognition, calculation, and overt behaviour but are also subjective and inextricably linked to feelings (Heinonen et al., 2010).

2.3.2.b Emotional experiences

Immersive technologies generate transformed and interactive experiences by inducing the sense of immersion and the feeling of presence (Murray, 2017), linking abstract facts with physical interaction, and creating a real-time context (Nussipova et al., 2020). The experiences within virtual worlds are a product of a user's sensory system, as these worlds are conceived and exist solely within the individual user's mind (Dwivedi et al., 2022); the sensation of existing within the virtual world or game is known as presence (Farnsworth, 2020). This feeling is a personal perception of existing within a particular simulated environment, even when the individual is physically located in the tangible, 'real', world (Murray, 2017; Nussipova et al., 2020). Depending on the artificial environment, that sensation can exceed the confines of reality. Immersive technologies have the capability to convey a wide array of stimuli to the user, not solely through their visual perception but also through other senses, including smell, touch, taste, and sound (Flavián et al., 2021).

Video games represent immersive experiences for a number of reasons. First of all, their interactive nature allows players to be actively involved in the virtual world, instead of being mere passive spectators (Ravaja et al., 2006). This interactivity gives players a sense of control and agency, exactly what immersive experiences create, and also creates a deeper connection

with the gaming experience (Muriel & Crawford, 2020). In addition, video games often offer detailed, life-like virtual worlds with advanced graphics, immersive sound effects, and an exciting soundtrack, all of which contribute to an immersive and realistic environment (Rubio-Tamayo et al., 2017). This level of sensory immersion sometimes allows players to feel completely immersed in the game world, temporarily forgetting the real world around them (Christou, 2014; Pallavicini et al., 2019). In addition, many video games feature complex storylines and well-developed characters that offer players the opportunity to explore new stories and identify with the protagonists, further increasing emotional immersion (García-Magro et al., 2023). Finally, the social aspect of video games, such as online multiplayer and player communities, allows players to connect and collaborate with other game fans, amplifying the gaming experience and making it even more engaging and memorable (Kusumawardani et al., 2023).

The tangible sensations associated with these actions, such as the tactile response of a virtual object or realistic sound environments, when combined with the immersive feeling of being fully absorbed in a virtual world, possess the ability to elicit a wide range of emotions and mental responses. Individuals might experience an intensified feeling of being present, wherein they genuinely sense themselves existing within the virtual environment, resulting in emotions such as wonder, curiosity, and awe. This is the case of immersive environments: spaces or experiences that deeply engage and absorb individuals, creating a sense of complete involvement and presence in a simulated or enhanced reality (Rubio-Tamayo et al., 2017).

In the literature, the basic assumption suggests that immersive technologies empower users to partake in distinct experiences or emotions by augmenting their capacity to engage in a variety of activities and approach tasks from new perspectives (Flavián et al., 2022; Klico & Mahmić-Muhić, 2022; Nussipova et al., 2020). This implies that immersive technologies can potentially support the creation of value, benefiting both individuals and brands.
Furthermore, immersive technologies have demonstrated their effectiveness in enhancing the sense of connection customers feel with a particular brand (Baek et al., 2018). That's why immersive technologies now serve as a driving

force behind businesses' growing interest in creating metaverse platforms. Through those platforms, businesses can interact directly with customers, co-produce value that extends beyond the user experience, and also offer emotional, societal and organisational value (Schöbel et al., 2023).

Moreover, the seamless integration between the physical and virtual worlds provided by the metaverse enables the user to emotionally connect with the business that created it and empowers their value perception (Dwivedi et al., 2022). Indeed, according to a recent McKinsey (2023) analysis, the economic value of the metaverse is predicted to develop rapidly, creating up to $5 trillion in impact by 2030: this growth will carry on a virtual economy and society in parallel with real life (Schöbel & Tingelhoff, 2023). In sum, the ability of immersive technologies to transport users into immersive and realistic digital worlds is a powerful catalyst for emotional experience (Suh & Prophet, 2018). By harnessing this potential, it is possible to create experiences that not only entertain, but also enrich and stimulate the emotions of individuals in unique and meaningful ways.

The crisis situation triggered by COVID-19 also forced a rapid and consistent evolution of the internet, leading to Web 4.0 maturity, which sees itself within the Metaverse (Seshadri, 2023). Before exploring the current potentialities brought by Web 4.0 and how it is and can be used by fashion brands to increase their value while engaging their audiences, a short recall of the implications brought by the consequent evolution of the Web is presented.

3
Study
Methodology

Relevance of
the study

The purpose of this study is to provide a comprehensive picture of the integration of digital worlds and fashion brands, contemplating the opportunities they present, with a specific focus on the metaverses within video games. As underlined in Section 1.1.2 (The Video Game Culture), video games represent a powerful means of emotional communication and expression in our society (Muriel & Crawford, 2018). It is thus essential to explore the value and communication implications that this medium offers.

This research therefore aims to analyse the collaborations between fashion brands and video games that have given rise to innovative forms of co-creating unique experiences with users and communicating brand values through the virtual environment of games, contributing significantly to the landscape of digital and interactive communication. Although the digitalization process is now an established phenomenon, the intersection between the communication channels of video games and fashion brands is relatively recent and still in need of exploration. Therefore, the aim of this study is to present an overview of the existing collaborations between the two sectors, with the purpose of critically examining the practices implemented up to this point and contributing to the construction of a knowledge base through a review of the literature.

This study started with a comprehensive analysis of the existing literature within the domains of fashion brands and video games. This initial exploration revealed a multitude of diverse approaches that have yet to be systematised or formalised, particularly in describing the dynamic interplay between these two industries. Such findings underscore the absence of a cohesive framework that delineates the underlying principles governing the collaboration between fashion brands and video games. Consequently, this gap in the literature signals a clear need for an in-depth examination of current practices and their outcomes. By doing so, this research aims not only to elucidate the ongoing directions of these collaborative efforts but also to contribute to the development of a framework that encapsulates the foundational principles of this interplay. This, in turn, will provide a structured basis for reasoning about potential future trends and streams within the intersection of fashion brands and video games. Through this methodological approach, the study seeks to offer valuable insights into the complexities of these collaborations, thereby supporting stakeholders in navigating the evolving landscape of these intertwined sectors.

3.2 Objectives and research questions

The ongoing literature review and current state of art discourse underscore a current gap in the systematic organisation of knowledge regarding collaborations between video games and fashion brands. Consequently, the primary aim of this study is: firstly, to explore the emerging forms of collaboration within the metaverse, aiming to elucidate novel paradigms of cooperative partnerships. Using current academic frameworks, the study then seeks to detect deviations from accepted norms and new components within these novel collaboration arrangements.

As a consequence, specific research questions are identified:

What are the emerging collaborative models between video games and fashion brands within the metaverse, and how are they assembled?

In pursuit of addressing these inquiries, this study aims to elucidate the subject matter comprehensively, along with the scope of its ramifications, by conducting case studies analysis and comparative assessments of the already existing literature. The overarching objective is to ascertain the concordance or dissonance of the findings with established scholarly discourse, thereby corroborating or refuting the conclusions drawn.

What are the emerging collaborative models between video games and fashion brands within the metaverse, and how are they assembled?

Research process

To address the existing gap in knowledge, this study analyses both scientific and grey body of literature on the transformative impacts of digitalization on fashion brand's collaboration with video game platforms. Supplemented by the analysis of case studies, the study aims to discuss, analyse, and validate the proposed Theoretical Framework. The study procedures are outlined in Figure 3.1, while Table 3.1 details the chronological process followed in the study. The results are methodically organised and clustered, through an investigation of the advances of digital media and the conceptual delineations of the metaverse. Upon the systematic organisation of the body of knowledge, a Theoretical Framework was developed. Subsequently, the validation of this Theoretical Framework became necessary. Following the comprehensive review and clusterization of the body of knowledge, an analytical framework was formulated to validate the Theoretical Framework derived from the literature analysis against case studies. The validation process consists of the analysis of different case studies using specific observation lenses derived directly from the Analytical Framework. To achieve this goal, five case studies of existing collaborations are selected based on different criteria. The case studies are subjected to further analysis employing inquiries and guidelines derived from the Analytical Framework. Then, the Theoretical Framework underwent subsequent examination in light of the findings derived from the analysis of the case studies. This study employs data triangulation from scientific and grey literature, a clustered body of knowledge, and the analysis of case studies to construct and validate a defined Theoretical Framework.

The following process is summarised in Tab. 3.1 and detailed in the following paragraphs.

Timeline steps

Step	Period	Methodology	Outputs
1	Oct-Dec 2022 + follow up until Feb 2023	Literature review (grey and scientific) + analysis of relevant examples of how fashion brands are present in video game metaverses	Theoretical background and state of the art of fashion brands, video game metaverses, and their intersection, with an overview of relevant examples.
2	Gen 2023-Aug 2023	Systematisation of literature + clustering of topics from literature	Theoretical framework, metaverse definitions framing
2	Aug 2023-Oct 2023	Definition of an analytical framework for validating the theoretical framework against case studies	Analytical framework and dimensions of observation through which analyse case studies
3	Aug 2023-Nov 2023	Cases studies selection based on the following criteria: collaboration video game/fashion brand, time framing, different communication topics	List of cases studies to analyse, with guidelines
3			
4	Nov 2023 - Gen 2024	Case study analysis for validation the theoretical framework	Insights for refining the theoretical framework
	Feb 2024	Review of Theoretical Framework based on the results of the case study analysis	Final Theoretical Framework

Tab 3.1 Timeline steps

Study methodology steps

Step	Description	Outputs
1. State of art and literature review	– Grey literature to analyse the current situation and individuate important shifts; – Literature review to identify seminal works that explain theoretical concepts touched in the state of art.	Identification of shifts and trends Definitions of theoretical concepts
2. Systematization of knowledge	– Analyse definitions from selected literature using the cluster analysis approach; – Identify and categories clusters in theoretical principals.	Framing of metaverse, immersive technologies and construction of value in literature
3. Theoretical Framework and case studies	– Development of the Theoretical Framework; – Observation lenses and criteria definition for the selection of cases studies; – Development of the Analytical Framework; – Finding of five principal cases studies; – Examine the cases studies through the Analytical Framework.	Theoretical Framework Analytical Framework Analysis of case studies
4. Validation against case studies	– Systematic comparison of case studies to identify similarities/differences; – Findings on underlying mechanisms, approaches and rationale, cross-disciplinary insights; – Framework validation against case studies as real-world instances to test its applicability, robustness, and comprehensiveness.	Case studies Framework validation

Tab 3.2 Study methodology steps

3.2.1 Step 1

State of art and literature review. The research started with a thorough analysis of the scientific and grey literature at the intersection of fashion, communication, and video game metaverses, complemented by an examination of grey literature, including blogs and online journals. This approach facilitated a comprehensive understanding of the theoretical underpinnings and practical applications relevant to these fields. In addition, the study explored specific examples to gain an understanding of the operationalization of theories and principles discussed in the literature, bridging the gap between theory and practice across fashion, game metaverses, and gamification. This analysis produced multiple insights, which are then categorised by topic.

A particular focus in the state of art was given to the growing recognition of video games as a cultural medium, especially in the wake of changes triggered by the COVID-19 crisis and the subsequent acceleration of digitalization, with a specific emphasis on the changes the fashion industry underwent.

The literature review was conducted by means of a methodological approach based on a triangulation of data from various sources, including academic papers, articles, and grey literature such as websites or blogs. This methodology enabled an in-depth understanding of the previously examined macro-themes in the context of the state of the art. Through a strict critical analysis of the existing literature, the fundamental scientific foundations needed to guide current research were identified and integrated.

Furthermore, throughout the research process, a flexible approach was adopted, which allowed for conceptual expansion in response to emerging needs. This practice allowed for greater adaptability and deeper exploration of the relevant thematic areas, thus ensuring methodological soundness and enriching the understanding of the phenomenon in question.

3.2.2 Step 2

Systematisation of knowledge. A thorough examination of the literature corpus was undertaken to categorise its primary themes and authors within the delineated areas identified during the analysis of the literature. As the authors of the scientific literature addressed recurring themes, these were grouped into macro-dimensions. These macro-dimensions are not separate but intersect and influence each other.

Metaverse definitions. Another need highlighted during the process of systematisation was to conduct additional investigation into the definitions of the metaverse. Given the absence of an objective definition, various definitions provided in both scientific and grey literature were investigated and selected based on three criteria. Metaverse already existing definitions were developed both on the basis of the existing literature at the time and through a Google Scholar search of the keywords 'metaverse definitions','metaverse''analysis', and through an intersection of the bibliographies of the collected papers.

Tab 3.2 Criteria utilised for choosing the definitions of metaverse

Criteria	Topic	Description
C-1	Direct link to video games	Do the definitions relate to video games or use terminology and concepts traditionally associated with video games?
C-2	Immersive experiences	Do the definitions focus on creating a deeply immersive experience that enhances user engagement?
C-3	Relation to social interaction and brand-user dynamic	Do the definitions enhance social interaction towards cooperation and communication among players and/or the brand?

Tab 3.3 Thematic clusters individuated in the metaverse definitions

Thematic clusters

1. 3D virtual environment with immersive technologies

2. Interconnected, persistent virtual realm that enhances communication and social experiences

3. Shared virtual space for interaction, communication and commerce

The definitions meeting the criteria were selected. Following this, all identified metaverse definitions were gathered and systematically analysed to evaluate their adherence to the predetermined criteria. Definitions failing to meet any of the criteria were excluded, as their validity is contingent upon satisfying at least one of the specified parameters. Definitions meeting all three criteria were regarded as closely aligned with the focus of this study.

The definitions that met the three criteria were subjected to a more detailed analysis. Each definition was examined to identify the key topics covered, which were then clustered and summarised. This approach identified common themes present in most definitions, which were then further analysed and clustered in more detail. This process contributed to a deeper understanding of the metaverse concept, highlighting the various dimensions and facets involved in the phenomenon.

3.2.3 Step 3

Theoretical Framework. The establishment of a theoretical foundation derived from the extant literature is undertaken. This analysis employs a data triangulation method that integrates findings from both scientific and grey literature. Such an approach enabled the development of a Theoretical Framework for describing the collaboration between video game and fashion entities, effectively bridging theoretical concepts with practical insights.
The integration of scientific findings with insights from grey literature ensures an in-depth understanding of the current state, facilitating the identification of valuable practices and possible directions for the ongoing and future development of collaborations between the fashion and video game industries. This comprehensive review highlighted the necessity to focus on three main thematic areas: (1) Digitalization; (2) Metaverse; and (3) Value Creation.

Analytical Framework for validation of the Theoretical Framework against case studies. The systematisation of knowledge and the Theoretical Framework identified three main dimensions relevant to the study. These dimensions were then further refined into components. By referencing relevant citations from these sub-dimensions, the key concepts were systematically connected to the specific areas of interest. Subsequently, distinct questions were formulated for each component, thereby providing focused lenses for the subsequent case study analysis. The Analytical Framework was purposefully constructed to serve as a tool for validating the Theoretical Framework against the findings derived from the case studies.
This methical approach facilitated a systematic and rigorous scrutiny of the case studies, ensuring comprehensive examination of every dimension and component relevant to the research investigation. As a result, an in-depth knowledge of the complicated interrelationships between multiple concepts within the context of the study was obtained, allowing for a thorough and correct evaluation of the research objectives.

Question guides. Upon the establishment of the Analytical Framework, elaborate guidelines were formulated to systematically address the identified inquiries comprehensively. This methodological approach enabled the attainment of consistent and exhaustive responses across all considered case studies. The guidelines furnished a lucid and well-structured framework for conducting the case study analysis, ensuring meticulous examination of every pertinent aspect. Moreover, this framework facilitated comparative assessments of the various case studies, thereby enabling the identification of notable trends and patterns through systematic and thorough analysis.

Case studies identification of observation lenses. To ensure the selection of the most pertinent and impactful case studies for the research, targeted selection criteria were delineated. These criteria encompass considerations such as the alignment of the case studies with the research topics and objectives, as well as the sectoral and thematic diversity inherent in the case studies.
Moreover, specific observation lenses were devised based on the components of the Analytical Framework. These tailored inquiries enabled the case studies to be scrutinised from focused perspectives, delving deeply into the relevant dimensions and their components for each case in order to validate the Theoretical Framework. By formulating guidelines for the observation frameworks, a precise and comprehensive analysis of the case studies was assured, allowing for the extraction of important insights and a thorough resolution of the research issues.

Case studies selection criteria. This research adopts a holistic model in which research projects constitute individual units of analysis. Selection criteria are identified based on the scope of the study and the need to build a qualitative knowledge base. These criteria encompass both selection and differentiation criteria. Additionally, differentiation criteria are deliberated upon, given the research's emphasis on facets pertinent to a broad spectrum of video games and fashion brands within the digital realm. Tabular representations of selection and differentiation criteria are presented in Tab. 3.4 and Tab. 3.5, respectively.

Tab 3.4 Selection criteria

Criteria	Description
Innovative collaboration	A dynamic partnership between fashion brands and the video game industry.
Immersive Virtual Experience	Set within the immersive realm of the metaverse, specifically in the video game platforms.
Digital products	Generating at least one of digital fashion products.

Tab 3.5 Differentiation criteria

Criteria	Description
Temporal perspective	Emphasis was placed on the recentness of the case studies, even though a pre-quarantine case was considered. This approach allowed us to gauge advancements in knowledge and digitalization compared to other case studies.
Brand positioning	While some case studies involved luxury brands, fast fashion brands were also included. This diversification allowed us to examine a variety of collaboration and communication strategies used by brands with different market positionings.
Communication of value	We selected case studies that cover a wide spectrum of communicated values, allowing us to investigate different methods of communication within the scope of our research. This technique permitted an investigation of how companies transmit their values inside the metaverse, providing a thorough knowledge of the strategies used in the fashion and digital video game sectors.

Case studies analysis. Before proceeding to a comprehensive examination of the case studies, a structured approach was implemented to systematically collect and condense relevant data. This methodological step aimed to ensure a thorough understanding of the case studies' key aspects. Initially, a tabular format was employed to consolidate essential elements such as the publication years, the brands involved, the digital platforms utilised, and any associated costs, where applicable. By organising this information in a coherent manner, the tabular format provided a clear overview of each case study, facilitating subsequent analysis and comparison. This approach enabled the research team to establish a solid foundation for conducting an in-depth investigation into the selected case studies.

This methodology facilitated a comprehensive understanding of the temporal scope, key stakeholders involved, and financial resources allocated within the investigations. Subsequently, a concise portrayal of the two brands under scrutiny was presented, emphasising their fundamental principles and historical backgrounds. This extensive research added context to the dynamics examined in the case studies, offering light on the distinct traits and strategic reasons that influence decision-making processes.

Tab 3.6 Case studies basic informations chart

Date	DD.MM.YYYY-DD.MM.YYYY
Brands involved	Fashion brand, video game brand
Platforms	Name of the online platform

Case studies template. For the specific analysis of the case studies, the Analytical Framework derived from the Theoretical Framework was employed. This Analytical Framework was structured based on questions derived directly from the theoretical concepts explored in the literature. The case study template, therefore, is depicted as a table with questions divided into macro and sub-dimensions. Responses were provided following the guidelines previously established. Information was primarily gathered from the internet, including newspaper or blog articles, gameplay videos, or live streams of the relevant games, as well as through firsthand experience playing the games and exploring the digital assets offered through collaborations.

This methodological rigor facilitated a comprehensive analysis of the various factors under investigation, leading to a nuanced and detailed understanding of the subject matter.

Dimension and questions	Description
DIGITALIZATION	
1.a How are immersive technologies leveraged to create and communicate value and improve users' experiences with brands?	Explain the varieties of immersive technologies utilised and their specific applications in enhancing experiences and conveying value. Take into account the accessibility and inclusivity of these technologies, as well as the player's familiarity with them.
1.b How do virtual worlds in video games integrate/exploit immersive technologies to convey and communicate brand values?	Determine the precise utilisation of immersive technologies, including interaction methods, and explore how they're tailored to convey brand aesthetics and values.
1.c What elements are employed to ensure the quality of the experience is effectively communicated and reinforces the intended brand values?	Describe the components that directly convey brand values to the player, alongside those that enhance the immersive experience's quality. Include player feedback regarding their understanding of the experience.
1.d In what way is the environment designed to be immersive and able to create a sense of presence among players?	Examine the design elements that enhance visual immersion, identify interactive components, and analyse their interaction with the player. Investigate how the environment complements interactive elements and communicates values. Explore how the immersive environment reacts to player decisions.

Dimension and questions	Description
METAVERSE	
2.a What are the marketing strategies put in place within the metaverse to support the communication of the brand values and the promotion of its products/services?	Discuss how the brand fits into the chosen aspect of the metaverse, including its usage, platform selection, and the evolution of events over time. Explain how the brand encourages user interaction within the metaverse and examine its social media integration in this context.
2.b What communicative elements and strategies contribute to the perception of the brand within the metaverse environment? How do these elements enhance the brand's visibility and recognition on the platform?	Analyse how virtual communication elements captivate users and improve brand recognition and perception positively. Identify any virtual or real-world events or campaigns initiated by the brand that generate enthusiasm, attract users, and boost brand visibility in the metaverse. Assess the adaptability and innovation strategies utilised within the metaverse.
2.c What in-game and in-metaverse ways do users have to express themselves and communicate their values?	Identify the features players can use for self-expression or collaborative creation. If not already present, describe the potential options the brand could provide within the game for player identification. Evaluate the extent of personalization concerning the conveyed message and its impact on the overall experience.
2.d In what ways can users personalise and interact with their avatars, favouring identification and participation in the immersive environments?	Explore avatar interaction methods, encompassing decision-making, movements, and emotional expressions. Determine how these aspects foster player immersion in the virtual environment and help them resonate with its values.

Dimension and questions	Description
VALUE CREATION	
3.a Within the digital environment, what narrative elements are used to raise awareness of the brand's story and values?	Analyse the brand's storytelling effectiveness across games and digital platforms, including its alignment with the brand's values. Evaluate consistency in branding, ensuring a unified visual identity and narrative tone.
3.b How are the goals and values of the fashion brand and user expertise integrated into the in-game/metaverse experience to support collaboration and interaction between users and the brand?	Analyse the shared strengths that foster successful collaboration between brands, focusing on their integration into the interactive environment to support effective communication. Gather player feedback on the depth of understanding and enjoyment regarding the collaboration.
3.c What tools and interactive mechanisms are implemented to support the active participation of users with the brand and vice versa?	Analyse the immersive technologies employed in collaboration, including personalised recommendations and customisable features. Additionally, explore the in-game tools that encourage player engagement and completion.
3.d In what way does the fashion brand communicate values or even create values?	Define the specific values the brand aims to communicate and identify the in-game elements that align with that message.
3.e What features and possibilities are designed within the video game to support emotional connection and engagement with the fashion brand?	Analyse the narrative elements of the video game that emotionally communicate with the player through the core values of the fashion brand.

3.3.4 Step 4

Findings from the framework validation against case studies. The process of validating a Theoretical Framework through the compilation of case study analyses involves applying the Theoretical Framework to the analysed case studies to test its robustness, completeness, and applicability. After the careful selection of case studies that represent the scope of application of the Theoretical Framework, the method involves using them to assess the framework's ability to explain, support, and predict outcomes in those contexts. By comparatively analysing the framework's propositions and empirical evidence from multiple case studies, possible discrepancies or evolutions in the approach of collaborations between fashion brands and video game platforms can be identified. In this way, this approach not only highlights the strengths or weaknesses of the framework but also presents reflections to refine or improve future collaborations. Through this rigorous validation process, the theoretical framework can be refined and detailed to more accurately capture the subtleties, complexities, and potentials of the phenomena it explains, thus enhancing its usefulness and relevance in both academic and practical settings.

The findings from the case studies were integrated into the Analytical Framework and then submitted to horizontal analysis against the reference macro-dimensions identified through literature clustering. This analytical approach included a detailed comparative examination of the case studies, coupled with a comprehensive review of relevant literature. This facilitated the identification of any novel strategies emerging from the case studies, that may not have been previously underpinned by documented theoretical frameworks. Thus, this comparative analysis served a dual purpose: first, to validate existing strategic approaches against established theoretical constructs, and second, to unearth innovative strategies that could potentially enrich the existing Theoretical Framework. By adopting this rigorous analytical methodology, the study not only reinforced the foundations of the existing Theoretical Framework but also expanded its scope by incorporating emergent strategic paradigms gleaned from the empirical findings of the case studies.

Findings from the comparative analysis of case studies. Following the validation of the Analytical Framework through case studies, the subsequent discussion involves a comparative analysis of the findings in the literature alongside those derived from the case studies. This discussion is structured around three distinct macro-arguments identified through the clustering of relevant literature. By juxtaposing all the outcomes of the case studies with existing scholarly research, insights emerge regarding the applicability and generalizability of the framework across diverse contexts. This comparative approach enables a deeper understanding of the theoretical underpinnings and practical implications of the framework, shedding light on areas of convergence, disparity, and potential avenues for further investigation. Through this integrative discussion, researchers can elucidate the nuances of the phenomena under study and refine theoretical propositions accordingly, fostering a more comprehensive understanding of the subject matter.

4
Results

Theoretical framework validation against case studies

The organization and development of knowledge alongside the Theoretical Framework identified three primary dimensions pertinent to the study. These dimensions were subsequently delineated into components. By citing relevant sources within these sub-dimensions, the core concepts were methodically linked to specific areas of interest. Following this, unique inquiries were crafted for each component, providing focused perspectives for the subsequent examination of case studies. The construction of the Analytical Framework was deliberate, aiming to validate the Theoretical Framework against the insights derived from the case studies.

This systematic approach facilitated thorough and rigorous scrutiny of the case studies, ensuring a comprehensive exploration of every dimension and component relevant to the research inquiry. Consequently, it led to an extensive understanding of the intricate interconnections between various concepts within the study's context, enabling a meticulous and accurate assessment of the research objectives.

This process transformed the Theoretical Background of the Framework into an analytical tool, which is then used to confirm the aforementioned framework. Through empirical research, the Analytical Framework of the case studies is then compared with the Theoretical Framework, enriching the understanding and knowledge of the collaboration between fashion and video games.

Tab 4.1 below is the Analytical Framework employed for analyzing case studies.

Tab 4.1 Analytical Framework

Dimension and components	Descriptor and references	Questions	Questions guide
DIGITALIZATION			
1.a. Designing for immersive technologies	Process of creating contents and experiences tailored for immersive technologies. *Nussipova et al., 2020; Schöbel et al., 2023; Tom Dieck & Han, 2022*	How are immersive technologies leveraged to create and communicate value and improve users' experiences with brands?	*Explain the varieties of immersive technologies utilised and their specific applications in enhancing experiences and conveying value. Take into account the accessibility and inclusivity of these technologies, as well as the player's familiarity with them.*
1.b. Integration of immersive technologies	Incorporation and seamless blending of hybrid tools, platforms or immersive technologies. *Almeida et al., 2020; Behl et al., 2023; Boardman et al., 2020; Grewal et al., 2018; Scholz & Smith, 2016; Szozda, 2023*	How do virtual worlds in video games integrate/exploit immersive technologies to convey and communicate brand values?	*Determine the precise utilisation of immersive technologies, including interaction methods, and explore how they're tailored to convey brand aesthetics and values.*
1.c. Quality of the experiences	Overall satisfaction, functionality, and meaningful impact derived from the immersive experience. *Shin, 2018) Parong et al. 2020; Cuesta-Valiño et al., 2022; Van Kerrebroeck et al., 2017*	What elements are employed to ensure the quality of the experience is effectively communicated and reinforces the intended brand values?	*Describe the components that directly convey brand values to the player, alongside those that enhance the immersive experience's quality. Include player feedback regarding their understanding of the experience.*
1.d. Immersive environment	Digital spaces designed to fully engage the senses, creating a sense of presence and immersion. *Li et al., 2022; Rubio-Tamayo et al., 2017; Nussipova et al., 2020b; Tom Dieck & Han, 2022*	In what way is the environment designed to be immersive and able to create a sense of presence among players?	*Examine the design elements that enhance visual immersion, identify interactive components, and analyse their interaction with the player. Investigate how the environment complements interactive elements and communicates values. Explore how the immersive environment reacts to player decisions.*

Dimension and components	Descriptor and references	Questions	Questions guide
METAVERSE			
2.a. Marketing strategies in the metaverse	Promotion of virtual products or services, audience engagement, and brand presence in the metaverse. *Hollensen 2020, Joy et al. 2022, Chrimes & Boardman, 2023, Dinh, 2023; Park and Lim, 2023*	What are the marketing strategies put in place within the metaverse to support the communication of the brand values and the promotion of its products/services?	*Discuss how the brand fits into the chosen aspect of the metaverse, including its usage, platform selection, and the evolution of events over time. Explain how the brand encourages user interaction within the metaverse and examine its social media integration in this context.*
2.b. Brand presence in the metaverse	Integration of a brand within the virtual space of video-game-based metaverse. *Lau & Ki, 2021; Caroux, 2023; Milanesi et al., 2022; Nobre & Ferreira, 2017; Pallavicini et al., 2019; Lee & Jin, 2019.*	What communicative elements and strategies contribute to the perception of the brand within the metaverse environment? How do these elements enhance the brand's visibility and recognition on the platform?	*Analyse how virtual communication elements captivate users and improve brand recognition and perception positively. Identify any virtual or real-world events or campaigns initiated by the brand that generate enthusiasm, attract users, and boost brand visibility in the metaverse. Assess the adaptability and innovation strategies utilised within the metaverse.*
2.c. Self-expression in the metaverse	User expression, personalisation, co-creation with brands, and communication of values on the metaverse platforms. *Zimmermann et al., 2023; Kang et al., 2023; Sung et al. 2011*	What in-game and in-metaverse ways do users have to express themselves and communicate their values?	*Identify the features players can use for self-expression or collaborative creation. If not already present, describe the potential options the brand could provide within the game for player identification. Evaluate the extent of personalization concerning the conveyed message and its impact on the overall experience.*
2.d. Avatar identification	Psychological or emotional connection with virtual representation. *Papale, 2014; Green et al., 2021; Arya et al., 2023; Zimmermann, 2023; Szolin, 2023*	In what ways can users personalise and interact with their avatars, favouring identification and participation in the immersive environments?	*Explore avatar interaction methods, encompassing decision-making, movements, and emotional expressions. Determine how these aspects foster player immersion in the virtual environment and help them resonate with its values.*

Dimension and components	Descriptor and references	Questions	Questions guide
VALUE CREATION			
3.a. Narrative elements	Techniques, tools, objects, aesthetic, environments to narrate brand's core strength and values. *Koeniz (2018), Murray (2017), Frasca (2013), Jenkins (2004)*	Within the digital environment, what narrative elements are used to raise awareness of the brand's story and values?	Analyse the brand's storytelling effectiveness across games and digital platforms, including its alignment with the brand's values. Evaluate consistency in branding, ensuring a unified visual identity and narrative tone.
3.b. Partnership/ co-creation congruity	How harmonic and successful the collaboration is, in terms of goals, values, and expertise. *García-Magro et al., 2023; Kim et al., 2023; Prahalad & Ramaswamy, 2004*	How are the goals and values of the fashion brand, and user expertise integrated into the in-game/ metaverse experience to support collaboration and interaction between users and brand?	Analyse the shared strengths that foster successful collaboration between brands, focusing on their integration into the interactive environment to support effective communication. Gather player feedback on the depth of understanding and enjoyment regarding the collaboration.
3.c. Active participation and empowered engagement	A state where players are actively involved in a manner that is enriched by a sense of autonomy/ agency. *Flavián et al., 2019; Merrilees, 2016; Roy et al., 2023*	What tools and interactive mechanisms are implemented to support active participation of users with the brand and vice-versa?	Analyse the immersive technologies employed in collaboration, including personalised recommendations and customisable features. Additionally, explore the in-game tools that encourage player engagement and completion.
3.d. Creation and communication of value	Methods and strategy to communicate brand values in the Metaverse. *He & Zhang, 2022; Mujahid et al., 2023; Schöbel et al., 2023.*	In what way does the fashion brand communicate values or even create values?	Define the specific values the brand aims to communicate and identify the in-game elements that align with that message.
3.e. Sense of belonging and brand identity	Meaningful relationship with the brand based on emotions and personal experiences. *Zimmermann et al., 2023; Chepurna et al., 2018; Suh, 2023.*	What game features foster emotional connection and engagement with the fashion brand?	Analyse the narrative elements of the video game that emotionally communicate with the player through the core values of the fashion brand.

Case Studies

4. Results

4.1.1 De Tomaso Mangusta

Date	25.08.2022-01.03.2023
Brands involved	Dior, Gran Turismo
Platforms	Gran Turismo 7, Twitch

Tab 4.2 Dior x Gran Turismo 7 basic collaboration informations.

Fig. 4.1 Dior physical making of the racing suit

Description. Gran Turismo is a highly acclaimed racing simulation video game that has set the standard for realistic and immersive driving experiences. Developed by Polyphony Digital, the franchise has become synonymous with precision, authenticity, and a passion for automotive excellence. In particular, Gran Turismo 7 places a strong emphasis on delivering an authentic driving experience. From meticulously recreated real-world cars to accurately modelled race tracks, the game strives to provide players with a genuine sensation of being behind the wheel of high-performance vehicles.

The game introduces a variety of gameplay modes, including a compelling single-player campaign, competitive online multiplayer, and engaging challenges. This diversity caters to different player preferences, promoting accessibility for newcomers while offering depth and challenge for experienced players.

Dior, a renowned luxury fashion house founded by Christian Dior in 1946, stands as an epitome of elegance, sophistication, and timeless style. With a rich heritage rooted in haute couture, Dior has consistently embodied the essence of French fashion savoir-faire. The brand's core values revolve around the pursuit of excellence, craftsmanship, and a commitment to innovation, continually pushing the boundaries of design. Dior's core values encompass a harmonious blend of tradition and innovation, a dedication to beauty, and a profound respect for craftsmanship, making it an enduring symbol of timeless elegance in the world of high fashion.

The cooperation between Dior and Gran Turismo is a blend of high fashion and cutting-edge virtual reality, with a broad scope that includes both the digital and physical domains. At the heart of this innovative partnership lies the meticulous design of not only the digital components but also tangible, real-world elements. The focal point is the creation of a racing suit that extends beyond mere aesthetics. This bespoke suit includes a helmet, boots, and gloves, meticulously crafted to blend functionality with the distinctive style synonymous with Dior. Going beyond personal attire, the collaboration extends to the customisation of a vintage 'De Tomaso Mangusta' vehicle, adding a touch of Dior's signature elegance to the world of virtual racing. This includes the design of a car skin that mirrors the sophistication and avant-garde design elements characteristic of Dior's fashion ethos.

Fig. 4.2 The Tomaso Mangusta car skin and Dior suit in game

Dimension and questions	Description

DIGITALIZATION

How are immersive technologies leveraged to create and communicate value and improve users' experiences with brands?

The type of immersive technology used is the video game itself, which, since the first Gran Turismo, has always strived for maximum realism. This commitment, in turn, enhances the overall gaming experience, elevating its quality and ensuring a more immersive engagement for the player. By utilising the video game platform itself, this collaboration becomes readily accessible to those who own the game, eliminating the need for external physical supplements. This not only enhances its desirability but also ensures attainability for the players. Moreover, the traditional console controller can be replaced by the 'Thrustmaster,' a device replicating the steering wheel, pedals, and gear shift of the car. Through this integration, coupled with first-person view gameplay, the player's sense of presence and immersion are significantly heightened, creating an immersive experience. In addition, each car is designed to respond exactly to the characteristics of real engines, thus giving the player a sense of similarity to reality that increases the sense of presence even more. It should be noted that, despite the accessibility of collaboration through the Gran Turismo video game, the associated costs can be considerable. Currently, the price of the game itself is around 60€ (given in January 2024), while the 'Thrustmaster' device is around 90€ according to Amazon's rates in 2024. These costs must be considered separately from the actual cost of the console, making the overall investment significant for those who wish to fully experience this collaboration.

How do virtual worlds in video games integrate/exploit immersive technologies to convey and communicate brand values?

The use of advanced graphics and technology in virtual worlds allows for the creation of highly realistic environments. The collaboration with Dior continues the tradition of Gran Turismo, following a realistic aesthetic. In fact, the garment is so much like a real one that the suite was then also made physically, equal in detail. This level of realism provides a more genuine portrayal of Dior's brand principles, allowing players to immerse themselves in the game and engage with elements that authentically capture the luxury and style synonymous with the brand.

What elements are employed to ensure the quality of the experience is effectively communicated and reinforces the intended brand values?

Gran Turismo emerges as a video game that is truly a work of digital art that elevates the video game experience to new heights of realism. What sets Gran Turismo apart from many other games is its extraordinary attention to the aesthetic and physical details of the cars in the game. The creators of Gran Turismo have invested extraordinary effort in accurately reproducing the cars, capturing every curve, every reflection of light, and every mechanical detail with astonishing accuracy. The result is thus a virtual environment in which cars are not simply game vehicles, but digital works of art in motion. This attention to detail not only ensures extraordinary visual fidelity, but also extends to the physical characteristics of the cars, from their behaviour on the track to their control responses. This flawless realism is not simply a technical exercise; it is the key to delivering a deeply immersive gaming experience. When a player sits behind the virtual steering wheel in Gran Turismo, he or she is

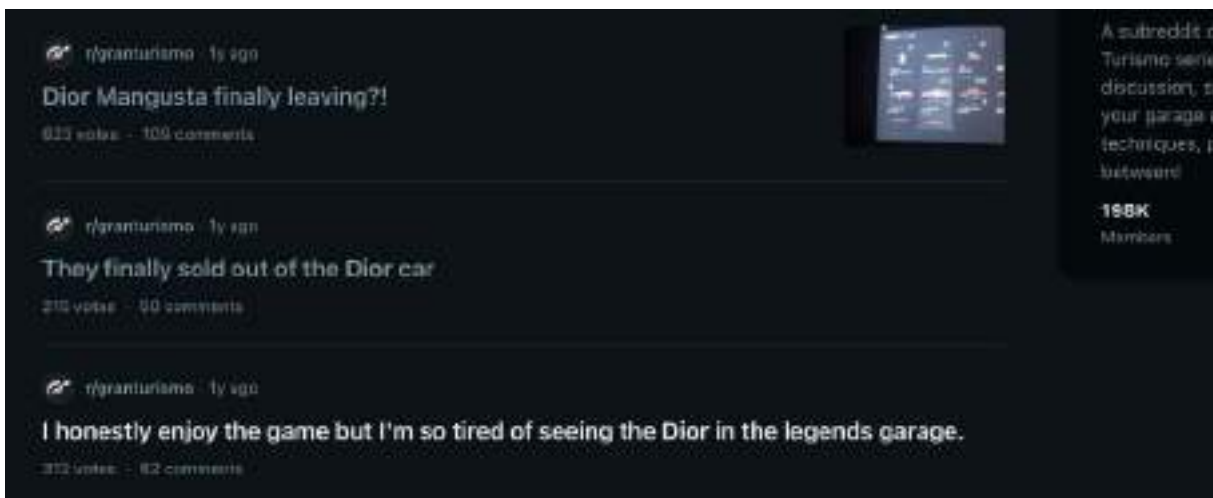| Dimension and questions	Description
	immersed in a world where the line between reality and simulation blurs, experiencing, in some ways, a true automotive experience. This level of aesthetic and physical realism allows players to connect more deeply with the game and experience racing in a more immersive and authentic way. The feeling of control, the perception of car details, and the detailed visual experience help create total immersion, making the player's experience more emotionally impactful. As a result, this heightened level of immersion not only enhances the emotional impact of the player's experience but also establishes a lasting impression. The player becomes more predisposed to remember a digital collaboration that places a strong emphasis on quality, as the intricacies and authenticity of the gaming experience leave a profound and memorable mark. Furthermore, when the collaboration skin is purchased, a cut scene starts that explains in detail the history of the machine and the collaboration's stylistic choices. In this way, the brand's values and its story are communicated, explained, and correlated with the finished digital product, increasing brand awareness. The gameplay experience can have various levels of immersiveness, as one can choose to play in first or third person. The first-person gameplay will show much of the car's interior details, along with the avatar's arms, so part of the race suit Dior outfit. In third-person gameplay, on the other hand, it's possible to see the car entirely with the driver inside, whose Dior helmet can be seen.
In what way is the environment designed to be immersive and able to create a sense of presence among players?	Undoubtedly, quality and attention to detail are the essential foundations for making the digital environment of Gran Turismo extraordinarily immersive. In addition to offering an impeccable visual experience, the game is distinguished by its extensive collection of over 420 car models from more than 60 car manufacturers. This abundance of options not only amplifies the sense of immersion, but also gives players an authentic sense of agency and possibility. Thus, in this digital environment, each car model becomes an opportunity for interactivity and customisation. Players are confronted with a digital car paradise where they can explore not only the aesthetic features of each vehicle but also immerse themselves in the mechanical details and unique performance of each model. The presence of so many possibilities not only enriches the player's experience but also stimulates creativity and curiosity. The virtual environment of Gran Turismo becomes an interactive laboratory where players can experiment, customise, and refine their automotive preferences. In addition, 90 real car tracks are available within the game, including realistic weather conditions and scenery. This digital environment approach to variety and customisation not only contributes to total immersion but also gives players a tangible sense of control and belonging to the digital world they are exploring. This also enhances the player's emotional connection with the game, consolidating the sense of immersion.

METAVERSE

What are the marketing strategies put in place within the metaverse to support the communication of the brand's values and the promotion of its products and services?

Dior has seamlessly integrated into the Gran Turismo universe by adhering to the established norms of the video game's routine in-store releases. The formal announcement of the collaboration took place on July 30th, 2023, coinciding with the World Series Showdown hosted in the picturesque backdrop of Salzburg, Austria (Vogue Business, 2022). Simultaneously, a captivating video showcasing the meticulously designed racing suit and the striking De Mangusta skins made its debut on the official YouTube and Instagram channels of both Dior and Gran Turismo. Following the unveiling, the much-anticipated digital products born from this collaboration were officially introduced to the public on August 25, 2022. The exclusive racing skin and the car skin found their place within the coveted 'legendary' section of the in-game store, carrying a price tag of 500,000 credits (€12.45). To infuse a sense of urgency and excitement among players, the skin was presented as a limited-time offering: it was available until January 31, 2023. However, interestingly, player feedback has revealed that the availability of the skin extended beyond the typical change periods in the game. Looking at social channels such as Reddit, comments express concern about the length of car skin availability in the video game shop. This highlights the importance of community feedback in the gaming industry: the marketing strategy used proved to be unconstructive for in-game purchases, because it took too long compared to the purchase times of other skins, so the objective of instilling a sense of desire and urgency in the players was not achieved.

Fig. 4.3 Reddit comments regarding the length of skin availability

In addition, after releasing the model on the video game, thus emphasising a process design with a purely digital final solution, Dior presented the outfit designed for Gran Turismo in a real outfit at the Gran Turismo World Series 2022 Finals, held in

Dimension and questions	Description
	Monaco from November 24-27. Through a promotional video, Dior narrated the sartorial realisation of the garment, emphasising the aesthetic choices. The existence of the physical product demonstrates Dior is able to materialise digital ideas and turn them into concrete, resulting in a unique product with the highest standard.
	The driving suit skin has been particularly popular, and many players have been eager to get their hands on it. Dior has also been very active on social media, using the hashtag #DiorGT7 to promote the collaboration. This has helped to generate a lot of buzz and excitement among fans and positive engagement from customers, and it has further solidified Dior's position as a luxury brand that is at the forefront of innovation.
	In the expansive world of Gran Turismo, where players can engage in online multiplayer mode, Dior strategically positions itself within a dimension of the metaverse that is inherently social. This approach not only aligns with the growing trend of brands venturing into virtual spaces but also capitalises on the dynamic nature of player interactions within the gaming community. The collaboration doesn't merely end with the acquisition of a stylish skin; it extends to the opportunity for players to showcase their new Dior-themed assets in the digital realm, fostering a sense of community towards the brand.
	Dior's foray into the metaverse through Gran Turismo is a testament to the brand's adaptability and innovation. By seamlessly integrating into the digital landscape of the game, Dior not only offers an exclusive product but also becomes an integral part of the players' virtual experiences, transforming the collaboration into a dynamic and interactive venture.
What communicative elements and strategies contribute to the perception of the brand within the metaverse environment? How do these elements enhance the brand's visibility and recognition on the platform?	Within the video game, the car is presented as a limited edition, thus available in a defined time frame. This helps create a sense of urgency for players to earn more in-game currency (credits) and be able to purchase the skin. In the purchase menu, the full car name that appears is 'De Tomaso Mangusta, Christian Dior', and within the purchase tab, the Dior logo appears visible and large in the lower left corner. This strategy ensures that the brand is visible to all users exploring the car, regardless of whether they decide to make a purchase or not, thus creating a recognisable visual impact and presence within the game context. This represents an innovative approach in the field of in-game marketing and for Dior itself, as this is the first collaboration with a video game for the brand. This strategy aims to maximise brand visibility among a wide range of players by creating a recognisable visual impact and presence. In addition, the combination of elements such as limited edition, time urgency, and brand visibility can help generate greater user engagement and create a sense of exclusivity and desirability around the collaboration product. In addition, the cut scene included at the time of purchase serves to convey all the fundamental principles that Dior has adopted to achieve this collaboration, communicating them in a direct way to the user, who will thus have a greater degree of awareness of the brand.

The collaboration resulted in a combination of the creative forces of fashion designers and game developers: in fact, the skin result has details in the pattern and aesthetic choices that communicate and relate to the history and values of the fashion brand, thereby also increasing brand awareness. For instance, through the skin's aesthetic skin, Dior decided to place the number 47 on the bonnet and also behind the racing suit, which has been of great value to the fashion house since the year of the first fashion show.

What in-game and in-metaverse ways do users have to express themselves and communicate their values?

The brand's message is expressed through the stylistic choices made on both skins, showcasing a careful strategy for communicating Dior's distinguishing heritage and originality. It is possible to modify the car, but structurally and not cosmetically, so adding fenders or the back wind set. The attention devoted to the aesthetics of the skins is based on timeless and refined values, offering the player the opportunity to identify with the skin itself. These values, intrinsically linked to the world of video games, allow Dior to integrate harmoniously within this context, avoiding being overly elegant or out of place. The choice of an aesthetic that combines tradition and elegance results in a gaming experience that aligns perfectly with gamers' tastes and preferences, creating a synergistic marriage between the Dior universe and Gran Turismo 7. The brand gets to communicate its story and values through the video that starts automatically after the purchase, so that the player can understand them and make them their own ('I realised that there is a similarity between the timeless, classic atmosphere of the Mangusta, and the tone of Dior'). Thus, in this collaboration, the already finished digital product is proposed to the player with which he or she can identify, which in this case is successful since it is an expression of the shared values of both brands. Quality, attention to detail, excellence, and innovation are core values shared by both Dior and Gran Turismo, which is why they are easily assimilated and made their own by the player.

In what ways can users personalise and interact with their avatars, favouring identification and participation in immersive environments?

As written above, the avatar is not customisable, but the player can choose within the game many skins for both the avatar and the car. The decision to purchase the skin then can come in two ways: from the in-game presentation of the skin, which arouses curiosity and desire to purchase, or from the player's prior knowledge of the Dior brand, which then sees in the collaboration an already present emotional involvement.
The car is presented in the purchase menu with the name 'De Tomaso Mangusta, Christian Dior,' drawing attention to the names placed side by side. Opening it in full screen, via the 'learn more' button, the game starts with a cut scene that explains the history of the vehicle and then dwells on the collaboration with Dior, presenting both one of the goals of the collaboration, namely to make sports cars elegant, and Kim Jones, Dior's artistic director, the one who oversaw the project.

Dimension and questions	Description
	There is no customisation possible for the player, as the aesthetic has already been decided by one of the most elegant brands around. It is therefore a method of elevating skin as an elite product, as the Dior brand is, by emphasising on the aesthetic power of the design without the use of customisation and hence co-creation by the player, but rather via emotional empathy with the brand's aesthetic and ideals.
VALUE CREATION	
Within the digital environment, what narrative elements are used to raise awareness of the brand's story and values?	The most important part of storytelling is definitely at the moment of purchase, via the video presentation, which comes in the form of an interview with Kim Jones in person. This allows the player to imagine that he or she is talking directly to the person who created what was just purchased. Dialogue is filled with emotional elements ('It would make me—Kim Jones—very happy if this—the Mangusta skin—became one of the surprises in your collection!' / 'This Mangusta here is really special. I hope you like it' / 'I thought to myself, why if you combined the elegance essence of Dior with a legendary sports car?') that helps the player emotionally understand the process of creating, almost elevated to an artistic form, the machine. The video itself already emphasises visual and aesthetic elements that tell the story of the brand, such as, for example, the number on the car that refers to the year of the brand's first fashion show, or the shape of the logo, the classic 'CD diamond' that was used at the time of the car's release. In addition to the video featured in the game, Dior also used its Instagram and YouTube channels to explain the brand's history and styling decisions to those who did not purchase the car. The narrative tone and information are very similar, but Kim Jones is not the speaker and does not do it directly as an interview. This is because in the video game, they also try to foster a sense of immersion through the narrative itself. The YouTube video focuses on more details, especially about the racing suit, which is also shown in its physical version, enhancing the precision and attention to detail that the brand wants to communicate. Photos of the work-in-progress of the making of the racing suit were posted on Dior's Instagram account, with brief descriptions regarding stylistic choices, and the video was uploaded to YouTube but was of short duration.

How are the goals and values of the fashion brand and user expertise integrated into the in-game/metaverse experience to support collaboration and interaction between users and the brand?

Both Dior and Gran Turismo are considered, in their own fields, to be great heritage names in their respective fields. By cooperating, they affirmed through each other their market positioning, which pushes them even further into the luxury market. Furthermore, they have additionally increased the target group of users involved, as they are part of two different market fields. Indeed, for both the fashion brand and the video game brand, collaborating with an entity from a different industry can even elevate their prestige and status quo, since it demonstrates innovation and a willingness to explore new horizons (Mandal, 2023). The collaboration is exclusive because the Dior brand suited only two digital elements into the context of the video game: a skin for the iconic Italian car De Tomaso Mangusta, chosen by the brand for its aesthetic and conceptual proximity to brand values, with bold yet harmonious shapes, and a driving suit for the player's avatar. Both digital products are part of the Gran Turismo universe, so Dior adapted to the platform on which the collaboration takes place, finding common ground through the driving suit skin. Indeed, the suit is something that is both relevant to the Gran Turismo universe and appealing to Dior's target audience. If the skin for the vehicle is a digital product produced by Dior exclusively for Gran Turismo, the driving suite is part of Dior's fashion universe, therefore it becomes the result of the partnership that brings the real and digital worlds together. In this case study, therefore, a simple strategy is implemented whereby the Dior brand realises the entire aesthetic part of Gran Turismo that remains consistent with the aesthetic characteristics of the game. This coherence is finally implemented by the physical realisation of the suit, which thus takes a value of uniqueness and becomes a vehicle for communicating Dior's excellence and quality.

The two parties end up with several values in common, the most important of which is quality. In fact, Gran Turismo was created with the goal of being a game that faithfully reproduces cars, both aesthetically and mechanically. Dior, in its core brand values, also values precision and superior quality in its products. This mutual sharing establishes the basis for a resilient and strong partnership in which the user of Gran Turismo is satisfied, since they are already accustomed to high standards of quality. The skins produced by Dior represent the brand's values (elegant yet understated), and these are communicated directly to the player through the presentation video.

In addition, both Dior and Gran Turismo stand out in their respective industries for the elegance they convey. Dior, which has always been recognised as a brand that conveys timeless style and values of luxury and craftsmanship, finds complete expression in both digital and physical products resulting from this collaboration. In essence, this collaboration created a symbiotic relationship that led to mutual growth, creativity, and increased brand recognition for both brands. It's a dynamic and innovative way for both industries to expand their horizons and engage with an ever-evolving consumer base.

Dimension and questions	Description
	Various comments under the YouTube presentation video and on Reddit threads express admiration and compliment the successful aesthetic of the collaboration, stating that it 'brings a new look to the game', thus subtending a sincere understanding and appreciation towards the collaboration.
What tools and interactive mechanisms are implemented to support the active participation of users with the brand and vice versa?	To acquire the skin, players are presented with two options: they can either convert real currency into in-game credits and proceed with the purchase, or they can engage in gameplay to accumulate the necessary credits equivalent to the cost of the skin. Given that the game itself is not free-to-play, only a small percentage of players may be inclined to invest additional money within the gaming environment. Those with financial means or high engagement levels may choose to make such purchases, even if the skin itself carries a relatively modest price tag. Other players who have a strong desire for a specific skin can only earn credits by completing in-game tasks and activities. Consequently, every player, regardless of their willingness to spend money, actively participates in the pursuit of acquiring the skin. The skin, in turn, must establish its allure through in-game presentation to appeal to players. This strategy effectively engages the player, transforming them into an active participant with the shared goal of obtaining the skin. Importantly, the fundamental dynamics of the game remain unchanged even with the incorporation of the Dior brand collaboration. What significantly enhances Dior's prestige in the eyes of the player is the unique opportunity to obtain a skin bearing the signature of one of the world's most renowned fashion houses.
In what way does the fashion brand communicate values or even create values?	Within this environment, Dior manages to stand out their personality through the customisation of the 'De Tomaso Mangusta,' which personifies all the personal values of the brand. Indeed, it presents a discreet but attractive aesthetic, understated and elegant, just as Dior is perceived in its entirety, integrating perfectly within the video game. Indeed, as Kim Jones illustrates in the presentation video, the colour chosen is 'slightly conservative, cream colour with a modest but chic stripe with the Dior lettering on the side', explaining how every detail is chosen to make the brand resonate. The number 47 refers to the date of the first collection of the maison, and the logo in which it is enclosed comes directly from the 1960s, which is the same era as the birth of De Tomaso Mangusta. In addition, the car chosen for the Dior skin is considered by the race world to be a sporty yet elegant car, thus perfect for becoming a communicative tool for a brand like Dior. It is also possible to analyse the racing suit specially made for the collaboration in the same way. The colour is 'pop but not too flashy,' and there is an aesthetic consistency with the style of De Mongoose, as there is both the brand lettering strip and the 'CD diamond' logo with the number 47 on it. The entire suit and helmet feature Dior's tone-on-tone oblique pattern, making it slightly visible. In gameplay, the helmet with

a blue visor stands out from inside the car, and the gloves seen during first-person play feature the brand's inscription so that it is highly visible. Everything then has been created so that it is consistent with the brand values and understood by those who use the skin in the game, thereby increasing brand awareness and brand loyalty. The collaboration serves as a validation of the brand's commitment to creativity and innovation. This unique partnership represents a significant milestone, being the first collaboration of its kind for the Dior brand within the realm of video games. The innovative nature of this collaboration underscores Dior's dedication to exploring new and distinctive avenues, solidifying its reputation as a brand that continuously pushes the boundaries of creativity.

What features and possibilities are designed within the video game to support emotional connection and engagement with the fashion brand?

The Dior brand creates an emotional connection with those who already know it by wisely exploiting the 1960s logo. This iconic symbol not only evokes a sense of nostalgia and historicity, but also becomes a powerful vehicle for connecting with people through affection and emotion. The use of the retro logo is not just a nod to the past but an astute strategy that strengthens the emotional connection between the brand and the audience, creating a bridge between the brand's heritage and the personal experience of those who know it. Moreover, the interview with Kim Jones is not simply an exchange of questions and answers, but rather an immersive experience that immerses the gamer in an environment where he or she seems to be interviewing. This mode of interaction creates a unique emotional bond as it passively transforms the viewer into an active participant, making them feel a deeper connection with Kim Jones and thus with the process of creating collaboration. The feeling of being directly involved in the interview helps create an authentic and memorable connection between the audience and the proposed content. Through these emotional involvements, the player not only develops a deep connection with the brand, but also feels like the bearer of its values. This intimate connection transforms the possession of the skin into an act of pride, as the player associates his or her emotional engagement and involvement with the brand with the visual representation of the skin. In this way, the use of the skin becomes a proud gesture, symbolising adherence to the brand values and further solidifying the link between the player and the brand identity.

4.2 Polo Stadium Collection bundle

Date	6.11.2022 - 13.6.2022 4.7.2023 - 9.7.2023
Brands involved	Polo Ralph Lauren, Fortnite
Platform	Fortnite, Polo Pony Island

Tab 4.3 Polo Ralph Lauren x Fortnite basic collaboration informations.

Description. Fortnite, developed by Epic Games, has emerged as a gaming phenomenon since its launch in 2017, transcending the traditional boundaries of the industry. This battle royale game has captivated a global audience with its dynamic gameplay, vibrant graphics, and distinctive blend of action and strategy. It is a survival game (known as the battle royale game genre) where up to 100 players fight against each other.
Fig. 4.5: The complete bundle available on Fortnite
Fortnite has consistently demonstrated a commitment to innovation in the gaming industry. The introduction of the unique building mechanic, which allows players to construct structures in real-time during gameplay, sets it apart from other battle royale titles. This emphasis on adaptability and fresh ideas has kept the game engaging and relevant. In addition, Fortnite's appeal extends beyond traditional gamers, fostering a diverse and inclusive player base. The game's accessibility, both in terms of its free-to-play model and its availability on multiple platforms, ensures that a broad spectrum of players can participate, contributing to its widespread popularity. Furthermore, Fortnite places a strong emphasis on community engagement through live, in-game events. These events go beyond typical gaming experiences, featuring concerts, movie premieres, and collaborations with pop culture icons. The dedication to creating a dynamic virtual space for players contributes to a sense of community and shared experiences: in fact, Fortnite strikes a balance between casual fun and competitive play. The game's inclusive nature ensures that players of all skill levels can enjoy the experience, whether they

Fig. 4.4 Loading screen of the Polo Stadium Collection Bundle

are seeking intense battles or simply looking to have a good time with friends. Polo Ralph Lauren, an American luxury brand founded by Ralph Lauren in 1967, stands as an enduring symbol of timeless elegance, craftsmanship, and a distinctive fusion of classic and contemporary aesthetics. Renowned for its iconic Polo Pony logo and Polo Ralph Lauren Polo Shirt, the brand has become synonymous with refined casual wear and a lifestyle that epitomises sophistication. The brand consistently delivers classic, well-crafted designs that transcend trends, embodying a sense of enduring elegance and sophistication. All their designs reflect the brand's dedication to high-quality materials and attention to detail, drawing inspiration from the classic and preppy style associated with the East Coast. The brand's authenticity comes directly from its ability to capture the essence of old American design while infusing it with a modern sensibility. While being strongly tied to its legacy, Polo Ralph Lauren values innovation and contemporary style: the brand expertly blends modern trends into its collections, assuring relevance and appeal to a varied and changing consumer base.

Fig. 4.5 Polo Ralph Lauren modified logo with the Fortnite Llama
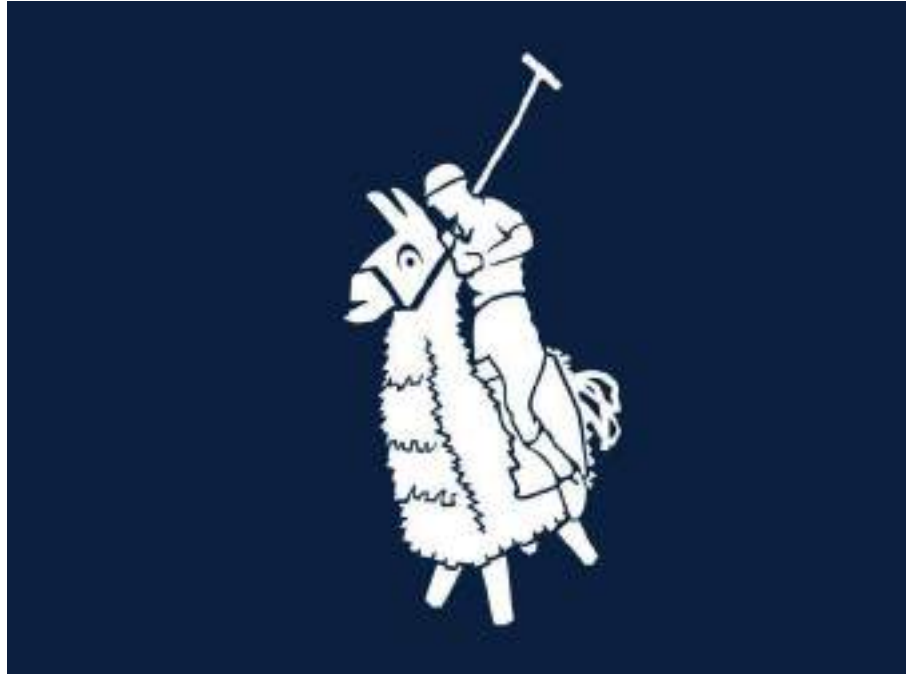
Ralph Lauren unveils an exclusive capsule collection in both the Fortnite virtual realm and real life. The collection, available starting November 5, 2022, features four distinct styles of the 'Stadium Hero '92' skin and two variations of the 'Polo Prodigy' skin. These costumes draw direct inspiration from the iconic '90s 'Stadium' and 'Polo Sport' collections. Alongside the skins, they introduced two decorative backs, a loading screen, and a 'Bundle' containing an emote (specific avatar movement), the '1992 Stick,' and the 'Stadium Collector,' resource-collecting objects, along with the 'Girastadi' hang-glider. The island comprises three distinct playgrounds, each featuring graphics dedicated to Ralph Lauren, from the starting race box to the course adorned with brand flags, obstacles, and ramps, all showcasing the brand logo. Special attention is given to the boots present on the outfit's skins, with the island even featuring a dedicated building named after them.

Moreover, Ralph Lauren extends the collaboration into the physical realm, presenting a unique capsule collection that marks a historic change to the Polo Pony logo. Instead of the classic pony, the logo now features a llama, reminiscent of the character that offers substantial bonuses in Fortnite.

Fig. 4.6 Polo Ralph Lauren physical collection

Fig. 4.7 The P-Wing physical boots

Fig. 4.8 Polo Stadium Collection Bundle Fortnite skins in game

This physical collection, available in stores worldwide and the brand's exclusive limited edition online shop starting November 2, 2022, encompasses caps, shirts, sweatshirts, and polo shirts. A second drop of the capsule collection, featuring additional shirt models, sweatshirts, polo shirts, and caps, occurred in early December.

Lastly, in January 2023, Ralph Lauren introduced 200 physical pairs of the 'P-Wing' boots worn by the 'Stadium Hero '92' skin, an accessory inspired by the world of motorcycles and skiing, marking a unique and stylish addition to the market.

Dimension and questions	Description
DIGITALIZATION	
How are immersive technologies leveraged to create and communicate value and improve users' experiences with brands?	The game platform is fully exploited, constituting the only digital vehicle through which the player can fully immerse himself in the gaming experience. As a freemium model, the game is accessible to individuals who possess a console or computer. Participation in Fortnite necessitates only the conventional joystick, although players on a computer have the option to use a mouse and keyboard. Due to its conventional platform format, the player is incentivized to participate because it does not require any additional support, making him or her already fully prepared for the game experience. In this collaboration, the video game is used to communicate the values of innovation and digitization that Ralph Lauren is pursuing, and the outfits are therefore created to enhance and celebrate Polo Ralph Lauren's heritage.
How do virtual worlds in video games integrate/exploit immersive technologies to convey and communicate brand values?	The video game itself does not include any further immersive technological elements; instead, stations have been carefully placed throughout Ralph Lauren flagship shops to encourage participation in a tournament sponsored by the brand. This unique approach succeeded in capturing the attention of customers, enticing them to engage in the collaboration by offering them the chance to join a tournament alongside well-known players and livestreamers. The competition, thoughtfully organised within the confines of Ralph Lauren shops, serves as a means to captivate the fashion brand's customers, providing them with a novel and immersive experience. This initiative seamlessly integrates cutting-edge immersive technologies into the traditional in-store shopping experience, creating an innovative and engaging environment for the brand's clientele.
What elements are employed to ensure the quality of the experience is effectively communicated and reinforces the intended brand values?	Polo Ralph Lauren collaborated with the commitment and attention typical of a true capsule collection in creating outfits for Fortnite. The result manifests itself in two skins characterised by clothing that has been studied to the smallest detail, unmistakably emphasising membership in a renowned fashion house. The inspirational theme of these skins is not the result of a random decision; it draws primarily from a 1992 collection and fits harmoniously into the context of the sporting world, in which Polo Ralph Lauren emerges as a representative of a timeless style that actively participates in that universe. Thus, these skins distinguish themselves in the Fortnite Battle Pass store as true works of high quality. In terms of feedback from video game users, however, the collaboration has not overall achieved a positive outcome: in fact, Fortnite players didn't understand the intersection of the values of the two brands, and didn't evaluate the entire collection positively. In fact, comments on Reddit suggest that the drop of skins coincides with the drop of other skins deemed much more desirable, and the only thing that really made this collaboration successful was the aeroplane in the background of the promotional images, because it was thought to

be an update to the video game that included aeroplanes. So we see how the Reddit user (who is mainly in the 18-29 age group, similar to the target audience that Fortnite has) (Turner, 2022) aspires more to in-game innovations than a purely aesthetic update of the virtual world.

In what way is the environment designed to be immersive and able to create a sense of presence among players?

The skins have been incorporated into the Fortnite universe, so the immersive atmosphere is completely controlled by the video game and does not include any changes made specifically for the cooperation with Ralph Lauren. It is however, designed in Unreal Editor for Fortnite by the development studio Beyond Creative, the 'Polo Pony Island': an immersive environment within Fortnite Creative, a mode in the game that allows you to freely create content on your own Creative Island. On a massive island shaped like the famous Polo Pony logo, players must challenge each other on three different terrains. As they race through harsh terrain on the dirt bike, drift board, and whiplash car, the players must overcome distinct challenges presented by each environment. The entire island features digital elements that reference the brand's heritage. The race consists of 3 different checkpoints that refer to the brand's core values: Ralph's Aeroplane Hangar, the P-Wing building, and the Polo

Fig. 4.9 Polo Pony Island

Dimension and questions	Description
	Farm. In fact, the former harks back to the brand's sporting heritage, the latter to the collaboration's flagship product, the P-Wing boots, both physical and digital, and the farm that recalls the brand's American origins and heritage. In this context, it is highlighted how the immersive setting effectively conveys the brand narrative to the player, shaping an environment where the player can absorb the aesthetics and distinctive values of the brand, all while maintaining a harmonious coherence with the video game involved in the collaboration.
METAVERSE *What are the marketing strategies put in place within the metaverse to support the communication of the brand's values and the promotion of its products and services?*	The collaboration has yielded various outcomes, both tangible and digital, which have been introduced to the market and the metaverse at different stages. This was done to maintain the attention distributed over time, and to keep the hype level high. The physical collection was limited and available from November 2, 2022, only on the brand's website, which allows the garments with the modified Polo Llama logo to be worn in the real world. The digital collection was launched the day after on Twitch, with a live broadcast lasting a total of three hours during which viewers were able to interact with celebrities, influencers, and pro players to learn the details of the collaboration. The live show included interviews, mini-games, and challenges with online gaming champions. Twitch was chosen for the launch of the collaboration precisely because it is the platform on which most Fortnite matches are broadcast. The next day, November 4, 2022, players were given the opportunity to participate in the 'Polo Stadium Cup' event, either from home or from the Ralph Lauren flagship stores. This increased player engagement with the fashion brand, as by participating and placing first, there was a chance to earn digital accessories for Fortnite by Ralph Lauren, before they were dropped in the item shop. Two days later, on November 6, all Ralph Lauren digital products became available to all Fortnite users in the item shop. The collection remained available for a limited period of one week. At the beginning of December, there was Drop #2 of the physical collection. Lastly, Ralph Lauren announced the release in January of the limited edition 'P-Wing' boots worn by the skins, creating great hype around the shoe product thanks to both the skins on Fortnite and the island created specifically to celebrate the brand. The strategy of the brand's approach to the metaverse is then summarised in a timeline of events that lasts for almost two months, although the time of availability of the digital products was only a few weeks. This staged approach allows the brand to maintain constant interest and engagement in the metaverse, with judicious distribution of tangible and digital elements over a predetermined period. The choice to extend the brand's presence in the metaverse for a significant period suggests the importance the brand places on prolonged interaction with its audience, emphasising the creation of an ongoing connection rather than an immediate short-term presence. Such an approach can help consolidate brand perception in the metaverse and keep the user community interested in the long run.

What communicative elements and strategies contribute to the perception of the brand within the metaverse environment?
How do these elements enhance the brand's visibility and recognition on the platform?

The partnership with Fortnite is not the first digital strategy Ralph Lauren has put in place. In fact, already during the pandemic, the brand made sure to increase its digital presence through the DTC (direct-to-consumer) sales app (Guishard, 2021). In this perspective, even before the collaboration, the brand gained recognition among the digitally oriented younger generations, despite its originally traditionalist and luxury-oriented target audience.

Firstly, the elements of the collaboration that most communicate the brand's aesthetic are definitely the skins' outfits, which feature visual elements that directly reference a vintage Ralph Lauren collection. On the arms are the names of the brand and the video game, while only the name "Polo" appears on the chest, which is large and highly visible. This logo placement helps not only to strengthen the brand presence, but also to synergistically integrate the identities of both entities, underscoring the collaborative nature of the partnership. Beyond the skins, the collaborative effort extends to include an array of additional items available for purchase on the online store. This comprehensive collection comprises two decorative backs, a loading screen, and a set of 'Bundle' items. Within this bundle, users can find an emote, specifically a unique avatar movement, as well as the '1992 Stick' and the 'Stadium Collector'—items designed for resource collection. Additionally, the bundle features a distinctive 'Girastadi' hang-glider. What distinguishes these items is their detailed reflection and coherence of the aesthetic principles embodied in the skins. Each object thoughtfully incorporates the signature colours and logos synonymous with Ralph Lauren, ensuring a cohesive and visually harmonious experience for all customisable elements within Fortnite. This holistic approach to design not only strengthens the thematic connection between the collaborative items but also enriches the overall gaming environment. From emotes to resource-collecting tools and hang-glider options, every element within the bundle serves as a canvas for the brand's iconic aesthetics. Consequently, this integration extends beyond the avatar's appearance, permeating the entire user experience and establishing a distinct and unified visual identity within the Fortnite metaverse. In essence, this expansive range of items, with their consistent adherence to Ralph Lauren's colours and logos, underscores the brand's commitment to delivering a comprehensive and immersive collaboration. The careful consideration given to each customisable element contributes to a positive brand image, fostering user engagement and enhancing the overall gaming experience for Fortnite enthusiasts.

Dimension and questions	Description
What in-game and in-metaverse ways do users have to express themselves and communicate their values?	The brand's message is expressed through the stylistic choices made on both the skins and Polo Pony Island, showcasing a careful approach for communicating Polo Ralph Lauren's particular tradition and originality. The choice of aesthetic theme, focused on aviation, not only gives the skins a unique character, but also extends to the mini-game on the island, focused on car racing, and the surrounding landscape scenery. This synergistic approach aims to ensure that the player not only appreciates the visual elements of the skins, but also understands the depth of Polo Ralph Lauren's distinctive heritage and style. The association between the aviation theme and car racing on Pony Island creates a coherent and engaging visual narrative, which is also reflected in the surrounding landscapes, helping to convey a feeling of personal power. Through this digital experience, the brand communicates to the consumer the values of prestige and personal power that can be achieved by actively interacting in the gaming environment.. The choice of a minigame focused on speed and car control reinforces the idea of personal control and leadership, while the aviation theme invokes a sense of adventure. In addition, the creation of carefully designed immersive environments underscores the brand's attention to detail and offers an immersive experience that goes beyond the mere aesthetics of skins. In this way, Polo Ralph Lauren communicates not only its heritage, but also its vision of digitization and the future, confirming its position at the forefront of exploring new horizons and revolutionising the interaction between fashion and digital. In communicating brand values, however, there was a misperception problem because players, after seeing the first promotional images, were misled by the aviation aesthetic. Comments on Reddit suggest that the drop of skins coincides with the drop of other skins deemed much more desirable, and the only thing that really made this collaboration successful was the aeroplane in the background of the promotional images, because it was thought to be an update to the video game that included aeroplanes. So this highlights how the Reddit user (who is mainly in the 18-29 age group, similar to the target audience that Fortnite has) (Turner, 2022) aspires more to in-game innovations than a purely aesthetic update of the virtual world.
In what ways can users personalise and interact with their avatars, favouring identification and participation in immersive environments?	The inclusion of decision-making elements within the avatar interaction allows players to shape their virtual experience. As mentioned above, there are two skins available, one male and one female, available in two different colours, and customisable with the use or not of a cape. Those possibilities contribute to a sense of ownership and personalisation, deepening the player's engagement with both the game and the brand. Emotes and animations provide a dynamic way for players to express themselves within the virtual environment. In the collaboration, specific movements and emotes tied to Ralph Lauren's theme, such as specific dances or gestures,. These movements serve as a means of self-expression, fostering a deeper connection between the player's avatar and the collaborative elements introduced

by Ralph Lauren. Further, avatar expressions, emotes, animations and avatar interactions introduced by the collaboration are emotional elements that can convey a sense of empowerment and confidence that can resonate with players. For example, the emote introduced in the battle pass during this collaboration, 'lateral hop', can be used as a way to celebrate victory. Those emotional nuances add a layer of storytelling to the virtual experience, creating a more immersive and emotionally resonant connection between the player and the brand.

VALUE CREATION

Within the digital environment, what narrative elements are used to raise awareness of the brand's story and values?

Fortnite is not primarily configured as a game focused on narrative storytelling, as the most popular game mode is battle royale, characterised by repeated survival action over time, with no plot to follow or defined end goal (Li et al., 2020). However, the inclusion of the collaboration of the Polo Pony Island car race introduces a different dimension of gameplay and thus a narrative element within the game, which manifests itself at the start of the car race. In detail, the avatar with the Ralph Lauren appears, and instructs players on how to play the car race through epic communication. The avatar describes the race as a place where skilled players compete to test their skills, highlighting the three main checkpoints that participants will have to pass through to change vehicles. This built-in storytelling element effectively communicates the essence of the race and adds a narrative layer to Fortnite's game dynamics, making the experience more engaging for players. Thus, the brand, through the Polo Pony island, consolidates its core elements within a digital world. The island deviates from Fortnite's gameplay, and the player is then obliged to follow the path that will lead him to discover, through digital elements in the virtual environment, the values of the brand. For example, the '92 drawn on buildings in the game refers to the year of the collection, the Wing Boots logo has a dedicated building, and that logo is placed on the launch ramps and is used as a symbol to give bonuses to the player. Within the virtual environments, there's an old farmhouse, which refers to the American values of the brand, and the garage, where the race starts with the Polo Stadium Cup event trophy on display. This type of communication suggests the use of a passive storytelling, which makes the player aware of the brand values without actually explicating or explaining them. Beyond the game itself, the communication and storytelling of the collaboration continued on Fortnite and Polo Ralph Laurent's Instagram channels, through photos and promotional videos of the outfits, with a few keywords in description representative of the values they were inspired by for the collaboration.

Dimension and questions	Description
How are the goals and values of the fashion brand, and user expertise integrated into the in-game/metaverse experience to support collaboration and interaction between users and brands.	The collaboration builds on Ralph Lauren's long experience in digital innovation and storytelling. All the work is about merging multiple worlds and is structured across multiple communication channels, with equal importance for both digital and physical products. This underlies the use of an omnichannel strategy by the two brands in order to offer an immersive experience that is as complete as possible, through virtual realms, events, live streams, and physical and digital products. The collaboration first finds harmony through the corresponding choice of collaboration between those two specific brands. Indeed, Fortnite has an average of 239 million monthly players and a peak of 15 million players in a day (The Economic Times, 2023). Around 85% of Fortnite players are aged between 18-35, and over 13 million hours of Fortnite are streamed weekly on Twitch (Howart, 2022). Those numbers mean a different, younger, and larger target group for Ralph Lauren. It is therefore a way to broaden brand awareness and the target group of the brand. Similarly, it is possible to consider the same discourse but in the reverse direction: Ralph Lauren is positioned as a brand in the upper-middle-class to upper-class range (Davis et al., n.d.). This means that the Ralph Lauren target tends to have the most disposable income to spend on clothing. Furthermore, the Ralph Lauren consumer is very family oriented, and this means that the two brands find an intersection in target audience, as Ralph Lauren's target audience is made up of households that in most cases have children, who are likely to play one of the most downloaded games in the world, such as Fortnite (Frith et al., n.d.). In addition, Ralph Lauren began improving its communication in 2018 in an effort to attract and keep two important demographics: Gen X and millennials as well as Gen Z (post-millennials) (Votik, 2022). This collaboration is therefore the coronation of the digitalization intent that Ralph Lauren had already been pursuing for some time (Votik, 2022). Furthermore, the marketing choices and aesthetics of the product are consistent and harmonious with the values of both brands: the physical garments completely echo Ralph Lauren's style, while the digital skins fit perfectly within the aesthetics of the video game. The launch of the collaboration via Twitch is in line with Fortnite's target audience, while competitions organised inside Ralph Lauren shops engage the fashion brand's customers in a new experience. This choice of the two brands to collaborate through this common ground has not been understood by Fortnite users, who, while acknowledging that the collaboration is well done and successful, in fact, feedbacks of the collaboration has not overall achieved a positive outcome. Indeed, a lot of Fortnite players didn't understand the intersection of the values of the two brands, and didn't evaluate the entire collection positively, defining it 'pointless'.

What tools and interactive mechanisms are implemented to support active participation of users with the brand and vice-versa?

Skins in Fortnite mainly serve a differentiating function for the player, focusing on a purely aesthetic aspect. The purchase of skins does not result in any change in gameplay, except visually; they do not confer personal advantages or change game dynamics. In this sense, skins take on a role primarily of characterising the virtual character, helping to create a unique visual identity for each player. Their importance manifests itself in a socially digital context, as skins allow players to be distinguished from others based on aesthetic factors or game history. For instance, a player might possess a very old skin, serving as a distinctive sign that recognizes him or her as a veteran of the game. This aspect contributes to a kind of 'visual story' for each player, allowing them to express their experience and dedication to the game through their choice of skins. In this way, skins not only are a decorative element of the game but also become a vehicle through which players can communicate their identity and status within the Fortnite community. Therefore, by creating new skins by collaborating with Ralph Lauren, the Fortnite player can customise his or her avatar with a skin with which he or she shares aesthetic tastes or values that it embodies. When a fashion brand, as in the case of the skins created by Ralph Lauren, succeeds in conveying its values through the design of the skins, it becomes not only a decorative element in the game, but also a medium for personal expression. The choice to purchase and use a particular skin then becomes an act of identification with the principles and aesthetics of the brand involved in the collaboration, creating engagement in the player and awareness toward the brand's own values. The skin becomes a kind of visual manifesto through which the player communicates not only their passion for the game, but also their adherence to a lifestyle or specific values promoted by the brand. In this context, the skin is not simply a virtual accessory, but a vehicle of added value for the player. By purchasing and using a skin resulting from a collaboration with a fashion brand, the player can emphasise his or her connection to the world of fashion and show his or her appreciation for the aesthetic and conceptual elements proposed by the brand. Thus, avatar customization through these skins becomes an act of self-affirmation and sharing an aesthetic and values that go beyond the context of the video game.

In what way does the fashion brand communicate values or even create values?

The design selected by Ralph Lauren in Fortnite communicates a timeless iconicity and aesthetic, drawing direct inspiration from a collection dating back to 1992. This choice was deliberate and not arbitrary, as it draws its influence entirely from the realm of sports, particularly the field of aviation. Through this approach, Polo Ralph Lauren ensures the transmission of its fundamental values—a style that is both timeless and sporty, exuding comfort and elegance—in a lucid and resolute manner. It is noticeable that the aesthetics of the two collections, physical and digital, are profoundly different. The entire capsule collection, from outfits to accessories, refers to the world of Ralph Lauren, which thus communicates its values and brand

**Dimension
and questions**

Description

philosophy in a new way. If the digital capsule collection communicates the Ralph Lauren brand's values on Fortnite by the aesthetic details of the skins, the physical capsule collection, on the other hand, takes in the brand's basic garments with the logo revisited in Fortnite style: the two brands, thus, exchange communicative elements with each other in order to reach as many audiences as possible. Indeed, physical garments remain absolutely close to the brand's aesthetic, incorporating Ralph Lauren's strongest basics clothes and changing only the logo detail. This was done to ensure that the collaboration is consistent and close to the values of the brand, which has always been distinguished for being synonymous with understated and timeless elegance, adding thought a bit of Fortnite world, using the Llama instead

Fig. 4.10 Polo Ralph Lauren 1992 vintage collection 'Polo Stadium Collection'

of the Ralph Lauren's pony. On the other hand, the digital collection expresses a completely different aesthetic, more dynamic and closer to the video game. In the original collection that inspired the aesthetic of the Fortnite's skins there was already the presence of the winged boot element, which will later be the inspiration for the creation of the P-Wing boots. Both collections are therefore consistent with the way they are sold, thus highlighting the potential of both brands and allowing users and customers to choose the aesthetics they prefer.

What features and possibilities are designed within the video game to support emotional connection and engagement with the fashion brand?

The ability to choose and customise skins allows players to express their personality and identity in the virtual world. Players often select skins that resonate with their personal preferences, interests, or even moods, creating a sense of connection between the virtual representation and their real selves. It is for this reason that Ralph Laurent chose Fortnite for the collaboration: although there is no narrated story that communicates directly with the player, the use of the skin creates a communicative and emotional channel with the player that makes him more involved in the game and in the digital social recognition he gets in using it. Indeed, certain rare or exclusive skins may signify a player's dedication, skill level, or participation in specific events. Owning and showcasing these skins can create a sense of belonging to a community of players who share similar experiences, fostering a feeling of camaraderie and shared achievement, and this is the case of it, because behind all the collaboration, the decision of using Ralph Laurent skins can possibly signify that the player resonate with the brand's core values.

4.3 Looop Isle

Date	April 2021 - now
Brands involved	H&M, Animal Crossing
Platform	Animal Crossing

Tab 4.4 H&M and Animal Crossing basic collaboration informations.

Description. Animal Crossing, a beloved life simulation video game series developed by Nintendo, provides players with a charming virtual world where they can engage in various activities such as fishing, bug catching, fossil hunting, and building and customising their own virtual homes.

Fig. 4.xx, Pascal Brun and Maisie Williams' avatars on the Looop Isle

The game operates in real-time and follows a relaxed, open-ended gameplay structure, fostering creativity, social interactions, and a sense of community. Central to Animal Crossing is the freedom for players to express their creativity. Whether through designing homes, customising landscapes, or creating unique outfits, the game encourages personalisation and self-expression.

Fig. 4.xx: A digital wedding on Animal Crossing celebrated during COVID-19 quarantine

Indeed, Animal Crossing places a strong emphasis on community-building and social interactions. Players can visit each other's islands, share resources, and participate in events together, fostering a sense of camaraderie and friendship. With its peaceful setting and leisurely pace, Animal Crossing offers players a relaxing escape from the hustle and bustle of daily life. The game promotes a stress-free environment where players can unwind and enjoy a virtual paradise. This is the main reason why the video game saw sales boost during the 2020 COVID-19. In fact, being unable to leave their homes during the lockdown, many people decided to spend their free time playing Animal Crossing, actually building an alternative digital life for themselves. Birthdays, parties, and even weddings have been celebrated digitally in the video game by inviting other users to an island.

Additionally, Animal Crossing has become a unique platform for digital collaborations with fashion brands. During the COVID-19 pandemic, as physical fashion events were limited, brands found a virtual runway in Animal Crossing. In-game custom designs and clothing items inspired by real-world fashion brands, such as luxury labels like Valentino and Marc Jacobs, allowed players to dress their avatars in stylish virtual outfits.

H&M is a globally recognised fashion retailer renowned for its affordable and trendy clothing and accessories. Founded in Sweden in 1947, H&M has expanded its presence to become one of the world's largest and most popular fashion brands. The company is characterised by its fast-fashion business model, offering a wide range of styles and collections that are frequently updated to align with current fashion trends. At the core of H&M's philosophy is the belief that fashion should be inclusive and accessible to everyone: the brand strives to offer a diverse range of styles and sizes to cater to a broad customer base, promoting a sense of fashion inclusivity. In recent years, H&M has placed a strong emphasis on sustainability and ethical practices. The brand is dedicated to producing more sustainable and

Fig. 4.11 Animal Crossing marriage happened during COVID-19 quarantine

eco-friendly clothes by utilising organic and recycled materials, minimising waste, and encouraging fair employment standards throughout its supply chain. On their website, the brand states that the aim is to have 100% of their materials to be either recycled or sourced in a more sustainable way by 2023, and 30% of them made by recycled materials by 2025. Additionally, H&M consistently explores innovative retail strategies, incorporating technology and digital solutions to enhance the shopping experience. This includes online platforms, mobile apps, and other initiatives aimed at making fashion more accessible and enjoyable for customers.

The journey towards this digital collaboration commenced on October 7, 2020, with the initiation of H&M's Recycling System project, 'Looop.' This innovative project, initially launched in Stockholm and subsequently extended to H&M stores globally, allows customers to bring in old garments for recycling. The process involves transforming discarded clothes into new fabric for H&M's upcoming collections, employing a sustainable approach that eliminates the additional need for water or chemicals. While recycled materials are the primary focus, certain virgin materials from responsibly managed sources may be incorporated to enhance the yarn (H&M, 2020). With the success of the Loop machine concept, H&M strategically expanded its communication channels by introducing this eco-friendly initiative through the virtual realm of the Animal Crossing video game, featuring brand ambassador Maisie Williams. The British actress, widely recognised for her role as Arya Stark in Game of Thrones, collaborates actively with H&M on this project.

In the virtual island of Animal Crossing, the player partners with the avatars of Maisie and Pascal, head of sustainability for H&M, who invite the player to explore the island. This 'Loop Island' is a digital environment created directly with the gameplay of Animal Crossing by Maisie Williams herself, working closely with the H&M team to create the islands. She decided to create a place that was both beautiful and educational, and could inspire players to live more sustainably. Through interactions with their digital twin, players can engage in emotive exchanges, exchange messages, and capture memorable moments through in-game photography. This immersive collaboration brings the eco-friendly message to a wider audience in a creative and engaging manner.

Dimension and questions	Description
DIGITALIZATION	
1.a How are immersive technologies leveraged to create and communicate value and improve users' experiences with brands?	H&M introduced the 'Co-Exist Story,' a fully digital collection accessible in both physical and virtual realms on Animal Crossing. Before this collaboration, H&M had pioneered entirely digital garments, obtainable not through purchase but by participating in a competition where winners had the chance to receive a personalised avatar adorned with the collection. This innovative approach relied on the utilisation of 3D software, animation tools, augmented reality, and digitally edited photographs. Simultaneously, H&M expanded its digital footprint by partnering with the popular video game Animal Crossing. Entry into this immersive gaming experience is contingent upon owning specific platforms distributed directly by Nintendo. It's noteworthy that while the engaging world of Animal Crossing comes at a cost, including expenses for purchasing the gaming console, Nintendo's consoles are widely accessible and often more budget-friendly compared to alternatives in the market. This accessibility removes a significant potential barrier, promoting a diverse audience and making the virtual collaboration with H&M more inclusive.
1.b How do virtual worlds in video games integrate/exploit immersive technologies to convey and communicate brand values?	H&M's vegan and digital collection for Animal Crossing was presented via a fashion show held directly on the video game platform. To allow any non-Nintendo users to experience Looop Island and meet Avatar Maisie, it has been promoted to a livestream with Maisie hosted on IGN's Twitch channel. The event was publicised on the social channels of both brands and the actress through promotional videos showing Maisie inside a fully digital world, which mentally references the concept of the metaverse. Simultaneously with the presentation of the collection, Animal Crossing made 'Looop Isle', the island created by H&M and Maisie Williams, accessible to all players. Taking direct advantage of the game, H&M has managed to build an island entirely dedicated to its Looop machine, with a space completely dedicated to the main action the player can perform: exchanging clothes. Also featured was Pascal Brun's home, with his private studio and a room reserved for the H&M runway, a themed restaurant and abundant nature to emphasise ecology as a core value of the collaboration. In this context, players can explore the island, interact with characters, the Looop machine, and talk to Maisie's avatar, who remains a key character within the island. The Looop Isle is thus set up as an immersive digital channel through which H&M communicates its values of sustainability and digitization in an engaging and innovative way. This makes Loop Island the first area entirely dedicated to sustainable fashion in the video game. This initiative not only transforms the traditional presentation of a collection into an interactive experience, but also underscores the brand's commitment to sustainability and the integration of new digital dimensions into the shopping experience.

1.c What elements are employed to ensure the quality of the experience effectively communicated and reinforces the intended brand values?

The island was designed with the aim of educating players about sustainability and recreating it in a way that is not boring, but fun and immersive. In fact, players can explore the island, interact with the residents, visit the Looop store present and learn about different recycling initiatives that the brand has implemented. The collaboration can be enjoyed with the same gameplay of the video game, the only difference are the information of educational functions added, to teach about the environmental responsibility moves that the brand has implemented. The island is visually appealing with activities that keep players engaged, such as minigames that make the island a fun and rewarding place to explore. As in the original Animal Crossing gameplay, players can collect items, customise themselves with outfits, and interact with other players, fostering a sense of community and collaboration. In the comments under exploration videos or during live broadcasts on Twitch, a positive consensus emerges regarding the aesthetics of the digital island. Many people express admiration for the futuristic vision of a sustainable city. The positive comments reflect the perception of the island as an example of ecological beauty and a representation of a possible sustainable future.

Fig. 4.13 The Looop machine in game

Dimension and questions	Description
	On the other hand, critical comments express concerns about H&M's actual sustainability, accusing the brand of greenwashing and pointing out the apparent contradiction between the promotion of digital sustainability and H&M's reputation as part of one of the world's most polluting fashion corporations. However, such criticisms struggle to find support, as H&M has skillfully integrated the communication of its green values into both digital and physical. The vegan collection, for example, represents a tangible effort toward sustainability, helping to create the illusion that, despite the company's size and environmental impact, significant progress is being made in terms of environmental responsibility.
1.d In what way is the environment designed to be immersive and able to create a sense of presence in users/players?	The whole island is structured to be purple, from the colour of those who live there to the colour of the plants. This is because it is the colour of the thread that the loop machine produces. In addition, there are several attractions on the island, including Pascal's house, which features his studio and a room to make a runaway H&M-style, the museum, two restaurants, the lighthouse, the 'star forest' and, of course, the loop corner, where clothes can be exchanged. The player can interact with Maisie Williams' avatar, who will respond to the player with phrases that communicate H&M's values and purpose. In addition, the moment one interacts with her avatar, a game mode starts in which the player can explore the island and also interact with the avatars of Pascal, Robin, and Katie, all managers and figures in the H&M company. The player can interact with them by taking photos, exchanging reactions, and talking together about sustainability as they explore the dedicated island together. The idea of also having Maisie Williams' avatar makes the experience even more engaging, because in this way players can interact and explore the island with her, taking advantage of his status as a famous person. The virtual environment is using Animal Crossing tools and decorations both personalised for the collaboration and already present in game. This makes all the environments very similar to normal Animal Crossing gameplay, making collaboration cohesive with the game and, as a result, stronger and more communicative. The ability to offer slightly different and more exclusive experiences on the dedicated island increases player engagement and facilitates the delivery of a communication message more effectively. In addition, the ability to interact with avatars of people who actually exist intensifies the player's immersion in the game, increasing his or her sense of presence. This further amplifies the experience, creating a stronger link between the digital world and the real world for participants. The homogeneity and with the normal gameplay and aesthetics of Animal Crossing's virtual environment ensures that collaboration is seamlessly integrated into the gaming experience, making player participation more authentic and engaging. The dedicated island offers users a unique context in which they can in fact experience something unique, helping to keep attention and enthusiasm for H&M's digital collection high. The presence of avatars based on real people adds a level of realism and authenticity, stimulating deeper engagement by players

who feel more tangibly connected to the digital environment. The consistency with the video game's virtual environment and offering more exclusive experiences help make this collaboration a success, capturing players' interest and effectively conveying H&M's communicative messages.

METAVERSE

2.a What are the marketing strategies put in place within the metaverse to support the communication of the brand values and the promotion of its products/services?

Looop Island was released with the April 2021 Animal Crossing update, accompanied by a social campaign mainly featured on instagram via the hashtags #looopit, #jointherecyclingevolution and #letschangefashion. In this way, people who visit the island have the opportunity to post photos of their avatars taken in-game. Furthermore, H&M has selected a series of influencers to spread this message, who posted on Instagram themselves playing on Animal Crossing, or with their AC avatar next to them, with a caption that aimed to raise awareness about the sustainability of fashion. This is not the first time that H&M has committed to communicating its ecological set of values, and this campaign has further consolidated the change in public opinion about the brand. Of course, there has been no lack of criticism, but it has passed in a whisper, as the brand is now increasingly linked to ecological and sustainable values, cleaning up its image as one of the most polluting fast fashion brands present in commerce. The collaboration was also promoted directly on Animal Crossing's social channels and also in the video game, as the H&M's branding was seamlessly integrated into not only the Looop Islands through branded furniture, clothing items, and outfits, but also in the video game. Players could thus customise their homes and characters with H&M-themed items, enhancing brand visibility and recall even if they do not visit the Looop isle. After the launch of the collaboration, H&M published on Instagram a promotional video, in which Maisie Williams makes an emotional connection with the audience by expressing concern about the future of the planet, and then proceeds to explain how the Looop Machine works, describing it as a possible solution that can change the fate of the planet. In the final piece of the video, the evolution of mankind is discussed and Maisie's avatar appears wearing a scarf directly taken from the Looop machine, highlighting how the metaverse, the digital world, is part of the solution H&M wants to offer. The promotional video aims to create an emotional connection with the viewer, appealing to his or her concerns and creating a solution specifically to reassure. Finally, 6 months after the collaboration began, H&M released the vegan capsule collection 'Co-existing Story,' and with it arranged for users to participate in a fashion show event on the island, held at the time the player visits Pascal Brun's home.

In summary, the marketing strategy is based on the brand's ability to create an engaging story through collaboration and to keep the audience's attention by dividing this story into two separate but related events. It then created an experience that is meaningful, engaging, and piques the audience's interest over the long term.

Dimension and questions	Description
2.b What communicative elements and strategies contribute to the perception of the brand within the metaverse environment? How do these elements enhance the brand's visibility and recognition on the platform?	The communication of this collaboration is mainly based on letting customers and players know that H&M is doing everything possible to pursue a sustainable goal. The Looop Isle presents itself as a utopian solution: it is virtual, but very close to the reality we know, which H&M promotes, wearable linking this vision of the world with the brand.

By integrating its branding, H&M made sure that it had all the elements available to create its own customised island. Thus, we find the logo prominently displayed throughout the island, reinforcing H&M's commitment to the values of sustainability and recycling and making it clear to the player who is behind the campaign. The Looop island also featured a number of educational elements that helped players learn about sustainability. Interactive displays, informational text, and helpful tips were all used to teach players about the importance of recycling and reusing clothing. Furthermore, the island has a predominance of the colour purple, because it represents the colour of the fabric thread that produces the Looop machine. Flowers, furniture, streets and even all the NPCs living on the island are purple. Lastly, there are many purely natural spaces on the island, including forests, lakes and vegetable gardens, with even solar panels, communicating the value of sustainability. In addition to creating this entirely digital interactive environment, H&M also organised a virtual fashion show in Animal Crossing, not the first, considering that Valentino and Marc Jacobs also launched some garments on the video game in 2020. The H&M fashion show, however, is presented by the in-game avatars of Pascal Brun, H&M's global head of sustainability, and American gamer BrookeAB, who has a following of 1.2 million on Twitch. The gamer's choice is no coincidence, since at the time of the Animal Crossing show in April 2021, the game was streamed on Twitch for a total of 2.76 million hours viewed weekly (TwitchTracker, 2023). Finally, the collaboration with Maisie Williams as ambassador adds another layer of reliability and transparency to H&M's communication message. Her notoriety among young people makes her an influential face, and the decision to use such a famous and socially engaged character helps give an authentic character to H&M's vision of sustainability. Williams' credibility, which genuinely embraces H&M's sustainability cause, positions her as a perfect ambassador to effectively and authentically convey the brand's values. His participation both physically and digitally reinforces the power of the message and public trust, creating a deeper connection between the celebrity, the brand, and H&M's sustainability mission.

2.c What in-game and in-metaverse ways do users have to express themselves and communicate their values?

To be specified before studying the possibilities of player expression is the inherent possibility present in Animal Crossing itself. In fact, the game proposes itself with a very high level of customization, from the clothes, to the furniture, to the layout of the island. The game gives the player the inherent possibility to be himself and to modify what is around him at will. The collaboration fits into this customizable universe by increasing the possibilities through the production of a capsule collection. It is an entirely vegan collection with women's and men's clothes within the video game. The garments are part of the 'Co-exist story' collection, animal friendly garments launched by the brand in October 2021 (H&M, 2021). It is in total a 11-piece capsule collection, including a one-size-fits-all windbreaker, a neon green fur knit scarf, an orange mini-dress with cut-out details, a leather sleeveless blazer and a slogan sweatshirt. Players then have the opportunity to customise their avatar using garments from H&M's collection at any time of play. In addition, the collaboration does not stop with clothes, but also produces interior furniture that you can make or buy to decorate your home on Animal Crossing. This game mode harmonises perfectly with the world of Animal Crossing, because it is already present in the game through Abel's sister store, a tailoring store, which allows players to design the pattern of their own clothes, accessories or home furnishings. The same argument applies on the outdoor objects, with which the user can decorate to his or her liking the island on which he or she experiences most of the game experience. Users then have the opportunity to use the products of the collaboration to freely express their adherence to and sharing of its values, creating a spontaneous emotional bond. This connection is not imposed, as participation is not mandatory. Also, by visiting the island, players can feel part of the creative process using the Looop machine. As a result, they will be more likely to use machine-produced items to communicate their involvement in the gaming experience. This direct interaction with the Looop machine within the context of Animal Crossing makes the experience more immersive and helps strengthen the bond between players and H&M's virtual collection and emotionally communicate the concepts of sustainability and circular economy.

2.d In what ways can users personalise and interact with their avatars, favouring identification and participation in the immersive environments?

By creating an island on Animal Crossing, players are given the freedom to explore every corner of it without any restrictions. The Looop Isle, although it cannot be customised directly by the player, already comes adorned according to the shared vision of Maisie Williams and H&M, thus reinforcing the communication of an ideal world they wish to present to users. This intentional choice of a predetermined island reflects the care and attention with which the collaboration was conceived, creating an immersive experience that thus succeeds in conveying a clearly defined message of sustainability. Freedom of interaction on the island is, therefore, limited to exploration, use of the Looop machine, and interaction with the avatars of Maisie and Paul. This focused approach to controlling the appearance of the island suggests a desire

**Dimension
and questions**

Description

Fig. 4.14 Ecological communicative elements on the island

to guide the player's experience through a coherent immersive narrative. The exploration of the island thus becomes a predefined journey, guided by Maisie Williams and H&M's artistic and conceptual vision, which was imagined to tangibly convey the values of the collaboration. The presence of the Looop machine on the island is a central element in engaging players in the experience. This tool offers a unique opportunity for participation, as it allows players to interact directly with the creative process and experience the production of virtual garments. The interaction with Maisie and Paul's avatars, with the ability to take photos together, adds a personal touch to the experience, creating a more intimate connection between players and the digital world proposed by the collaboration. Thus, the island on Animal Crossing becomes an interactive stage offering an immersive visual and emotional perspective created to share the story and values of Maisie Williams' collaboration with H&M in an engaging way.

VALUE CREATION

3.a Within the digital environment, what narrative elements are used to raise awareness of the brand's story and values?

Animal Crossing is a video game that is developed within a very open and nonlinear narrative context. His narrative focuses on daily life and management activities in a village populated by animal anthropomorphs, where the main objective is to live a virtual life, developing the village, socialising with the inhabitants, fishing, hunting insects, growing fruit, decorating one's home, and participating in seasonal events. The game thus lacks a traditional plot with a definite beginning and end: its narrative is developed through the player's daily interactions and activities in the village. Villagers have distinct personalities, individual stories, and relationships with other animals in the village. The player can create their own experience and decide how to interact with the villagers and their surroundings. In addition, Animal Crossing incorporates elements of social play, encouraging multiplayer and online interactions among players. Into this space fits the collaboration with H&M, which offers an explorable island outside the player's usual gameplay, giving a pretext for adventure. Within the island, the narrative changes slightly: there are NPCs characters on the island, and if you interact with them, the dialogues veer to the values of sustainability and circular economy, thus those that H&M considers of paramount importance to communicate. In addition, the island takes on a narrative function as a space in which to begin living cyclically, albeit digitally, serving as a reference point for using the Looop machine. It is important to notice that this machine, present in both the virtual context of Animal Crossing and in real life, is currently in use by H&M. Furthermore, H&M implements an effective branding strategy within the Looop Isle by incorporating distinctive brand elements and logos, thus ensuring a recognizable visual presence in the virtual environment. This tactic aims to stimulate the player by encouraging direct association between the eco-friendly lifestyle proposed on the island and the H&M brand.The visual presence of branding within the Looop Isle not only reinforces brand identity, but also helps create a tangible link between the digital experience and H&M's sustainability message. The branding elements, being clearly visible during interaction with the Looop machine and exploration of the island, serve as a constant visual reminder, solidifying the association between the proposed ecological approach and the brand itself. In addition, this visual presence within the virtual environment promotes message consistency, helping to establish H&M's identity as sustainable and committed to promoting an eco-friendly lifestyle.

Dimension and questions	Description
3.b How are the goals and values of the fashion brand, and user expertise integrated into the in-game experience to support collaboration and interaction between users and brand?	The main purpose of the collaboration is to highlight the values of H&M's sustainability campaign. Being a fast fashion brand, and therefore one with a large environmental impact, H&M decided to focus a lot on this ecological initiative and especially to communicate their objective to have all their products made from recycled or sustainably sourced materials by 2023 to as many people as possible. For this reason, it turned to a collaboration with Animal Crossing, which boasts of 42.79 million copies sold (Statista, 2023). The collaboration does not overdo the outputs, risking making the whole co-creation work between the two brands chaotic, but fits well within the world of the video game, which by definition is composed of several islands. The two brands therefore achieve a constructive harmony through the concept and aesthetics of the island. In addition, ambassador Maisie Williams, the actress best known for the Game Of Thrones series, has been chosen by H&M to embody and communicate the values of sustainability and recycling. The harmony of the collaboration is also given by the meeting of targets: in fact, Animal Crossing, although designed for young children, has surprisingly acquired a target of post-pandemic young adults, millennials and GenZ, who have found in the game a dimension of everyday life and distraction from quarantine. The same target group has mainly H&M, as a fast fashion brand with affordable prices for those with limited money, i.e. the generations who are still studying or have recently started working. Maisie Williams is also known by the same generations, as Game Of Thrones is a fantasy show but definitely racy and uncensored, thus for generations that are in their teens or have recently passed it. The main reason for this collaboration is to communicate through a new communication channel the company's ultimate sustainability goal, which, as they have explicitly expressed it, will be one of the fundamentals in the near future. H&M is a fast fashion brand and therefore extremely polluting in terms of production, waste and transport. In fact, their statement states how the brand is committed to using recycled or sustainable fabrics, but not to making the entire production sustainable. Through the whole marketing campaign of the target, including the collaboration with Animal Crossing, however, this question almost vanishes from the user's perception. The brand is so committed to the value of sustainability with its name and inculcates through awareness and engagement this link to the user.

3.c What tools and inte-
ractive mechanisms are
implemented to support
active participation of
users with the brand
and vice-versa?

The gameplay opportunities on Looop Isle differ significantly from normal Animal Crossing gameplay, offering players the chance to perform unique actions, with the key use of the Looop machine in the foreground. This peculiarity encourages players to travel to the island to perform action beyond traditional gameplay, thus increasing the sense of agency. Participation in this initiative not only makes players feel special by being involved in an exclusive experience, but also introduces them to a virtual community. The distinctive element of the Looop machine becomes a source of motivation, prompting players to explore the island and participate in something that aims to contribute positively to society in the long run. In addition to providing an exclusive sense of belonging and participation, this initiative raises awareness of ecological issues among players, encouraging them to be an integral part of an initiative that aims to translate commitment into concrete action for the good of society. In essence, the Looop Isle not only enriches gameplay with new possibilities, but also transforms into an immersive virtual space that goes beyond the traditional gaming experience. This approach not only increases player engagement, but also educates and encourages the player to actively participate in an initiative that aspires to make a difference in the virtual and real worlds.

On the customization aspect, the player is not restricted, because after exploring the island they can unlock both H&M signature patterns and outdoor and indoor furniture in order to decorate their island. The introduction of these customization options allows collaboration to fit fully into the traditional gameplay of Animal Crossing, greatly expanding the customization opportunities for the player. Such enrichment not only elevates the player's sense of autonomy, but also provides a more varied and immersive gaming experience. The ability to use H&M patterns and furniture represents a tangible way through which collaboration merges with the normal flow of the game, allowing players to incorporate the distinctive elements of the virtual collection into their virtual world of Animal Crossing. This integration not only adds a unique aesthetic touch to the island, but also transforms collaboration into a participatory and dynamic experience, allowing players to express their creativity through the customization of play spaces.In addition, the availability of H&M designer patterns and furniture contributes to a substantial increase in the player's customization options, making the gaming experience more satisfying and engaging in the long run. This approach not only reflects the collaboration's commitment to providing an integrated experience, but also demonstrates a conscious focus on player satisfaction, thus enriching the overall experience on Animal Crossing.

Dimension and questions	Description
3.d In what way does the fashion brand communicate values or even create values?	The choice of collaborating with Animal Crossing is not accidental: the video game in fact has a large proportion of tasks in the entire gameplay that relate to the natural environment. Fruit picking, fishing, flower cultivation and bug catching are all main activities in Animal Crossing, which also gives the player the opportunity to donate the cultivated and collected species to the city museum. What sets this game apart is its unique feature of allowing players to donate the species they cultivate and collect to the city museum, fostering a sense of environmental stewardship. The gameplay of Animal Crossing therefore fits perfectly with the values that H&M wants to communicate and make its own, like sustainability and circular economy. The intentional fusion of H&M values with the in-game tasks not only underscores the brand's commitment to sustainability but also provides players with an immersive experience that encourages a thoughtful approach to their in-game actions. Furthermore, the collaboration reaches its apex by building an island on the virtual platform entirely dedicated to the Loop concept, which is met with extremely positive feedback from the Animal Crossing community. Through a series of judicious strategic choices, H&M not only aims to communicate sustainability values, but also strives to make them an integral part of the brand identity itself. The first crucial decision concerns the selection of the type of video game with which to collaborate, a choice that reflects H&M's focus on an active and environmentally conscious audience. Animal Crossing, with its emphasis on activities related to the natural environment, provides the perfect stage to organically integrate the brand's sustainable values into the game's storyline. Secondly, the specific action the player is asked to perform on the island helps shape the narrative about sustainability. The inclusion of activities such as growing fruit, fishing, and catching insects within the gameplay not only aligns the game experience with H&M's sustainable principles, but also channels the player toward actions that reflect a responsible approach toward the virtual environment. Finally, the strategic choice to include a resonant actress who is well-known among people from the Animal Crossing generation of players lends a familiar and authentic face to the collaboration. This strategy not only increases the visibility of the partnership, but also proves to be a defence against criticism that might arise about the brand's consistency with sustainable values. The association with a well-known actress, in particular, solidifies H&M's commitment to actively engaging its target audience through influential and authentic figures. In conclusion, through a thoughtful sequence of decisions, H&M not only sets out to communicate sustainability values, but also seeks to root them in the brand identity, making them an intrinsic and recognizable element. This approach not only proves to be strategic in consolidating H&M's sustainable image, but also serves as a defensive barrier against possible criticism, helping to grapple with the brand's reputation in the context of sustainability.

3.e What features and possibilities are designed within the video game to support emotional connection and engagement with the fashion brand?

Narrative and emotional elements are hidden in so many aesthetic details found on the island, contributing to an engaging visual and narrative context. A distinctive feature is the wind turbines and solar panels that dot the entire island, visually conveying a tangible commitment to energy sustainability. In the residential area, the landscape is enriched with vegetable gardens and beehives, embodying an ecological lifestyle that promotes values of harvesting and local trading. A significant element is the presence of areas dedicated to waste collection, local produce tasting, and camping. Every detail is orchestrated to exhibit a circular lifestyle, consistent with the brand's desired future vision. In particular, the 'glowing forest' introduces a utopian vision through faux skyscrapers, expressing the brand's commitment to envisioning a city of the future. In addition to the attention to aesthetic details, the integration of Pascal and Maisie's avatars gives players the opportunity to interact with them through dialogues, emotes, and photographs. Their avatars also have a dedicated home, the 'H&M house,' which through interior decoration reveals H&M's workplaces, a showroom, and an apartment designed entirely by Maisie. The addition of simple but punchy dialogues, such as "let's change fashion" and "looop!" emphasises the central message of sustainability. For Nintendo fans, as the video game being supported by the Switch console so probably every average player of Animal Crossing, a brilliant touch is the Super Mario-inspired tube in front of the Looop machine. This element transports players to a secret room in the H&M house, replicating the campaign portal with Maisie. This fusion of the worlds of Super Mario and Animal Crossing adds a layer of entertainment and connection with the audience who are fans of Nintendo video games. Finally, at the end of the tour, players are given the opportunity to leave a message on the island's community bulletin board. This interactive tactic allows players, the H&M team, Pascal, and Maisie to share emotional messages about sustainability, creating a lasting and engaging bond with the virtual community.

4.4 Freedom to go Beyond

Date	1.11.2022-15.11.2022
Brands involved	Burberry, Minecraft
Platform	Minecraft

Tab 4.5 Burberry x Minecraft basic collaboration informations.

Description. Minecraft is a popular sandbox video game that was created by Markus 'Notch' Persson and later developed and published by Mojang. It was officially released in 2011 and has since gained a massive and dedicated player base, becoming in a short time one of the most downloaded games in the world. Today, it has 166 million monthly active users as of 2024.
Fig. 4.xx: Burberry outfit and its digital version of Minecraft
Minecraft places a strong emphasis on creativity, allowing players to build and create their own virtual worlds using a variety of different blocks. The open-ended nature of the game encourages players to use their imagination and come up with unique structures and landscapes. The game features a vast and procedurally generated world for players to explore: Minecraft's landscapes include various biomes, caves, and structures, providing players with endless opportunities for adventure and discovery. While there is a creative mode that allows unlimited resources and the ability to fly, Minecraft also offers a survival mode where players must gather resources, craft tools, and fend off hostile creatures. With its two modes, Minecraft offers a gaming experience that can be both challenging or relaxing, depending on the player's needs. Minecraft has a strong sense of community, with players sharing their creations, mods, and game modifications. The game's multiplayer mode allows players to collaborate on projects, engage in friendly competition, or simply enjoy each other's company in the virtual world. In general, the game provides players with a high degree of freedom. Whether it's building elaborate structures, engaging in redstone engineering, or exploring the depths of the world, players have the autonomy to choose their own path and

Fig. 4.15 Main screen of both brands' websites in the collaborations section

playstyle. Minecraft has a history of continuous updates and improvements, introducing new features, blocks, and gameplay mechanics over time. This commitment to ongoing development has contributed to the game's longevity and sustained popularity.

Burberry is a renowned British luxury fashion house, established in 1856 by Thomas Burberry. Over its long history, Burberry has become synonymous with timeless elegance and quality craftsmanship. The brand is celebrated for its distinctive trench coats, iconic check pattern, and commitment to blending traditional styles with modern sensibilities. Burberry takes pride in its rich heritage, drawing inspiration from its Victorian roots. The brand has successfully maintained a balance between traditional craftsmanship and contemporary fashion, creating a timeless appeal. Burberry is synonymous with impeccable craftsmanship and attention to detail: indeed, the brand places a premium on using high-quality materials and employing skilled artisans to ensure the longevity and superior quality of its products. Despite its deep roots in tradition, Burberry is known for embracing innovation in

Fig. 4.16 Temporary installation in Shenzen

design and technology. In fact, it has been at the forefront of digital advancements in the fashion industry, incorporating technology into its runway shows and retail experiences. In recent years, Burberry has taken significant strides towards sustainability, incorporating eco-friendly practices in its manufacturing processes, reducing its environmental impact, and promoting ethical sourcing of materials.

The partnership between Burberry and Minecraft was unveiled in November 2023, and brings iconic Burberry designs and motifs to the pixelated landscapes of Minecraft. The collaboration involved a DLC, an immersive in-game experience called the "Burberry: Freedom to Go Beyond" adventure map. Along the way, the players can unlock 15 downloadable skins inspired by fashion, fantasy, and adventure. Plus, a physical capsule collection was made by Burberry, reimagining versions of Burberry classics like the trench coat and House Check pattern, infused with Minecraft's blocky aesthetic and natural elements like florals and foliage, bridging the gap between digital avatars and real-world fashion. The capsule collection has 15 different outfits too, for men and women, including the iconic Waterloo Trench Coat, Car Coat, and logoed sweatshirts, hats, and scarves. The skins are available for an unlimited time within the DLC, while the respective Burberry outfits have been available online and in only seven physical shops, including Spring Street, New York; Shenzhen Bay, Cina; Regent Street, Londra; Omotesando, Tokyo; Seoul Cheongdam, Corea; 101 Taipei, Taiwan Area, Cina; and Siam Paragon, Thailand, for the first two weeks of November 2022. Additionally, the collaboration also aims to pledge a donation to help protect 500,000 trees and plant 25,000 through the environmental organisation Conservation International. The collaboration reflects both Burberry's pioneering spirit and Minecraft's emphasis on imagination and building. It encourages players to explore new possibilities, express themselves through fashion, and embark on exciting adventures.

This partnership marks a first for both brands, pushing the boundaries of traditional fashion collaborations and in-game experiences. It caters to a younger, tech-savvy generation that values both digital and physical self-expression, and taps into the growing trend of luxury brands embracing the gaming world.

Dimension and questions	Description

DIGITALIZATION

1.a How are immersive technologies leveraged to create and communicate value and improve users' experiences with brands?

The digital output of the collaboration, the Minecraft DLC, is supported by the video game itself and is free of charge. This offering does not require the adoption of more advanced immersive technologies than the traditional Minecraft game mode. It is worth mentioning that Minecraft, itself, is a sandbox game accessible to everyone for free, which means that anyone with a mid-range computer can download both the base game and the DLC at no additional cost. Despite its first release more than a decade ago in November 2011, Minecraft continues to maintain enormous popularity in 2024, with as many as 166 million monthly active users. This longevity and continued influx of players are testament to the game's enduring inherent relevance and appeal. Thus, a remarkable aspect of this collaboration is its accessibility without financial barriers, allowing anyone to immerse themselves in digital creation in Minecraft and experience the DLC without having to buy additional technologies. This inclusive approach reflects both the broad scope of the collaboration and the desire to engage a wide audience of players in a shared experience without any financial restrictions. Furthermore, Minecraft is accessible to players of all ages and skill levels. The simple yet versatile mechanics make it easy for newcomers to pick up, while the depth of gameplay provides ongoing challenges for more experienced players.

1.b How do virtual worlds in video games integrate/exploit immersive technologies to convey and communicate brand values?

The physical output of the collaboration also contributes to creating an immersive experience for customers. The Minecraft-inspired capsule collection was displayed in 7 of Burberry's flagship stores: New York, Shenzhen, London, Tokyo, Seoul, Taiwan, and Bangkok. The collection is presented by transforming the furniture into a temporary installation to become an immersive and immersive space with digital display cases, floors and screens inspired by the collection, which mimic Minecraft realms and include the mannequin with the real outfit. The capsule collection was launched through an exclusive AR filter ('Adventure Awaits') on Instagram, with custom emoji and special effects on Bilibili, a Chinese social platform. Additional temporary virtual installations, placed on the streets of New York and Shenzhen, further helped promote the collection. These installations depict Burberry's distinctive pattern shaped by the Minecraft player, revealing the DLC scenarios and thus connecting the virtual world of Minecraft to the urban context of everyday life.

This multisensory approach integrates fashion and the digital world into one immersive experience. The digital storefronts, interactive floors, and screens are designed to transport customers into a unique universe in tune with the Minecraft aesthetic and the capsule collection design. In this way, the collaboration between Burberry and Minecraft not only results in a physical product, but creates a total experience that extends from the virtual world to the real world, engaging the customer in a multi-sensory, immersive journey.

1.c What elements are employed to ensure the quality of the experience effectively communicated and reinforces the intended brand values?

The DLC created for the collaboration is carefully structured and includes a virtual world consisting of 4 different digital realms and a digital version of a part of the city of London. This was accomplished without compromising the inherent aesthetics of Minecraft, maintaining fidelity to the pixelated and iconic style of the original video game. This approach ensures that gamers can immerse themselves in a new universe within the virtual context of Minecraft without perceiving any aesthetic disparity. The consistent use of this distinctive aesthetic allows players to explore and appreciate the novelty of the DLC without any deviation from the original game quality. Crucially, despite the introduction of new narrative elements, the DLC maintains an essential consistency with basic Minecraft. In fact, the narrative structure of the DLC features a linear, guided storyline compared to the sandbox approach of the original Minecraft. Such an orchestrated narrative helps guide the player's experience through a predetermined story, offering a distinctive element compared to the creative freedom typical of the main game. This intentional choice heightens the player's awareness of the specific nature of this expansion, designed to be played following a predetermined sequence, in accordance with the developers' vision.

It is apparent how cohesively the decision to produce DLC—by definition, additional content with extra elements—was undertaken. The clearly outlined goal of providing a new gameplay

Fig. 4.17 Burberry Flagship storefront in Seoul

Dimension and questions	Description

experience within the world of Minecraft is in harmony with the very definition of DLC, which is additional extra content that is made available by the video game itself. This collaboration therefore aims to enrich players' overall experience, ensuring seamless immersion in the world of Minecraft and a quality experience equal to that of the original video game while maintaining fidelity to Minecraft's signature style and aesthetic. Comments on Reddit about the collaboration are mostly critical, as users complain about a lack of clarity regarding the points of convergence of values between the two brands. In addition, some posts are focused on solving DLC challenges, as although the difficulty level is not particularly high, there are mini-games that are often difficult to complete. This situation has given rise to a mutually supportive community, with users sharing tips and solutions through comments or by posting gameplay videos.

1.d In what way is the environment designed to be immersive and able to create a sense of presence in users/players?

The virtual environment of the DLC is rich in detail, featuring four distinct realms of considerable size, within which are various enemies to face and mini-games to win. Players are able to interact with this virtual world using classic Minecraft tools, particularly the sword, and are faced with specific quests during the game session. Many of these quests require the destruction of enemies or the use of skills acquired during the game to advance through the map. Each of the four realms is inspired by the natural elements - water, earth, fire and air - helping to create a variety of distinctive challenges and landscapes within the game. The four realms are inspired by the elements to invoke the value of ecology, one of the main ones the collaboration wants to communicate. Within these maps, numerous elements reference the Burberry brand, such as the use of the logo as the central landmark of the map or the presence of the iconic 'house check' pattern for elements of the virtual world, such as hot air balloons or details within character lore (enemies or NPCs). For example, the digital representation of London - Burberry's hometown - within the game is called the 'Burberry Block,' presenting the Equestrian Knight statue with the 'house check' pattern representative of the brand's logo. This integration of branding elements helps maintain a strong connection between the virtual experience and the brand, allowing players to fully immerse themselves in the Burberry universe within the context of Minecraft. The narrative of the DLC begins with a narrator explaining to the player the severe crisis of the 'Burberry Block'. A mysterious entity called 'Nexus,' described as a "chaotic being," has attacked causing disorder and dyschromia in the realms, throwing them into chaos. In addition, the Equestrian Knight, described as "our protector, our leader who guided us and symbolised all that is good in the world," was buried. This immersive context places the player at the centre of the action, requiring them to restore order. This narrative dimension not only increases the player's sense of agency and presence, but also provides an immersive context that integrates harmoniously with Minecraft gameplay. With the four realms, which are vast in virtual dimensions, players experience considerable freedom of play and action, reflecting the typical approach of Minecraft gameplay. This feeling of freedom, combined with the immersive narrative, further reinforces the player's involvement and presence within the virtual environment.

In summary, it becomes clear that Burberry and Minecraft have collaborated closely to create a DLC that fully reflects the values of both, offering players an engaging and interactive experience. The mini-games were specifically developed to bring out an understanding of the brand's heritage through interactive challenges, transforming the player into an active spectator and increasing their brand awareness.

METAVERSE

2.a What are the marketing strategies put in place within the metaverse to support the communication of the brand values and the promotion of its products/services?

The partnership between Burberry and Minecraft was officially announced in a live broadcast by Mojang Studio, the Minecraft production company, on November 1, 2022. Immediately after the announcement, the DLC was made available on the game's marketplace. To introduce the public to this unique collaboration, Burberry created an engaging promotional video that serves almost as a trailer, introducing viewers to the DLC's narrative. Both brands have dedicated specific sections on their official websites to elaborate on the shared values between Burberry and Minecraft. These sections explain in detail the collections, both physical and digital, created by the collaboration and highlight the shared commitment to donate $100,000 to Conservation International's forest protection and restoration programs. This donation represents a concrete strategy to highlight the importance of exploring and respecting nature, thus helping to raise awareness of a significant social cause among players. Straight from the Burberry website, Phillip Hennche, Director of Channel Innovation at Burberry, says: 'Teaming up to protect and conserve naturescapes for the explorers of tomorrow, Burberry and Minecraft will make a donation to help protect 500,000 trees and plant 25,000 trees through environmental organisation Conservation International and their forest conservation efforts around the world. Support from this initiative will not only help protect and restore forest ecosystems but also help conserve critical wildlife habitats in places where Conservation International supports. It complements the ongoing commitment that Burberry and Conservation International have to protect nature through the Fashion Pact.'
Both brands used their Instagram accounts to further spread the message. They shared promotional mini videos showing the aesthetics of the virtual worlds featured in the DLC. Burberry also created an instagram filter 'Adventure Awaits' using AR technology, allowing users to further immerse themselves in the aesthetics of the DLC directly through the app. Seven Burberry flagship stores in all word were completely transformed through immersive technologies, recreating the Minecraft universe within the physical space. This initiative transformed the flagship stores into immersive places where mannequins wore outfits from the DLC, creating a perfect space to introduce customers to the dimension of the game that inspired them. These transformed spaces also became great places to take photos and share the experience on Instagram. Burberry engaged influencers, who portrayed themselves in the stores wearing outfits from the collection, helping to make the collaboration go viral with the hashtag #burberryxminecraft, thus transforming the flagship stores into must-visit destinations even if only for a selfie. In addition, inside the flagship stores, players of the DLC are invited to engage

**Dimension
and questions**

Description

in the search for a QR code that allows them to unlock five additional items in the Character Creator. These exclusive items include a Burberry Block backpack, a hat, sunglasses, sneakers, and a trench coat. This initiative aims to promote a connection between the virtual and physical experiences, providing players with a tangible reason to visit the flagship store. Within this space, of course, it is possible to make physical purchases from the limited collection, thus creating a complete experience that goes beyond the boundaries of the virtual world.

2.b What communicative elements and strategies contribute to the perception of the brand within the metaverse environment? How do these elements enhance the brand's visibility and recognition on the platform?

One of the most captivating aspects of the DLC is the availability of outfits for free. These digital elements become true communication tools, allowing players to proudly showcase high-fashion garments within the context of the game. The allure of being able to wear Burberry-branded clothing, a renowned high-fashion brand, motivates players to download the DLC at no cost. This free offering translates not only into an advantage for the player, who can personalise their avatar with style and class, but also into an intelligent strategy by the brand to enhance its virtual visibility.

In this way, Burberry not only provides an enriched gaming experience but also establishes a direct connection between its prestigious fashion world and the vast gaming audience. The opportunity to express one's style through Burberry outfits in the game serves as a catalyst,

Fig. 4.18 Famous Korean influencer 'Hirunkit' post

inviting both brand enthusiasts and new players to participate in the digital experience without having to spend any money. A unique chance to adopt a trendy look, even in the virtual world, making the DLC a must-have for fashion and gaming enthusiasts.

All digital outfits have their physical counterparts, featuring details with Minecraft's pixelated aesthetic on Burberry's most iconic brand clothes, thus blending Burberry icons such as the 'Heritage Trench Coat' and the 'House Check' pattern with Minecraft motifs, blurring the lines between fantasy and reality. The digital outfits, for purely graphic issues, are much more simplified, but still manage to be distinctive of the brand.

In addition to the capsule collection, the entire DLC features, both in the narrative and in the virtual locations, references to Burberry, starting with the lobby, represented by a digital version of London, immediately recognizable by the presence of the most important monuments (e.g., the Big Bang), and representing the brand's birthplace. From the lobby the player can decide which realm to play in, and they all have a portal in the shape of the iconic Minecraft cube but decorated with the Burberry pattern. This integration emphasises the harmonious presence of the brand within the world of Minecraft, avoiding annoying intrusions into the gameplay or setting.

Lastly, the fashion brand also emerges in the narrative dimension, as the Equestrian Knight, the peacekeeper in the game, is depicted as a reimagining of the Burberry logo and is named after the founder, while NPCs who help the player always have Burberry skins. Importantly, in contrast, the negative elements of the game (f. ex. Nexus) do not feature any references to the fashion brand. This targeted approach positively reinforces the Burberry brand image by associating it only with the positive elements within the game context.

2.c What in-game and in-metaverse ways do users have to express themselves and communicate their values?

Minecraft is known for offering an extremely high level of co-creation and customization to players. Minecraft allows players to create and shape their own game worlds. Through the block system, players can build structures, landscapes, cities and virtually anything they can imagine. Players can customise the appearance of their avatar, choosing from a variety of skins, cosmetic items and other accessories. This allows for a unique representation in the game world. Minecraft strongly supports game modification. The community of developers and modders has created a wide range of mods that introduce new elements, features, and even entire game experiences. Minecraft, thus, is an outstanding example of co-creation and customization in video games, encouraging players to shape their game world in creative and innovative ways.

The DLC fits into the video game in a more structured way, having a plot and worlds already pre-structured with no possibility of free creation. However, co-creation is still a key element as users actively participate in storytelling and complete challenges offered in the various realms. While limiting the freedom to create from scratch, the DLC offers a rich and immersive gameplay experience through story building and overcoming predetermined obstacles. Additional room for personal expression is provided through the 15 downloadable outfits featured in the DLC. These allow players to further customise their avatars and express themselves, enabling them to carry their visual identity throughout the world of Minecraft.

Dimension and questions	Description

In summary, while Minecraft itself offers ample freedom for co-creation and customization through the creation of worlds and avatars, the DLC enriches the gaming experience by introducing a structured storyline and predefined worlds, but maintaining active user participation and providing room for personal expression through the customizable outfits.

2.d In what ways can users personalise and interact with their avatars, favouring identification and participation in the immersive environments?

The default realms featured in the DLC are designed with natural inspiration and cannot be subject to change. By paying close attention to detail in both aesthetics and narrative, focusing on nature and the desire to preserve it within the video game's storyline, the brands are able to communicate sustainable and adventure values to the player in a way that feels spontaneous and authentic sharing. Throughout the DLC, the player is accompanied by a pop-up menu that assigns him or her a series of mini-quests to complete. This approach not only provides a clear structure for the game's progression, but also actively guides the user, keeping him or her engaged and focused on the goals to be achieved. This creates a kind of guided narrative, offering the player a predetermined path within the game world. This not only provides essential information for plot progression, but also adds a layer of emotional involvement. The presence of characters to interact with contributes to a more vivid and engaging experience, expanding the emotional dimension of the game. Importantly, despite the presence of guidance and engaging dialogue, the game does not lose its challenging nature. The complexity of the mini-quests and objectives to complete helps keep the game experience intriguing and challenging. This balance of guidance and challenge prevents the game from being too simple or predictable, encouraging the player to stay engaged, focused, and determined to overcome obstacles one at a time.

Lastly, the DLC's structured approach combined with emotional interactions and engaging challenges, results in a gameplay experience that goes beyond simple mechanics, providing an exciting and immersive journey for the player.

VALUE CREATION

3.a Within the digital environment, what narrative elements are used to raise awareness of the brand's story and values?

The DLC not only introduces a narrative element, a departure from the traditional emphasis in video games, but it elevates its exclusivity through a carefully crafted storyline. This decision to incorporate a linear narrative marks a distinct departure from the standard Minecraft gameplay. However, this deliberate departure is a strategic move by Burberry and Minecraft, employing storytelling as a powerful tool to bring attention to the fashion brand and emphasise its dedication to sustainability. As previously mentioned, the chosen narrative approach in the DLC diverges from Minecraft's typical open-ended gameplay, opting for a more structured plot with a defined beginning and end. This departure allows Burberry to weave a storyline that effectively communicates its heritage – emphasising social responsibility and a commitment to a traditional ethos of striving for balance. The carefully curated environment of London, the brand's place of origin, becomes a pivotal backdrop for the narrative, immersing players in the rich history of the brand. Through this narrative lens, players are drawn into a compelling situation where they are tasked with protecting the four natural realms and restoring order. This storyline not only engages players in a unique and emotionally charged gaming experience but also serves as a platform for Burberry to communicate its values and dedication to sustainability in a subtle yet impactful manner.

The effectiveness of this communication strategy lies in its ability to seamlessly integrate brand messaging into the gaming experience. By blending storytelling with gameplay, the DLC successfully captures the attention of the gaming community, offering a fresh and immersive approach that extends beyond the realms of traditional marketing. The interactive and narrative-driven nature of the DLC not only entertains but also educates players about Burberry's brand ethos, fostering a connection that goes beyond mere consumer-brand interactions. The choice of a linear narrative in the DLC, thus, serves as a powerful medium for Burberry to convey its heritage and commitment to sustainability. This strategic departure from the conventional Minecraft gameplay enhances the exclusivity of the experience and showcases the effectiveness of innovative communication strategies in reaching diverse and expansive audiences. The immersive storytelling approach enriches the gaming experience, leaving a lasting impression on players and reinforcing Burberry's values in an engaging and memorable manner.

Dimension and questions

Description

3.b How are the goals and values of the fashion brand, and user expertise integrated into the in-game experience to support collaboration and interaction between users and brand?

Burberry seamlessly integrates into the Minecraft gameplay, strategically occupying the necessary space to showcase the brand's core values and aesthetics across the four distinct virtual environments. The main common value supported by this collaboration is sustainability. Although Burberry has significantly reduced its carbon footprint and increased the use of sustainable materials in production, the brand does not have an overall image that hints at sustainability. In addition, not even in Minecraft is sustainability encountered as a core value. Minecraft is indeed a game set in a natural world, but it does not promote sustainability either through gameplay or brand communication. This attempt to communicate the shared sustainability value from the two parties didn't convince the players. The majority of the feedback about how they judge the collaboration are negative, and don't understand what the two brands have in common. It is interesting to note that, in terms of audience alignment, there is an intriguing juxtaposition between the two entities. Minecraft, a sandbox game originating in 2011, has transcended its age to become the best-selling video game in history. Boasting over 300 million copies sold and nearly 140 million monthly active players as of 2023, Minecraft's enduring popularity stems from its essential, pixelated, and retro design that thrives on simplicity and the boundless creative potential it offers within the digital realm. The average Minecraft player is identified as a 24-year-old male (Search Logistic, 2023). In contrast, Burberry caters to a target demographic aged 20 to 45, primarily comprising high-class customers, particularly women with substantial disposable income. The brand's allure lies in its sophistication, luxury, and a commitment to crafting timeless fashion statements. The strategic alliance between Minecraft and Burberry navigates these differing demographics, leveraging the vast reach of Minecraft to introduce the fashion brand to a diverse and expansive audience, but that does not make the brand valued by Minecraft audiences, as they have little in common.

Burberry and Minecraft, in addition to the DLC, express and communicate their values through social channels and the website (directly from the website: 'Uniting two brands with shared values of exploration, creativity and self-expression, the collaboration marks the first time that Burberry has partnered with a gaming franchise to create a fully immersive and branded in game experience, which is bespoke in both landscape and story line.'), but unfortunately they are not fully understood by the audience, who mostly question why this collaboration was made. The DLC, however, is evaluated positively on the gameplay level. We are therefore faced with a collaboration that on the purely virtual product side, i.e. of the DLC, gave very positive feedback, but on the level of association of the two brands and synergy, was not understood, even if the outcomes were coherent with the two brands' philosophy and aesthetic.

*3.c What tools and inte-
ractive mechanisms are
implemented to support
active participation of
users with the brand
and vice-versa?*

The decision to collaborate with Minecraft stems from a shared desire to emphasise the fashion brand's emphasis on sustainability, combining it with the digital world. The capsule collection created especially for this collaboration is distinguished by its many floral details, foliage and landscapes graphics that recall Minecraft's signature aesthetic. Through this fusion of fashion, fantasy and nature, the brand aims to communicate a new approach, a reinvented journey in nature through the power of adventure. The DLC narrative structure is designed to convey this precise message. In fact, the game's virtual worlds and narratives fit perfectly with the goal of fostering a renewed connection with nature, offering an experience that mixes digital elements with the beauty of flora and landscape. In addition to this, through the skins available in the game, the brand positions itself as an advocate of digital evolution while maintaining a close adherence to its core values of tradition and traditionalism. This is achieved through the use of the brand's iconic garments, which make the skins easily recognisable within the game. In this way, the brand's digital presence is not merely a technological evolution, but a consistent statement of its identity and timeless principles.

The DLC storyline presents an engaging narrative and provides an exciting context that connects the player to the virtual world of Minecraft while conveying Burberry's values related to social responsibility and balance in the fight against the forces of chaos. In-game objectives, such as protecting natural worlds and restoring order, convey thematic messages of environmental responsibility and commitment to nature conservation that are distinctive not only to Burberry's brand, but to their potential core values in the immediate future. These objectives create a game experience that goes beyond mere entertainment, conveying to the player the importance of these values and the sharing of them with the brands. The ability to obtain exclusive in-game items only through exploration and completion of the DLC adds an element of exclusivity, arousing desire and emotional involvement and highlighting how brand values are rewarded through the game experience.

*3.d In what way does
the fashion brand com-
municate values or even
create valu*

The decision to collaborate with Minecraft stems from a shared desire to emphasise the fashion brand's emphasis on sustainability, combining it with the digital world. The capsule collection created especially for this collaboration is distinguished by its many floral details, foliage and landscapes graphics that recall Minecraft's signature aesthetic. Through this fusion of fashion, fantasy and nature, the brand aims to communicate a new approach, a reinvented journey in nature through the power of adventure. The DLC narrative structure is designed to convey this precise message. In fact, the game's virtual worlds and narratives fit perfectly with the goal of fostering a renewed connection with nature, offering an experience that mixes digital elements with the beauty of flora and landscape. In addition to this, through the skins available in the game, the brand positions itself as an advocate of digital evolution while maintaining a close adherence to its core values of tradition and traditionalism. This is achieved through the use of the brand's iconic garments, which make the skins easily recognisable within the game. In this way, the brand's digital presence is not merely a technological evolution, but a consistent statement of its identity and timeless principles.

Dimension and questions	Description
3.e What features and possibilities are designed within the video game to support emotional connection and engagement with the fashion brand?	The DLC storyline presents an engaging narrative and provides an exciting context that connects the player to the virtual world of Minecraft while conveying Burberry's values related to social responsibility and balance in the fight against the forces of chaos. In-game objectives, such as protecting natural worlds and restoring order, convey thematic messages of environmental responsibility and commitment to nature conservation that are distinctive not only to Burberry's brand, but to their potential core values in the immediate future. These objectives create a game experience that goes beyond mere entertainment, conveying to the player the importance of these values and the sharing of them with the brands. The ability to obtain exclusive in-game items only through exploration and completion of the DLC adds an element of exclusivity, arousing desire and emotional involvement and highlighting how brand values are rewarded through the game experience.

Fig. 4.19 Physical and digital collections compared

Fig. 4.20 ADV screen used for social and website campaigns

4.5 True Damage

Date	2.10.2019-10.12.2019
Brands involved	Louis Vuitton, League of Legends
Platform	League of Legends

Description. League of Legends (LoL) is a highly popular online multiplayer battle arena game developed and published by Riot Games. Released in 2009, it has become one of the most played and watched esports titles globally. During 2023, League of Legends boasted an average of 10 million concurrent players (Demirkol, 2024). The game features two teams of champions, each with unique abilities, battling in a strategic and competitive environment. League of Legends is, at its core, a competitive game. It emphasises skill, strategy, and teamwork, fostering a spirit of healthy competition among players. Riot Games has made efforts to make League of Legends accessible to a diverse player base. League of Legends operates on a free-to-play model, allowing players to access the core game without an upfront cost: the revenue, thus, is primarily generated through in-game purchases, maintaining accessibility for a broad player base. Additionally, the game is designed to accommodate players of varying skill levels, promoting an inclusive and welcoming community. The developers of League of Legends constantly update and evolve the game. Regular patches and updates introduce new champions, balance changes, and features, demonstrating a commitment to continuous improvement and keeping the game dynamic. League of Legends has become a major player in the esports scene. Riot Games invests heavily in competitive leagues, events like the League of Legends World Championship, and the overall development of a thriving esports ecosystem. League of Legends has a rich and expansive lore, with each champion having its own backstory. This commitment to storytelling adds depth to the game and enhances the overall gaming experience.

Louis Vuitton, is a French luxury fashion and leather goods brand founded in 1854 by Louis Vuitton. Renowned for its iconic monogrammed canvas and high-quality craftsmanship, Louis Vuitton has evolved into one of the world's most prestigious and recognisable luxury brands. Louis Vuitton boasts a rich heritage, with a legacy of craftsmanship and innovation that spans over a century. The most iconic products are the luggage, renowned for their unparalleled combination of timeless elegance, meticulous craftsmanship, and iconic design, making them not just travel companions but symbols of luxury and sophistication. Each product is meticulously crafted to ensure durability and luxury. While rooted in tradition, Louis Vuitton also values innovation in design. The brand collaborates with contemporary artists and designers to infuse fresh perspectives into its collections, keeping the brand relevant in the ever-changing world of fashion. Louis Vuitton is synonymous with timeless elegance. The brand's designs are often characterised by their simplicity, sophistication, and enduring appeal, transcending transient fashion trends. Louis Vuitton positions itself as a symbol of luxury and exclusivity. The brand's limited-edition pieces, bespoke services, and carefully curated retail experiences contribute to its status as a coveted and prestigious

Fig. 4.21 The trophy case and Summoner's Cup

label. In recent years, Louis Vuitton has been enhancing its digital presence through e-commerce, digital marketing and virtual events.

The partnership was characterised by a limited-edition skins collection designed by Nicolas Ghesquière, the artistic director of Louis Vuitton. In addition, Louis Vuitton designed an exclusive capsule collection consisting of 42 total pieces, including clothes, accessories and shoes. The garments are made with the high quality materials that characterise the brand and an aesthetic completely inspired by the video game, combining the Louis Vuitton and League of Legends logos and garments of leather goods and street-smart, sporty riffs on the in-game clothes, in colour-blocked tech jersey and chrome leather (Nast, 2019). The physical collection has proven to be a commercial triumph. Notably, the collaboration has made a substantial mark in China, a country where League of Legends enjoys immense popularity as a video game. The collection was available in all Louis Vuitton boutiques in China and on e-commerce, playing a pivotal role in familiarising the brand with a younger, Chinese-speaking audience. In the fiscal year 2019, League

Fig. 4.22 The physical collection

Fig. 4.23 Senna True Damage Prestige skin

of Legends generated substantial revenues, reaching an estimated $1.5 billion, as reported by the digital market analysis firm SuperData (2020). This notable financial achievement occurred notwithstanding the decade that had transpired since the game's initial launch. Outperforming many competitors, only Fortnite surpassed League of Legends, securing $1.8 billion in revenues during the same period. In addition, the physical capsule collection completely ended up in the online store within an hour. For effect, YouTube unboxing videos of the collaboration items received thousands of views, with animated customer discussions in each video's comment sections (Hu, 2020).

Featuring League's fierce champions, Qiyana and Senna, the digital collection reimagined the iconic LV monogram within the game's fantastical universe. Luxury streetwear fused with intricate details inspired by Runeterra - the map of League of Legends, - blurring the lines between digital skins and real-world fashion. From bomber jackets emblazoned with Qiyana's sigil to T-shirts featuring her portrait, the collection became a coveted symbol of

Fig. 4.24 Qiyana True
Damage Prestige skin

high fashion with a gaming edge. Beyond apparel, the collaboration extended to the ultimate prize in esports: the Summoner's Cup, awarded to the League of Legends World Champions.
Louis Vuitton crafted a bespoke travel case, transforming the iconic trophy into a symbol of both victory and luxury. Handcrafted with the finest materials and adorned with subtle League-inspired details, the travel case elevated the status of the cup, reflecting the growing prestige of esports on the global stage. The collaboration, when announced, mainly caused buzz among gamers.

Having been released in 2019, it was second only to Gucci x The Sims. Astonishment was evident from feedback on Reddit, as it was unclear what common ground the collaboration was coming from. Afterwards, there was a great expectation: if League of Legends, one of the most played free-to-play games in the world, had to create a collaboration with Louis Vuitton, one of the most prestigious fashion brands in the world, the output of the collaboration should have been superlative. And so it was: the collaboration was a huge success, and covered all channels across the board: physical, digital, communication, advertisement, and events.

4. Results

Dimension and questions	Description
DIGITALIZATION	
1.a How are immersive technologies leveraged to create and communicate value and improve users' experiences with brands?	The digital outputs of collaboration are manifested directly within League of Legends, a MOBA (Multiplayer Online Battle Arena) game accessible for free. This implies that players can benefit from collaboration simply by downloading the game and having a gaming station with a computer. To obtain the skins, the player, in addition to purchasing the video game battle pass, must play League of Legends by earning Riot Points (League of Legends game currency) so that they can then purchase it with them. Thus, players are forced, in order to obtain the skin, to also participate in the video game events released at the World Cup. The two skins were presented at the League of Legends World Championships on November the 10th, 2019 and introduced by the characters themselves, who performed in the opening ceremony as a virtual hip-hop group called 'True Damage,' named after the name of the skins themselves. True Damage consists of LoL champions Yasuo, Qiyana, Akali, Senna and Ekko. The group is voiced by real-life artists Jeon 'Soyeon' Soe Yeon of the South Korean girl group (G) I-DLE, Jared 'Duckwrth' Lee, Umar 'Thutmose' Ibrahim, Rebecca Maria 'Becky G' Gomez and Lauren Keyana 'Keke' Palmer. During this event have been utilised immersive technologies as AR and holograms. These specific immersive technologies were driven by a system called 3D Holonet, which was developed by a company called Kaleida. Essentially, it is high-tech metal gauze that can be stretched out to form a translucent screen onto which holograms and other 3D effects can be projected.
1.b How do virtual worlds in video games integrate/exploit immersive technologies to convey and communicate brand values?	The two brands collaborated to ensure a high-impact debut for the Louis Vuitton skins. After being introduced through two YouTube videos, one in the form of a trailer and the other as a music video starring avatars of the champions for whom Louis Vuitton created the skins, they were also shown during the opening ceremony of the 2019 esports. This innovative use of digital technologies allowed Louis Vuitton to harmoniously combine its presence with the event, adding significant brand value. The use of augmented reality and holograms lent extraordinary impact to the show. It should be noted that although this was not the first time such technologies were used in the history of Riot Games esports, it was a pioneering occasion in which immersive technologies dressed exclusively in digital avatars, making the brand an integral part of a live show. This approach created a space of extraordinary immersion for viewers attending the show, conveying Louis Vuitton's distinctive values in a tangible and innovative way. The synergy between the physical and digital worlds, with the use of digital avatars and iconic visual elements of the brand, helped solidify Louis Vuitton's image as a cutting-edge brand, able to embrace and lead emerging trends in communication and entertainment. 'This is a pretty impressive technical achievement, and I think in general augmented reality has been underused as a sponsorship tool, because you can add almost anything at any scale' Mykles, American esports executive director, said about the show. (Writer, 2019) Furthermore, Louis Vuitton utilised augmented reality technology to create immersive experiences for customers. Fans could scan the Summoner's Cup trophy travel case with their smartphones to unlock AR animations and virtual displays, bringing the collaboration to life in a tangible way.

1.c What elements are employed to ensure the quality of the experience effectively communicated and reinforces the intended brand values?

The integration of League of Legends champions, Qiyana and Senna, adorned with the new Louis Vuitton skins, directly links the brand's luxury aesthetic with the virtual gaming world. The iconic monogram graphics of Louis Vuitton are seamlessly incorporated into the design of these in-game elements, reinforcing the brand's visual identity. Louis Vuitton's values of sophistication, luxury, and innovation are effectively communicated through those designs, creating a resonance between the brand and the gaming community.

Furthermore, by incorporating these digital elements into the live event, Louis Vuitton not only blurs the lines between the physical and virtual worlds but also elevates the immersive experience through the high quality of the technologies employed. The use of augmented reality and holograms is executed with precision, adding a layer of sophistication to the collaboration. This integration of advanced technologies ensures that players are not only presented with a unique and captivating experience but one that is characterised by top-tier immersive quality. The seamless fusion of luxury aesthetics and cutting-edge technology contributes to making the interaction between the real and virtual realms exceptionally engaging and of superior quality.

1.d In what way is the environment designed to be immersive and able to create a sense of presence in users/players?

In the collaboration, the brands did not change the game arena in which League of Legends takes place. This decision was driven by the nature of the game mode, which involves an arena with specific spots that usually does not undergo aesthetic changes, except for possible changes on special holidays. As a result, the main focus was on in-game skins, both within the virtual context of the game and in real life, during the opening esports event of 2019.

Specifically, the augmented reality and holographic technologies employed played a key role in increasing immersion in the event environment for viewers. These technologies helped create an immersive visual experience, allowing viewers to feel an amplified sense of presence as they were catapulted into an immersive digital environment. During the announcement of the new skins, the integration of AR and holographic elements added a layer of innovation and spectacularity, turning the event into a unique and unforgettable occasion. All of this contributed to an extraordinarily immersive atmosphere, enriching the viewers' experience during the opening esports event. The fusion of high-quality digital elements with the context of the game expanded the viewers' perceptions, making the event not only a celebration of the new skins, but also an immersive, cutting-edge experience.

**Dimension
and questions**

Description

METAVERSE

2.a What are the marketing strategies put in place within the metaverse to support the communication of the brand values and the promotion of its products/services?

Due to its recent business and marketing choices, Louis Vuitton has found itself in an unusual position where it must choose between concentrating on exclusivity and growing by entering new markets and going online. Given the existing state of the brand, Riot Games' League of Legends partnership was a great method to carve out even more room for it in that market (Seck, 2019).

After sponsoring League of Legends esports tournaments, Louis Vuitton increased brand visibility among the game's passionate fanbase. The sponsorship provided an opportunity to connect with a tech-savvy, engaged audience with a video game fan base with AR technologies that reminded the outcomes of the collaboration. The use of these digital strategies enabled the Louis Vuitton-League of Legends partnership to successfully navigate the metaverse, improving brand perception, expanding audience reach, and fostering meaningful customer interactions. This collaboration showcased the metaverse as a powerful platform for brand engagement and innovation. The partnership demonstrated the potential of the metaverse as a powerful platform for brand engagement and innovation. In fact, firstly, esports have an interest rate that is growing exponentially. In fact, according to Statista, the worldwide Esports market is expected to reach revenues of $4.3 billion in 2024, with an annual growth rate of 7,1%. The 2019 League of Legends World Championship (League Esports), the year we

Fig. 4.25 Nicolas Ghesquière and Qiyana True Damage Prestige skin designed by him

take into consideration with respect to the case study, reached 3.99 million number of peak viewers. Now, the 2023 esports leagues have reached 6.4 million. It therefore turns out to be an important decision, that of collaboration with one of the most played games and most followed championships in the world, to increase the visibility and target audience of the brand. The collaboration aims also to appeal to Chinese consumers, given the robust expansion of the Louis Vuitton brand in China. The esports market is flourishing in the country, and the luxury segment is thriving. Specifically, 'League of Legends' enjoys significant popularity in China.

The live broadcast of the world championships on Riot Games' Twitch channel, along with numerous Twitch streamers broadcasting the event, created exponential publicity and hype. Louis Vuitton further solidified the collaboration by launching a capsule collection inspired by League of Legends, which quickly sold out. This multi-faceted approach integrated both digital and physical realms, showcased on Instagram channels with posts featuring the physical capsule collection, videos of the collaboration's trunk, and promotional images of in-game skins. The collaboration was thus heavily promoted across social media platforms, generating buzz and excitement among fans of both brands. Louis Vuitton and League of Legends utilised social media contests, giveaways, and interactive campaigns to further engage their audiences. Finally, the release of a song produced by all-digital League of Legends champions helped increase the attention of the audience made up of people who do not play the video game. Notably, a post featuring Louis Vuitton's creative director, Nicolas Ghesquière, alongside Qiyana's avatar symbolised the seamless integration of the digital and physical worlds.

2.b What communicative elements and strategies contribute to the perception of the brand within the metaverse environment? How do these elements enhance the brand's visibility and recognition on the platform?

The collaboration seamlessly integrates the distinct aesthetics of each brand, blending the virtual and real worlds. Louis Vuitton's expertise in luxury fashion and design complements the dynamic and visually rich universe of League of Legends, creating a synergistic partnership that resonates with fans of both realms. Louis Vuitton's integration into the League of Legends environment is not overtly promoted in a conspicuous or intrusive manner: instead, it is subtly communicated through events and social media channels. The skins introduced as part of this collaboration, as other skins available in League of Legends, do not confer any performance advantages to the champion within the game; their value lies solely in their aesthetic appeal. This underscores the significance of the fashion brand in the partnership, emphasising the primacy of the skin's visual elements. They thus serve the function of making the video game champions more sophisticated and prestigious, again underlining the added value Louis Vuitton gives to the collaboration

Moreover, during the execution of various in-game moves, the 'prestige True Damage' skins incorporate distinctive elements, including the fashion house's logo and graphics representing their renowned patterns. This deliberate inclusion serves to heighten the player's awareness of the brand that designed the champion's skin they are utilising. The incorporation of these brand-specific visual elements subtly reinforces the connection between the virtual gaming experience and the real-world fashion influence, contributing to a seamless integration of

Dimension and questions	Description

Louis Vuitton's aesthetic identity into the League of Legends universe, which is high quality luxury, sophisticated and strong.

This collaboration showcases the adaptability of luxury brands in embracing contemporary culture and digital entertainment, marking a trend where traditional and digital spheres converge for mutual benefit. In addition, Louis Vuitton has been able to enter the gaming world in a harmonious way while managing to maintain its values and heritage: it is no accident that the brand produced the custom trophy case. In fact, the fashion brand set its history as a trunk-making house, and the production of the trophy case made sure to praise the history and craftsmanship capacity of the brand, as well as to merge luxury and gaming elements.

2.c What in-game and in-metaverse ways do users have to express themselves and communicate their values?

League of Legends boasts an extensive roster of 167 playable champions, each characterised by distinct combat attributes. This rich variety empowers players to tailor their gaming experience by selecting champions that align with their preferred play styles. Louis Vuitton introduces a customization option exclusive to two particular characters, Qiyana and Senna, calling skins 'Prestige.' This title implies a level of status and reputation that the associated skin can bestow upon the player, enhancing the allure of this exclusive customization feature. Notably, these special skins for Qiyana and Senna are not available for direct in-game purchase. Instead, players are required to acquire the seasonal game pass and complete designated in-game tasks to unlock them. This involves earning experience points through gameplay, thereby progressing towards unlocking these highly sought-after rewards. Consequently, players who aspire to acquire the collaboration skins are compelled to actively participate in the game, aligning with the overarching engagement strategy.

Adding a layer of exclusivity, these collaboration skins are only available for a limited duration. This strategic approach hinges on cultivating a sense of urgency and desire among players, tapping into the psychology of limited-time offerings. The collaborative skins become coveted

Fig. 4.26 Sienna gameplay

items, and the time-sensitive availability creates a dynamic where players are motivated to engage with the game promptly to secure these unique and time-bound rewards. In essence, the success of the engagement strategy and the personalisation aspect relies on the collaboration-induced desire and the inherent urgency instilled by the limited-time availability, effectively shaping the player's experience within the League of Legends universe.

2.d In what ways can users personalise and interact with their avatars, favouring identification and participation in the immersive environments?

Within the in-game context, when the player obtains the skin, they experience not only an aesthetically different look for their character, but also a level of customisation that extends to the animations of the actions that can be performed by the character, all of which is imprinted with the Louis Vuitton theme through the use of the distinctive symbols of their iconic monogram pattern. In particular, Qiyana's skin offers a special emote initiating the song 'Giants,' the track produced exclusively for the 2019 eSports event, in which Qiyana's avatar plays the role of singer.

This integration thus goes beyond the visual transformation of the character, offering a more immersive, engaging and emotional experience. The custom animations, along with the emotes linked to the song 'Giants,' add a distinctive touch to the gameplay, creating a unique link between the game universe and Louis Vuitton's stylistic identity. The decision to incorporate unique musical and visual elements within the emote further enriches the player experience, helping to solidify the connection between the game's virtual world and the fashion house's renowned aesthetic.

VALUE CREATION

3.a Within the digital environment, what narrative elements are used to raise awareness of the brand's story and values?

League of Legends is a team-based strategy game. It therefore presents a simple and repetitive game narrative, and relies on the differentiations of strategies adopted by the various champions to be engaging and overwhelming. Louis Vuitton, conscious of this, has chosen to orient its communication not on the repetitive structure of the game style but on the distinctive element represented by the skins of the champions and the presentation events, which are already known to be always very avant-garde, interactive and followed. Through the music video of the song sponsoring Esports, animated with the avatars of the singers and the game skins, Louis Vuitton succeeds in visually inserting itself into a narrative external to gameplay but highly emotional.

This approach allows it to reach not only the League of Legends audience but also fans of pop music and animation. The entire song features a dynamic and colourful style in keeping with the aesthetic of the skins themselves, evoking an epic tone and conveying a message of grandeur. Louis Vuitton harmoniously complements this message, discreetly inserting its logos into both the skins and the video. This subtle presence does not come across as exuberant but helps to harmonise the brand with the atmosphere of the game, effectively communicating its prestige values. The choice to infuse the logos into key visual elements, both within the game and in the music video, reinforces the brand's consistency and immersion in the world of League of Legends.

Dimension and questions	Description
	In addition to the digital product, the realisation of the physical product goes hand in hand. Louis Vuitton, in fact, produced the trunk and trophy for the Summoner's Cup, which is awarded to each year's League of Legends world champions. The trophy and trunk feature Louis Vuitton's iconic Monogram Eclipse, with gold metal details. The design of the outer packaging is identical to Louis Vuitton's trunks, while the trophy references the world of video gaming, with League of Legends runes and dragon wings. Doing so, Louis Vuitton succeeded in communicating the brand''s heritage, as it itself began as a manufacturer of high-quality trunks, and this is still a great value and distinctive feature of the brand today.
3.b How are the goals and values of the fashion brand, and user expertise integrated into the in-game experience to support collaboration and interaction between users and brand?	League of Legends partnership takes brand synergies to another level entirely (Nast, 2019). In fact, they share several values and attributes that have made this synergy possible. Foremost among them is excellence: both League of Legends and Louis Vuitton are associated with high standards of excellence and prestige in their respective industries. League of Legends is a flagship title in the world of eSports, recognized for its high-level competition, while Louis Vuitton is a luxury icon renowned for its craftsmanship and the prestige of its products. By collaborating, they both confirm their positioning through brand awareness their customers have towards both brands. In addition, both League of Legends and Louis Vuitton offer high-level, high-quality experiences and products. The game offers an immersive and competitive experience, while Louis Vuitton is renowned for its craftsmanship, the quality of materials used, and the exclusive and unique events and experiences created by the brand. Secondly, both brands are known in their fields for their creativity and innovation. League of Legends' constant evolution and commitment to pushing the boundaries of gaming aligned with Louis Vuitton's reputation for innovation and creativity. By partnering with League of Legends, Louis Vuitton aligned itself with a culturally relevant and influential phenomenon, demonstrating its understanding of contemporary trends and its ability to connect with a diverse global audience. League of Legends in fact stands out for the continued release of new champions and constant updates. Louis Vuitton is famous for innovative yet classic design, and lately it has been pursuing a digitization strategy following macro trends, through e-commerce, AR apps, collaborations with influencers or virtual events. Thus, they are both considered, in their fields, two cutting-edge and successful brands. In addition, League of Legends is one of the world's most played multiplayer, with a count of 180 million monthly active players in 2022 (Samanta, 2023). Louis Vuitton's audience is global and present in all the world, with average consumers as a high-legger and social-class individual who are fashion conscious. So both brands have a global sharing and with this collaboration they show how pop culture and high fashion can intersect in innovative ways. League of Legends' global reach and passionate fan base solidified its position as a cultural

phenomenon, making it an attractive partner for Louis Vuitton to enhance its brand's cultural impact. By highlighting these shared values, the collaboration effectively communicated the essence of both brands, creating a synergy that appealed to their respective audiences. The partnership established Louis Vuitton as a pioneer in the digital realm, while further cementing League of Legends' status as a mainstream entertainment force.

3.c What tools and inte-
ractive mechanisms are
implemented to support
active participation of
users with the brand
and vice-versa?

The collaboration between Louis Vuitton and League of Legends has been designed to engage players actively, fostering a unique and immersive experience. Firstly, the skins produced are limited edition, creating a sense of exclusivity and urgency. Players are motivated to actively participate in the game, complete in-game tasks, and earn Riot Points to unlock these skins. The time-sensitive availability adds a dynamic element, encouraging players to engage actively to secure these unique rewards.

In addition, the skins feature a level of detail and personalization in line with the event promoted by the collaboration and with Louis Vuitton becoming a strategy to empower the customer's engagement. This happens on a visual and emotional level, creating a connection between the digital world of the game and the real-world Louis Vuitton aesthetic. The inclusion of elements such as the fashion house's logo and iconic patterns enhances the collaboration's narrative and resonates with players who appreciate these design details. In second place, the production of the song 'Giants,' with the avatars of Senna and Qiyana as singers, makes the collaboration multidimensional and thus connects a wider audience to the collaboration, plus engages players on an emotional level, who see their champions participating in a quality music video. What has made the collaboration more engaging and immersive is definitely the interactive event of the eSports opening. This event provided players to experience the collaboration in diverse ways, not only by playing the game. All those approaches result in a more dynamic and participatory experience.

3.d In what way does
the fashion brand com-
municate values or even
create valu

Louis Vuitton and League of Legends have mutually consolidated their primacy, emerging as undisputed market leaders in quality, innovation, and creativity. This status is also clearly reflected in the way the skins are incorporated into the game. Indeed, the skins of Senna and Qiyuana, both classified as 'Prestige', represent a special version of the classic skins of their respective champions. Some of these can be obtained through specific events, requiring a certain amount of Riot Points (RP), while others can be created using an in-game currency called 'Mythic Essence', which is rare and difficult to obtain.

This hierarchical layering of skins within the game contributes to their status as rare and valuable items, immediately communicating to players that the collaborative skins are of superior quality and are not available for free within the game. This high positioning contributes to further increasing the importance of the brand.

Graphically, the skins are distinguished by their bright, white and gold colours, in stark contrast to the dark map of the game. This visual contrast highlights the superior value of the outfit. The street-pop inspiration of the skins, in line with the introductory song, underlines

Dimension and questions	Description
	Louis Vuitton's ability to fit into pop culture and to be one of the best brands around, regardless of the style adopted. In this way, Louis Vuitton communicates its versatility, demonstrating that it is at the forefront of design and maintains a relevant position in contemporary culture.
3.e What features and possibilities are designed within the video game to support emotional connection and engagement with the fashion brand?	The collaboration aims to create a multifaceted and immersive experience for players, fostering a genuine emotional connection with the Louis Vuitton brand within the context of the gaming world. In first place, the sponsorship of the League of Legends World Championship (Worlds 2019) catapulted Louis Vuitton into the awareness of a vast new audience, likely exceeding nine figures globally. Indeed, the main event that hosted and presented the collaboration skins, the eSport championship, was played in front of over 15.000 spectators, with more than 40 million concurrent live stream viewers and a total of over 100 million viewers (Wikipedia, 2023). Michael Bruke, president and CEO of Louis Vuitton, describes the relevant importance of participation in esports this way: 'The League of Legends World Cup is not only the ultimate climax of the event: it is where the world of sports and competition meets entertainment to celebrate new legends. Louis Vuitton has always been associated with the world's most prestigious sports trophies, and today we will have the Summoner's Cup among us.' By participating in such a significant event within the world of video games, Louis Vuitton is exposing itself at a time when the public is steeped in emotion, awaiting the epic final clash to crown the champion team. The public, both physical and digital, will therefore be inclined to emotionally associate the collaboration with Louis Vuitton with all the sensations experienced during the final. Furthermore, the entire run-up to the eSports event is characterised by an emotional connection, as the skins were presented through an unreleased pop song and an animated music video, both of which are of extraordinary quality. Through these artistic masterpieces, the collaboration was able to emotionally reach out to the League of Legends audience, emotionally penetrating them through different artistic expressions.

6
Discussion

Discussion

In addressing the research inquiries delineated, this investigation utilises primary analytical domains: (1) Digitaliazion, (2) Metaverse, and (3) Value Creation.

These domains are further delineated into analytical dimensions, as in Table 5.1, to examine the implementation of a co-design strategy within the contextual landscape of video games.

Dimension	Descriptor
1 DIGITALIZATION	Digital tools, techniques, and technological innovations to transform and enhance various aspects of immersive experiences, in particular games.
2 METAVERSE	It explores the digital interconnected universe through the development, exploration, and utilisation of immersive technologies, fostering interconnected digital environments for personalisation, social interaction, entertainment, brand presence, and commerce.
3 VALUE CREATION	It delves into generating meaningful interactions and delivering tangible benefits through innovative approaches, through narrative and emotional elements that enhance user engagement, a sense of belonging, and active participation.

5.1 Digitalization

This dimension delves into the digitalization that brands have had to research and develop in order to offer collaboration that is totally or largely digital. In particular, the focus is on designing for immersive technologies, which have different outputs and therefore different ways of thinking from traditional ones. The immersive technology par excellence, the one used as a selection criterion for the case studies, is precisely the video game, which offers a complete immersive experience in terms of aesthetics and narrative, making it emotional (Milanesi et al., 2022). With immersive technologies, the design process is focused not only on the product, but now more than ever before on the experience, which, by being interactive, allows customers to visualise, try on, and experience clothing and accessories like never before. Through collaboration with video games, the fashion world exponentially expands its target audience and reaches new audiences that would otherwise never have approached the brand, or the physical store. Finally, as we also see in the case studies, immersive technologies can also be used to reduce the environmental impact of the fashion industry by reducing the need for physical samples and showrooms, or by informing the players about new ways to live a sustainable life. Designing for immersive technologies is a new and exciting area of fashion design with the potential to transform the industry.

In all cases, it is clear that these collaborations are highly accessible: brands understand that one of the main obstacles of Web 4.0 is accessibility (as pointed out by Agile District and Denys), and case study analyses show that game collaborations easily overcome this challenge. In fact, besides the fact that video games are immersive technologies that are more widespread and growing in the world (according to Statista (2024), there are approximately 3.09 billion active video game players), users already possess the necessary equipment (computer or console) to game, so they do not encounter any difficulties in taking advantage of the digital outcome of the collaboration. Moreover, in none of the case studies, the purchase of a physical extension is required to access the collaboration. The only case study where it is possible to enhance the immersive experience through a purchase is Dior x Gran Turismo, where players can purchase the 'Thustmaster' to obtain a controller

that more closely simulates a steering wheel. Often, moreover, the game is free-to-play (Fortnite and League of Legends), in other cases, such as in Dior x Gran Turismo 7, you need to buy the game, or, in H&M x Animal Crossing, you need a specific console. However, with highly played games or extremely popular consoles, the problem is smoothed out and they remain accessible.

The incorporation of immersive technologies took place with customer touchpoints in mind, thus making their use much more seamless. As Dwivedi et al. (2022) and Tom Dieck & Han (2022) point out, if immersive technologies succeed in integrating and making consumer touchpoints more usable, customer satisfaction increases. Case studies support this thesis, as the integration of immersive technologies within the customer experience stimulates psychological states such as pleasure, enjoyment, and thus customers increase their excitement to participate in interactive activities (Landers et al., 2019; Leclercq et al., 2020). This leads them to increase marketing results, including purchase intentions, loyalty, brand engagement, and word-of-mouth (Kusumawardani et al., 2023; Xi & Hamari, 2019a). This is particular evident in Polo Ralph Lauren x Fortnite, with the integration of game consoles inside the physical shops, so that customers can enjoy the immersive experience offered by the video game during the shopping experience, making them more engaged. Through the integration of immersive technologies, such as the in-store redesign of Burberry's flagship stores, customers are amazed by the new immersive outputs that can be created, making their experience better, as claimed by Yaoyuneyong et al., (2016).
Another practical example is the presentation of the worldwide eSports event for League of Legends in collaboration with Louis Vuitton, which uses augmented reality to create holograms of the champions wearing the signature skins. In these specific case studies, therefore, immersive technologies are effectively utilised and incorporated into the customer journey, contrary to what Rauschnabel et al. (2019) demonstrated during their study.
This highlights that there is a real growth in brand awareness and utilisation of immersive technologies and their integration within the customer journey touchpoint and thus in the omnichannel experience.

As pointed out in **Chapter 2.1.3**, the quality and presence of immersive experiences play a crucial role in arousing customers' interest and emotion, thus helping to stimulate purchase. This feeling of immersion is fundamental to creating an immersive and realistic environment, and it is achieved through the care and refinement of the details of the immersive elements. Collaborations such as Burberry x Minecraft and H&M x Animal Crossing are tangible examples of how narrative dimensions and aesthetic customisations can enrich the customer experience, adding a level of depth and engagement that goes beyond the simple purchasing process. Furthermore, it is important to note that all these collaborations take place on platforms that foster 'social presence', a concept introduced by Waterworth & Hoshi (2016). This type of presence refers to the perception of being part of a shared virtual environment, which increases the feeling of involvement and belonging. Due to the feeling of social presence, participants in immersive experiences have a greater awareness of their digital presence and are more likely to actively interact with the content, favouring the experience of co-creation. This boosted engagement, defined as active participation by Malthouse & Calder (2011), leads players to perceive the need to perform specific actions, such as completing missions or accumulating in-game coins, in order to maximise the value of the experience. This, thanks to the possibility of interaction and co-creation, enhances active involvement (Zhang et al., 2018; Mainardes et al., 2020; Wang et al., 2022), This cycle of engagement and action further contributes to enhancing the effectiveness of immersive collaborations in the context of marketing and customer experiences.

5.2 Dimension 2: Metaverse

The second macro-dimension 'metaverse', is divided in the analytical framework into four main components, each of which plays a key role in shaping the user experience in this emerging digital environment. First, it focuses on marketing strategies designed to interact with users within the metaverse. This includes new marketing methods, as anticipated by Stephens (2021), including interactive advertisements, sponsorship of virtual events, use of immersive technologies, and other innovative methods to engage audiences within this digital space. The existence of brands within the metaverse is then examined, either via the creation of specific virtual settings or by active participation in pre-existing virtual communities. This aspect is crucial to gaining the trust of consumers, and, through memorable, emotional experiences (Arya et al., 2023; Rosado-Pinto et al., 2020; Zaheer, 2022) and immersive technologies (Papagiannidis et al., 2017; Williamson, 2020), to increase brand awareness and ultimately create an authentic connection with the audience through brand loyalty.

The analytical framework then focus on the individual within the metaverse, through self-expression, referring to the possibility for users to express their individuality and personality through avatars (Petkov, 2023) and virtual environments (Zimmermann et al., 2023). This includes the possibility of customising avatars, the creation of original content, and the participation of cultural and social events within the metaverse. Finally, a focus on the avatar is needed in order to understand the use of the means by which users can feel identified within the metaverse through the communication of fashion brand values within the digital output so as to increase enjoyment and satisfaction (Flatla et al., 2011; Yang et al., 2017). These components, derived from the analysis and clustering of literature, together help to shape the experience of users in the metaverse and influence their interaction with the digital world in significant and innovative ways.

One of the most frequently adopted marketing strategies was to create exclusive collaborations with time limits, and sometimes, especially in the physical sphere, with limitations on the products available, thus helping to create hype and making the digital product an exclusive object of desire. This validates what has been argued by Chrimes & Boardman, (2023) e Wang

et al., (2022), making this strategy indeed valid. In fact, this approach has proven successful in many cases, so much so that it has often extended the duration of collaborations, as happened with Louis Vuitton x League of Legends, which exceeded one year of collaboration. However, in other circumstances, this tactic has elicited negative responses, as evidenced by Dior x Gran Turismo 7 and Polo Ralph Lauren x Fortnite. Indeed, they collide with the validity periods of video game season passes, undermining the effectiveness of the previously created hype. These cases do not conflict with those highlighted in the literature, but demonstrate the importance of careful planning and coordination between the parties involved to maximise the impact of collaborations in the metaverse. This study highlights the lack of specific literature on both marketing strategies in the metaverse and the impact of customers in such collaborations. Through the case studies presented, it emerges how such collaborations can generate innovative and positive results.

Social networks are widely used by all the case studies, in particular Instagram.In all case studies, videos and photos of the collaboration were shared via the profiles of the two companies involved. Some collaborations, such as H&M x Animal Crossing and Burberry x Minecraft, also took advantage of augmented reality to create unique Instagram filters, or the physical shop environment was transformed into a world somewhere between the real and the virtual. This helped to promote both the products and the brand, as claimed by Huang & Hsu Liu, (2014) and Xue et al. (2023), and increase the shopping experience through seamless shopping (Xue et al., 2023).
In addition, these brands make use of influencers and brand ambassadors (as in the case of H&M x Animal Crossing with Maisie Williams) to reach a wider audience, ensuring that the influencers embody the brand's values through active co-creation, in a way that immediately gains the public's trust, as highlighted by Dos Remedios, (2023).
Furthermore, live streaming platforms, in particular Twitch, were also used. Live streaming channels on video games, in fact, enjoy considerable popularity and enthusiastic followers. With millions of viewers worldwide, these channels offer an unparalleled window into the gaming action, allowing viewers to actively participate through chat and interactions with content creators. With their ability to broadcast tournaments, informal gaming sessions, and

even special events, live game streaming channels attract a large and diverse audience, as stated by Bazaki & Wanick (2023). This makes the gaming event spectacular and unrepeatable, almost as if it were a physical event such as a major sports match, making the experience emotionally rich and unrepeatable, engaging users in shared adventure (Bousba & Arya, 2022). In fact, the collaborations between Louis Vuitton x League of Legends and Polo Ralph Lauren x Fortnite have precisely focused on this, inserting themselves and participating in video game tournament events, eSports, and the 'Polo Stadium Cup', respectively. This strategy allowed the brands to connect directly with a large audience, offering tangible and memorable engagement that reflected the atmosphere of major sporting competitions.

Each collaboration also includes a physical component that reflects the virtual products launched on the gaming platforms, but with an aesthetic that echoes the distinctive values of the fashion brand involved. In Dior x Gran Turismo 7 and Polo Ralph Lauren x Fortnite alone, some of the physical objects correspond exactly to those in the virtual world, thus minimising the disparity between the virtual and real worlds. This decision may have been motivated by several factors. Firstly, it could have been a demonstration of the skill and precision in rendering detailed, high-quality digital work. Showing that digital can faithfully replicate physical objects might have been a way to emphasise the skill and mastery in the field of digital production.
Furthermore, this may have been a strategy to demonstrate the superiority of digital work over traditional work, communicating an effective blurring between physical and digital worlds, as suggested by Suh & Prophet (2018). By making virtual and physical objects identical, one might want to communicate that the digital world is not only able to compete with the physical world in terms of quality and detail but, in some cases, can even surpass it.

On the integration of the brand within the virtual environment, in all collaborations we can observe a harmonious fusion of the distinctive details of the fashion brand. These details are derived either from the brand's logo, through the use of recognisable logos or patterns, or from iconic garments that represent the brand's core values. A prime example is Burberry x Minecraft, where the famous trench coat is integrated into the virtual world of Minecraft, or Louis Vuitton x League of Legends, which incorporates the

iconic pattern and logo into the skins of characters Quiyana and Senna. To accomplish this, brands must be conscious of their core values, which are derived from their brand equity (Parris & Guzmán, 2022). They then transposed these values into distinctive aesthetic elements, which were then integrated into the game, ensuring a consistent and faithful representation of the brand's principles and aesthetics within the virtual environment.

This is always achieved by maintaining an affinity with the aesthetics and dynamics of the gaming platform, thus ensuring a harmonious integration both visually and in terms of gameplay. These details are not simply limited to their inclusion in the characters' costumes, but are also incorporated into the immersive environment, utilising the customisation and co-creation opportunities offered by the video game to integrate distinctive brand elements. This role played by players thus fosters interactive engagement, through two-way participation, as reported by Brodie et al. (2011) and Cantone et al. (2022), and assists in value creation.

Furthermore, in some cases, events are organised or brand ambassadors are involved to further amplify the values of the fashion brand, thus increasing the impact and reach of the collaboration.

Concerning communication and value co-creation strategies in the metaverse, these assume different forms in the case studies, respectively, respecting the gameplay structure. As a matter of fact, we see that the fashion brands are again harmoniously integrated with the game mode: Dior inserts several cut scenes in Gran Turismo 7, which are already used for the other available cars. H&M, Polo Ralph Lauren, and Burberry use the possibility of creating a virtual brand environment, customising it with aesthetics, mini-games, and experiences that directly recall the brands' values. This leads to an emotional connection, promoting values of sharing (H&M), desire (Polo Ralph Lauren), or challenge (Burberry, Louis Vuitton). This supports the thesis of Baalbaki & Guzman, (2016) and Dos Remedios (2023), which recognise a shift by brands towards the creation of emotional connections as significant drivers of brand value.

The methods of value creation depend on the chosen gaming platform. Indeed, games such as League of Legends can exploit customisation to induce desire in players through the presentation of exclusive skins and other virtual rewards that increase engagement and brand loyalty. In synthe-

sis, high personalisation in the metaverse represents a powerful communication instrument and involvement that can be exploited in creative and strategic ways to strengthen the presence and values of the brand (Venkatesan, 2017; Wirtz et al., 2013).

In particular, in some case studies, there is a high level of customisation of the avatar used. When integrated harmoniously with the brand, avatar customisation plays a crucial role in the metaverse experience, as it aids the identification process and thus enhances the overall experience, and leads to increased player enjoyment and satisfaction (Flatla et al., 2011; Yang et al., 2017). In the case studies, the customisation possibilities offered are closely aligned with the values that the brand intends to communicate to the public. For example, for a brand focused on communicating sustainability, such as H&M, personalisation is reflected in its commitment to the environment, allowing users to enjoy experiences closely linked to the circular economy process. Similarly, for a brand like Louis Vuitton, which embodies exclusivity and luxury, personalisation revolves around offering exclusive and rare options for avatars or virtual objects.

However, unlike open worlds such as Minecraft, where players are free to interact with the virtual environment as they please, in the examined collaborations, a predefined path is outlined for the player. Thus, it is evident that in the case studies, what Jung et al. (2016) and Flavián et al. (2019) predicted takes place, namely the creation of a user journey that connects virtual and non-virtual experiences in a fluent manner. This is achieved in the construction of a defined narrative or gameplay, which varies depending on the video game used. Some games, such as League of Legends, Fortnite, and Gran Turismo 7, are characterised by repetitive and pre-determined action, while others, such as Minecraft and Animal Crossing, present a slightly different narrative or gameplay through collaboration. In particular, in Minecraft, there is a noticeable departure from the normal gameplay experience, with the introduction of a narrative usually absent in the base game. This narrative guides the player through various virtual environments with a heroic story, thus creating a unique and immersive experience.

5. Discussion

Through a predefined experience, brands are able to include elements that arouse emotions in players. Through the game itself, players can obtain or purchase tools or outfits that allow them to express or identify themselves. In particular, digital elements directly relate to the brand, thus creating an emotional connection with it through customised animations, emoticons, outfits, and even songs. However, these elements are only accessible if the player achieves certain in-game achievements, which highlights how in all collaborations, player motivation is fuelled by the introduction of battle passes or challenges to obtain the benefits of collaboration.

5.3 Dimension 3: Value Creation

The third dimension, 'Creation of value', breaks down into several components crucial to the success of collaborations in the metaverse. Firstly, narrative elements introduced within the collaborations are analysed, which, as already seen, add depth and emotional engagement to the players' experience. It then explores the importance of a cohesive and congruent collaborative partnership, where both brands work together synergistically to create added value and authentic engagement for the audience (Li & Wang, 2019; Mróz-Gorgoń, 2016; Grebosz, 2012; Li & Wang, 2019). For the collaboration to be effective, the participants must be actively involved, giving them a sense of power and engagement in the metaverse. It then goes on to focus on creating and communicating tangible value to the public through the outputs of collaborations, which go beyond mere publicity to offer, according to Blackett & Russell (2000), meaningful and engaging experiences. Finally, the creation of a sense of belonging and brand identity among players is analysed, which fosters brand loyalty and emotional connection to the metaverse experience (Ryan & Deci, 2017; Hamari & Koivisto, 2015). These elements combine to create an enriching and immersive gaming experience in the metaverse that goes beyond mere entertainment to offer authentic value and connection with the audience.

The narrative dimension of the case studies relies on several strategies to draw attention to and inform about the core characteristics of the brand involved. One tactic used by H&M x Animal Crossing, Burberry x Minecraft, and Polo Ralph Lauren x Fortnite is the construction of a new virtual world within the game, designed to highlight and communicate the brand's core values. This new virtual world adds freshness and originality to the game, without detaching itself too much from the main game experience. The visual presence of the brand within this virtual world is carefully integrated, ensuring consistent and non-invasive visibility. In addition, the narrative dimension includes the presence of emotional dialogues, as in Animal Crossing, where NPC characters engage in emotional dialogues with the player, or as in Gran Turismo 7, where interviews are conducted to add depth and first-person emotional involvement to the gaming experience. Similarly, there are emotional products such as songs or informational videos on platforms

such as YouTube, designed to provoke an emotional response from players and reinforce brand identity within the context of the game. As an example, a significant emotional aspect can be seen in the song created exclusively for the 2019 League of Legends eSports event in partnership with Louis Vuitton. This leaves viewers with an emotional response where the presence of the fashion brand may be subtle, yet palpable.

These emotional narrative elements help to create an engaging and memorable experience for players, while effectively communicating the values and essence of the brand, as advocated previously by Muriel & Crawford, 2018. What emerges from the case studies is that the key to a successful collaboration lies in the harmony and consistency of shared values between the brands involved. Indeed, the objective of the collaboration is to focus on the reputation and values of the brand partner to achieve positive outcomes (Mróz-Gorgoń, 2016). If these values are weak or unclear, collaboration risks being ineffective, as the public cannot perceive their relevance or impact (Li & Wang, 2019). In the case studies, it is evident how, on the other hand, if the values are similar even if the target markets are different (as in Louis Vuitton x League of Legends or Dior x Gran Turismo 7), the collaboration can still make sense and lead to a mutual benefit. In fact, despite the differences in target markets, the presence of similar core values succeeds in levelling out differences and allowing positive association, engagement, and brand loyalty for both.

However, if the target markets are extremely different (Polo Ralph Lauren x Fortnite) and the core values are weak, the collaboration risks not achieving its communicative goal. In the case of Burberry x Minecraft, we see how the common values exist, but are not strong, and this contributes to making the collaboration unattainable for both targets. The collaboration between Burberry and Minecraft was appreciated on a gameplay level because it offered users an engaging and entertaining experience within the world of Minecraft. According to Milanesi et al. (2022) and Zainuddin et al., (2020), gamification engages and entertains users, and the integration of a fashion brand like Burberry in a playful context like Minecraft offers a fun and engaging experience. Users can enjoy an immersion in the world of fashion through gaming, experiencing the brand's products and aesthetics in an interactive virtual environment.

However, the core values shared by the two brands are weak or not effectively communicated during this collaboration, so it has not generated a significant increase in brand loyalty and brand awareness. Xi & Hamari (2019a) and Lee & Jin, (2019) suggest that gamification can effectively enhance overall brand perception and boost customer loyalty. However, our study emphasises that this can only occur if the brand values are clearly defined and pertinent to users.

It is highlighted that player involvement and engagement are largely driven by the provision of exclusive products and personalised services, as illustrated by Mainardes et al., (2020). This phenomenon is primarily observed in case studies where the skin is central to the collaboration, such as in Polo Ralph Lauren x Fortnite or Louis Vuitton x League of Legends. Skins not only add aesthetic value to the game, but also serve as a communication vehicle within the virtual social environment (Li et al., 2020). In addition, active participation is fuelled by the sense of urgency and exclusivity resulting from the possibility of obtaining unique digital outputs through in-game and in-game currency (Mainardes et al., 2020; Wang et al., 2022), which in collaborations can often be obtained by participating in events or by playing directly, rather than necessarily purchasing them.

The possibility of customisation, as observed in H&M x Animal Crossing, further enriched players' sense of agency, as argued by Muriel & Crawford (2020), and the creation of values, as argued by Gornostaeva (2023), and Reinartz et al. (2019). This is achieved especially in games where player satisfaction is closely linked to the customisation of the gaming experience. Finally, incorporating brand-specific elements into the immersive environment, such as the brand logo, patterns, or iconic products, fosters a feeling of involvement and exclusivity among players (Hsu et al., 2021; Widagdo & Roz, 2021). By doing so, brands establish their identity within a hedonic experience (Holmqvist et al., 2020), prompting players to recognise the brand, enhancing brand awareness, and associating it with a positive overall experience, enhancing brand loyalty (Hayes, 2023). Consequently, this encourages them to fully engage in the metaverse experience, rendering their involvement more substantial and captivating, as validated by Holmqvist et al. (2020), Hsu et al. (2021), and Widagdo & Roz (2021).

Within the meta-verse, studied fashion brands convey value through a series of targeted strategies. One such strategy is the hierarchical layering of outfits and aesthetic elements to stand out and increase their status, thus communicating a sense of exclusivity. This approach is evident in collaborations such as Dior x Gran Turismo 7 and Louis Vuitton x League of Legends. In addition, brands merge their in-game presence with in-game activities to communicate their distinctive values through different gameplay. In addition, the creation of customised virtual environments plays a crucial role in communicating brand identity (Behl et al., 2023), as evidenced in collaborations such as Ralph Lauren x Fortnite and H&M x Animal Crossing. Through in-game actions, the possibilities to personalise, interact, and co-create with a narrative that directly communicates brand values engage players and create value, as stated previously by Prahalad & Ramaswamy (2004) and successively confirmed by (Grönroos & Voima (2013) and Behl et al. (2023).

Collaboration through brand ambassadors or influencers is another strategy used to communicate brand values, finding common values through them. Moreover, the combination of physical and digital elements is evident as brands leverage both realms to evoke their unique values. For instance, the Burberry x Minecraft partnership features a real collection with components reminiscent of their classic clothes. Conversely, in collaborations like Polo x Fortnite and Dior x Gran Turismo 7, digital collections are seamlessly integrated to complement the game's aesthetics, effectively communicating the brand's values through intricate details.

Lastly, storytelling within the game serves as a tool for conveying brand values, as demonstrated in the Burberry x Minecraft and Dior x Gran Turismo 7 case studies. This confirms the growing recognition of the significance of narrative in video games and its progression towards more refined forms (Landers et al., 2019; Aaron, 2023). Through these interactive strategies that explore new forms of storytelling for fashion brands, it is possible to effectively communicate their distinctive values and provide an engaging experience for players within the metaverse.

Through a meaningful video game experience composed of interactive elements, a deep sense of belonging is established in the player (Hamari & Koivisto, 2015), fueled by several key elements. First of all, the inclusion of historical elements that players are already familiar with, as in the case of the Polo x

Fortnite and Dior x Gran Turismo 7 collaborations, creates an emotional bond between those already familiar with the fashion brand. Direct dialogues augment the flow in the video game experience, and, according to the flow theory by Csikszentmihalyi & Larson (2014), this further increases the player's immersion and creates a deeper emotional bond. This happens in Burberry x Minecraft, in H&M x Animal Crossing, and in Dior x Gran Turismo 7.

Even the decoration of the virtual world, as seen in H&M x Animal Crossing, with elements evoking a sustainable future, together with the details of the game's realisation, such as the houses of Maisie Williams and Pascal Brown, contribute to creating a sense of belonging and sharing for the brand's projects and values. Through the immersive environment, the brand communicates a utopian vision of the future that it wishes to create. These sharing and co-collaboration methods enhance users' emotional involvement, rendering the experience more compelling and significant. This notion is supported by Huang & Hsu Liu (2014) and Xue et al. (2023) in the context of AR, and within this study, we can assert that video games also assist users in co-creating and collaborating through shared experiences.

Furthermore, the possession of customised skins plays a significant role in creating a sense of belonging, as does the presence of easter eggs that evoke nostalgia and arouse deep emotions in players. This intimate connection transforms the possession of the skin into an act of pride, as the player associates his or her emotional engagement and involvement with the brand with the visual representation of the skin. In this way, the use of the skin becomes a proud gesture, symbolising adherence to the brand values and further solidifying the link between the player and the brand identity (Li et al., 2020).

The possibility for players to express themselves and interact socially, such as through messages left for other players in Animal Crossing, further enhances the sense of community and belonging, as argued by Ryan & Deci's (2017) self-determination theory. Finally, the organisation of events and tournaments, such as eSports, represents an important moment in the game that can be associated with the fashion brand, involving players in a shared experience that reinforces their sense of belonging and involvement, as sustained by Waterworth & Hoshi (2016).

6
Conclusions

Limits of
the research

It is important to recognise that, despite the efforts made to conduct this research accurately and comprehensively, there are inherent limitations that affect its long-term validity. One of the main limitations lies in the incessant evolution of digital technologies and market dynamics. Digital technologies are subject to rapid and continuous change, with new innovations and developments emerging abruptly over time. Consequently, the conclusions and implications derived from this research may become outdated in the context of an ever-changing technological landscape.

This means that although the research may provide a meaningful and useful picture of the dynamics existing at the time of the analysis, it may be necessary to re-evaluate and update the conclusions in the future to take into account new trends and emerging innovations in the industry. Therefore, it is important to view this research as a starting point for further investigation, rather than as a definitive and conclusive answer to all the issues addressed.

Future steps

The current research involves the analysis of five case studies, however, it could be extended to other case studies in the future. Alternatively, the possibility of modifying the selection criteria of the case studies examined could be considered, thus broadening the diversity and representativeness of the experiences taken into consideration. This approach would provide a more comprehensive and in-depth view of the impact of fashion brands collaborations in the context of video games, providing a solid basis for further research and the continuous improvement of corporate strategies in this rapidly evolving sector.

The research could benefit from expansion through interviews with experts, although identifying such figures could be a challenge, and more distinct voices from different disciplines should probably be heard, including the sociological dimension of immersive technologies, the digitalization of fashion, and the use of video games for marketing strategies. Involving experts from different fields could provide a more comprehensive and in-depth view of the topic under investigation, thus contributing to the quality and breadth of the conclusions reached.

Another important objective could be to focus on the analysis of players' feedback through surveys in order to understand whether the case study actually considered had a positive or negative impact on the players involved. This approach would allow a more in-depth evaluation of the effectiveness of collaborative actions between companies in the context of the gaming world. By analysing direct feedback from gamers in more detail, it would be possible to gain an extended understanding of their experiences and perceptions, thus providing new information on which to base knowledge. This data could influence future decisions regarding collaborative actions between companies in the video game industry, helping to optimise strategies, maximise the positive impact on the target audience, and understand whether the values that fashion brands want to communicate are being effectively conveyed.

7
Annex

Metaverse definitions

IDs and reference	Definition
ID01 *Impact of the Metaverse on the Digital Future: People's Perspective* *Babu et al., 2022*	"The Metaverse is defined as a virtual reality-based internet, and it is anticipated that it will evolve into a potential successor to the internet in the near future. [...] initially used in the development of internet based video games and social media. [...] As part of Web 3.0, the Metaverse combines physical and digital lives by utilizing technologies like augmented reality (AR) and virtual reality (VR), 5G, edge and cloud computing, blockchain including artificial intelligence (AI) and non-fungible tokens (NFT) [6]. [...] Metaverse can be described as a combination of virtual enhanced physical reality with persistent virtual space that can be accessed via VR headsets, AR glasses, smartphones, PCs, and game consoles [8]. Many in the tech industry see the metaverse as being the heir of the modern internet [9]. The Metaverse creates a virtual world beyond reality with artificial intelligence and blockchain technology. [...] The metaverse could be the next step in the evolution of the internet, reducing boundaries and allowing people to engage with the digital world fully. "

C1	C2	C3
N	Y	N

IDs and reference	Definition
ID02 *The Metaverse: And How It Will Revolutionize Everything* *Ball, 2022*	A massively scaled and interoperable network of realtime rendered 3D virtual worlds that can be experienced synchronously and persistently by an effectively unlimited number of users with an individual sense of presence, and with continuity of data, such as identity, history, entitlements, objects, communications, and payments.

C1	C2	C3
N	N	Y

IDs and reference	Definition
ID03 *Reinventing Fashion Retailing: Digitalising, Gamifying, Entrepreneuring* *Bazaki et al., 2023*	The 'metaverse' provides a blend between physical and digital worlds, in which the avatar plays a central role. The definitions of 'virtual worlds' and 'metaverse' might overlap; according to Nevelsteen (2018), the 'metaverse' allows real-time interaction, whereas virtual worlds do not. At times the concepts get also confused, as virtual worlds are not necessarily games; however, they might have elements from games, such as avatars.'

C1	C2	C3
Y	N	Y

IDs and reference	Definition
ID04 *Let's connect in metaverse. Brand's new destination to increase consumers' affective brand engagement & their satisfaction and advocacy* *Bousba et al., 2022*	'The Metaverse refers to an experience in a virtual environment in three dimensions where development is possible thanks to avatars or holograms. This alternative reality allows us to converse with others, study, work, or play. Metaverse uses augmented reality (AR) and virtual reality (VR) to create a collective universe (Zarantonello & Schmitt, 2022). Thanks to these modern techniques, the Metaverse adopts the same verbal and non-verbal communication rules as reality: gestures, mimics, and tone of voice. [...] Previous research emphasized the integration of gamification-based activities in various areas, such as gamification-based activities in the medical-care sector (Tuah et al., 2021), organization and well-being of employees (Hammedi et al., 2021), education domain (Mathew and Pillai, 2022; Sethi et al., 2021), retailing (Lau and Ki, 2021), tourism (Jang and Hsieh, 2021) and, banking (Nasirzadeh and Fathian, 2020). [...] It is based on the convergence of technologies that allow multi-sensory interactions without the need for virtual environments, digital objects and people, unlike Virtual truth (VR) and augmented truth (AR). [...] The Metaverse is nothing other than a virtual world but also immersive. [...] The Metaverse is the future of social connections, a social network with a complete universe in 3 dimensions in which one can walk, pose and evolve with zones; landscapes; people, and avatars embodied by the users; a complete universe. [Anderson, T.; Rivera-Vargas].

C1	C2	C3
Y	Y	Y

IDs and reference	Definition
ID05 *The Metaverse: A Brave New "World"* *Cesmeli, 2023*	The Metaverse, a virtual reality-focused internet, is touted as the future successor of the internet. [...] Initially, the Metaverse concept primarily influenced internet-based video games and the creation of social media (Babu & Mohan, 2022). The Metaverse can be seen as an interconnected network of advanced virtual worlds linked with the physical world through specific hardware and biological interfaces and complemented by software technologies, services, and data. The Metaverse is a form of Extended Reality (XR), a continuum bridging the XR and real worlds. While XR is a current reality, the Metaverse remains an aspirational idea. Contemporary XR includes technologies like Augmented Reality (AR) and Virtual Reality (VR), which gather human data through various channels and methods. [...] The metaverse is poised to revolutionize how we interact with digital environments through augmented and virtual reality technologies. In this light, popular virtual environments like Second Life, Fortnite, Roblox, and VRChat provide insight into the metaverse's potential socio-economic impact (Dwivedi, 2022).

C1	C2	C3
Y	N	Y

IDs and reference	Definition
ID06 *The Opportunities & Challenges of the Metaverse for Fashion Brands* *Chrimes et al., 2023*	The metaverse is conceptualised as an interconnected, 3D virtual world that overlaps with or provides an alternative to physical reality and is inhabited by avatars of real people (Kim, 2021; BoF, 2022). It is important to note that the metaverse is not merely another medium, rather it is a convergence of all technological advances, including Web 1.0 (the internet in its basic form), Web 2.0 (social media and smart mobile) and mixed realities (AR, VR) (Kim, 2021), which enables multisensory interactions with digital objects, people, and virtual spaces (Mystakidis, 2022). Hence, the metaverse is a growing manifestation of Web 3.0. [...] In 2007, The Metaverse Roadmap was published, predicting that in ten years the internet would be an immersive, always-on experience of physical and digital worlds based on the emerging technologies at the time: augmented reality, lifelogging, virtual worlds, and mirror worlds (Terdiman 2007; Kim, 2021).

C1	C2	C3
N	Y	N

IDs and reference	Definition
ID07 *Metaverse as a stimulus for customer experience : implications for Marketing* *Dinh, 2023*	The basic definition of Metaverse is a combination of virtual augmented and mixed reality involving a three-dimensional physical environment. A three-dimensional physical world combined with virtual augmented and mixed reality is the basic description of the Metaverse as defined by Davis et al. (2009). [...] Metaverse is limitless and seamlessly connected containing endless potential, objectives, and life-changing events. Metaverse has been seen as an open space where the physical and digital worlds can coexist and change some foundational areas of daily life. In another word, it is an interconnected virtual community allowing users to socialize, communicate, and collaborate with the assistance of virtual reality headsets, mobile phone apps, AR glasses, and other technologies making the environment livelier (Lee et al., 2021). [...] the new Metaverse is more realistic and natural offering better immersion and higher recognition performance than the previous one did. Secondly, while the previous Metaverse uses PC based technology, the new one uses smartphones and mobile devices to develop accessibility and continuity. Thirdly, the new Metaverse services of economic stability are now much-improved thanks to the development of security technologies for instance virtual currency as well as blockchain. Lastly, since the last pandemic caused by covid-19, the limitations of offline social activity and interaction have increased interest in the virtual world and made it the principal aspect of daily life (Yogesh K. Dwivedi a b et al., 2022).

C1	C2	C3
N	Y	Y

IDs and reference	Definition
ID08 *3D Virtual Worlds and the Metaverse: Current Status and Future Possibilities* *Dionisio et al., 2013*	The word Metaverse is a portmanteau of the prefix 'meta' (meaning 'beyond') and the suffix 'verse' (shotland for 'universe'). This, it literally means a universe beyond the physical world. More specifically, this 'universe beyond' refers to a computer-generated world, distinguishing it from metaphysical or spiritual conceptions of domains beyond then physical realm. In addition, the Metaverse refers to a fully immersive, three-dimensional digital environment in contrast to the more inclusive concept of 'cyberspace' that reflects the totality of shared online space across all dimensions of representation. What the Metaverse always references an immersive, three-dimensional, digital space, conceptions about its specific nature and organization have changed over time. The general progression has been from viewing the Metaverse as an amplified version of an individual virtual world to conceiving it as a large network of interconnected virtual worlds. [...]Thus, the Metaverse [...] is, in both form and operation, essentially an extremely large and heabily populated virtual world that operates, not as a gaming environment with a specific parameters and goals, but as an open-ended digital culture that operates in parallel with the physical domain.

C1	C2	C3
N	Y	N

IDs and reference	Definition
ID09 *Metaverse marketing: How the metaverse will shape the future of consumer research and practice* *Dwivedi et al., 2023*	The metaverse has been described as 'a massively scaled and interoperable network of real-time rendered three-dimensional (3D) virtual worlds that can be experienced synchronously and persistently by an effectively unlimited number of userswith an individual sense of presence, and with continuity of data, such as identity, history, entitlements, objects, communications and payments' (Ball,2022, p. 29). [...] The multimedia space has utilized virtual worlds and interactive technologies such as augmented reality(AR), virtual reality (VR), and use of avatars since the early 2000s, viaplatforms such as Second Life, Roblox, and Fortnite. The metaverse [...] has emerged as a crucial global phenomenon for marketers and academicians. The metaverse is a virtual world with immersive capabilities providing an experience forecast to parallel the real world.

C1	C2	C3
Y	Y	N

IDs and reference	Definition
ID10 *Metaverse beyond the hype: Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy* *Dwivedi et al., 2022*	The metaverse has been described as a new iteration of the internet that utilises VR headsets, blockchain technology and avatars within a new integration of the physical and virtual worlds (Lee et al., 2021a; The Verge, 2021). Immersive and interactive multimedia style online games have been available for a number of years, allowing users to experience social interaction within a virtual world using VR headsets and avatars. [...] Other 3D interactive platforms such as Roblox and Fortnite have also be described as precursors to the metaverse, where the functionality allows users to create avatars and interact with other gamers within their own virtual universe (Damar, 2021). [...] The new metaverse concept as outlined by Mark Zuckerberg, describes an integrated immersive ecosystem where the barriers between the virtual and real worlds are seamless to users, allowing the use of avatars and holograms to work, interact and socialise via simulated shared experiences (Meta 2022). An agreed upon definition of the term metaverse within the literature has yet to be agreed on, however, we align with succinct definition as detailed in Damar (2021) where the study describes the metaverse as: "the layer between you and reality" and the metaverse referring to a "3D virtual shared world where all activities can be carried out with the help of augmented and virtual reality services".

C1	C2	C3
Y	Y	Y

IDs and reference	Definition
ID11 *The Metaverse, or the Serious Business of Tech Frontiers* *Knox, 2022* C1 C2 C3 N N N	The metaverse is more, apparently, than a single virtual world platform. […] It is perhaps this more intricate vision of seamlessly connected virtual andaugmented technologies, alongside cojoined 'things', that has excited theentrepreneurs of the tech sector in recent months. […] The metaverse is not simply a platform developed by one company, implying the usual constraints of monopolisation, but rather a new plane of existence, not just void of control by any single corporation, but also free of incursions by any state entity or government. […] The metaverse isn't so much an innovation, but rather a reset button, rendering obsolete everything that has become established and institutionalised aboutthe current Internet, and in its place, conjuring up a new virtual and augmented wilderness, for which the tech entrepreneurs are our only chaperon. […]

IDs and reference	Definition
ID12 *Facebook and the creation of the metaverse: radical business model innovation or incremental transformation?* *Kraus et al., 2022* C1 C2 C3 Y Y Y	According to the company, now named Meta, the metaverse will resemble a mix of today's online social experiences in a three-dimensional space or projected into the real world (Meta, 2021a). […] moreover, academics have been writing about ideas such as "extended reality" and "virtual worlds" for decades (Dionisio et al., 2013;Kelly, 2021; Lee et al., 2021; Payne, 2021). […] : a new form of social network in an interactive virtual world that connects different users for the purpose of gaming, working and entertainment (Forman, 2021). […] The context of the metaverse inhabits both the present and the future as an accumulation of different technologies that will be developed in the next decade (Velazco, 2021). […] From an overarching perspective, a clear definition of the metaverse remains to be established, but experts assume that it will be a combination of technologies currently known as virtual, augmented and mixed realities (Hall and Li, 2021; Lee et al., 2021). […] Thus, the metaverse promises to provide a new experience for users and customers in terms of communication, work and entertainment.

294

IDs and reference	Definition
ID13 *Digital future of luxury brands: Metaverse, digital fashion, and non-fungible tokens* *Joy et al., 2022*	There are multiple definitions of technology's latest buzzword, "metaverse," as the technology journalism site Ars Technica explains, the metaverse is both an idea under construction and a concept in use today. What is not in doubt is the meaning of the metaverse: a place where predominantly young consumers develop online lives, with avatars who can move, speak, and be customized to look in whatever way their creators wish. [...] Metaverses universally comprise the following four commonalities [Ibid]: (a) shared social space with avatars to represent users; (b) a world for the avatars to inhabit and interact with; (c) a space enabling users to own virtual property as they would physical property; and (d) a space enabling users to create their virtual property. [...] The idea of the metaverse extends an existing concept, that of second life, as noted above. [...]

C1	C2	C3
Y	Y	N

IDs and reference	Definition
ID14 *Metaverse – the new marketing universe* *Hollensen et al., 2022*	For companies that exist primarily in the physical world, the metaverse concept is first and foremost a giant laboratory with direct access to especially the younger demographic target groups. The Metaverse is mostly well-known for virtual gaming through online worlds like Fortnite or Roblox. It would be shortsighted to think the metaverse ends with gaming. The Metaverse can have an allencompassing impact. [...] This Metaverse refers to a series of interconnected virtual worlds where users can leverage virtual and augmented reality, navigating these spaces using personal avatars, who interact with each other in the Metaverse. [...] Metaverse iterates further by placing everyone inside an 'virtual' or '3D' version of the internet and on a nearly unending basis. In other words, we will constantly be 'within' the internet, rather than have access to it.

C1	C2	C3
Y	Y	Y

IDs and reference	Definition
ID15 *Metaverse and Advertising: Opportunities and Challenges for Brands* *Mandal, 2023*	The metaverse can be described as a virtual reality space where people can interact with a computer-generated environment and other users in real-time. [...] In summary, the metaverse presents exciting opportunities for brands to engage with users in new and immersive ways.

C1	C2	C3
N	N	Y

IDs and reference	Definition
ID16 *Marketing in the metaverse: An opportunity for innovation and experimentation* *McKinsey, 2022*	"What, exactly, is the metaverse? Right now, the interested parties cannot agree on any one definition. But most descriptions [...] have some elements in common: 1. The metaverse encompasses immersive environments, often (but not always) using virtual- or augmented-reality technology. 2. The metaverse is "always on" and exists in real time. 3. The metaverse spans the virtual and physical worlds, as well as multiple platforms. 4. The metaverse is powered by a fully functioning virtual economy, often (but not always) built on cryptocurrency and digital goods and assets, including nonfungible tokens (NFTs). 5. The metaverse enables people to have virtual identities, presence, and "agency," including peer-to-peer interactions, transactions, user-generated content, and "world-building.""

C1	C2	C3
N	Y	Y

IDs and reference	Definition
ID17 *The Metaverse: All you want to know about the Metaverse* *METAV.RS, 2023*	The metaverse seems more like a natural extension of our digital lives. At its core, it is a virtual world designed to simulate real-life experiences. It is a place where people can interact in new and augmented environments. But it's much more than just a game or a virtual reality experience. The metaverse is a platform for building communities, sharing content, and driving engagement. [...] It's also a to foster connections between people who share common interests. As people tend to spend more time online, the metaverse will create new pathway for small businesses to expand their reach beyond physical borders and compete on a global scale. [...] The concept of the metaverse envisions an interconnected universe of information and experiences, spanning physical and digital realms. [...] What sets this virtual universe apart is its persistent nature, meaning that any changes made to it are permanent and available to all users. This eliminates the possibility of the Metaverse being limited to a VR setting, as it should be accessible through any device. In essence, it is a universe of endless possibilities that provides a continuous, intense experience for all who engage with it.

C1	C2	C3
Y	Y	Y

IDs and reference	Definition
ID18 *Metaverse* *Mystakidis, 2022*	The Metaverse is a post-reality universe, a perpetual and persistent multiuser environment merging physical reality with digital virtuality. [...] The Metaverse is based on technologies that enable multisensory interactions with virtual environments, digital objects and people. [...] In the field of VR, the Metaverse was conceived as the 3D Internet or Web 3.0 [57]. Its first iteration was conceived as a web of virtual worlds where avatars would be able to travelseamlessly among them.

C1	C2	C3
N	Y	N

IDs and reference	Definition
ID19 *Fashion and the metaverse: Clarifying the domain and establishing a research agenda* *Park et al., 2023*	While a universally accepted definition of the metaverse is absent, researchers generally agree that it refers to a collective, persistent network of shared virtual environments that enable people to interact with each other in a manner comparable to real-life interactions (Debter, 2021; Ravenscraft, 2022). Smart et al. (2007) posited that the metaverse is not a virtual space but rather a junction or nexus that connects the physical and virtual worlds. [...] Accordingly, the metaverse consists of a network of various platforms and technologies that collaborate to create an experience bridging the digital and physical worlds (Hazan et al., 2022). [...] As illustrated in Fig. 1, a fully-realized metaverse integrates the physical and virtual worlds through an interconnection of technological systems, which generate a parallel context for human interaction and culture (Dionisio et al., 2013; Stephens, 2021).

C1	C2	C3
N	N	N

IDs and reference	Definition
ID20 *Unlocking the potential of the Metaverse for branding* *Petkov, 2023*	The Metaverse represents a paradigm shift in digital marketing, providing brands with unprecedented opportunities to engage and connect with consumers in a new virtual reality. [...]

C1	C2	C3
N	Y	N

IDs and reference	Definition
ID 21 *Designing the Future? The Metaverse, NFTs, & the Future as Defined by Unity Users* *Scheiding, 2023*	"Metaverse," though a term that has entered larger public discourse, is still ill-defined. This situation has become exacerbated by the recent uptick in "metaverse" development that has been coupled with the term's rise to prominence. [...] It is fair to conclude that there is currently no popularly accepted, unified definition of the metaverse, only vagaries and generalization. This has especially become the case as numerous companies begin to build a "metaverse" while creating their own definitions that fit into their view of what the "metaverse" is/will become.

C1	C2	C3
N	N	N

IDs and reference	Definition
ID22 *Overcoming Challenges to Enable the Potential of Metaverse Platforms: A Qualitative Approach to Understand Value Creation* *Schöbel et al., 2023*	Metaverse concepts constantly adapt over time to incorporate those developments (Peukert et al., 2022). Building on this argument, a metaverse incorporates and combines several technologies to enable new unique capabilities. [...] We categorize the metaverse as a platform ecosystem that hosts several different platforms, which makes the metaverse an organization of organizations (Kretschmer et al., 2022). [...] Generally, the metaverse connects the virtual with the real (physical) world (Park & Kim, 2022). We can understand the resulting intersection as a kind of meta-ecosystem that hosts and connects many different platforms to create a metaverse experience. The metaverse combines several digital ecosystems, each with its own universe that connects actors with different roles such as complementors and platform owners (Nickerson et al., 2022).

C1	C2	C3
N	N	Y

IDs and reference	Definition
ID23 *Designing the Meta-verse* *Seidel et al., 2022*	The term "metaverse" has captured the imagination of the gaming industry for more than a decade. [...] We define the Metaverse as the networks of digital technologies and people providing immersive, interconnected experiences. We further conceptualize the Metaverse as a meta design space, where Metaverse designers create various interconnected design spaces, each of which creates unique experiences. [...] In this sense, we can think of the design of the Metaverse as the design of an infrastructure upon which experiences can be interconnected. [...] The Metaverse is a distinct socio-technical phenomenon [7] that now exists in different academic and popular discourses. First, it is built on the complex technology stack that we call the Internet and requires advanced computational capabilities to visualize complex 3D worlds. Second, these worlds need to fit a likewise complex social system that participates and actively shapes this world. [...] First, the Metaverse integrates and interconnects varied social experiences in one encompassing system. Second, the Metaverse does this without the need for game-specific rules and goals. That is, the Metaverse provides a digital infrastructure [4, 16] that allows a wide range of experiences to be composed into a whole.

C1	C2	C3
Y	Y	Y

IDs and reference	Definition
ID24 *How users cognitively appraise and emotionally experience the metaverse: focusing on social virtual reality* *Suh, 2023*	The emergent metaverse is based on virtual world technologies that enable a growing number of users to expand the boundaries of communication, engagement and creation (Han et al., 2022). The metaverse is defined as "a shared virtual space that people can move through and interact with, using a personalized avatar as they pursue communication and commerce with like-minded virtual friends" (Zyda, 2022, p. 125).

C1	C2	C3
N	Y	Y

IDs and reference	Definition
ID25 *A Survey on Metaverse:* *Fundamentals, Security,* *and Privacy* *Wang et al., 2022*	Since its first appearance, the concept of metaverse is still evolving with various descriptions, such as a second life [1], 3D virtual worlds [2], and life-logging [3]. Commonly, the metaverse is regarded as a fully immersive, hyper spatiotemporal, and self-sustaining virtual shared space blending the ternary physical, human, and digital worlds [4]. Metaverse is recognized as an evolving paradigm of the next-generation Internet after the web and the mobile Internet revolutions [5], where users can live as digital natives and experience an alternative life in virtuality.

C1	C2	C3
N	Y	N

IDs and reference	Definition
ID26 *What Is Metaverse?-A* *Definition Based on* *Qualitative Meta-Syn-* *thesis* *Weinberger et al., 2022*	The Metaverse is an interconnected web of ubiquitous virtual worlds partly overlapping with and enhancing the physical world. These virtual worlds enable users who are represented by avatars to connect and interact with each other, and to experience and consume user-generated content in an immersive, scalable, synchronous, and persistent environment. An economic system provides incentives for contributing to the Metaverse.

C1	C2	C3
N	Y	Y

IDs and reference	Definition
ID27 *The merchants of meta: A research agenda to understand the future of retailing in the meta-verse* *Yoo et al., 2023*	The metaverse is expected to fundamentally change how consumers interact with the digital world (Austin 2021) and reshape the retailing landscape. Retailing in collaborative virtual environments, or 'metaverse retailing,' allows consumers to navigate through an immersive virtual space, often using a digital representation of themselves, known as an avatar, and to interact with other avatars, including those of other consumers and retail personnel (Donath 1999). [...] The metaverse is an online collaborative shared space built of 3D environments that leverage high consumer immersion techniques to reduce the perception of technological mediation alongside transferrable and unique digital assets while allowing user-generated digital personas to interact with each other.

C1	C2	C3
N	Y	N

IDs and reference	Definition
ID 28 *Metaverse: Perspectives from graphics, inte-ractions and visualiza-tion* *Zhao et al., 2022*	Metaverse needs to be able to provide users with a more realistic experience and rich activities, which requires more advanced technologies to support metaverse's construction and user-centric exploration. Recently, some scholars defined metaverse from an aspect of a comprehensive technical architecture. Lee et al. defined metaverse as a 3D virtual cyberspace blending the physical and digital world, facilitated by the convergence between the Internet and Web technologies and Extended Reality (XR) (Lee et al., 2021a). Duan et al. also categorized the related technologies of metaverse into three levels: infrastructure, interaction and ecosystem (Duan et al., 2021).

C1	C2	C3
N	N	N

IDs and reference	Definition
ID29 *Let's Rename everything "the Metaverse!"* *Zyda, 2022*	The Metaverse is a shared virtual space that people can move through and interact with, using a personalized avatar as they pursue communication and commerce with like-minded virtual friends. [...] And so that is what the Metaverse is becoming, a place where salesmen will come to sell their wares, virtual and real. And everyone is rebranding their games as the portal to the Metaverse. [...] We can see that these worlds are 3D, and that each world is providing users the ability to stylize and create their own 3D avatar and create and develop their own island/space/games imbued with gameplay, social communication, and commerce.

C1	C2	C3
Y	Y	Y

8
References

8. References

Aaron, S. (2023, November 25). The Rise of Video Games as an Art Form. Medium. https://medium.com/@simmons.aaron/the-rise-of-video-games-as-an-art-form-94d9f966448c

Abdel, K., Md Saad, N. H., & Thurasamy, R. (2023). Analysing the factors influencing customer engagement and value co-creation during COVID-19 pandemic: The case of online modest fashion SMEs in Egypt. Journal of Islamic Marketing, 14(1), 146–173.

Agile District. (2022). (24) Web 4.0 Explained – A Brief! | LinkedIn. https://www.linkedin.com/pulse/web-40-explained-brief-agiledistrict/

Akdim, K., Casaló, L. V., & Flavián, C. (2022). The role of utilitarian and hedonic aspects in the continuance intention to use social mobile apps. Journal of Retailing and Consumer Services, 66, 102888. https://doi.org/10.1016/j.jretconser.2021.102888

Alahäivälä, T., & Oinas-Kukkonen, H. (2016). Understanding persuasion contexts in health gamification: A systematic analysis of gamified health behavior change support systems literature. Health Behavior Change Support Systems, 96, 62–70. https://doi.org/10.1016/j.ijmedinf.2016.02.006

Al-Habaibeh, A., Watkins, M., Waried, K., & Javareshk, M. B. (2021). Challenges and opportunities of remotely working from home during Covid-19 pandemic. Global Transitions, 3, 99–108. https://doi.org/10.1016/j.glt.2021.11.001

Almeida, F., Santos, J. D., & Monteiro, J. A. (2020). The challenges and opportunities in the digitalization of companies in a post-COVID-19 World. IEEE Engineering Management Review, 48(3), 97–103.

Alrawad, M., Lutfi, A., Alyatama, S., Al Khattab, A., Alsoboa, S. S., Almaiah, M. A., Ramadan, M. H., Arafa, H. M., Ahmed, N. A., Alsyouf, A., & Al-Khasawneh, A. L. (2023). Assessing customers perception of online shopping risks: A structural equation modeling–based multigroup analysis. Journal of Retailing and Consumer Services, 71, 103188. https://doi.org/10.1016/j.jretconser.2022.103188

Alves, C., & Luís Reis, J. (2020). The intention to use e-commerce using augmented reality-the case of IKEA place. Information Technology and Systems: Proceedings of ICITS 2020, 114–123.

Alwan, S. Y., Hu, Y., Al Asbahi, A. A. M. H., Al Harazi, Y. K., & Al Harazi, A. K. (2023). Sustainable and resilient e-commerce under COVID-19 pandemic: A hybrid grey decision-making approach. Environmental Science and Pollution Research, 1–21.

Ames, E. (2021). How Augmented Reality Can Impact E-Commerce. LiveAbout. https://www.liveabout.com/how-augmented-reality-can-impact-e-commerce-5188565

Araujo, L., & Spring, M. (2006). Services, products, and the institutional structure of production. Industrial Marketing Management, 35(7), 797–805.

Arvidsson, A. (2006). Brand value. Journal of Brand Management, 13, 188–192.

Arya, V., Sambyal, R., Sharma, A., & Dwivedi, Y. K. (2023). Brands are calling your AVATAR in Metaverse–A study to explore XR-based gamification marketing activities & consumer-based brand equity in virtual world. Journal of Consumer Behaviour.

Ash, A. (2023). What Is Web 4.0? Worth Explaining Now? https://www.lizard.global/blog/www.lizard.global/blog/what-is-web4-explained

Ausburn, L. J., & Ausburn, F. B. (2004). Desktop virtual reality: A powerful new technology for teaching and research in industrial teacher education. Journal of Industrial Teacher Education, 41(4), 1–16.

Ayoubi, A. (2017, September 21). IKEA Launches Augmented Reality Application. Architect. https://www.architectmagazine.com/technology/ikea-launches-augmented-reality-application

Babu, M. U., & Mohan, P. (2022). Impact of the Metaverse on the Digital Future: People's Perspective. 2022 7th International Conference on Communication and Electronics Systems (ICCES), 1576–1581. https://doi.org/10.1109/ICCES54183.2022.9835951

Baek, T. H., Yoo, C. Y., & Yoon, S. (2018). Augment yourself through virtual mirror: The impact of self-viewing and narcissism on consumer responses. International Journal of Advertising, 37(3), 421–439.

Bai, S., Hew, K. F., & Huang, B. (2020). Does gamification improve student learning outcome? Evidence from a meta-analysis and synthesis of qualitative data in educational contexts. Educational Research Review, 30, 100322. https://doi.org/10.1016/j.edurev.2020.100322

Baker, J., Ashill, N., Amer, N., & Diab, E. (2018). The internet dilemma: An exploratory study of luxury firms' usage of internet-based technologies. Journal of Retailing and Consumer Services, 41, 37–47. https://doi.org/10.1016/j.jretconser.2017.11.007

Barann, B., Hermann, A., Heuchert, M., & Becker, J. (2022). Can't touch this? Conceptualizing the customer touchpoint in the context of omni-channel retailing. Journal of Retailing and Consumer Services, 65, 102269.

Baskaran, K. (2019). The impact of digital transformation in Singapore e-tail market. International Journal of Innovative Technology and Exploring Engineering, 8(11), 2320–2324.

Batra, R., & Ahtola, O. T. (1991). Measuring the hedonic and utilitarian sources of consumer attitudes. Marketing Letters, 2, 159–170.

Bazaki, E., & Wanick, V. (2023). Reinventing Fashion Retailing: Digitalising, Gamifying, Entrepreneuring. Springer Nature.

Beauloye, F. E. (2022). Luxury And The Stay-At-Home Economy: A New Paradigm. https://luxe.digital/business/digital-luxury-reports/stay-at-home-luxury/

Behl, A., Kamboj, S., Sarmah, B., Pereira, V., Sharma, K., Rammal, H. G., & Arrigo, E. (2023). Customer involvement and servitization in hybrid offerings: Moderating role of digitalization and co-creation. International Marketing Review, ahead-of-print.

Berger, A., Schlager, T., Sprott, D. E., & Herrmann, A. (2018). Gamified interactions: Whether, when, and how games facilitate self–brand connections. Journal of the Academy of Marketing Science, 46, 652–673.

Bharadiya, J. P. (2023). Artificial Intelligence and the Future of Web 3.0: Opportunities and Challenges Ahead. American Journal of Computer Science and Technology, 6(2), 91–96.

Billewar, S. R., Jadhav, K., Sriram, V., Arun, D. A., Mohd Abdul, S., Gulati, K., & Bhasin, D. N. K. K. (2022). The rise of 3D E-Commerce: The online shopping gets real with virtual reality and augmented reality during COVID-19. World Journal of Engineering, 19(2), 244–253.

Biocca, F. (1992). Virtual Reality Technology: A Tutorial. Journal of Communication, 42(4), 23–72. https://doi.org/10.1111/j.1460-2466.1992.tb00811.x

Biocca, F., & Harms, C. (2002). Defining and measuring social presence: Contribution to the networked minds theory and measure. Proceedings of PRESENCE, 2002, 7–36.

Blackett, T., & Russell, N. (2000). Co-branding—The science of alliance. Journal of Brand Management, 7, 161–170.

Boardman, R., Henninger, C. E., & Zhu, A. (2020). Augmented reality and virtual reality: New drivers for fashion retail? Technology-Driven Sustainability: Innovation in the Fashion Supply Chain, 155–172.

Bogost, I. (2010). Persuasive games: The expressive power of videogames. mit Press.

Bombari, D., Schmid Mast, M., Canadas, E., & Bachmann, M. (2015). Studying social interactions through immersive virtual environment technology: Virtues, pitfalls, and future challenges. Frontiers in Psychology, 6, 869.

8. References

Böttger, T., Rudolph, T., Evanschitzky, H., & Pfrang, T. (2017). Customer inspiration: Conceptualization, scale development, and validation. Journal of Marketing, 81(6), 116–131.

Bousba, Y., & Arya, V. (2022). Let's connect in metaverse. Brand's new destination to increase consumers' affective brand engagement & their satisfaction and advocacy. Journal of Content, Community & Communication, 15(8), 276–293.

Bulu, S. T. (2012). Place presence, social presence, co-presence, and satisfaction in virtual worlds. Computers & Education, 58(1), 154–161. https://doi.org/10.1016/j.compedu.2011.08.024

Burberry. (2022, June 20). Burberry X Blankos Block Party: New NFT collection and social space. Burberry Plc Corporate. https://www.burberryplc.com/news/brand/2022/burberry-x-blankos-block-party--new-nft-collection-and-social-sp

Cappasity. (2022, October 24). Top five fashion brands generating the most revenue from NFTs. Cappasity Blog. https://medium.com/cappasity-blog/top-five-fashion-brands-generating-the-most-revenue-from-nfts-26f53f685f51

Caroux, L. (2023). Presence in video games: A systematic review and meta-analysis of the effects of game design choices. Applied Ergonomics, 107, 103936.

Casaló, L. V., Flavián, C., & Ibáñez-Sánchez, S. (2021). Be creative, my friend! Engaging users on Instagram by promoting positive emotions. Journal of Business Research, 130, 416–425. https://doi.org/10.1016/j.jbusres.2020.02.014

Castells, M. (2011). The rise of the network society. John wiley & sons.

Cesmeli, A. (2023). The Metaverse: A Brave New "World".

Chaplin, H. (2013, September 11). Will The 21st Century Be Defined By Games? Kotaku. https://kotaku.com/will-the-21st-century-be-defined-by-games-1293867009

Cheng, M.-T., Chen, J.-H., Chu, S.-J., & Chen, S.-Y. (2015). The use of serious games in science education: A review of selected empirical research from 2002 to 2013. Journal of Computers in Education, 2, 353–375.

Cherry, K. (2022). Understanding Intrinsic Motivation. Verywell Mind. https://www.verywellmind.com/what-is-intrinsic-motivation-2795385

Chi, T. (2018). Understanding Chinese consumer adoption of apparel mobile commerce: An extended TAM approach. Journal of Retailing and Consumer Services, 44, 274–284. https://doi.org/10.1016/j.jretconser.2018.07.019

Childers, T. L., Carr, C. L., Peck, J., & Carson, S. (2001). Hedonic and utilitarian motivations for online retail shopping behavior. Journal of Retailing, 77(4), 511–535.

Chopdar, P. K., & Balakrishnan, J. (2020). Consumers response towards mobile commerce applications: S-O-R approach. International Journal of Information Management, 53, 102106. https://doi.org/10.1016/j.ijinfomgt.2020.102106

Choudhury, N. (2014). World wide web and its journey from web 1.0 to web 4.0. International Journal of Computer Science and Information Technologies, 5(6), 8096–8100.

Chrimes, C., & Boardman, R. (2023). The Opportunities & Challenges of the Metaverse for Fashion Brands. The Garment Economy: Understanding History, Developing Business Models, and Leveraging Digital Technologies, 389–410.

Christou, G. (2014). The interplay between immersion and appeal in video games. Computers in Human Behavior, 32, 92–100.

Ciupac-Ulici, M., Beju, D.-G., Bresfelean, V. P., & Zanellato, G. (2023). Which Factors Contribute to the Global Expansion of M-Commerce? Electronics, 12(1), Article 1. https://doi.org/10.3390/electronics12010197

Clegg, N. (2023). Metaverse Technologies Are Creating New Opportunities for Teachers to Inspire Students | Meta. https://about.fb.com/news/2023/09/metaverse-technologies-education-opportunities/

Collinson, J., Mathmann, F., & Chylinski, M. (2020). Time is money: Field evidence for the effect of time of day and product name on product purchase. Journal of Retailing and Consumer Services, 54, 102064. https://doi.org/10.1016/j.jretconser.2020.102064

Cosco, A. (2016). A Guide to Fashion and Augmented Reality–Electric Runway. https://electricrunway.com/guide-fashion-augmented-reality/

Craven, M., Liu, L., Mysore, M., & Wilson, M. (2020). COVID-19: Implications for business. McKinsey & Company, 8.

Csikszentmihalyi, M., & Larson, R. (2014). Flow and the foundations of positive psychology (Vol. 10). Springer.

Cyr, D., Head, M., & Ivanov, A. (2009). Perceived interactivity leading to e-loyalty: Development of a model for cognitive–affective user responses. International Journal of Human-Computer Studies, 67(10), 850–869. https://doi.org/10.1016/j.ijhcs.2009.07.004

Dacko, S. G. (2017). Enabling smart retail settings via mobile augmented reality shopping apps. Technological Forecasting and Social Change, 124, 243–256. https://doi.org/10.1016/j.techfore.2016.09.032

Daher, S., Clark, A., & Barmaki, R. (2022). Immersive Technologies in Healthcare. Frontiers in Virtual Reality, 3, 962950.

Dangelico, R. M., Schiaroli, V., & Fraccascia, L. (2022). Is Covid-19 changing sustainable consumer behavior? A survey of Italian consumers. Sustainable Development, 30(6), 1477–1496. https://doi.org/10.1002/sd.2322

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. Management Science, 35(8), 982–1003.

Delwiche, A., & Jacobs, H. J. (2012). Introduction: What is participatory culture? In The participatory cultures handbook (pp. 3–9). Routledge.

Deterding, S. (2012). Gamification: Designing for motivation. Interactions, 19(4), 14–17.

Deterding, S. (2019). Gamification in management: Between choice architecture and humanistic design. Journal of Management Inquiry, 28(2), 131–136.

Deterding, S., Sicart, M., Nacke, L., O'Hara, K., & Dixon, D. (2011). Gamification. Using game-design elements in non-gaming contexts. In CHI'11 extended abstracts on human factors in computing systems (pp. 2425–2428).

Dichev, C., & Dicheva, D. (2017). Gamifying education: What is known, what is believed and what remains uncertain: a critical review. International Journal of Educational Technology in Higher Education, 14(1), 9. https://doi.org/10.1186/s41239-017-0042-5

Dinh, T. L. H. (2023). Customer behaviors toward Metaverse/Metaverse as a stimulus for customer experience: Implications for Marketing.

Dixon, D., Khaled, R., Nacke, L., & Deterding, S. (2011). From Game Design Elements to Gamefulness: Defining Gamification. In Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments, MindTrek 2011 (Vol. 11, p. 15). https://doi.org/10.1145/2181037.2181040

Draper, J. V., Kaber, D. B., & Usher, J. M. (1998). Telepresence. Human Factors, 40(3), 354–375.

Dwivedi, Y. K., Hughes, L., Baabdullah, A. M., Ribeiro-Navarrete, S., Giannakis, M., Al-Debei, M. M., Dennehy, D., Metri, B., Buhalis, D., & Cheung, C. M. (2022). Metaverse beyond the hype: Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. International Journal of Information Management, 66, 102542.

Dwivedi, Y. K., Hughes, L., Wang, Y., Alalwan, A. A., Ahn, S. J. (Grace), Balakrishnan, J., Barta, S., Belk, R., Buhalis, D., Dutot, V., Felix, R., Filieri, R., Flavián, C., Gustafsson, A., Hinsch, C., Hollensen, S., Jain, V., Kim, J., Krishen, A. S., … Wirtz, J. (2023). Metaverse marketing: How the metaverse will shape the future of consumer research and practice. Psychology & Marketing, 40(4), 750–776. https://doi.org/10.1002/mar.21767

8. References

Eisingerich, A. B., Marchand, A., Fritze, M. P., & Dong, L. (2019). Hook vs. Hope: How to enhance customer engagement through gamification. International Journal of Research in Marketing, 36(2), 200–215. https://doi.org/10.1016/j.ijresmar.2019.02.003

Ekici, M. (2021). A systematic review of the use of gamification in flipped learning. Education and Information Technologies, 26(3), 3327–3346.

Fang, J., Liu, H., Li, Y., & Cai, Z. (2021). Retaining customers with in-store mobile usage experience in omni-channel retailing: The moderating effects of product information overload and alternative attractiveness. Electronic Commerce Research and Applications, 46, 101028. https://doi.org/10.1016/j.elerap.2020.101028

Farnsworth, B. (2020, July 28). The Science of Video Games: Immersion, Flow, and Presence - iMotions. https://imotions.com/blog/insights/research-insights/science-video-games/

Fazal-E-Hasan, S. M., Ahmadi, H., Mortimer, G., Lings, I., Kelly, L., & Kim, H. (2020). Online repurchasing: The role of information disclosure, hope, and goal attainment. Journal of Consumer Affairs, 54(1), 198–226.

Filsecker, M., & Hickey, D. T. (2014). A multilevel analysis of the effects of external rewards on elementary students' motivation, engagement and learning in an educational game. Computers & Education, 75, 136–148.

Flatla, D. R., Gutwin, C., Nacke, L. E., Bateman, S., & Mandryk, R. L. (2011). Calibration games: Making calibration tasks enjoyable by adding motivating game elements. Proceedings of the 24th Annual ACM Symposium on User Interface Software and Technology, 403–412.

Flavián, C., Pérez-Rueda, A., Belanche, D., & Casaló, L. V. (2022). Intention to use analytical artificial intelligence (AI) in services–the effect of technology readiness and awareness. Journal of Service Management, 33(2), 293–320.

Fonseca, L. M. (2018). Industry 4.0 and the digital society: Concepts, dimensions and envisioned benefits. Proceedings of the International Conference on Business Excellence, 12(1), 386–397.

Frasca, G. (1999). Ludology meets narratology: Similitude and differences between (video) games and narrative. Ludology. Org.

Frasca, G. (2013). Simulation versus narrative: Introduction to ludology. In The video game theory reader (pp. 221–235). Routledge.

Fuchs, C., Hofkirchner, W., Schafranek, M., Raffl, C., Sandoval, M., & Bichler, R. (2010). Theoretical foundations of the web: Cognition, communication, and co-operation. Towards an understanding of Web 1.0, 2.0, 3.0. Future Internet, 2(1), 41–59.

García-Magro, C., Martín-Peña, M.-L., & Sánchez-López, J. M. (2023). Emotional mechanics of gamification and value co-creation: The digital platform Nike+ as a B2B2C ecosystem. Journal of Business & Industrial Marketing, 38(2), 414–428.

Garrison, D. R., Anderson, T., & Archer, W. (2010). The first decade of the community of inquiry framework: A retrospective. Special Issue on the Community of Inquiry Framework: Ten Years Later, 13(1), 5–9. https://doi.org/10.1016/j.iheduc.2009.10.003

Gäthke, J. (2020). The impact of augmented reality on overall service satisfaction in elaborate servicescapes. Journal of Service Management, 31(2), 227–246.

Geneva Environment Network. (2023). Environmental Sustainability in the Fashion Industry. https://www.genevaenvironment-network.org/resources/updates/sustainable-fashion/

Gere, C. (2008). Digital Culture, London: Reaktion.

Gharegozlou, R. (2019). Dapper Labs x The Fabricant x Johanna Jaskowska SS19 iridescence | by Roham Gharegozlou | Dapper Labs | Medium. https://medium.com/dapperlabs/dapper-labs-x-the-fabricant-x-johanna-jaskowska-ss19-iridescence-3ebe-00e76b06

Gibson, J. (2021). When games are the only fashion in town: Covid-19, Animal Crossing, and the future of fashion. Queen Mary Journal of Intellectual Property, 11(2), 117–123.

Goldberg, J. (2022). E-Commerce Sales Grew 50% to $870 Billion During The Pandemic. Forbes. https://www.forbes.com/sites/jasongoldberg/2022/02/18/e-commerce-sales-grew-50-to-870-billion-during-the-pandemic/

Gornostaeva, G. (2023). The development of digital commerce in the fashion industry: The typology of emerging designers in London. Technological Forecasting and Social Change, 186, 122122.

Grebosz, M. (2012). The Outcomes of the Co-branding Strategy. Chinese Business Review, 11(9).

Grewal, D., Hulland, J., Kopalle, P. K., & Karahanna, E. (2020). The future of technology and marketing: A multidisciplinary perspective. In Journal of the Academy of Marketing Science (Vol. 48, pp. 1–8). Springer.

Grönroos, C., & Voima, P. (2013). Critical service logic: Making sense of value creation and co-creation. Journal of the Academy of Marketing Science, 41, 133–150.

Grudzewski, F., Awdziej, M., Mazurek, G., & Piotrowska, K. (2018). Virtual reality in marketing communication–the impact on the message, technology and offer perception–empirical study. Economics and Business Review, 4(3), 36–50.

Gyenge, B., Máté, Z., Vida, I., Bilan, Y., & Vasa, L. (2021). A new strategic marketing management model for the specificities of E-commerce in the supply chain. Journal of Theoretical and Applied Electronic Commerce Research, 16(4), 1136–1149.

Hagberg, J., Sundstrom, M., & Egels-Zandén, N. (2016). The digitalization of retailing: An exploratory framework. International Journal of Retail & Distribution Management, 44(7), 694–712.

Hamari, J., & Koivisto, J. (2015). "Working out for likes": An empirical study on social influence in exercise gamification. Computers in Human Behavior, 50, 333–347. https://doi.org/10.1016/j.chb.2015.04.018

Harwood, T., & Garry, T. (2015). An investigation into gamification as a customer engagement experience environment. Journal of Services Marketing.

Hassan, L. (2017). Governments should play games: Towards a framework for the gamification of civic engagement platforms. Simulation & Gaming, 48(2), 249–267.

He, J., & Zhang, S. (2022). How digitalized interactive platforms create new value for customers by integrating B2B and B2C models? An empirical study in China. Journal of Business Research, 142, 694–706.

Hedges, T. (2021, December 7). Fashion For Good: Why Sustainability Is On Trend. GWI. https://blog.gwi.com/chart-of-the-week/sustainable-fashion/

Heeter, C. (1992). Being There: The Subjective Experience of Presence, Telepresence, Presence: Teleoperators and Virtual Environments. MIT Press.

Heinonen, K., Strandvik, T., Mickelsson, J., Edvardsson, B., Sundström, E., & Andersson, P. (2010). A Customer-Dominant Logic of Service. Journal of Service Management, 21, 531–548. https://doi.org/10.1108/09564231011066088

Herrewijn, L., & Poels, K. (2013). Putting brands into play: How game difficulty and player experiences influence the effectiveness of in-game advertising. International Journal of Advertising, 32(1), 17–44.

Hilken, T., de Ruyter, K., Chylinski, M., Mahr, D., & Keeling, D. I. (2017). Augmenting the eye of the beholder: Exploring the strategic potential of augmented reality to enhance online service experiences. Journal of the Academy of Marketing Science, 45, 884–905.

8. References

Hirschman, E. C., & Holbrook, M. B. (1982). Hedonic consumption: Emerging concepts, methods and propositions. Journal of Marketing, 46(3), 92–101.

Hoang, D., Kousi, S., & Martinez, L. F. (2023). Online customer engagement in the post-pandemic scenario: A hybrid thematic analysis of the luxury fashion industry. Electronic Commerce Research, 23(3), 1401–1428. https://doi.org/10.1007/s10660-022-09635-8

Hollebeek, L. D., Srivastava, R. K., & Chen, T. (2019). SD logic–informed customer engagement: Integrative framework, revised fundamental propositions, and application to CRM. Journal of the Academy of Marketing Science, 47, 161–185.

Hollensen, S., Kotler, P., & Opresnik, M. O. (2022). Metaverse–the new marketing universe. Journal of Business Strategy, ahead-of-print.

Holmqvist, J., Diaz Ruiz, C., & Peñaloza, L. (2020). Moments of luxury: Hedonic escapism as a luxury experience. Journal of Business Research, 116, 503–513. https://doi.org/10.1016/j.jbusres.2019.10.015

Hsu, C.-L., & Chen, M.-C. (2018). How gamification marketing activities motivate desirable consumer behaviors: Focusing on the role of brand love. Computers in Human Behavior, 88, 121–133.

Hsu, S. H.-Y., Tsou, H.-T., & Chen, J.-S. (2021). "Yes, we do. Why not use augmented reality?" customer responses to experiential presentations of AR-based applications. Journal of Retailing and Consumer Services, 62, 102649.

Huang, T.-L., & Hsu Liu, F. (2014). Formation of augmented-reality interactive technology's persuasive effects from the perspective of experiential value. Internet Research, 24(1), 82–109.

Huang, T.-L., & Liao, S. (2015). A model of acceptance of augmented-reality interactive technology: The moderating role of cognitive innovativeness. Electronic Commerce Research, 15, 269–295.

Huotari, K., & Hamari, J. (2017). A definition for gamification: Anchoring gamification in the service marketing literature. Electronic Markets, 27(1), 21–31. https://doi.org/10.1007/s12525-015-0212-z

Huta, V. (2015). An overview of hedonic and eudaimonic well-being concepts.

Hwang, J., & Choi, L. (2020). Having fun while receiving rewards?: Exploration of gamification in loyalty programs for consumer loyalty. Journal of Business Research, 106, 365–376. https://doi.org/10.1016/j.jbusres.2019.01.031

Hypebeast. (2021). A Virtual Gucci Bag Sold For More Money on Roblox Than IRL | Hypebeast. https://hypebeast.com/2021/5/virtual-gucci-bag-roblox-resale

IDC. (2022). IDC Spending Guide Forecasts Strong Growth for Augmented and Virtual Reality. IDC: The Premier Global Market Intelligence Company. https://www.idc.com/getdoc.jsp?containerId=prUS49916122

Iran, S., Martinez, C. M. J., Vladimirova, K., Wallaschkowski, S., Diddi, S., Henninger, C. E., McCormick, H., Matus, K., Niinimäki, K., Sauerwein, M., & others. (2022). When mortality knocks: Pandemic-inspired attitude shifts towards sustainable clothing consumption in six countries. International Journal of Sustainable Fashion & Textiles, 1(1), 9–39.

Irfanulla, K. (2023). (21) The Rise of Immersive Technology: How it's Impacting Enterprises | LinkedIn. https://www.linkedin.com/pulse/rise-immersive-technology-how-its-impacting-enterprises-khan/

Ishaq, I. M. (2012). Perceived value, service quality, corporate image and customer loyalty: Empirical assessment from Pakistan. Serbian Journal of Management, 7(1), 25–36.

Jackson, T. W. (2007). Personalisation and CRM. Journal of Database Marketing & Customer Strategy Management, 15(1), 24–36. https://doi.org/10.1057/palgrave.dbm.3250065

Jaradat, M.-I. R. M., Moustafa, A. A., & Al-Mashaqba, A. M. (2018). Exploring perceived risk, perceived trust, perceived quality and the innovative characteristics in the adoption of smart government services in Jordan. International Journal of Mobile Communications, 16(4), 399–439.

Javornik, A. (2016). Augmented reality: Research agenda for studying the impact of its media characteristics on consumer behaviour. Journal of Retailing and Consumer Services, 30, 252–261.

Jenkins, H. (2004). Game design as narrative architecture. Computer, 44(3), 118–130.

Jenkins, H. (2006). Fans, bloggers, and gamers: Exploring participatory culture. nyu Press.

Jones, B. A., Madden, G. J., & Wengreen, H. J. (2014). The FIT Game: Preliminary evaluation of a gamification approach to increasing fruit and vegetable consumption in school. Behavior Change, Health, and Health Disparities, 68, 76–79. https://doi.org/10.1016/j.ypmed.2014.04.015

Joy, A., Zhu, Y., Peña, C., & Brouard, M. (2022). Digital future of luxury brands: Metaverse, digital fashion, and non fungible tokens. Strategic Change, 31(3), 337–343.

Jung, T. H., & Dieck, M. C. (2017). Augmented reality, virtual reality and 3D printing for the co-creation of value for the visitor experience at cultural heritage places. Journal of Place Management and Development, 10(2), 140–151. https://doi.org/10.1108/JPMD-07-2016-0045

Jung, T., tom Dieck, M. C., Lee, H., & Chung, N. (2016). Effects of virtual reality and augmented reality on visitor experiences in museum. Information and Communication Technologies in Tourism 2016: Proceedings of the International Conference in Bilbao, Spain, February 2-5, 2016, 621–635.

Juul, J. (2001). Games Studies 0101: Games telling Stories? By Jesper Juul. https://www.gamestudies.org/0101/juul-gts/

Juul, J. (2005). Games telling stories. Handbook of Computer Game Studies, 219–226.

Kaczynski, S., & Kominers, S. D. (2021). How NFTs create value. Harvard Business Review, 10.

Kang, J.-Y. M., Kim, J.-E., Lee, J. Y., & Lin, S. H. (2023). How mobile augmented reality digitally transforms the retail sector: Examining trust in augmented reality apps and online/offline store patronage intention. Journal of Fashion Marketing and Management: An International Journal, 27(1), 161–181.

Kapp, K. M. (2013). The gamification of learning and instruction fieldbook: Ideas into practice. John Wiley & Sons.

Karnouskos, S. (2004). Mobile payment: A journey through existing procedures and standardization initiatives. IEEE Communications Surveys & Tutorials, 6(4), 44–66.

Kaushik, A. (2023, August 6). Omnichannel Retail Marketing (Part 1): The Need to Know. MoEngage. https://www.moengage.com/blog/omnichannel-approach-for-retail-marketing-part-1/

Keller, J. M. (2008). An integrative theory of motivation, volition, and performance. Technology, Instruction, Cognition, and Learning, 6(2), 79–104.

Kemp, S. (2022). Digital 2022: Global Overview Report—DataReportal – Global Digital Insights. https://datareportal.com/reports/digital-2022-global-overview-report

Kenton, W. (2022). Co-Branding: Definition, Strategies, Examples. Investopedia. https://www.investopedia.com/terms/c/cobranding.asp

Ketelaar, P. E., Bernritter, S. F., van Woudenberg, T. J., Rozendaal, E., Konig, R. P., Hühn, A. E., Van Gisbergen, M. S., & Jans-

8. References

sen, L. (2018). "Opening" location-based mobile ads: How openness and location congruency of location-based ads weaken negative effects of intrusiveness on brand choice. Journal of Business Research, 91, 277–285. https://doi.org/10.1016/j.jbusres.2018.06.018

Kim, J., & Forsythe, S. (2008). Adoption of virtual try-on technology for online apparel shopping. Journal of Interactive Marketing, 22(2), 45–59.

Kim, N. L., Shin, D. C., & Kim, G. (2021). Determinants of consumer attitudes and re-purchase intentions toward direct-to-consumer (DTC) brands. Fashion and Textiles, 8(1), 1–22.

Kirby, A. (2009). Digimodernism: How new technologies dismantle the postmodern and reconfigure our culture. Bloomsbury Publishing USA.

Kitukutha, N. M., Vasa, L., & Oláh, J. (2021). The Impact of COVID-19 on the economy and sustainable e-commerce.

Klein, L. R. (2003). Creating virtual product experiences: The role of telepresence. Journal of Interactive Marketing, 17(1), 41–55.

Klico, A., & Mahmić-Muhić, N. (2022). The role of immersive technologies in value creation in marketing. BH Ekonomski Forum, 16(1), 79–93.

Klünder, T., Dörseln, J. N., & Steven, M. (2019). Procurement 4.0: How the digital disruption supports cost-reduction in Procurement. Production, 29.

Koenitz, H. (2018). Narrative in Video Games (pp. 1–9). https://doi.org/10.1007/978-3-319-08234-9_154-1

Koivisto, J., & Hamari, J. (2019). The rise of motivational information systems: A review of gamification research. International Journal of Information Management, 45, 191–210. https://doi.org/10.1016/j.ijinfomgt.2018.10.013

Krath, J., Schürmann, L., & von Korflesch, H. F. O. (2021). Revealing the theoretical basis of gamification: A systematic review and analysis of theory in research on gamification, serious games and game-based learning. Computers in Human Behavior, 125, 106963. https://doi.org/10.1016/j.chb.2021.106963

Kraus, S., Kanbach, D. K., Krysta, P. M., Steinhoff, M. M., & Tomini, N. (2022). Facebook and the creation of the metaverse: Radical business model innovation or incremental transformation? International Journal of Entrepreneurial Behavior & Research, 28(9), 52–77.

Kulsum, U. (2020). Sustainable Fashion as The Early Awakening of the Clothing Industry Post Corona Pandemic. International Journal of Social Science and Business, 4(3), 422–429.

Kumar, A., & Somani, A. (2020). Dealing with Corona virus anxiety and OCD. Asian Journal of Psychiatry, 51, 102053.

Kustandi, C., Fadhillah, D., Situmorang, R., Prawiladilaga, D., & Hartati, S. (2020). VR use in online learning for higher education in Indonesia.

Kusumawardani, K. A., Widyanto, H. A., & Tambunan, J. E. G. (2023). The role of gamification, social, hedonic and utilitarian values on e-commerce adoption. Spanish Journal of Marketing-ESIC, ahead-of-print.

Landers, R. N., Bauer, K. N., & Callan, R. C. (2017a). Gamification of task performance with leaderboards: A goal setting experiment. Computers in Human Behavior, 71, 508–515. https://doi.org/10.1016/j.chb.2015.08.008

Landers, R. N., Bauer, K. N., & Callan, R. C. (2017b). Gamification of task performance with leaderboards: A goal setting experiment. Computers in Human Behavior, 71, 508–515. https://doi.org/10.1016/j.chb.2015.08.008

Landers, R. N., Tondello, G. F., Kappen, D. L., Collmus, A. B., Mekler, E. D., & Nacke, L. E. (2019). Defining gameful experience

as a psychological state caused by gameplay: Replacing the term 'Gamefulness' with three distinct constructs. Strengthening Gamification Studies: Critical Challenges and New Opportunities, 127, 81–94. https://doi.org/10.1016/j.ijhcs.2018.08.003

Larson, K. (2023). 2023 Fashion Forecast: Casual, But Make It Stylish. Forbes. https://www.forbes.com/sites/kristinlarson/2022/12/17/2023-fashion-forecast-casual-but-make-it-stylish/

Lau, O., & Ki, C.-W. (2021). Can consumers' gamified, personalized, and engaging experiences with VR fashion apps increase in-app purchase intention by fulfilling needs? Fashion and Textiles, 8, 1–22.

Lawry, C. A. (2022). Futurizing luxury: An activity-centric model of phygital luxury experiences. Journal of Fashion Marketing and Management: An International Journal, ahead-of-print.

Leclercq, T., Poncin, I., & Hammedi, W. (2020). Opening the black box of gameful experience: Implications for gamification process design. Journal of Retailing and Consumer Services, 52, 101882. https://doi.org/10.1016/j.jretconser.2019.07.007

Lee, C.-H., Liu, C.-L., Trappey, A. J. C., Mo, J. P. T., & Desouza, K. C. (2021). Understanding digital transformation in advanced manufacturing and engineering: A bibliometric analysis, topic modeling and research trend discovery. Advanced Engineering Informatics, 50, 101428. https://doi.org/10.1016/j.aei.2021.101428

Lee, J.-Y., & Jin, C.-H. (2019). The role of gamification in brand app experience: The moderating effects of the 4Rs of app marketing. Cogent Psychology, 6(1), 1576388.

Legner, C., Eymann, T., Hess, T., Matt, C., Böhmann, T., Drews, P., Mädche, A., Urbach, N., & Ahlemann, F. (2017). Digitalization: Opportunity and challenge for the business and information systems engineering community. Business & Information Systems Engineering, 59, 301–308.

Levitt, T. (1981). Marketing intangible products and product intangibles. Cornell Hotel and Restaurant Administration Quarterly, 22(2), 37–44.

Li, F., Trappey, A. J. C., Lee, C.-H., & Li, L. (2022). Immersive technology-enabled digital transformation in transportation fields: A literature overview. Expert Systems with Applications, 202, 117459. https://doi.org/10.1016/j.eswa.2022.117459

Li, K., & Wang, X. (2019). HOW DOES CO-BRANDING INFLUENCE BRAND IMAGE: A qualitative research on Supreme's brand image from consumers' perspectives.

Liu, M. (2023). In the Post-pandemic and Internet 4.0 era, Cafes' New Operation Mode of Compound Space. Frontiers in Business, Economics and Management, 7(1), 24–33.

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. American Psychologist, 57(9), 705.

Lombard, M., & Ditton, T. (1997). At the heart of it all: The concept of presence. Journal of Computer-Mediated Communication, 3(2), JCMC321.

Lopes, J. M., Gomes, S., Lopes, P., Silva, A., Lourenço, D., Esteves, D., Cardoso, M., & Redondo, V. (2023). Exploring the Role of Gamification in the Online Shopping Experience in Retail Stores: An Exploratory Study. Social Sciences, 12(4). https://doi.org/10.3390/socsci12040235

Lorenzo-Romero, C., Andrés-Martínez, M.-E., & Mondéjar-Jiménez, J.-A. (2020). Omnichannel in the fashion industry: A qualitative analysis from a supply-side perspective. Heliyon, 6(6), e04198. https://doi.org/10.1016/j.heliyon.2020.e04198

Lucassen, G., & Jansen, S. (2014). Gami cation in Consumer Marketing—Future or Fallacy? 2nd International Conference on Strategic Innovative Marketing, 148, 194–202. https://doi.org/10.1016/j.sbspro.2014.07.034

8. References

Macdonald, E. K., Wilson, H., Martinez, V., & Toossi, A. (2011). Assessing value-in-use: A conceptual framework and exploratory study. Industrial Marketing Management, 40(5), 671–682. https://doi.org/10.1016/j.indmarman.2011.05.006

Maican, C., Lixandroiu, R., & Constantin, C. (2016). Interactivia. Ro–A study of a gamification framework using zero-cost tools. Computers in Human Behavior, 61, 186–197.

Mainardes, E. W., de Souza, I. M., & Correia, R. D. (2020). Antecedents and consequents of consumers not adopting e-commerce. Journal of Retailing and Consumer Services, 55, 102138.

Makarov, A. (2022). 12 Augmented Reality Trends of 2023: New Milestones in Immersive Technology. MobiDev. https://mobidev. biz/blog/augmented-reality-trends-future-ar-technologies

Malaby, T. M. (2007). Beyond play: A new approach to games. Games and Culture, 2(2), 95–113.

Malthouse, E. C., Calder, B. J., Kim, S. J., & Vandenbosch, M. (2016). Evidence that user-generated content that produces engagement increases purchase behaviours. Journal of Marketing Management, 32(5–6), 427–444.

Marini, M. (2022, August 26). Timecapsule, la collezione 'a tempo' di Prada | Artribune. https://www.artribune.com/progettazione/moda/2022/08/prada-timecapsule/

Market Research Report. (2022). Virtual Reality Market Size, Share & Trends | Report, 2029. https://www.fortunebusinessinsights.com/industry-reports/virtual-reality-market-101378

Marriott, H. R., & Williams, M. D. (2018). Exploring consumers perceived risk and trust for mobile shopping: A theoretical framework and empirical study. Journal of Retailing and Consumer Services, 42, 133–146. https://doi.org/10.1016/j.jretconser.2018.01.017

Mäyrä, F. (2017). Pokémon GO: Entering the ludic society. Mobile Media & Communication, 5(1), 47–50.

Mazzucchelli, A., Chierici, R., Di Gregorio, A., & Chiacchierini, C. (2021). Is Facebook an effective tool to access foreign markets? Evidence from international export performance of fashion firms. Journal of Management and Governance, 25(4), 1107–1144. https://doi.org/10.1007/s10997-021-09572-y

McCreery, M. P., Vallett, D. B., & Clark, C. (2015). Social interaction in a virtual environment: Examining socio-spatial interactivity and social presence using behavioral analytics. Computers in Human Behavior, 51, 203–206. https://doi.org/10.1016/j.chb.2015.04.044

McKinsey. (2020). Global surveys of consumer sentiment during the coronavirus crisis | Growth, Marketing & Sales | McKinsey & Company. https://www.mckinsey.com/capabilities/growth-marketing-and-sales/our-insights/global-surveys-of-consumer-sentiment-during-the-coronavirus-crisis

McKinsey. (2023). State of Fashion | McKinsey. https://www.mckinsey.com/industries/retail/our-insights/state-of-fashion

Mehta, S., Saxena, T., & Purohit, N. (2020). The new consumer behaviour paradigm amid COVID-19: Permanent or transient? Journal of Health Management, 22(2), 291–301.

METAV.RS. (2023). The Metaverse: All you want to know about the Metaverse. METAV.RS. https://metav.rs/metaverse/

Mickelsson, K.-J. (2013). Customer activity in service. Journal of Service Management, 24(5), 534–552.

Milanesi, C. (2020). Digital transformation and digital divide post COVID-19. URL: Https://Www. Forbes. Com/Sites/Carolinamilanesi/2020/05/11/Digital-Transformation-and-Digital-Divide-Post-Covid-19/# 1736a7191656 (Accessed: 08.04. 2020).

Milanesi, M., Guercini, S., & Runfola, A. (2022). Let's play! Gamification as a marketing tool to deliver a digital luxury experience. Electronic Commerce Research, 1–18.

Moon, M. A., Khalid, M. J., Awan, H. M., Attiq, S., Rasool, H., & Kiran, M. (2017). Consumer's perceptions of website's utilitarian and hedonic attributes and online purchase intentions: A cognitive–affective attitude approach. Spanish Journal of Marketing - ESIC, 21(2), 73–88. https://doi.org/10.1016/j.sjme.2017.07.001

Morschheuser, B., Hamari, J., Koivisto, J., & Maedche, A. (2017). Gamified crowdsourcing: Conceptualization, literature review, and future agenda. International Journal of Human-Computer Studies, 106, 26–43. https://doi.org/10.1016/j.ijhcs.2017.04.005

Mróz-Gorgoń, B. (2016). Co-branding as a strategy-fashion market perspective: Prestige or masstige? International Journal of Sales, Retailing & Marketing, 5(4).

Mujahid, S., Khandai, S., & Venkatesh, U. (2023). A Bibliometric Analysis of Brand Value Co-creation and Consumer Engagement. Journal of Creating Value, 23949643231163076. https://doi.org/10.1177/23949643231163076

Muriel, D., & Crawford, G. (2018). Video games as culture: Considering the role and importance of video games in contemporary society. Routledge.

Muriel, D., & Crawford, G. (2020). Video games and agency in contemporary society. Games and Culture, 15(2), 138–157.

Murray, J. H. (1997). Hamlet on the Holodeck—The Future of Narrative in Cyberspace.

Murray, J. H. (2017). Hamlet on the Holodeck, updated edition: The Future of Narrative in Cyberspace. MIT press.

Muruganantham, G., & Bhakat, R. S. (2013). A review of impulse buying behavior. International Journal of Marketing Studies, 5(3), 149.

Niinimäki, K., Peters, G., Dahlbo, H., Perry, P., Rissanen, T., & Gwilt, A. (2020). The environmental price of fast fashion. Nature Reviews Earth & Environment, 1(4), 189–200.

Njeru, J. W. M. (2024, February 5). Metaverse Security: Addressing Top Cybersecurity Challenges for a Safe Virtual Experience. Medium. https://medium.com/@Munene254_/metaverse-security-addressing-top-cybersecurity-challenges-for-a-safe-virtual-experience-0fb1daca4455

Nobre, H., & Ferreira, A. (2017). Gamification as a platform for brand co-creation experiences. Journal of Brand Management, 24(4), 349–361. https://doi.org/10.1057/s41262-017-0055-3

Nussipova, G., Nordin, F., & Sörhammar, D. (2020). Value formation with immersive technologies: An activity perspective. Journal of Business & Industrial Marketing, 35(3), 483–494.

Nuzhnyi, D. (2023). (25) Web 4.0—A Brief Overview | LinkedIn. https://www.linkedin.com/pulse/web-40-brief-overview-denys-nuzhnyi-/

Obermiller, C., & Spangenberg, E. R. (2000). On the origin and distinctness of skepticism toward advertising. Marketing Letters, 11, 311–322.

Okur, N., Saricam, C., Iri, A. R., & Sari, I. (2023). Analyzing the impact of Covid-19 on sustainable fashion consumption with a model based on consumer value perceptions. Journal of Fashion Marketing and Management: An International Journal, ahead-of-print, 1–25.

Oleynick, V. C., Thrash, T. M., LeFew, M. C., Moldovan, E. G., & Kieffaber, P. D. (2014). The scientific study of inspiration in the creative process: Challenges and opportunities. Frontiers in Human Neuroscience, 8, 436.

Otto, A. (2022, April). FASHION RETAIL 2022 – Three trends, Three predictions. https://fashionunited.com/news/retail/fashion-retail-2022-three-trends-three-predictions/2022022145954

8. References

Ozturk, A. B., Nusair, K., Okumus, F., & Singh, D. (2017). Understanding mobile hotel booking loyalty: An integration of privacy calculus theory and trust-risk framework. Information Systems Frontiers, 19, 753–767.

Pallavicini, F., Pepe, A., & Minissi, M. E. (2019). Gaming in virtual reality: What changes in terms of usability, emotional response and sense of presence compared to non-immersive video games? Simulation & Gaming, 50(2), 136–159.

Pantelidis, V. S. (2010). Reasons to use virtual reality in education and training courses and a model to determine when to use virtual reality. Themes in Science and Technology Education, 2(1–2), 59–70.

Papagiannidis, S., Pantano, E., See-To, E. W., Dennis, C., & Bourlakis, M. (2017). To immerse or not? Experimenting with two virtual retail environments. Information Technology & People, 30(1), 163–188.

Papale, L. (2014). Beyond identification: Defining the relationships between player and avatar. Journal of Games Criticism, 1(2), 1–12.

Park, H., & Lim, R. E. (2023). Fashion and the metaverse: Clarifying the domain and establishing a research agenda. Journal of Retailing and Consumer Services, 74, 103413. https://doi.org/10.1016/j.jretconser.2023.103413

Pearce, C. (2004). Towards a game theory of game. First Person: New Media as Story, Performance, and Game, 1, 143–153.

Perez, S. (2020, August 25). Amazon rolls out a new AR shopping feature for viewing multiple items at once. TechCrunch. https://techcrunch.com/2020/08/25/amazon-rolls-out-a-new-ar-shopping-feature-for-viewing-multiple-items-at-once/

Periyasami, S., & Periyasamy, A. P. (2022). Metaverse as future promising platform business model: Case study on fashion value chain. Businesses, 2(4), 527–545.

Petkov, M. (2023). (28) Redefining value in fashion and retail with the Metaverse | LinkedIn. https://www.linkedin.com/pulse/redefining-value-fashion-retail-metaverse-martin-petkov/

Pop, R.-A., Hlédik, E., & Dabija, D.-C. (2023). Predicting consumers' purchase intention through fast fashion mobile apps: The mediating role of attitude and the moderating role of COVID-19. Technological Forecasting and Social Change, 186, 122111. https://doi.org/10.1016/j.techfore.2022.122111

Poushneh, A., & Vasquez-Parraga, A. Z. (2017). Discernible impact of augmented reality on retail customer's experience, satisfaction and willingness to buy. Journal of Retailing and Consumer Services, 34, 229–234.

Prahalad, C. K., & Ramaswamy, V. (2004). The future of competition: Co-creating unique value with customers. Harvard Business Press.

Preece, J., Sharp, H., & Rogers, Y. (2015). Interaction design: Beyond human-computer interaction. John Wiley & Sons.

PwC. (2018). Rethinking Retail: The Role of the Physical Store.

Raessens, J. (2009). Homo Ludens 2.0. Metropolis M, 5, 64–69.

Raessens, J. (2014). The ludification of culture. meson press.

Rahman, M. S., Bag, S., Gupta, S., & Sivarajah, U. (2023). Technology readiness of B2B firms and AI-based customer relationship management capability for enhancing social sustainability performance. Journal of Business Research, 156, 113525. https://doi.org/10.1016/j.jbusres.2022.113525

Ramaswamy, V. (2011). It's about human experiences… and beyond, to co-creation. Industrial Marketing Management, 40(2), 195–196.

Ramayah, T., Ahmad, N. H., & Lo, M.-C. (2010). The role of quality factors in intention to continue using an e-learning system in Malaysia. Innovation and Creativity in Education, 2(2), 5422–5426. https://doi.org/10.1016/j.sbspro.2010.03.885

Rapp, A., Baker, T. L., Bachrach, D. G., Ogilvie, J., & Beitelspacher, L. S. (2015). Perceived customer showrooming behavior and the effect on retail salesperson self-efficacy and performance. Journal of Retailing, 91(2), 358–369.

Rauschnabel, P. A., Felix, R., & Hinsch, C. (2019). Augmented reality marketing: How mobile AR-apps can improve brands through inspiration. Journal of Retailing and Consumer Services, 49, 43–53. https://doi.org/10.1016/j.jretconser.2019.03.004

Ravaja, N., Saari, T., Turpeinen, M., Laarni, J., Salminen, M., & Kivikangas, M. (2006). Spatial presence and emotions during video game playing: Does it matter with whom you play? Presence: Teleoperators and Virtual Environments, 15(4), 381–392.

Ravald, A. (2010). The customer's process of value creation. The Customer's Process of Value Creation, 1000–1014.

Real Research, M. (2022). Over 38% Say Teenagers Spend More Than 8 Hours on Social Media Daily. https://realresearcher.com/media/over-38-percent-say-teenagers-spend-more-than-8-hours-on-social-media-daily/

Reay, E., & Wanick, V. (2023). Skins in the Game: Fashion Branding and Commercial Video Games. In Reinventing Fashion Retailing (pp. 73–90). Springer.

Reinartz, W., Wiegand, N., & Imschloss, M. (2019). The impact of digital transformation on the retailing value chain. Marketing Perspectives on Digital Business Models, 36(3), 350–366. https://doi.org/10.1016/j.ijresmar.2018.12.002

Rese, A., Baier, D., Geyer-Schulz, A., & Schreiber, S. (2017). How augmented reality apps are accepted by consumers: A comparative analysis using scales and opinions. Technological Forecasting and Social Change, 124, 306–319.

Riva, G., Davide, F., & IJsselsteijn, W. A. (2003). Being there: The experience of presence in mediated environments. Being There: Concepts, Effects and Measurement of User Presence in Synthetic Environments, 5.

Rocha Seixas, L., Gomes, A. S., & de Melo Filho, I. J. (2016). Effectiveness of gamification in the engagement of students. Computers in Human Behavior, 58, 48–63.

Rooderkerk, R., de Leeuw, S., & Hübner, A. (2023). Advancing the marketing-operations interface in omnichannel retail. Journal of Operations Management.

Rospigliosi, P. 'asher'. (2022). Metaverse or Simulacra? Roblox, Minecraft, Meta and the turn to virtual reality for education, socialisation and work. In Interactive Learning Environments (Vol. 30, Issue 1, pp. 1–3). Taylor & Francis.

Rubio-Tamayo, J. L., Gertrudix Barrio, M., & García García, F. (2017). Immersive Environments and Virtual Reality: Systematic Review and Advances in Communication, Interaction and Simulation. Multimodal Technologies and Interaction, 1(4). https://doi.org/10.3390/mti1040021

Ruggieri, R., Savastano, M., Scalingi, A., Bala, D., & D'Ascenzo, F. (2018). The impact of Digital Platforms on Business Models: An empirical investigation on innovative start-ups. Management & Marketing, 13, 1210–1225. https://doi.org/10.2478/mmcks-2018-0032

Ryan, R. M., & Deci, E. L. (2017). Self-determination theory: Basic psychological needs in motivation, development, and wellness. Guilford Publications.

Ryu, J., Son, S., Lee, J., Park, Y., & Park, Y. (2022). Design of Secure Mutual Authentication Scheme for Metaverse Environments Using Blockchain. IEEE Access, 10, 98944–98958. https://doi.org/10.1109/ACCESS.2022.3206457

Sailer, M., Hense, J. U., Mayr, S. K., & Mandl, H. (2017). How gamification motivates: An experimental study of the effects of specific game design elements on psychological need satisfaction. Computers in Human Behavior, 69, 371–380. https://doi.org/10.1016/j.chb.2016.12.033

8. References

Sarkar, S., Chauhan, S., & Khare, A. (2020). A meta-analysis of antecedents and consequences of trust in mobile commerce. International Journal of Information Management, 50, 286–301. https://doi.org/10.1016/j.ijinfomgt.2019.08.008

Scheiding, R. (2023). Designing the Future? The Metaverse, NFTs, & the Future as Defined by Unity Users. Games and Culture, 18(6), 804–820. https://doi.org/10.1177/15554120221139218

Schell, J. (2010). Jesse Schell: Visions of the Gamepocalypse—The Long Now. https://longnow.org/seminars/02010/jul/27/visions-gamepocalypse/

Schöbel, S., Tingelhoff, F., & University of St. Gallen. (2023). Overcoming Challenges to Enable the Potential of Metaverse Platforms: A Qualitative Approach to Understand Value Creation. AIS Transactions on Human-Computer Interaction, 15(1), 1–21. https://doi.org/10.17705/1thci.00081

Scholz, J., & Smith, A. N. (2016). Augmented reality: Designing immersive experiences that maximize consumer engagement. Business Horizons, 59(2), 149–161.

Seaborn, K., & Fels, D. I. (2015). Gamification in theory and action: A survey. International Journal of Human-Computer Studies, 74, 14–31. https://doi.org/10.1016/j.ijhcs.2014.09.006

Seidel, S., Berente, N., Nickerson, J., & Yepes, G. (2022). Designing the metaverse.

Seshadri, S. (2023). Web 4.0 – A web of intelligent connections! The Times of India. https://timesofindia.indiatimes.com/blogs/voices/web-4-0-a-web-of-intelligent-connections/

Shahrbanian, S., Ma, X., Aghaei, N., Korner-Bitensky, N., Moshiri, K., & Simmonds, M. J. (2012). Use of virtual reality (immersive vs. Non immersive) for pain management in children and adults: A systematic review of evidence from randomized controlled trials. Eur J Exp Biol, 2(5), 1408–1422.

Shin, D. (2018). Empathy and embodied experience in virtual environment: To what extent can virtual reality stimulate empathy and embodied experience? Computers in Human Behavior, 78, 64–73. https://doi.org/10.1016/j.chb.2017.09.012

Siebert, A., Gopaldas, A., Lindridge, A., & Simões, C. (2020). Customer experience journeys: Loyalty loops versus involvement spirals. Journal of Marketing, 84(4), 45–66.

Silva, J. H., Mendes, G. H., Teixeira, J. G., & Braatz, D. (2023). Gamification in the customer journey: A conceptual model and future research opportunities. Journal of Service Theory and Practice.

Simões, J., Redondo, R. D., & Vilas, A. F. (2013). A social gamification framework for a K-6 learning platform. Computers in Human Behavior, 29(2), 345–353.

Smink, A. R., Van Reijmersdal, E. A., Van Noort, G., & Neijens, P. C. (2020). Shopping in augmented reality: The effects of spatial presence, personalization and intrusiveness on app and brand responses. Journal of Business Research, 118, 474–485.

Statista. (2024). Internet and social media users in the world 2024 | Statista. https://www.statista.com/statistics/617136/digital-population-worldwide/

Stelmaszewska, H., Fields, B., & Blandford, A. (2004). Conceptualising user hedonic experience. Proceedings of ECCE-12, the 12th European Conference on Cognitive Ergonomics, 83–89.

Su, R., Obrenovic, B., Du, J., Godinic, D., & Khudaykulov, A. (2022). COVID-19 pandemic implications for corporate sustainability and society: A literature review. International Journal of Environmental Research and Public Health, 19(3), 1592.

Suh, A. (2023). How users cognitively appraise and emotionally experience the metaverse: Focusing on social virtual reality. Information Technology & People, ahead-of-print(ahead-of-print). https://doi.org/10.1108/ITP-06-2022-0461

Suh, A., & Prophet, J. (2018). The state of immersive technology research: A literature analysis. Computers in Human Behavior, 86, 77–90. https://doi.org/10.1016/j.chb.2018.04.019

Suh, T., & Lee, S. B. (2023). Configuring managerial factors to enhance omnichannel experience and customer engagement behaviors for a solid loyalty loop. Electronic Commerce Research, 1–29.

SuperOffice. (2023). How Digital Transformation is Driving The Customer Experience. https://www.superoffice.com/blog/digital-transformation/

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

Szozda, N. (2023). Omnichannel as a driver of digitalization: Evidence from the emerging market in the fashion industry. Journal of Fashion Marketing and Management: An International Journal, ahead-of-print.

Takahashi, D. (2011). By 2015, 50 percent of companies will embrace gamification, Gartner says.

Tamborini, R., & Bowman, N. D. (2010). Presence in video games. Immersed in Media: Telepresence in Everyday Life, 87–109.

Terlutter, R., & Capella, M. L. (2013). The gamification of advertising: Analysis and research directions of in-game advertising, advergames, and advertising in social network games. Journal of Advertising, 42(2–3), 95–112.

Thomas, D. (2021, October 4). Dolce & Gabbana Just Set a $6 Million Record for Fashion NFTs. The New York Times. https://www.nytimes.com/2021/10/04/style/dolce-gabbana-nft.html

Thong, J. Y. L., Hong, S.-J., & Tam, K. Y. (2006). The effects of post-adoption beliefs on the expectation-confirmation model for information technology continuance. International Journal of Human-Computer Studies, 64(9), 799–810. https://doi.org/10.1016/j.ijhcs.2006.05.001

Thorhauge, A. M., & Nielsen, R. K. L. (2021). Epic, Steam, and the role of skin-betting in game (platform) economies. Journal of Consumer Culture, 21(1), 52–67. https://doi.org/10.1177/1469540521993929

Thrash, T. M., & Elliot, A. J. (2003). Inspiration as a psychological construct. Journal of Personality and Social Psychology, 84(4), 871.

Tom Dieck, M. C., & Han, D. D. (2022). The role of immersive technology in Customer Experience Management. Journal of Marketing Theory and Practice, 30(1), 108–119.

Torok, G. (2020). Pandemic Potential: Four App Development Trends In A Post-Covid-19 World. https://www.forbes.com/sites/forbestechcouncil/2020/09/10/pandemic-potential-four-app-development-trends-in-a-post-covid-19-world/?sh=75547401492f

Torres, M. D. (2007). Mind Booster Noori: What is Web 3.0? https://mindboosternoori.blogspot.com/2007/08/what-is-web-30.html

UBS, I. bank. (2020). Everything you need to know about the resale luxury clothing market. https://www.ubs.com/global/en/investment-bank/in-focus/2020/about-the-resale-market.html

UNEP. (2022, November 24). The environmental costs of fast fashion. UNEP. http://www.unep.org/news-and-stories/story/environmental-costs-fast-fashion

Välkkynen, P., Boyer, A., Urhemaa, T., & Nieminen, R. (2011). Mobile augmented reality for retail environments. Proceedings of Workshop on Mobile Interaction in Retail Environments in Conjunction with MobileHCI.

8. References

van Berlo, Z. M., van Reijmersdal, E. A., & Eisend, M. (2021). The gamification of branded content: A meta-analysis of advergame effects. Journal of Advertising, 50(2), 179–196.

van Brakel, V., Barreda-Ángeles, M., & Hartmann, T. (2023). Feelings of presence and perceived social support in social virtual reality platforms. Computers in Human Behavior, 139, 107523. https://doi.org/10.1016/j.chb.2022.107523

Van Kerrebroeck, H., Brengman, M., & Willems, K. (2017). When brands come to life: Experimental research on the vividness effect of Virtual Reality in transformational marketing communications. Virtual Reality, 21, 177–191.

Vargo, S. L., & Lusch, R. F. (2008). Service-dominant logic: Continuing the evolution. Journal of the Academy of Marketing Science, 36, 1–10.

Vargo, S. L., & Lusch, R. F. (2016). Institutions and axioms: An extension and update of service-dominant logic. Journal of the Academy of Marketing Science, 44, 5–23.

Venkatesh, V. (1999). Creation of favorable user perceptions: Exploring the role of intrinsic motivation. MIS Quarterly, 239–260.

Voorveld, H. A., Neijens, P. C., & Smit, E. G. (2011). The relat ion between actual and perceived interactivity. Journal of Advertising, 40(2), 77–92.

Waiguny, M. K., Nelson, M. R., & Terlutter, R. (2012). Entertainment matters! The relationship between challenge and persuasiveness of an advergame for children. Journal of Marketing Communications, 18(1), 69–89.

Walsh, K. R., & Pawlowski, S. D. (2002). Virtual reality: A technology in need of IS research. Communications of the Association for Information Systems, 8(1), 20.

Wang, Y., Kung, L., & Byrd, T. A. (2018). Big data analytics: Understanding its capabilities and potential benefits for healthcare organizations. Technological Forecasting and Social Change, 126, 3–13. https://doi.org/10.1016/j.techfore.2015.12.019

Wark, M. (2013, November 22). A Ludic Century? Public Seminar. https://publicseminar.org/2013/11/a-ludic-century/

Waterworth, J., & Hoshi, K. (2016). Bridging Contextual Gaps with Blended Reality Spaces (pp. 61–72). https://doi.org/10.1007/978-3-319-30334-5_5

Watson, A., Alexander, B., & Salavati, L. (2018). The impact of experiential augmented reality applications on fashion purchase intention. International Journal of Retail & Distribution Management, 48(5), 433–451.

Weinberger, M. (2022). What Is Metaverse?—A Definition Based on Qualitative Meta-Synthesis. Future Internet, 14(11), Article 11. https://doi.org/10.3390/fi14110310

Widagdo, B., & Roz, K. (2021). Hedonic Shopping Motivation and Impulse Buying: The Effect of Website Quality on Customer Satisfaction. The Journal of Asian Finance, Economics and Business, 8(1), 395–405. https://doi.org/10.13106/jafeb.2021.vol8.no1.395

Williams, P., Walz, S. P., & Deterding, S. (2014). Collaboration in the Gameful World. The Gameful World. Approaches, Issues, Applications, 481–486.

Williamson. (2020). Retailers and Entertainers Leverage Social AR amid the Pandemic—Insider Intelligence Trends, Forecasts & Statistics. https://www.insiderintelligence.com/content/pandemic-accelerating-ar-adoption-retailers-entertainers

Wu, Y. F., & Kim, E. Y. (2022). Users' Perceptions of Technological Features in Augmented Reality (AR) and Virtual Reality (VR) in Fashion Retailing: A Qualitative Content Analysis. Mobile Information Systems, 2022, 3080280. https://doi.org/10.1155/2022/3080280

Wünderlich, N. V., Gustafsson, A., Hamari, J., Parvinen, P., & Haff, A. (2020). The great game of business: Advancing knowledge on gamification in business contexts. Journal of Business Research, 106, 273–276. https://doi.org/10.1016/j.jbusres.2019.10.062

Xi, N., & Hamari, J. (2019a). Does gamification satisfy needs? A study on the relationship between gamification features and intrinsic need satisfaction. International Journal of Information Management, 46, 210–221. https://doi.org/10.1016/j.ijinfomgt.2018.12.002

Xi, N., & Hamari, J. (2019b). The relationship between gamification, brand engagement and brand equity.

Xiao, L., Guo, Z., D'Ambra, J., & Fu, B. (2016). Building loyalty in e-commerce: Towards a multidimensional trust-based framework for the case of China. Program.

Xu, X. (2010). The effect of advertising persuasion. Beijing Technology and Business University (Social Sciences), 25, 79–83.

Xue, L., Parker, C. J., & Hart, C. A. (2023). How augmented reality can enhance fashion retail: A UX design perspective. International Journal of Retail & Distribution Management, 51(1), 59–80.

Yang, J., Zhang, M., Zou, Z., & others. (2015). The effect of In-Game advertising in SNS on brand equity. Journal of Service Science and Management, 8(01), 107.

Yang, Y., Asaad, Y., & Dwivedi, Y. (2017). Examining the impact of gamification on intention of engagement and brand attitude in the marketing context. Computers in Human Behavior, 73, 459–469. https://doi.org/10.1016/j.chb.2017.03.066

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

Yoo, Y., Boland Jr, R. J., Lyytinen, K., & Majchrzak, A. (2012). Organizing for innovation in the digitized world. Organization Science, 23(5), 1398–1408.

Zainuddin, Z., Chu, S. K. W., Shujahat, M., & Perera, C. J. (2020). The impact of gamification on learning and instruction: A systematic review of empirical evidence. Educational Research Review, 30, 100326.

Zhan, T., Yin, K., Xiong, J., He, Z., & Wu, S.-T. (2020). Augmented Reality and Virtual Reality Displays: Perspectives and Challenges. iScience, 23(8), 101397. https://doi.org/10.1016/j.isci.2020.101397

Zhao, Y., Jiang, J., Chen, Y., Liu, R., Yang, Y., Xue, X., & Chen, S. (2022). Metaverse: Perspectives from graphics, interactions and visualization. Visual Informatics, 6(1), 56–67.

Zheng, J. M., Chan, K. W., & Gibson, I. (1998). Virtual reality. IEEE Potentials, 17(2), 20–23. https://doi.org/10.1109/45.666641

Zichermann, G., & Cunningham, C. (2011). Gamification by design: Implementing game mechanics in web and mobile apps. O'Reilly Media, Inc.

Zimmerman, E. (2013). Manifesto for a ludic century. The Gameful World: Approaches, Issues, Applications, 19–22.

Zoghlami, A. T., Yahia, K. B., & Berraies, S. (2018). From mobile service quality evaluation to e-word-of-mouth: What makes the users of mobile banking applications speak about the bank?: The moderating role of brand reputation. International Journal of E-Services and Mobile Applications (IJESMA), 10(2), 36–57.

Zyda, M. (2022). Let's Rename Everything "the Metaverse!" Computer, 55(3), 124–129. https://doi.org/10.1109/MC.2021.3130480

9
Acknowledgments

9. Acknowledgments

Come sa chi mi conosce bene, non sono una persona capace di esprimere le proprie emozioni senza complicarle e viverle inverosimilmente male. Credevo, razionalizzando come mio solito, di non aver bisogno di scrivere ringraziamenti o di cavarmela con poche parole. Invero, ho cambiato idea: questo percorso durato più di un anno ha posto vicino a me persone che hanno reso possibile la stesura di questo lavoro. Senza tutti voi, questo progetto non avrebbe assolutamente visto la luce.

In primis, un ringraziamento dal profondo del mio cuore a Ilaria, la mia relatrice. In un percorso scolastico e universitario che spesso mi ha lasciato l'amaro in bocca, lei è stata davvero una luce soffusa, un posto sicuro dove non sentirmi mai fuori posto. Una professoressa empatica, capace di aiutarmi e di spronarmi, infusa di una passione verso l'insegnamento che rare volte ho avuto il privilegio di vedere. Lavorare assieme a lei mi ha fatto capire come vorrei essere se mai mi ritroverò a fare a mia volta da guida. La ringrazio per avermi insegnato non solo la parte analitica del lavoro, ma i modi, la pazienza e l'empatia di cui vorrei che tutto il mondo, lavorativo e non, fosse pieno. Le auguro davvero tutto il meglio possibile, perché penso davvero se lo meriti, oltre a lavorare duro ogni giorno (anche sulla mia tesi) per raggiungerlo.

La realizzazione di questo lavoro sarebbe stata impensabile senza il sostegno dei miei amici, i quali, forse non l'ho mai espresso abbastanza chiaramente, hanno preso con amore le mie macerie e l'hanno pazientemente riattaccate a mò d'artista.

Grazie a Giorgia e Michelle, per i dialoghi, le riflessioni, gli sfoghi condivisi. Sapete già benissimo che mi avete aiutata a fiorire quando pensavo che l'inverno sarebbe durato per sempre.

Grazie a Michele, sia per la parte grafica che per un'amicizia iniziata lentamente e poi balenata nella forma che considero più autentica. Una condivisione continua di gioie e dolori che caratterizzano la nostra vita, una spalla sicura su cui ridere e piangere, un posto in cui rimanere.

Grazie a Doriana, che sa come incoraggiare e risvegliare quella parte competitiva di me che, a dire il vero, credo ancora sia sepolta. Tuttavia, lei dimostra il contrario ogni volta.

Grazie a Sofia, Davide, Caterina, Filippo, Alice, Deborah, Annarosa, Stefano e Davide, per aver condiviso tantissimi momenti felici, essere stati degli amici con cui esprimere una vena di creatività assolutamente fuori dal comune ed essere stati capaci di farmi vivere con serenità quest'esistenza che sapete bene quanto io consideri grama.

Grazie a mamma, papà e Davide per essere dei creativi come me, per avermi ispirata a seguire quella vena che è geneticamente presente in noi e per continuare a lavorare sulle nostre diversità, cercando di capirle e di venirsi incontro. Per me, è proprio questa la definizione di 'amore incondizionato'.

Grazie a tutti gli amici della biblioteca, per avermi dato un posto in cui sentirmi al sicuro e dove alternare momenti di serietà con momenti di fondamentale 'analisi dei comportamenti umani', comunemente detti anche gossip. Grazie anche a Sara, per la sua gentilezza e il suo caffè prezioso. Avete reso il mio lavoro più piacevole e allegro di quanto avessi mai immaginato.

Grazie al mio lavoro e ai colleghi del Libraccio, i quali per primi hanno saputo riconoscere il mio valore e hanno contribuito a risvegliare in me la passione per i libri, che ho compreso essere essenziale per la mia esistenza.

Un finale grazie a Davide, che mi ha conosciuta quando già la tesi era quasi completata, e ha voluto raccogliere tutto il gomitolo intrugliato che sono e iniziare, con voglia e pazienza, a scioglierlo. Sarà un lavoro lungo, ma è un piacere condividerlo con te!