



# Fashion in the Metaverse – Dressed for Success

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## **Abstract**

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**Title:** Fashion in the Metaverse – Dressed for Success

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Interest in the Metaverse has been rising, with the fashion industry surprisingly becoming one of the first to adopt digitalization and virtual reality using new business models. However, considering that the Metaverse is still at an early stage, it is challenging to define directions and opportunities. This dissertation aims to understand how the fashion industry can benefit from the Metaverse and what should be considered when implementing this technology trend. This includes strategic guidelines for fashion brands to approach the Metaverse based on characteristics such as brand size, target, and goals. With input from ten experts and a survey, it was possible to identify the most important aspects influencing fashion companies in the Metaverse and different opportunities to create value for customers. These include customer experience and engagement, new sources of revenues, and the potential to become a new retail channel in the coming years, subject to limitations associated with consumer adoption and Metaverse technologies.

**Keywords:** Metaverse, Fashion Industry, Entry Strategies, Value Creation, Customer Engagement, Customer Experience, Virtual Realities, Digital Fashion

## Resumo

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**Título:** Moda no Metaverso – Vestido para o Sucesso

**Autor:** Mariana Moura

O interesse pelo Metaverso tem vindo a aumentar, com a indústria da moda a tornar-se, surpreendentemente, uma das primeiras a adotar a digitalização e a realidade virtual como novos modelos de negócio. No entanto, considerando que o Metaverso ainda se encontra numa fase inicial, é difícil de definir a sua direção e oportunidades. Esta dissertação tem como principal objetivo compreender como a indústria da moda pode beneficiar do Metaverso e, além disso, o que deve ser tido em consideração na implementação desta tendência tecnológica. Para tal, inclui orientações estratégicas para as marcas de moda abordarem o Metaverso com base em características como a dimensão, target e os objetivos da marca. Com o contributo de dez especialistas e um inquérito, foi possível identificar quais os aspetos mais importantes que influenciam as empresas de moda no Metaverso e as diferentes oportunidades de criação de valor para os clientes. Estas incluem a experiência e o envolvimento do cliente, novas fontes de receita e o potencial para se tornar um novo canal de retalho nos próximos anos, sujeito a limitações associadas à adoção pelo consumidor e às tecnologias do Metaverso.

**Palavras-chave:** Metaverso, Indústria da Moda, Estratégias de Entrada, Criação de Valor, Envolvimento do Consumidor, Experiência do Consumidor, Realidades Virtuais, Moda Digital

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I conclude this academic path, full of challenges and learnings, ready to be challenged and challenge those around me to leave a positive impact on our world. I am grateful to all those who have contributed to this journey.

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# 1. Introduction

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Interest in the Metaverse has risen since 2021 when Mark Zuckerberg rebranded Facebook as Meta Platforms and made substantial investments in virtual and augmented technologies (Milmo, 2021). Google Trends searches for “Metaverse” had a significant increase in 2021<sup>1</sup> following this, with Meta aiming to play a leading role in shaping the Metaverse, which is described as “*an embodied Internet that you’re inside of rather than just looking at*” (Zuckerberg, 2021). The feelings of presence and immersion represent the ultimate goal of social technology.

Fashion has traditionally relied on physical interactions and resisted digital innovation. However, the pandemic was a catalyst that forced brands to adopt new ways of engaging with consumers. This increased people’s relationship with virtual communities and applications (Büchel & Klös, 2022), with time spent online accelerating the entry of immersive worlds. Due to lockdowns, the online world rapidly became the place to go, resulting in new technology products and businesses needing to adapt to the new reality. Before Covid-19, the Metaverse was more of an entertainment platform community. However, after the pandemic, the Metaverse’s potential became apparent (Nalbant & Uyanik, 2021).

Post-pandemic digitalization and the rise of virtual communities are also pushing the fashion industry towards new levels of innovation. The latest developments in digital social experiences lay the groundwork for the Metaverse, the next phase of life online. This real-time virtual environment provides a massive opportunity for fashion brands to connect with high-value younger audiences while offering new routes for creativity, community building, and commerce (Amed, et al., The State of Fashion 2021, 2021).

Although it has been predicted that the metaverse will bring about significant changes in the fashion and retail industry, there is still a lack of consensus on its nature and how it is manifested in the fashion industry (Jana, 2022; Stephens, 2021). It remains a new and imperfect technology, with practical concerns regarding graphics quality, data streaming, and interoperability, limiting designers’ creativity. Despite these initial challenges, the potential

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<sup>1</sup> See Appendix I

benefits of the Metaverse are compelling for brands, providing new ways of engaging with customers and building a community.

### **1.1. Academic & Managerial Relevance**

Researchers and specialists have not reached a consensus on the concept of the Metaverse, leading to various interpretations (Foutty & Bechtel, 2022). While some predict that exponential growth is possible, skeptics note that previous technologies have frequently taken an unexpectedly long time to reach their commercial potential (GardeRobo A.I., 2023).

Given the uncertainties and rising attention from many notable fashion players, this dissertation aims to assess how matters will unfold regarding Metaverse's role in the fashion industry by focusing on the entry and engagement strategies pursued. This research will help managers gain insights into strategic planning and resource allocation in the dynamic fashion industry, uncovering value-creation opportunities and critical factors relevant to their business models in the Metaverse landscape.

This thesis addresses the following Research Question:

**RQ: How can the Metaverse create value for fashion brands' engagement with consumers?**

## 2. Literature Review

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### 2.1. Fashion Industry

#### 2.1.1. Growth of E-commerce

Fashion e-commerce has seen tremendous recent growth, which is expected to continue. According to Statista, in 2021, global fashion e-commerce was \$668 billion and is expected to reach \$1.2 billion by 2025, growing at a CAGR of 12.2% (Figure 1).

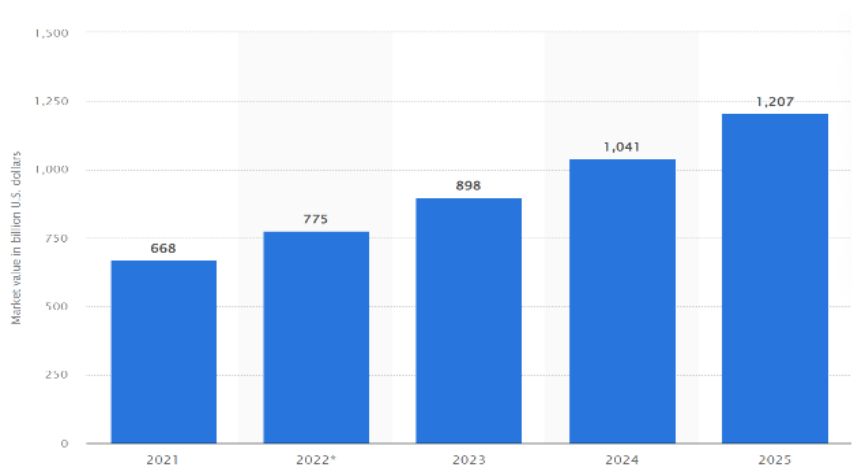


Figure 1 - Fashion e-commerce market value worldwide from 2021 to 2025 (in billion U.S. dollars)

As fashion e-commerce grows, consumer behavior changes, with more customers engaging in *bracketing* – purchasing multiple versions (e.g., sizes, colors) of the same product to try at home, keeping the most suitable items, and returning the rest (Xu, et al., 2023). According to True Fit, almost 15% of online retail returns are attributed to *bracketing* (Salerno-Garthwaite, 2022). High returns in fashion e-commerce are mainly due to less-standardized products, the need for clothes to fit correctly, and customers evaluating texture (Stöcker et al., 2021). These factors contribute to customers substituting the fitting room for an at-home try-on. In addition to increasing costs, product returns negatively contribute to fashion’s environmental impact (Stöcker et al., 2021).

E-commerce is now a primary channel, with increasing digital customer interactions and social media influencing digital consumption (Amed et al., 2022). In the competitive Fashion industry, consumers seek holistic experiences through the shopping environment and the entertainment it provides (Fiore et al., 2005). Brands try to distinguish themselves by creating

superior digital customer experiences and leveraging innovations such as social shopping, gamification, and personalization (Amed et al., 2021).

### **2.1.2. Digital Transformation of Fashion**

Digitalization is occurring in fashion as in other industries. Brands and retailers have embraced emerging technologies to upgrade processes and operations (Amed et al., 2022) and push the boundaries of virtuality to enhance customer experiences and engagement (Shankar, et al., 2021). According to the State of Fashion Technology Report of 2022, fashion companies are expected to increase their technology investments from 1.6% and 1.8% of sales in 2021 to 3% and 3.5% by 2030. As younger generations spend more time online, the Metaverse can offer new creative, community-building routes and commerce (Amed, et al., The State of Fashion Technology, 2022).

Designers and fashion brands began creating digital collections worn by avatars, often called “skins”. These collaborations demonstrate fashion’s recognition of the increasing importance of digital spaces and gaming as ways to reach new audiences and engage with customers in novel ways. This has recently expanded to wearable technology and augmented reality experiences. As the Metaverse grows and becomes more immersive, fashion brands also create virtual stores in the Metaverse and use non-fungible tokens (NFTs) to create limited-edition virtual clothing collections. This allows digital fashion to be bought, sold, and traded on blockchain-based marketplaces, creating new revenue streams for brands (Ellwood, 2021).

## **2.2. The Metaverse**

### **2.2.1. Definition of the Metaverse**

The term “Metaverse” was first coined in 1992 by Neal Stephenson in his novel *Snow Crash*, which described a “three-dimensional world inhabited by avatars of real people.” The Metaverse refers to a virtual space where users can interact with each other and digital objects in real-time (Crespo-Pereira et al., 2023). A Metaverse is typically an analog of the real world, where daily life can occur without physical limitations (Park & Kim, 2022). It is enabled by emerging technologies, such as virtual, augmented, and mixed reality, which allow dynamic interactions where the actual environment is not just extended but is actively involved in the experience (Mystakidis, 2022).

Despite the many different interpretations of the Metaverse, it has several fundamental characteristics. These are the continuity of identity and objects, a shared environment, the representation of people by avatars, synchronization, being three-dimensional, interoperability across platforms and devices, and an interactive, immersive, and social user experience (Amed et al., 2022; Kim J., 2021).

Metaverse users are currently spread across multiple platforms, including *Decentraland*, *Fortnite*, *Minecraft*, *Roblox*, and *The Sandbox*. The differences between these current platforms associated with the Metaverse and *Second Life*, available since the 2000s and considered to be a comparable application to current platforms (Kaplan & Haenlein, 2009), are the significantly larger user base, the possibility for users to shape the game environment, and the increased technical capabilities (Rospigliosi, 2022).

Lee et al. (2021) explore the concept of the Metaverse as a virtual environment that merges physical and digital elements. To achieve this duality, Lee et al. (2021) and Wang et al. (2022) proposed that the Metaverse consists of three sequential stages, from digital twins and digital natives to the coexistence of physical and virtual reality (Figure 2).

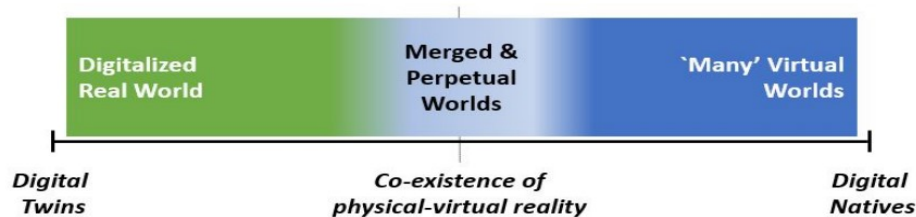


Figure 2 - Three stages of the Metaverse development (Lee et al., 2021)

The first stage, *digital twins*, entails the creation of digital copies of the physical environment. The second stage is the content creation of *digital natives*, which links the content inside the virtual environment to its physical counterpart. Initially, virtual worlds may have limited connectivity with each other and the physical world but will gradually merge into a massive landscape. In the final stage, the Metaverse grows to maturity, becoming seamlessly integrated into the *coexistence of physical and virtual reality* (Lee, et al., 2021).

Moy & Gadgil (2022) presented two main approaches to the Metaverse. The first one is based on the characteristics of Web 2.0, where platforms are centrally owned, such as *Second Life* and *Roblox*, and digital assets are leased within the platform through traditional payments (e.g., credit/debit cards). In the Web 3.0 approach, platforms such as *Decentraland* and *The Sandbox* are community-governed, typically through a foundation decentralized autonomous

organization (DAO), and digital assets are owned through NFTs, with payments occurring via cryptocurrencies (Moy & Gadgil, 2022).

### **2.2.2. Metaverse technologies**

The concept of the Metaverse is also associated with Web3. By incorporating blockchain-enabled technologies, such as NFTs and cryptocurrencies, Web3 has new technology and ways of engagement characterized by decentralization, co-creation, and co-ownership (BCG, 2022). While Web 1.0 allows users to connect online, Web 2.0 connects users to an online community, and Web3 links users to a community-owned virtual world (Lee et al., 2021).

The Metaverse also aggregates various technologies, such as Extended Reality (XR), Artificial Intelligence (AI), blockchain, and cloud computing, which enable users to access the Metaverse and handle various activities through user interactivity and XR (Lee, et al., 2021). While still in its early stages, Web3 is already driving a dynamic virtual-asset economy, including cryptocurrencies and non-fungible tokens (NFTs).

#### ***Extended Reality***

XR is the umbrella term for immersive technologies such as Augmented Reality (AR), Virtual Reality (VR), Mixed Reality (MR), and everything in between (Lee, et al., 2021). AR and VR interfaces create realistic, interactive environments that mimic the physical world (Chen et al., 2021). According to Statista (2022), the global virtual and augmented technologies market is expected to increase at a CAGR of 13.7% between 2023 and 2027, resulting in a projected market volume of US\$ 52.05 billion.

Augmented reality (AR) is a digitally improved view of the physical world (Lee, et al., 2021). Social media platforms, such as Snapchat and Instagram, use this to facilitate engagement between users through interactive filters (Hilken, et al., 2022). In the case of retail, AR allows for deeper immersion as consumers obtain a clearer sense of the product, increasing their willingness to try it on, driven by hedonic factors such as enjoyment, aesthetics, and playfulness (Hilken, et al., 2022). It also enables co-creation between consumers and retailers, allowing consumers to achieve enhanced decision-making, social empowerment, and improved well-being (Hilken, et al., 2022).

Virtual Reality (VR) is a fully immersive digital environment that simulates reality (Lee, et al., 2021). Commonly accessed through headsets that replace the real world with a computer-

generated environment, VR simulations allow co-creation and help consumers produce environments they seek to co-create, improve decision-making, and increase the overall value of the shopping experience (Hilken et al., 2022; Shankar et al., 2021). During the pandemic, VR platforms grew rapidly with online meetings, reducing the need for physical travel (Hilken, et al., 2022).

Mixed Reality (MR) combines AR and VR technologies to use virtual entities in physical environments in real time, allowing for multisensory interactions with virtual content (voice commands and hand gestures) and feedback (scents and sound effects) (Lee, et al., 2021). MR technologies, such as wearables, AR, VR, and MR systems, can be essential in customer journeys, enhancing customer engagement and creating multisensory experiences (Hilken et al., 2022; Pala et al., 2022). Although the impact of the Metaverse on physical surroundings is still uncertain, MR prototypes emphasize the importance of realism, empathy, and presence when creating multiple complementary virtual worlds (Lee et al., 2021).

Despite these differences, these three realities share three characteristics: immersion, presence, and interaction (Cipresso et al., 2018; Ong et al., 2021; Silvestri, 2020; Yeung et al., 2021). The Metaverse trend proves that XR will become part of our lives and change how we interact with our surroundings (Bousba & Arya, 2022; Wedel et al., 2020).

### ***Blockchain technology, Cryptocurrencies & NFTs***

Blockchain technology is critical to interoperability and decentralization in the Metaverse, helping to establish secure, transparent, and decentralized environments, especially for transactions and digital assets ownership (Huynh-The, et al., 2023). Blockchain-enabled currencies have the potential to smoothen both physical and digital transactions, removing exchange rate frictions, costly fees, intermediaries, or outdated payment systems. Furthermore, they verify the ownership of digital assets, allowing the sale and trade of unique digital assets in a decentralized and interoperable Metaverse economy (Lee, et al., 2021).

The Web3 economy has enabled digital assets, such as cryptocurrencies and NFTs. The latter are unique, immutable, exclusive digital tokens that can be traded and collected (Clark, 2022). Unlike cryptocurrencies or other fungible tokens, NFTs cannot be copied, divided, merged, or destroyed, which gives them value due to their scarcity and uniqueness. In the fashion industry, NFTs can be used to authenticate products or be treated as collectibles, particularly for luxury items and via the gaming industry (McKinsey, 2022).

Although the concept of the Metaverse has been around for decades, the technologies required to fully realize its potential are still in their infancy. Advancements in computing, network infrastructure, and interface hardware will overcome issues such as network latency, device compatibility, and creating realistic virtual environments to develop the Metaverse of people's imaginations (McKinsey, 2022).

### **2.2.3. Maximizing value in the Metaverse**

In 2021, global spending on virtual goods reached around \$110 billion, more than double that of 2015, and it is expected to reach at least \$135 billion by 2024 (Amed, et al., The State of Fashion Technology, 2022). Approximately 60 billion messages were sent daily on the platform Roblox, GDP for the platform Second Life was about \$650 million, while NFTs had a market cap of \$41 billion in cryptocurrencies (Moy & Gadgil, 2022). Although many current experiments in the Metaverse are essentially marketing exercises, fashion firms focused on Metaverse innovation and commercialization could generate up to 5% of their revenues over the next 2-5 years (Amed, et al., The State of Fashion Technology, 2022).

The Metaverse can be considered a disruptive technology to the extent that it can produce new tech products or result in substantial paradigm shifts for existing use cases (Isa, 2023). Christensen's notion of disruptive innovation (1997) argues that disruptors successfully target overlooked market segments by offering "good-enough" products with attributes more suitable for these markets, usually at lower prices. Initially, these disruptors do not threaten incumbents because their reach is limited to niche markets. As disruptors capture a significant market share, incumbents perceive them as threats and feel the need to respond. Eventually, disruptors upgrade their products to meet the demands of mainstream customers while still maintaining the competitive advantage that drove their early success (Christensen, 1997; Christensen, 2006).

Establishing sustained value creation requires strategic decision-making to determine the business's competitive landscape (e.g., markets and customer segments). This involves identifying key opportunities and risks associated with the chosen strategy and business model. Furthermore, organizations must ensure that their products and services align with customer needs and address societal challenges. Collaboration with essential partners is crucial in value creation. To achieve long-term value, organizations must develop the necessary infrastructure,

capabilities, and relationships, encompassing both tangible and intangible assets, to effectively meet the expectations of customers and stakeholders (IFAC, 2020).

Virtual environments are bringing about a new era of digital disruption, changing the economy and society. By leveraging emerging technologies in an economic system based on blockchain, fashion companies can create and maximize value for stakeholders, provide immersive experiences based on augmented reality, and use digital twin technology to create a mirror image of the actual world (Isa, 2023).

### **2.3. Digital Fashion and Metaverse Retailing**

#### **2.3.1. Digital Fashion Experience**

In 2021, the Metaverse became a buzzword for the fashion industry (Wunderman Thompson Intelligence, 2022). Many fashion brands began experimenting with it, although it is still more prevalent in luxury brands, such as Gucci. However, fast fashion, such as H&M, Zara, and Forever 21, also developed Metaverse experiences. Fashion brands can engage in the Metaverse across five dimensions (Amed, et al., The State of Fashion Technology, 2022), the most common being digital clothing, virtual fashion shows, and virtual try-on technology.

#### ***Digital Clothing***

Gucci is laying the groundwork for future digital design in the Metaverse, by developing virtual items and collectibles and organizing virtual brand activations on the Roblox platform, like Gucci Garden (Amed, et al., The State of Fashion Technology, 2022). In 2021, the brand auctioned off its first NFT, organized virtual brand activations on the Roblox platform (e.g., Gucci Garden), and created assets for popular games, such as Pokémon Go and Animal Crossing (Amed, et al., The State of Fashion Technology, 2022). More recently, in 2022, Gucci also purchased virtual land on Sandbox and promised to build “*an interactive fashion experience based on (Gucci) Vault*” (Hirschmiller, 2022).

Moreover, in December 2021, fast fashion retailer Forever 21 partnered with Virtual Brand Group to build Forever 21 Shop City in Roblox, where users can buy and sell clothing and design and manage their stores (Wunderman Thompson Intelligence, 2022). Zara also entered the Metaverse world by launching an exclusive collection through the Zepeto platform, in which the avatars could dress in clothes that could be purchased in physical stores (Sanchez & Garcia-Badell, 2023)

### ***Virtual Fashion Shows***

Decentraland, a browser-based 3D online world, hosted the first Metaverse Fashion Week in March 2022 with over 60 top-tier fashion brands participating, including Dolce & Gabbana, Tommy Hilfiger, Philipp Plein, and Karl Lagerfeld. The event featured brand-sponsored runway shows, after-parties, shopping districts, panel talks, concerts, and other interactive events that the user's avatars could attend (Wunderman Thompson Intelligence, 2022). Although the execution of Decentraland's Metaverse is rudimentary and not photorealistic, it provides a revolutionary way for fashion to be presented beyond the confines of reality (Leitch, 2022). In April 2022, H&M opened its first virtual showroom on the Virtual Reality platform CEEK, where guests experience new collections of high-quality 3D products (H&M Group, 2022).

### ***Virtual Try-on***

Virtual Try-On (VTO) technology helps customers try clothes, influencing purchasing decisions (Zhang et al., 2018). VTO technology evokes utilitarian and hedonic values, assisting consumers in addressing fit while providing a more enjoyable experience (Zhang et al., 2018). Baytar et al. (2016) state that VTO offers online consumers helpful information about clothing attributes such as size and color.

Gucci is incorporating AR for virtual try-on of sneakers. At the same time, Burberry uses it to provide digital representations of bags, which helps better understand a bag's shapes and size (Amed, et al., The State of Fashion Technology, 2022). Robert Gentz, co-founder and co-chief executive of Zalando, believes this Metaverse aspect helps solve size-and-fit and sustainability issues (Amed, et al., The State of Fashion Technology, 2022).

### **2.3.2. Transition from Traditional to Metaverse Retailing**

Metaverse retailing, also known as virtual commerce, is the retailing of digital and physical goods in three-dimensional (3D) environments (Papagiannidis & Bourlakis, Staging the New Retail Drama: at a Metaverse near you!, 2010). Traditionally, retailers have pursued product-oriented strategies, gradually developing into customer-oriented strategies using online channels to target customers (Papagiannidis & Bourlakis, Staging the New Retail Drama: at a Metaverse near you!, 2010). As consumers started looking for unique, interactive experiences, retailers moved towards experience-oriented strategies, with the Metaverse providing an

optimal stage for delivering these (Papagiannidis & Bourlakis, Staging the New Retail Drama: at a Metaverse near you!, 2010).

The ongoing retail digitization process, involving e-commerce and omnichannel marketing approaches, allows for new shopping settings and replacing physical products with digital and hybrid ones (Hagberg et al., 2016). Digital auxiliaries are now integrated into the retail process, from pre-purchase to purchase and post-purchase experiences, shaping digital communities and customer interactions (Grewal et al., 2013). Yoo et al. (2023) propose that Metaverse components amplify three customer touchpoints: digital economic exchange, complex social relationships, and immediate environment interaction. Therefore, Metaverse technologies can add value with services such as virtual fitting rooms, virtual shows, and body scans and support digital fashion communities (Idrees et al., 2020).

Furthermore, Metaverse retailing overcomes the limitations of traditional and electronic retailing. However, one of the biggest challenges is to convert the atmosphere of conventional retailing into an online environment. For consumers, shopping online does not allow them to see and interact with products, often leading to returns, operational, and sustainability issues (Papagiannidis & Bourlakis, 2010; Bourlakis et al., 2009). Integrating XR applications and avatars into the shopping journey allows retailers to create a context in an enriched environment while maintaining convenience (Papagiannidis & Bourlakis, 2010). In addition to the retail experience, Kim (2021) suggests that the Metaverse presents advertising opportunities realized through the fusion of various defining technologies such as social media and virtual reality (Kim, 2021; Van Doorn et al., 2010).

With its low entry barriers and large online presence, fashion retailing is seen as a pioneer in the Metaverse retailing landscape.

#### **2.4. Customer Engagement in the Metaverse**

Customer engagement entails "customers' behavioral manifestations towards a brand or firm, beyond purchase, resulting from motivational drivers" (Van Doorn, et al., 2010). Today, customers engage with brands through multiple touchpoints and channels, resulting in more complex customer journeys (Lemon & Verhoef, 2016). For this reason, companies invest in interactive technology to improve customer engagement (Abou-Shouk & Soliman, 2021; Rather & Camilleri, 2019; Roy et al., 2021).

When customers interact with a virtual representation of a physical product, it helps brand equity (Papagiannidis et al., 2013). By increasing the entertainment value and encouraging engagement in creating a product or experience, Metaverse retailing takes a user-centric approach, allowing customers to become co-producers in the value-creation process (Papagiannidis & Bourlakis, 2010). Papagiannidis et al. (2013) found that this engagement positively influences user satisfaction and, in turn, purchase intention.

Brand loyalty is enhanced by brand awareness, perceived value, organizational associations, and brand uniqueness (Su & Chang, 2018). To achieve brand loyalty, emotional connections to the brand must consistently deliver quality and offer symbolic benefits. To fully realize the potential advantages of Metaverse, fashion retailers should adapt their services to the new context rather than simply transferring existing practices from brick-and-mortar stores or 2D web environments (Papagiannidis et al., 2013; Papagiannidis & Bourlakis, 2010).

## **2.5. Motivations to enter a new market**

Firms entering new markets can be explained along various dimensions: seeking profits, strategic reasons, competitor influence, etc. (Kim et al., 2015). Companies may enter in situations of technological uncertainty due to long-term strategic goals, such as learning new technologies and competitor-focused motivations. As the number of firms adopting a particular practice grows, that specific approach comes to be taken for granted by the remaining firms, making the signaling effect more distinctive (Kim et al., 2015).

Another potential driver for fashion companies to invest in the Metaverse is diversification. Economic uncertainty negatively impacts a company's performance, investment decisions, and employment rates (Baker et al., 2016). Recent examples include the Covid-19 pandemic in 2020-1 and the invasion of Ukraine in 2022 (Ahir et al., 2022; Department of Finance, 2022). Aivazian et al. (2019) found that diversified companies are more resilient against adverse economic conditions. Therefore, in times of uncertainty, higher diversification is generally preferred (Hoang et al., 2021).

## **2.6. Entry strategies pursued by fashion companies**

When entering a new market, fashion companies can choose from various entry mode strategies, ranging from low control, such as licensing, to high control strategies, such as wholly owned subsidiaries (Anderson & Gatignon, 1986). These vary in their degree of investment

risk, resource commitment, and financial returns. According to Anderson & Gatignon (1986), low-control modes require less resource commitment, thus reducing investment risk, whereas high-control strategies demand greater resource commitment. In general, companies aspire to establish a presence through direct investment. However, their efforts are often limited by a lack of experience or resources. Internationalization theory views entering new markets as inherently risky due to uncertainties. Therefore, it is recommended that a company initially enter a foreign market with a lower level of control. As the company gains experience in the market, it can adopt higher levels of control and greater resource commitments (Lu et al., 2011). This strategic shift allows the company to establish dominance in the market in the long run.

Firms also choose an entry mode that best exploits existing resources or develops new ones in the new market (Sharma & Erramilli, 2004). This leads to the situation that when a firm possesses adequate resources to exploit a new market, opting for a high-control entry mode provides the firm with an enhanced capacity to obtain maximum returns. By contrast, a low-control entry mode is preferable for a new market by leveraging a partner's resources (Lu et al., 2011).

## **2.7. Business Model Innovation**

Firms must adapt to changing markets and business environments (O'Reilly & Tushman, 2008). Previous research has recognized that technological innovation without a commercialization strategy can be destructive for companies. Teece (1986) outlined the need for a well-planned strategic approach to market entry. Business model innovation involves developing new ways to create, capture and deliver value by changing an organization's value proposition to customers and its underlying operating model (Pedersen et al., 2018).

Lindgren & Taran (2011) proposed a model that distinguishes between two types of business model innovation: incremental and radical. Continuous improvements in existing offerings characterize incremental business model innovation without major changes in internal competencies and external partner relationships. In contrast, radical business model innovation involves introducing new offerings and restructuring existing organizational capabilities and stakeholder networks (Lindgren & Taran, 2011). However, incremental and radical business model innovations are two poles on a continuum, with several combinations between them (Pedersen et al., 2018). In uncertain and dynamic environments, researchers argue that

strategies focusing on exploratory innovation (radical innovation) tend to be more successful than those pursuing exploitative innovation (Jansen et al., 2006).

Markides & Sosa (2013) suggest that the business models of entering companies explain the success of first movers, later entrants, and incumbents. They recommend that first movers target mainstream customers, not only early adopters, and make products widely available. Furthermore, Suarez et al. (2015) proposed an optimal window of opportunity for companies to enter an emerging market – the period between creating a dominant category and establishing a dominant design. A dominant category is when market boundaries are set, and the need for the product is socially acceptable (Suarez et al., 2015). A dominant design is when innovation shifts from product to process innovation and standards associated with the product are established (Abernathy & Utterback, 1978). Teece (2010) emphasized the importance of flexibility, experimentation, and learning in the pre-paradigmatic phase to remain competitive until the emergence of a dominant design.

## **2.8. Unified Theory of Acceptance and Use of Technology (UTAUT)**

The UTAUT explains factors determining the intention to use a technological application (Venkatesh et al., 2003). Based on the simplification of different research frameworks, such as the Technology Acceptance Model (TAM), this model applies four constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003).

According to Venkatesh et al. (2003), Performance Expectancy (PE) refers to the “belief that using a system will improve job performance”, Effort Expectancy (EE) refers to the “ease of using the system”, Social Influence (SI) refers to the “perception that important others believe they should use the system”, and Facilitating Conditions (FC) is “the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system”.

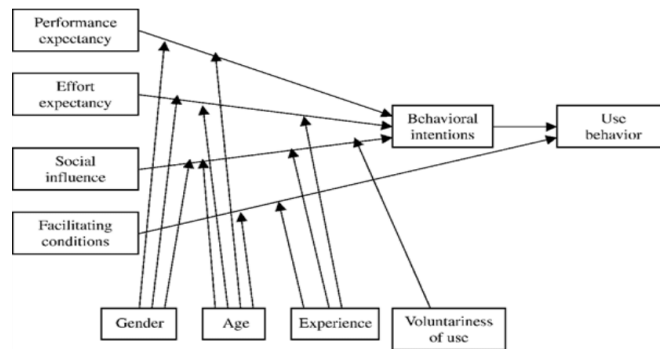


Figure 3 - Unified Technology Acceptance and Use of Technology (Venkatesh, et al., 2003)

### 3. Methodology

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#### 3.1. Research Design

We conducted semi-structured interviews with Metaverse experts, fashion companies' employees, and digital fashion consultants to gather qualitative data. To consider the customer perspective, we surveyed potential Metaverse fashion users. The collected data was analyzed using descriptive methods, linear regressions, and t-tests. Finally, the different qualitative, quantitative, and literature review outcomes were triangulated.

#### 3.2. Data Collection

##### 3.2.1. Primary Data Collection

##### Semi-structured interviews

Semi-structured interviews assessed the interviewee's industry knowledge, attitudes, perceptions, and predictions (Rowley, 2012). The flexibility of this interview format allowed follow-up questions, ensuring that the information collected was situation-dependent (Turner,

2010). Various experts with different roles and industry stakeholders were selected to ensure a diverse range of perspectives and mitigate biases. The list of interviewees included consultants specialized in digital fashion, professionals contributing to Metaverse projects, and Web3 marketing managers. An overview of each interview is included in the Appendix.

Interview ID	Name	Role	Reason to Interview
I	Sonia Preta	Founder and Principal Consultant at SRP Consulting	Consults fashion brands for possible entry into the web3 and metaverse and their potential strategy. Currently writing a book with the working title "Fashion and the Metaverse", expected publishing date of early Fall 2023
II	Ricardo Castro	Web3 Marketing Manager at The Quest of Evolution	Develops growth marketing strategies for all stakeholders in the creative industry and has experience in communicate value proposition in digital channels around web3
III	Sara Teixeira	Business Developer & Metaverse Operations Strategist at Exclusable	Helps fashion brands with the transition strategy from web2 to web3 and create fully immersive experiences in the Metaverse. Responsible of managing all Exclusable activities during Metaverse Fashion Week 2023
IV	Fiona Disegni	Partnerships Director at Emperia	Helps fashion brands build their virtual environment and transitioning their shopping journey from web2 to web3
V	Giancarlo Pazzanese	Lecturer at Amsterdam Fashion Academy	Communications consultant and lecturer of Fashion Business and Fashion Design at the Amsterdam Fashion Academy
VI	Gionata Galdenzi	Senior Ecommerce Manager of Moschino	Develops and controls the e-commerce strategies and business plan for the Italian fashion brand
VII	Matteo Zaccagnino	Innovation Analyst at Limitless Innovation	Helps fashion companies with their innovation challenges, by connecting them to startups specialized in metaverse related technologies
VIII	Carol Hilsum	Senior Director of Product Innovation at Farfetch	Helps to drive innovation and growth in fashion-tech products for luxury fashion.
IX	-	Chief Metaverse Officer at a design and innovation consultancy	Helps brands extend their strategy into the virtual worlds and create next-gen customer experiences
X	-	Chief Product Officer at a digital fashion company	Empowers brands to tap into the Metaverse, giving them access to innovative technology and tools

Table 1 - Expert Interviews Participants

## Consumer survey

Consumer acceptance plays a crucial role in technological innovations to gain market traction (Herbig & Day, 1992). New online engagement channels depend on consumer acceptance, and the UTAUT model suggests four factors that drive behavioral intention: performance expectancy, effort expectancy, social influence, and facilitating conditions. However, other determinants contribute to behavioral intention when applying this model to the fashion industry, specifically for Metaverse technologies. Among these are perceived brand engagement, perceived customer experience (Afkar et al., 2022), and product innovativeness (Fu & Elliott, 2013). The influence of each determinant on behavioral intention was tested using a hypothesis (Table 2).

The survey was distributed online via various platforms, allowing a low unit cost of data collection and potentially high speed of answers (Fowler, 2013).

Hypothesis	Relationship tested
H1	<i>Performance expectancy has significant effects on Metaverse fashion consumer's behavioral intention</i>
H2	<i>Effort Expectancy has significant effects on Metaverse fashion consumer's behavioral intention</i>
H3	<i>Social Influence has significant effects on Metaverse fashion consumer's behavioral intention</i>
H4	<i>Facilitating conditions has significant effects on Metaverse fashion consumer's behavioral intention</i>
H5	<i>Perceived customer experience has significant effects on Metaverse fashion consumer's behavioral intention</i>
H6	<i>Perceived brand engagement has significant effects on Metaverse fashion consumer's behavioral intention</i>
H7	<i>Product innovativeness has significant effects on Metaverse fashion consumer's behavioral intention</i>

Table 2 - Selected Hypothesis

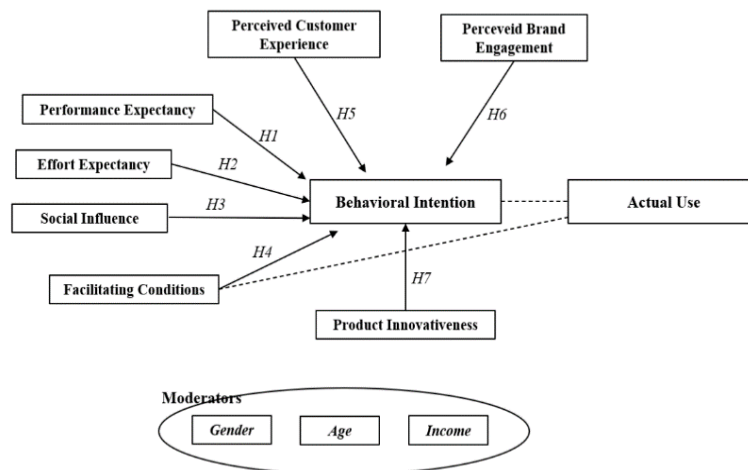


Figure 4 - Model used for hypothesis testing

### 3.2.2. Secondary Data Collection

Secondary data was obtained from journal articles, news articles, and consultancy firms' reports to consolidate the knowledge from interviewing experts and surveying consumers.

Methodology	
Primary Data	Secondary Data
<ul style="list-style-type: none"> <li>- Expert Interviews (n = 10)</li> <li>- Consumer Survey (n = 157)</li> </ul>	<ul style="list-style-type: none"> <li>- Journal articles</li> <li>- News articles</li> <li>- Consultancy firm's reports</li> </ul>

## 4. Analysis & Findings

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### 4.1. Expert Interviews

Insights from the Metaverse and Fashion expert interviews were collected, transcribed, and coded into six categories. Sub-categories were selected and classified according to the consensus among experts.

#### **The current state of the Metaverse**

There was a general agreement that the Metaverse is set to impact the fashion industry and all industries in general, contributing to new business opportunities. Experts IX, III, and X believed the Metaverse would be a new communication method. Expert III said, *“It will become a natural part of communication and interaction, especially for a generation that grew up gaming.”*

Since fashion is primarily about self-expression and with consumers evolving to a multiple-identity approach, there is a growing need for them to express their digital identity, and some experts have described the role of Metaverse as important for people to reflect and elevate their individual expression through fashion to a whole new digital level. As Expert I stated, *“So, we will have two identities, our real-life identity and our digital identity in which we get dressed with digital fashion.”*

Regarding the current state of the Metaverse, seven out of ten experts mentioned rapid changes and the dynamic environment, which makes the future uncertain. The experts considered it difficult to predict how the technology will evolve and which model will become dominant. As stated by Expert VIII, *“The Metaverse is still being built itself, and it is still not clear how it will take shape and evolve.”* Moreover, experts also emphasized that the Metaverse is still in its early development phase, as Expert V said, *“It is still evolving, it is not yet fully developed as envisioned.”*

There are still factors that limit the impact of Metaverse platforms, such as current technology and the need to educate customers to facilitate the transition. Expert IV explained, *“It’s still making a lot of polemics because of the accessibility to the platform, who’s going*

there, and the onboarding is not easy and often is not quite connected to the brand environment.”

Current state of the Metaverse	I	II	III	IV	V	VI	VII	VIII	IX	X	Ratio
Uncertainty about how it's going to evolve			X	X	X	X	X	X	X	X	80%
Metaverse is a new way of communication	X		X							X	30%
Technology needs to improve	X		X				X				30%
Customer onboarding difficulties		X							X	X	30%
Growing need for people to express their digital identity			X	X							20%

Table 3 - Current State of the Metaverse Outputs

## Drivers to enter the Metaverse

The main driver for fashion companies to enter the Metaverse was connecting with younger audiences, which are the next generation of customers, as mentioned by all experts. According to them, Gen Z and younger generations are the target group of the primary Metaverse operations of fashion companies, and as pointed out by Expert VI: *“You have to meet the people where they are. Any platform, anything, you have to be where they are.”* Expert I concurred: *“The young generation is going into platforms like Fortnite or Roblox when they get home. They’re all used to having a digital identity, and as they grow up and become the customers of the future, they will already have awareness of that brand.”*

Fashion companies are courting younger customers on these platforms, increasing their brand awareness and community building. In this early phase, for many companies, the entry into the Metaverse is mostly a marketing activity, as pointed out by Expert I: *“I believe that right now it's more about brand awareness, community engagement and how customers behave in a virtual environment,”* and supported by Expert V: *“Currently, they’re using it more as a communications and marketing tool.”*

Furthermore, most experts viewed the learning advantage as a motive to enter, considering entry not at scale but as a pilot project (Expert I). Experts believe that companies entering at this early phase are taking the opportunity to test and experiment with technologies and platforms and learn about customer behavior in a virtual world (Experts I, III). Consequently, as it mainstreams, brands will have already made mistakes and learned from them (Experts I, V). Expert IX echoed this: *“With the strategy, everything the brand does has to come away learning something, whether good or bad, and then build off of that in a way that makes sense within the company.”*

As companies are expecting reputation gains, some experts identified the perception of innovativeness and establishing themselves as trendsetters in an emerging market as significant drivers of Metaverse activities, as reflected by Expert II: *“They’re being perceived as developing something ahead of the times, and being recognized as pioneers in this space, already influencing other fashion brands to join.”* Expert III described the entry of many fast fashion companies as *“superficial and trendy,”* reinforcing the association of being present in the Metaverse with brand innovation and visibility.

Another reason for adopting Metaverse technologies, pointed out by some experts, was to be seen as more sustainable. With digital fashion, brands can contribute to sustainability, potentially addressing the issues of overproduction and overconsumption (Experts III, V).

Some experts also mentioned the fear of missing out (FOMO) as a motivating factor. Expert V stated, *“As more companies are entering the Metaverse, it is likely that others will follow and get start exploring and gain interest in understanding it. There’s a fear of missing out.”*

Brands are also using the technology to enhance customer engagement by creating immersive brand experiences. As Expert IX explained: *“Customers of the future want products that offer more. They want something that evolves with them to provide new and exciting experiences.”* For luxury fashion brands, where experience is an essential factor for the consumer, entering the Metaverse unlocks new ways for brands to offer unique experiences. Expert I described a Metaverse experience she previously had with a luxury brand: *“They created this beautiful, immersive world where you could enter as an avatar and explore the history of the brand (...) that one experience, it was so memorable for me as a consumer, to engage with the brand and just be Wow, now I really understand what this product is about.”*

Drivers for the Metaverse	I	II	III	IV	V	VI	VII	VIII	IX	X	Ratio
Connecting with younger generations	X	X	X	X	X	X	X	X	X	X	100%
Brand benefits (awareness, innovation, sustainability)	X	X	X	X	X	X	X	X	X		90%
Gain a learning advantage	X		X	X	X	X		X			60%
Elevate customer experiences	X		X	X		X		X		X	60%
Fear of missing out					X		X			X	30%

Table 4 - Drivers to enter the Metaverse Outputs

**Strategy considerations about the Metaverse**

Experts stressed that fashion companies use the Metaverse as a strategic marketing tool to differentiate themselves from competitors and attract new customers (Experts I, III, V, VI, VII,

IX). Although a marketing channel for fashion companies, the Metaverse’s transactional capabilities, and immersive shopping experiences hold promise for future development as a retailing channel (Experts I, III, V).

According to experts, a successful strategy prioritizes a long-term approach over quick wins, adapting a brand’s value proposition to the digital world. As Expert X stated, “*Metaverse fashion does not have a “one size fits all” framework for success.*” However, companies should go through a digital transformation journey before focusing solely on the Metaverse. “*Most fashion companies are not yet prepared for the Metaverse because they’re not digitalized enough in some of the most basic aspects*” (Expert VII).

In the initial phase, companies should partner with startups already well-positioned in the Metaverse that specialize in building Metaverse experiences and Metaverse platforms instead of creating experiences from scratch (Experts I, II, IV, V, VII, VIII). One of the critical factors pointed out by experts was the need to build a strong team of professionals with skills and knowledge of the Metaverse (Expert IX). Companies should also co-create and engage in collaborative marketing activities with others (Expert II).

In terms of business models, the factors mentioned were the importance of community building and management (Experts II, VI), investing in internal talent to build virtual experiences (Experts II, IX, X), and the need to educate customers about how the Metaverse works (Experts II, III). All experts mentioned the community aspect of the Metaverse, suggesting that it is one of the crucial factors driving long-term success within the Metaverse. Expert V underlined, “*Community is becoming increasingly important in the Metaverse, and brands should look at how they can tap into existing communities and co-create with them to create synergies.*”

Strategy Considerations	I	II	III	IV	V	VI	VII	VIII	IX	X	Ratio
Community management is essential	X	X	X	X	X	X	X	X	X	X	100%
Partnerships with existing metaverse platforms & startups	X	X		X	X		X	X			60%
Metaverse is being used as a marketing channel	X		X		X	X	X		X		60%
There is no "one size fits all" framework for success	X				X		X				30%
Brands need to go through a digital transformation before going to the Metaverse					X		X				20%
Educate consumers about the Metaverse		X	X								20%
Invest on employees' metaverse skills									X	X	20%
Co-creation with other brands		X			X						20%

Table 5 - Strategy considerations about the Metaverse Outputs

**E-commerce potential in the Metaverse**

Seven out of ten experts declared that they see the potential for increased profits through Metaverse operations in the long term. Expert III commented, *“It is not yet fully ready, and there is still a long way off as everything is very new.”* As fashion brands leverage their platforms and customers become more educated on Metaverse, companies expect it to generate new revenue streams. Expert II opined: *“If brands could not profit from it, I don't think they would be investing in it now.”* Despite some companies already seeing returns on investment (Expert V), all experts acknowledged that fashion companies are not entering because of profitability expectations and that experimentation is still necessary. Expert X stated: *“The reality is that very few are necessarily making money. It’s going to be a process of understanding what these new commerce models are.”* In addition, digital fashion products companies can also improve cost efficiencies (Expert V).

Companies are working to create new customer journeys, and novel commerce models are emerging with the Metaverse. Virtual-to-physical and physical-to-virtual commerce is still in the test phase (Expert IV, IX). While virtual items are a way for companies to make money, traditional inventory movement is still necessary. Expert IX noted, *“We’re still physical beings in the physical world. We’re still going to want to wear physical clothes.”*

There has yet to be a dominant platform, and the main criterion for choosing a platform is the audience that can be targeted on it (Expert IV). It still needs to be determined how brands can translate metrics and KPIs used to assess customer experiences in traditional e-commerce to Metaverse e-commerce (Expert IV).

Ecommerce in the Metaverse	I	II	III	IV	V	VI	VII	VIII	IX	Ratio
Metaverse will start generating profits, in the long-term		X		X	X	X	X	X	X	78%
There will exist a new customer journey in the Metaverse	X			X					X	33%
It doesn't exist a dominant model				X			X			22%
KPIs are not adapted to the Metaverse				X						11%

Table 6 - E-commerce potential in the Metaverse Outputs

**Customer Engagement**

Frequently, what is seen in the Metaverse are analogs of what already exists, with the goal of enhancing the shopping experience. Expert IV explained, *“This concession model, replicated online, enables the brands to survive beyond the physical store.”* Expert VIII also added that how the combination of digital and physical experiences, experimenting with AR and VR

immersive experiences, is positively influencing customer engagement: “People will want to have that kind of mix of digital and physical experience, not just in terms of product, but in terms of the experience as well.” Additionally, experts described how brands are currently leveraging customer engagement in the Metaverse by launching exclusive digital collections with NFTs that can be sold and traded or by using the underlying technologies to create virtual experiences. Gamified and tokenization experiences can also increase brand loyalty (Experts

Customer Engagement	I	II	III	IV	V	VI	VII	VIII	Ratio
Create virtual immersive experiences	X		X	X		X		X	63%
Gamification increases brand loyalty		X			X		X	X	50%
Brands launch exclusive digital collections		X	X						25%

Table 7 - Customer Engagement Outputs

II, V, VII, VIII).

## Forecast about the Metaverse

In the future, experts forecast that everything will be interconnected and easily accessible by integrating the Metaverse with social media (Expert III). Moreover, experts noted that the interaction between brands and customers is evolving into an omnichannel strategy, with flexibility and agile strategies being crucial (Experts I, III, IV, V, VI).

Forecast about the Metaverse	I	II	III	IV	V	VI	Ratio
Evolution to an omnichannel strategy	X		X	X	X	X	83%
More access and interoperability between platforms		X	X				33%

Table 8 - Forecast about the Metaverse Outputs

## 4.2. Survey Analysis

The survey contained 157 observations analyzed using RStudio. Most respondents were female (75%), and the most common age was 18-24 years (Gen Z). Concerning the country of residency, fifteen countries were represented, with the vast majority living in Portugal (80%). Most monthly income was 1001€ - 2000€, followed by 0-600€.

A four multiple choice question was used to assess the level of familiarity and current usage of the Metaverse, with 45.9% of respondents choosing the option “Somewhat familiar with the term but no experience using it,” and only 10.7% stated that they already had experience using a Metaverse platform (Figure 5). Then, expectations for the Metaverse were surveyed using a

Likert scale. For the statement, “The Metaverse is the means of communication of the future,” the mean was 4.65 and the median 5, which shows that although customers are a little indecisive, they slightly agree that the Metaverse will play an essential role in communication, in the future.

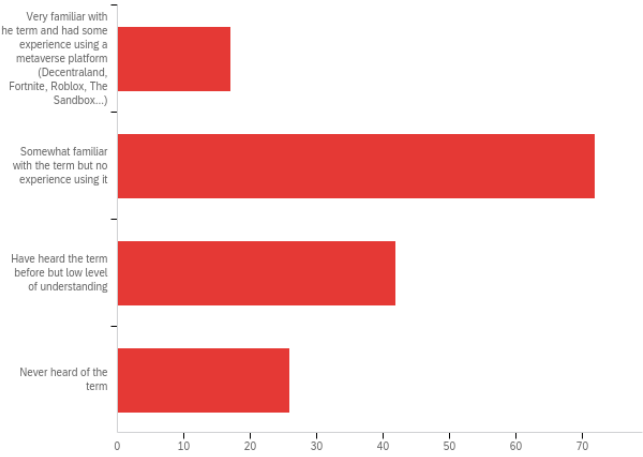


Figure 5 – Answers to the question “How familiar are you with the term Metaverse?”

Table 9 presents the summary statistics of the determinants used in the hypothesis testing. When testing the hypotheses, not all determinants were found to significantly affect the behavioral intention of customers to shop for clothes in the Metaverse. Table 10 presents the values of the variables that significantly affected behavioral intention. Customer Experience had a significant effect on behavioral intention, with a p-value smaller than 0.01, and no significant impact was found on Gen Z respondents. With a significance level of 0.05, Social Influence also affected the behavioral intention to purchase clothes in the Metaverse. As suggested by some experts, brand engagement also affects behavioral intention, with a significance level of 0.01. None of the variables (age, gender, and income) had a significant effect, meaning that the effect of the independent variables on behavioral intention was consistent across different levels.

Statistic	Mean	St. Dev.	Min	Pct1(25)	Median	Pct1(75)	Max
Performance_Expectancy	4.586	1.368	1	4	5	6	7
Customer_Experience	4.815	1.454	1	4	5	6	7
Effort_Expectancy	5.102	1.033	2.000	4.500	5.000	6.000	7.000
Social_Influence	4.981	1.267	1.000	4.000	5.000	6.000	7.000
Facilitating_Conditions	6.051	1.148	2	6	6	7	7
Brand_Engagement	4.278	1.191	1.000	3.667	4.333	5.000	7.000
Behavioral_Intention	4.713	1.544	1	4	5	6	7
Innovativeness	5.318	0.949	2.333	4.667	5.333	6.000	7.000

Table 9 - Summary Statistics

Dependent variable:	
Behavioral_Intention	
Customer_Experience	0.336*** (0.071)
Social_Influence	0.363*** (0.127)
Brand_Engagement	0.407*** (0.141)
GenZ	-0.550 (0.718)
Female	0.364 (0.671)
Social_Influence:GenZ	0.081 (0.141)
Brand_Engagement:Female	-0.109 (0.156)
Constant	-0.294 (0.596)
Observations	157
R2	0.560
Adjusted R2	0.539
Residual Std. Error	1.049 (df = 149)
F Statistic	27.059*** (df = 7; 149)

Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

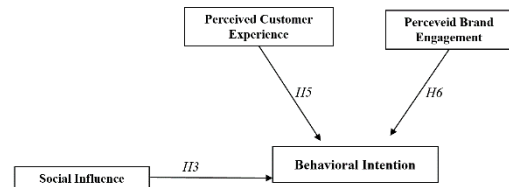


Table 10 - Linear Model for hypothesis testing

Purchase intention was also measured by the self-assessed likelihood of respondents to purchase digital fashion within the following year. The mean for likelihood was 3.87, which means that, on average, customers considered it slightly unlikely for them to purchase a piece of digital clothing within the following year. Perceived product innovativeness of Metaverse Fashion was indexed based on the mean of three statements (“Metaverse Fashion is innovative,” “Fashion in the Metaverse is new to the market,” “Fashion in the Metaverse represents a new product/service segment for consumers”). The mean and median of the calculated index were 5.3, with a range from 2.3 to 7 which showed that customers slightly agreed that it is innovative. Still, there were diverse opinions, with some respondents slightly disagreeing.

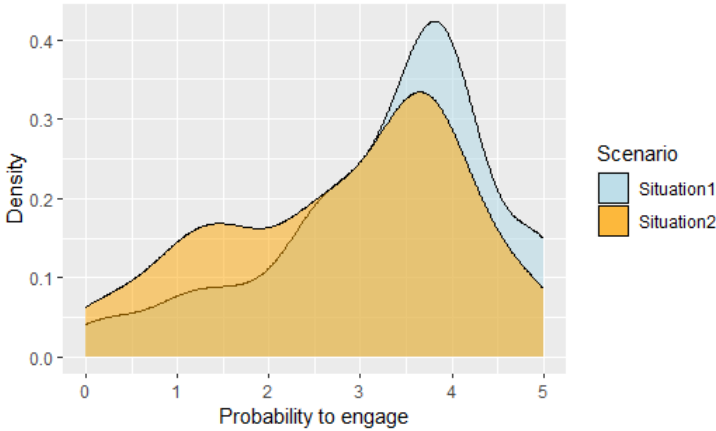
In the second part of the survey, two different scenarios were plotted against each other, and respondents were asked about the probability of engaging with fashion brands in each scenario on a scale of 0 to 5. The first scenario emphasized engagement with the brand's products, including virtual try-on and purchasing digital items, while situation 2 focused on providing an immersive brand experience. On the density curves presented in graphic 1, the probability of engaging in both scenarios was left-skewed, with situation 1 showing higher values, reflected by a mean of 3.3 and a median of 3.6. In contrast, situation 2 displayed lower values, with a mean of 2.8 and a median of 3.1. Both density curves had a high degree of overlap, meaning both scenarios had similar distributions, with both situations showing the peak of the curve between three and four, which meant that most respondents fell in this interval. To prove that the difference between the two samples was significant, we performed a paired t-test since two

situations were recorded for each respondent. As a null hypothesis, it was assumed that there was no difference in engagement intentions between the two situations. As the alternative hypothesis we assumed a difference in the intention to engage.

The t-test resulted in the values presented in Figure 6. Considering the p-value of 5.843e-05, this suggests a significant difference between the means of the two groups, so the null hypothesis could be rejected with a confidence level of 95%. The mean difference of 0.4583 suggests that, on average, respondents reported a higher probability to engage with Situation 1 than Situation 2, which means that respondents were more likely to engage with a fashion brand in the Metaverse if viewing, trying on, and purchasing products were involved compared to just engaging in immersive virtual experiences with the brand.

```
t = 4.133, df = 155, p-value = 5.843e-05
alternative hypothesis: true mean difference is not equal to 0
95 percent confidence interval:
 0.2392725 0.6773942
sample estimates:
mean difference
 0.4583333
```

Figure 6 - Result of t-test



Graphic 1 - Density curves of the probability in both situations

## 5. Discussion

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The discussion is divided into two sections. The first is a general discussion based on triangulation of the literature, qualitative analysis from the interviews, and quantitative data from the survey. The second section focuses on developing scenarios for potential future pathways for Metaverse Fashion.

### 5.1. General Discussion

Kim et al. (2015) stated that companies enter new markets under technological uncertainty because of long-term strategic goals and to jumpstart competitors. This can also be applied to the Metaverse, as confirmed by the experts. They described the current environment in terms of uncertainty about how technologies will develop (Experts I, III, VII). All the experts pointed out the connection to younger generations as the primary motive for fashion companies to enter the Metaverse, which can be considered a long-term strategic goal for generating brand awareness and community building. Experts also mentioned that fashion companies are joining because they see competitors doing so and expect others to follow (Experts V, VII, X). Consequently, the interviews support the literature that companies enter markets for strategic reasons and are competitor-focused under technological uncertainty.

The consumer survey revealed low consumer adoption and that most people are skeptical of purchasing digital fashion on a Metaverse platform, with a mean of 3.86 on a 1-7 scale from unlikely to likely to buy Metaverse Fashion the following year. This also agreed with experts' perceptions that the Metaverse is still in its early stages, with short-term profitability not being a primary motivator to enter and mass adoption still to come (Experts II, IV, V, VI, VII, VIII, IX). Although the Metaverse is not a direct profit generator, it fosters intangible brand equity and establishes connections with potential consumers.

Suarez et al. (2015) proposed an optimal window of opportunity for entering an emerging market, which is between creating a dominant category and establishing a dominant design. However, considering the interviewee's opinions and skepticism from survey participants, it became apparent that the Metaverse does not yet have clearly defined market boundaries, and consumer acceptance is still developing. Further development, industry collaboration, and market growth are needed for the Metaverse to transition into a stage where dominant categories can be established.

Experts were also asked about their perceptions of the entry modes employed by fashion companies. They emphasized that there is no “one size fits all” framework (Experts I, V, VII). When deciding to shift to the Metaverse, fashion companies need to consider various factors, such as their human resources, financial interests, and value proposition. This aligns with the notion that companies should leverage their internal capabilities and resources to gain a competitive advantage (Sharma & Erramilli, 2004). Some experts have highlighted that most fashion companies lack the necessary talent and skills to build virtual environments effectively (Experts IX, X). Consequently, the appropriate strategies differ across companies. For some firms, creating new business units and roles dedicated to the Metaverse may be necessary, whereas, for others, partnerships with existing Metaverse platforms and startups are more appropriate. Lu et al. (2011) described that a low control entry mode is preferable when a firm does not have adequate resources. Experts considered that, in the early phase of the Metaverse, partnering with established Metaverse platforms allows fashion companies to access specialized expertise and resources, mitigating risks and accelerating the learning curve (Experts I, II, IV, V, VII, VIII). The key advantage of a partnership is the opportunity to test and learn in a dynamic environment and gain valuable insights.

As Experts III and IV have shared, there is a growing need for people to express themselves through a personalized digital identity. Therefore, the Metaverse and clothes for digital identities can potentially become significant revenue streams for fashion companies in addition to selling physical apparel. This shift diversifies the firm’s activities in a new domain. According to Hoang et al. (2021), uncertainty is a driver of diversification, which has become more dominant following recent geopolitical events. However, the interviewees did not provide evidence connecting market entry decisions to these specific events but to innovation (Expert III).

An alternative reason for entering the Metaverse was to invest in digital transformation and innovation (Experts V, VII). Jansen et al. (2006) considered that in uncertain environments, more successful companies focus on exploratory innovation, introducing new offerings, and restructuring existing organizational capabilities. Several experts mentioned this, who stated the need to create products beyond being beautiful and functional and augment the e-commerce journey into an immersive experience (Experts I, IV, IX). Moreover, a study conducted by Fu & Elliott (2013) found that perceived innovativeness significantly impacts consumer intentions to purchase new products. This was also reflected in the consumer survey, with most

participants agreeing that Metaverse fashion is innovative and represents a new product/service category for Fashion.

The survey compared two situations for brand impact. One focused on engagement with a brand's products, and the other on providing an immersive brand experience. The t-test showed a significant impact on engagement with a brand's products, which also reinforces the perception of some experts about gamification increasing brand loyalty (Experts II, V, VII). A study conducted by Park & Kim (2023) showed that creating unique and immersive experiences, such as a VR store that allowed clothes to be tried on using AR technology, can make a memorable and enjoyable shopping experience, further increasing brand loyalty. Additionally, similar to what happens in the gaming world, Metaverse platforms allow for creating brand communities in which consumers connect more effectively than in traditional online channels. This also reflects the opinion of all experts regarding the importance of community management.

When asked about the strategic role of the Metaverse for fashion companies, experts suggested that it is currently being used mainly as a marketing channel for brand awareness and community management, with the possibility of becoming a revenue stream in the future. However, monetization opportunities are likely to be contingent on psychological factors. Scarcity, limited NFT editions, and assurances of authenticity and community building will be psychological drivers (Experts I, II). In an early phase, by engaging in collaborative marketing strategies, fashion companies can create synergies and tap into the partners' audiences, thereby sharing creative assets and increasing their visibility and impact (Expert II).

Experts were also asked about their perceptions of Metaverse strategies according to the type of brand. Expert I stated that a brand's budget would affect its goals and level of immersion in the Metaverse. High fashion brands are leading the Metaverse, and while some focus on creating immersive gamified environments accessible to younger audiences (e.g., Gucci Gardens), others maintain their sense of exclusivity by launching limited NFT collections (e.g., Dolce Gabbana). With substantial budgets, these brands can invest in complex virtual experiences, further strengthening their brands and fostering communities. Mass market and fast fashion brands are also investing. They are tending towards technologies like 3D body scanning and AR to improve customer service and innovation through virtual try-on through filters, which can increase conversion rates. By contrast, smaller brands and independent designers see fashion digitalization as an opportunity to promote sustainability and increase

brand awareness. Due to limited budgets and resources, they rely on platforms that provide the infrastructure for creating 3D collections and marketplaces.

To sum up, the main goals and benefits for a fashion company to enter the Metaverse are staying relevant in the market, reaching new/younger audiences, increasing brand awareness, optimizing customer service, and increasing revenues in the long term. Based on our findings, it is possible to classify Metaverse-related strategies currently used by fashion brands into three categories: (1) launching brand-related NFT assets, (2) engaging with consumers through videogames and virtual worlds, and (3) leveraging immersive technologies to build virtual experiences.

In the next chapter, we will consider the future environment of Metaverse fashion.

## **5.2. Scenario Development**

Scenarios were developed to show different pathways for companies venturing into the Metaverse during its early stages and different outcomes. We used the Oxford Scenario planning approach, a 2x2 matrix method widely accepted and based on plausibility and not on assuming worst and best-case scenarios (Ramírez et al. (2017)). The two crucial factors influencing the success of the Metaverse are (1) the adoption behavior of customers, as the current customer base was considered uneducated, and (2) the development of related technologies, as experts considered them to be underdeveloped and unprepared, especially for fashion. Consequently, these two dimensions were considered to define whether an investment in the Metaverse would pay off and lead to the scenarios described.

### Metaverse is the new Fashion

In this scenario, mass adoption and technological developments occur, with fashion companies successfully entering and engaging with consumers in the Metaverse by providing immersive and personalized fashion experiences. The Metaverse fashion industry thrives, offering endless opportunities for creativity, community building, and sustainable practices.

Metaverse technologies become more accessible and user-friendly, and consumers embrace the Metaverse as a preferred platform for fashion engagement. Consumers immerse themselves in virtual fashion experiences, creating digital identities and curating virtual wardrobes that

reflect their styles. Consequently, a presence in the Metaverse is necessary for fashion companies, leading to the entry of more firms.

Companies entering the Metaverse early were able to develop skills, gain a competitive advantage, and establish themselves as leaders. Brands that started by partnering with companies specialized in building Metaverse experiences decided to gain more control over the operations by investing in their own resources and capabilities and creating new business units dedicated to the Metaverse. This way, they continue to develop Metaverse experiences with internal resources making it easier to differentiate from competitors.

Furthermore, with the rapid development of technologies, the Metaverse has become a significant revenue stream for fashion companies, with the Metaverse retailing channel becoming the new norm. The heightened level of realism and interactivity, offered by advanced technologies, such as AR and VR, gives consumers confidence in making digital fashion purchases. To enhance the social aspect of Metaverse retailing, fashion companies integrate social features within their virtual stores, which allows customers to share on social media platforms, inspiring others and creating a sense of community.

#### Metaverse Fashion as a Self-expression Niche Market

In this scenario, customer adoption does not occur as expected despite technological advancements. Consequently, Metaverse fashion remains a niche interest, only attracting a specific audience that appreciates the unique possibilities offered by virtual fashion experiences.

The technology required to facilitate the use of the Metaverse, like virtual reality and graphics processing, rapidly evolves, which allows fashion companies to provide immersive virtual experiences. Rather than venturing independently into the Metaverse, fashion companies choose to do strategic partnerships with companies like Metaverse technology providers, virtual reality startups, and gaming companies, leveraging their expertise and resources to create synergistic experiences.

As low customer adoption limits growth, fashion companies opt to engage with specific segments of consumers (e.g., gamers) through videogames and virtual worlds, allowing users to express their individuality through digital fashion items. In this scenario, high fashion brands

leverage rapid technological advancements to maintain exclusivity and focus on launching limited NFT collections that appeal to niche enthusiasts.

Although fashion companies recognize the potential of Metaverse Fashion as a unique and innovative form of self-expression, mass adoption fails to materialize, and the expected competitive advantage of the Metaverse is not fully realized. With technological development but limited returns, fashion companies refocus their Metaverse strategies on a niche segment of consumers for whom immersive experiences add value.

### Metaverse Fashion as a Mirage

In this scenario, customer adoption and technological development are absent. The Metaverse does not become a significant platform for communication, and fashion companies do not see widespread adoption. As a result, consumers remain hesitant to fully embrace Metaverse fashion as it fails to offer an improved value proposition compared to traditional fashion.

Fashion companies invest in Metaverse fashion initiatives but struggle to deliver compelling value propositions. Metaverse activities continue to serve as a marketing tool for a particular audience but do not become the expected digital revenue stream. Technological limitations prevent companies from creating truly immersive experiences that can compete with the sensory experiences of real-world fashion.

Consequently, the Metaverse fashion market stagnates, with minimal growth and limited innovation. Companies that adopted a “wait-and-see” strategy regarding the Metaverse benefit from this scenario as they have managed to avoid the drain on resources.

### Metaverse Fashion as a Marketing hype

Customers embrace and adopt the Metaverse as their preferred communication platform, leading to mass customer adoption. Still, the lack of technological development results in limited interactions, and the status quo remains the same within the Metaverse.

Consequently, the Metaverse becomes a platform primarily used for marketing rather than the anticipated immersive fashion experiences. Fashion companies, aware of the limitations, focus on leveraging the Metaverse as a branding and promotional tool rather than a transformative and immersive fashion experience.

As the Metaverse captures the attention of a broad audience, fashion companies realize the potential for collaborative marketing initiatives, allowing the creation of synergies. Thus, in this scenario, fashion companies benefit from public relations advantages, brand awareness, and reaching younger audiences, but little else.

**Probabilities and Scenarios Discussion**

To evaluate the probability for each scenario, an equal chance of 25% was first assumed as the baseline case. Then, these were adjusted based on the insights from the literature, expert interviews, and customer survey results. Table 11 summarizes the four scenarios and their probabilities, including the scenario dimensions and the factors influencing their probabilities.

Scenarios dimensions	Scenarios			
	Metaverse is the new Fashion	Metaverse as a Self-expression Niche Market	Metaverse Fashion as a Mirage	Metaverse Fashion as a Marketing hype
<b>Mass adoption</b>	Yes	No	No	Yes
<b>Technological Development</b>	High	High	Low	Low
<b>Factors increasing probability</b>	Supported by most experts; Gen Z as the next generation of consumers; younger generations are used to the technology; parallelism to brands' early presence on social media platforms	Limited access to hardware; Customer's perception of Metaverse Fashion as innovative	Low familiarity with the Metaverse; limited experience with Metaverse platforms	Current status-quo of platforms; Customer's perception of Metaverse Fashion as Innovative; Creative content and collaborations; limited technological innovations
<b>Factors decreasing probability</b>	Skepticism of consumers; lack of rendering; complexity of previous Metaverse fashion experiences	Technical developments would eliminate some concerns; growth of the need to express a digital identity	Metaverse value proposition of fashion brands; Metaverse Fashion is shaping the industry; customer's preference to engage with the brand's products	Commitment of fashion companies and industry stakeholders
<b>Probability</b>	35%	25%	15%	25%

Table 11 - Summary and Probability of the Scenarios

The first scenario, “Metaverse is the new Fashion,” was forecast by most experts with an optimistic outlook. They firmly believe that customers will be actively present in the Metaverse, driven by Gen Z, which is already familiar with Metaverse platforms. Experts draw parallels to the early stages of brands' presence on social media platforms, stating that the Metaverse's trajectory mirrors the evolution of brand engagement with social media: *“just as people were initially hesitant about social media but eventually adapted to it”* (Expert III). Furthermore, technological advancements will enhance the current state of the Metaverse. However, the

hardware can be a barrier as it is not yet fully prepared to offer an improved rendering to customers. Factors decreasing the probability of this scenario are the low self-assessed likelihood of customers purchasing products in the Metaverse and previous feedback by some users from Metaverse fashion experiences like Metaverse Fashion Week, which described it as lonely, challenging to navigate, and not fun (Peters, 2023). Based on these factors, this scenario is given a probability of 35%.

The second scenario, “Metaverse as a self-expression Niche Market,” is supported by the emerging technological capabilities in virtual and augmented reality, limited access to expensive hardware equipment for premium Metaverse experiences, and complexity for general users to navigate current Metaverse fashion experiences, according to the experts. Moreover, survey participants considered Metaverse Fashion innovative but were hesitant to purchase digital products, contributing to the niche characteristic of this market. Opposing this is the fact that, according to experts, younger generations spend more time in virtual worlds, expressing themselves through digital identities. Additionally, technical developments of Metaverse technologies would eliminate some of the current concerns regarding Metaverse experiences. Therefore, the factors supporting and opposing the scenario balance out, leading to a probability of 25%.

The third scenario, “Metaverse Fashion as a Mirage,” would happen if no further development occurred for customer behavior and technological capabilities of the Metaverse. Factors supporting this scenario are the current low familiarity with the Metaverse of survey participants and their limited experience with Metaverse platforms. Experts supported this by acknowledging the lack of traffic and engagement for Metaverse fashion experiences already offered by fashion brands. Opposing this, survey participants were likely to engage with fashion brands’ products in the Metaverse when VR and AR technologies were available. Also, experts were convinced that the Metaverse is transforming the Fashion industry as companies offer improved value propositions in the Metaverse. Consequently, this scenario is given a probability of 15%.

The last scenario, “Metaverse Fashion as a Marketing hype,” is supported by the strong belief experts expressed regarding customers’ presence in the Metaverse and subsequent education and awareness followed by mass adoption. The current state of technology, still showing significant limitations, promotes this scenario. According to experts, many fashion companies and industry stakeholders are already committed to contributing to the space and

building their experiences in the Metaverse by partnering with existing Metaverse platforms (e.g., Gucci Garden in Roblox, Nikeland). This scenario was assigned a 25% probability.

### **Scenario Roadmap**

We created a technology roadmap for the scenario “Metaverse is the new Fashion,” which was assigned as the most probable. This outlines a strategic plan for the development of the Metaverse as a sustainable revenue stream for fashion companies. The roadmap is presented in Appendix III (Phaal et al., 2005).

The initial stage (0-2 years) focuses on Marketing & Experimentation, with the main drivers being Gen Z’s digital engagement, growth of digital identity and NFT collectibles. Fashion companies should conduct comprehensive market research to understand target audiences and their interactions with existing Metaverse platforms while exploring partnerships with Metaverse platforms to maximize promotional opportunities and expand the reach of Metaverse fashion. Feedback during this stage is essential for continuous improvement of offerings and alignment with customers’ expectations. One-off marketing and customer engagement projects can generate fashion revenue opportunities.

During the second stage (2-5 years), the focus shifts towards sustainable-business building, driven by the growing diversified audience, technology advancements, and industry collaborations. Brands diversify their Metaverse fashion offerings by including a wide range of virtual clothing, accessories, and customization options, which expands revenue potential. Establishing virtual retail spaces where users can browse and purchase Metaverse fashion items, including advanced customization features, enhances the user experience and drives engagement. Building a strong community by organizing virtual events and user-generated content initiatives fosters brand loyalty and creates additional revenue opportunities. Multiple monetization strategies, such as sales of virtual items, brand partnerships, and licensing agreements, should be developed to create diversified revenue streams.

In the final stage (>5 years), the goal is to create an immersive virtual world where Metaverse Fashion integrates into users' lives. Leveraging technological advancements and virtual reality integration enhances the immersion and realism of Metaverse Fashion experiences. Interactive social features enable users to connect, socialize, and collaborate within the Metaverse Fashion community. By redefining business models, fashion revenue opportunities can be generated by selling virtual items at scale and through the meta-worlds created by fashion brands.

## 6. Conclusion

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This thesis aimed to understand the impact of the Metaverse on the fashion industry. The research was built on the underlying research question, “How can the Metaverse create value for fashion brands’ engagement with consumers?”. Motives that drive companies to enter the Metaverse, the retailing potential of this new channel, and customer engagement issues were analyzed.

In general, experts were unanimous regarding the potential of value creation in the Metaverse, with an optimistic outlook regarding customer adoption and Metaverse technological development. At the current stage, the main motives for a fashion company to enter the Metaverse are staying relevant in the market, reaching younger audiences, increasing brand awareness, optimizing customer service, and creating new revenue streams in the long term.

Entering the Metaverse will have different meanings for brands in different categories (e.g., luxury fashion, fast fashion, and independent designer), and the best approach will depend on factors such as the brand’s capabilities, target consumers, and goals. Challenges range from internally developing tech and talent capabilities to partnering with relevant players and platforms.

Based on our findings, the Metaverse is considered a current marketing tool with three main Metaverse-related engagement strategies: (1) leveraging immersive technologies to build virtual shopping experiences, (2) engaging with consumers via games and virtual worlds, and (3) launching brand-related NFT assets. These strategies create value in terms of brand engagement and brand loyalty, fostering community building and capitalizing on the growing digital economy.

This research is also subject to several limitations. Firstly, most of the experts interviewed in the study were associated with luxury fashion brands, suggesting that despite having the whole fashion industry as the scope of the thesis, some biases may exist due to perspectives associated with a single segment. Besides this, most experts were based in companies already engaging in the Metaverse or were consultants helping brands build Metaverse strategies. This might have produced optimism biases due to already having a commitment to Metaverse technologies. The survey was conducted with a homogeneous group, mainly Portuguese and from Generation Z, thereby lacking diversity of cultural backgrounds and age groups, limiting

the generalizability of the findings. The scenario planning framework also had limitations due to the subjective opinions of experts being used to determine the probabilities of each scenario.

Implications for both academic and management domains were discussed throughout this research. Literature about the impact of the Metaverse on the fashion industry was limited. Managers can use the strategic principles mentioned here to make their assessments about entering the Metaverse as a platform complementing traditional retail channels and determine how it changes their value propositions.

In addition, the rapidly evolving and dynamic nature of the Metaverse poses challenges in predicting long-term trends and outcomes. Moreover, throughout the expert interviews, two topics were mentioned as needing further investigation – interoperability across platforms and development of the Metaverse economy concerning transactions and willingness to pay for digital fashion.

## 7. Appendices

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### 7.1. Appendix I – Google searches worldwide for the term “Metaverse”

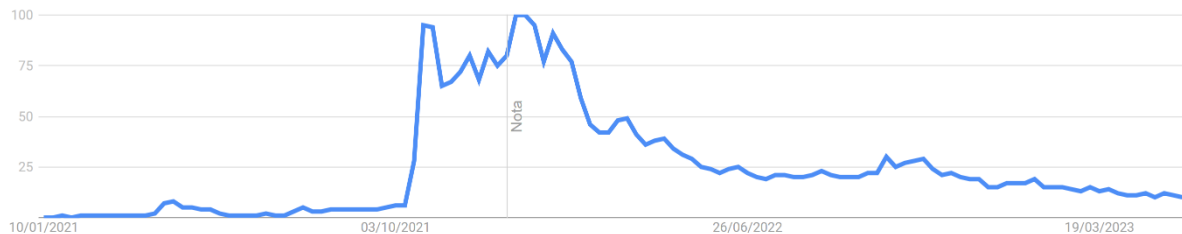


Figure 7 - Google searches worldwide for the term “Metaverse” (Google Trends, 2023)

### 7.2. Appendix II – Summaries of Expert Interviews

#### Interview Expert I: Sonia Preta

Sonia is a consultant that helps fashion brands innovate and build their strategy to enter the Metaverse and Web3 space.

The Metaverse is seen as the next Internet. When designing a Metaverse strategy, the key factor for brands is the need to change their mindset to innovate. Transitioning to the Metaverse will be a seamless sequence into a new internet, automatically turning it into a commerce situation. However, the Metaverse is currently more about brand awareness, community engagement, and marketing tools than an e-commerce platform.

The number one motivation for fashion companies to enter the Metaverse will be that customers will be there. Brands who are experimenting are at an advantage, learning how customer behavior happens in a virtual world and showing their collection in front of a younger generation, coming from the gaming world, that 10 years from now is going to be in the workforce and will already have an awareness of that brand. They are also learning about what it's like to work with and create digital fashion for a new platform. It's a long learning curve, and the technology is all about test and learning. When it becomes more mainstream, brands will have already made the mistakes and learned from them.

In the Metaverse, e-commerce will have an added 3D and immersive component, but traditional e-commerce will still exist. While traditional e-commerce is suitable for research and finding specific items, a 3D immersive experience will replicate a more natural shopping behavior. The strategy has to start with developing 3D digital design capabilities and then

translate that into avatar fashion. Besides, in the initial phase, companies can collaborate with startups that build 3D experiences to get their digital assets and bridge the relationship between the retailer and Metaverse builder. Once the relationship is established, decisions about whether brands need to have a third party involved in building the Metaverse experiences will need to be made.

Regarding the potential for commerce experiences in the Metaverse, experimentation is necessary, and brands can start with one-off temporary inspirational experiences. Other ways to begin experimenting that don't require such a significant investment are through AR by partnering with, for example, Snap and creating filters to try on some items virtually; through digital assets like NFTs, which can offer exclusive benefits and build a community. As Metaverse retailing rises, consumers will move there, and traditional brick-and-mortar stores will need to evolve to not miss out on this new revenue stream.

Both fast fashion and luxury fashion companies have big budgets to enter the Metaverse, but luxury brands have a legacy story to tell, which allows them to offer different experiences. Fast fashion brands are more focused on testing and experimenting with digital products and learning from a commercial perspective.

Brands must be patient and have a long-term strategy when entering the Metaverse, as it is a more than one-and-done experience. Sonia suggests starting slowly and building up gradually rather than going full out without knowing what to do next.

### **Interview Expert II: Ricardo Costa**

Ricardo is the current Web3 marketing manager of a creative, collaborative platform for artists, with experience in developing growth marketing strategies for all stakeholders in the creative industry and leveraging the platform brand awareness and value proposition in the digital channels around Web3.

The Metaverse allows companies, including fashion brands, to create virtual stores, host fashion shows, and engage with their audiences. The audience from the Web3 market thinks differently from the traditional market and has different expectations, which gives brands the tools and opportunity to promote and engage with their audience in more innovative ways. Big fashion brands like Gucci, Adidas, and Lacoste are already pioneers and can influence other brands to join.

As drivers to enter the Metaverse are mainly because being present in the Metaverse can increase brand awareness, enable the creation of a new sales channel, and position the brand as a trendsetter in the Metaverse.

Looking at the Metaverse as a new source of revenue for brands, it allows them to sell both physical and digital versions of their products. In the same way that currently, users can purchase items in virtual games, such as skins for avatars, and assuming the tendency for new generations to spend more time within this virtual environment, there will be a market demand for it and a growing need for people to own and express themselves through a personalized digital identity. While the Metaverse is currently a niche market, it is expected to grow with increased investment and education.

To effectively enter the Metaverse, brands need to educate their communities about the mechanics of it and how to navigate the new environment. Since customers may be hesitant to use the technology if it is too complex, it is critical when it comes to transitioning from web2 to web3 that the user experience is seamless and straightforward.

In their Metaverse strategy, brands must communicate and maintain their values and identity to avoid consumer skepticism. To promote their presence and engage with customers, brands can use gamification and create communities within the Metaverse. Using tokenization and co-creation can increase brand loyalty and turn customers into ambassadors. Collaborative marketing strategies with other brands can also be beneficial to grow the audience reach and build relationships.

### **Interview Expert III: Sara Teixeira**

Sara is the current business developer & Metaverse operations strategist at Exclusible, helping brands transition from web2 to web3 and create fully immersive experiences in the Metaverse. Additionally, Sara teaches Innovation and Trends courses at IADE and IPAM.

The Metaverse is a new channel that all industries, including fashion, need to enter, as consumers, especially younger generations, will want to be present in this new format. The connection with the Metaverse is significant for fashion, which is primarily about self-expression. It aligns perfectly with digital identity, elevating individual expression through fashion to a whole new digital level, allowing people to express and position themselves in the virtual world. This connection will also contribute to new business opportunities and support a

more responsible fashion industry by addressing issues of overproduction and overconsumption with the ability to have try-on and immersive experiences and digital fashion in the Metaverse.

Companies are entering the Metaverse not from a business perspective but from an innovation perspective. They are experimenting and testing the model to create experiences and connect with consumers. While it is not yet a significant source of revenue, it has the potential to become a new channel for brands, particularly in marketing and consumer experience. Regarding generating revenue and fully integrating retail into the Metaverse, it is not yet fully ready, and there is still a long way off as everything technology-wise is very new.

The Metaverse presents a unique opportunity for creativity and pushing boundaries in retail experiences. Brands already testing the Metaverse and applying it to their strategy will be more successful in the future, as the community will respond differently to brands that were pioneers in the Metaverse. While the main obstacle is the lack of education and knowledge about the Metaverse and NFTs and not knowing whether it came to stay, companies can still use it to test, experiment, and provide unique consumer experiences.

It makes sense for luxury brands to be pioneers in the Metaverse as they want to stay ahead of the curve and connect with the next generation of consumers. On the other hand, fast fashion brands are entering the Metaverse primarily for visibility and to be associated with innovation without a clear objective or message to transmit. The Metaverse can bring people closer to brands by allowing interaction and personalized experiences, making it a powerful tool in marketing strategies.

#### **Interview Expert IV: Fiona Disegni**

Fiona is the partnerships director at Emperia, helping brands build their virtual environment and transitioning the shopping journey from web2 to web3, having a lot of experience working on e-commerce and innovation in fashion.

The Metaverse provides a new space for brands to express their DNA, allows brands to reach a new audience and access a generation that usually wouldn't go to the website directly to buy, at the same time, enables brands to reinvent themselves in terms of brand experience and e-commerce application and be seen as more sustainable and innovative. By designing digital fashion, brands can fit more with the new generation's values, such as individual expression and sustainability concerns.

One of the main current challenges with e-commerce in the Metaverse is because of the accessibility to the platform, and the onboarding is often not easy and not entirely connected to the brand environment. The Metaverse offers endless opportunities for brand creativity, design, and user engagement, allowing retailers to break barriers of accessibility and physical space limitations, bridging e-commerce into an entertaining journey with inspiring content. Emperia offers a way for brands to leverage the Metaverse experience without being a Metaverse platform themselves by augmenting the e-commerce journey into an immersive experience.

When brands target a new audience, they need to consider how to communicate with them and create a brand around them, highlighting the importance of community management. The business model needs to be adapted to this new approach - considering how people shop in the Metaverse, whether they prefer to discover things rather than buy directly, or if they will buy a digital asset for unique rewards or offers. The purchasing journey and shopping experience need to be rethought. This may involve splitting costs with access, where customers value having access to things more than having the product itself.

Companies are not primarily focused on profitability but currently more focused on making their brands sustainable in the Metaverse by creating a loyal community. While acquisition is essential, retention is equally important. By creating a new technology playground, companies can gain a competitive advantage and access the new generation of consumers who are more immersed in an entertainment and content approach.

Bloomingdale's is an excellent example of a traditional brick-and-mortar store evolving to the Metaverse world. Together with Emperia, they developed a virtual store, which enables the brands to survive beyond the physical store. The digital worlds also drive people back to the physical store, helping to create a more omnichannel experience.

Fashion brands are beginning to understand that each Metaverse has a specific audience and its specific market and the importance of choosing which platform and how they want to be present in the Metaverse, becoming a more marketing intelligence approach. Roblox and Zepetto are primarily seen as creator tools with less engagement than platforms like Decentraland and The Sandbox. However, it still needs to be determined how brands can measure their performance in the Metaverse and track key performance indicators (KPIs) like conversion and engagement. Therefore, brands must find a way to reconnect with those metrics when developing e-commerce in the Metaverse and understand which audience they want to target in each Metaverse.

## **Interview Expert V: Giancarlo Pazzanese**

Giancarlo is a communications consultant and former lecturer of Fashion Business and Fashion Design at the Amsterdam Fashion Academy.

There is a need to understand what the term “Metaverse” means, as definitions differ. For some fashion brands, it means participating in experiences such as Fashion Week, while others see it as the next immersive internet. The impact of the Metaverse will be felt in all areas of the fashion supply and value chain, from content production to the distribution and monitoring of garments.

One of the main motives for brands to enter the Metaverse is because there is a perception that in the future there’s where the customer will be present, and as other brands are already there, there’s a fear of missing out from brands. Entering the Metaverse means using new technologies, which can position brands as innovators and experimenters in the future of fashion technology. The Metaverse is still evolving, and there will be different stages of development. By starting early and keeping up with the technology, brands can stay ahead of the innovation curve and position themselves for long-term success.

To enter a new market or technology effectively, a brand needs to experiment, expand, and explore how it can operate within that new space while maintaining its essence. There is no “one formula” for this, and brands must consider identity questions like how much of the brand will change or develop in the new space. To stay relevant, brands need to have a solid strategy for digital transformation that includes tapping into the Metaverse rather than solely focusing on being there. There are numerous technologies that fashion brands can integrate, including blockchain and tracking technologies, as well as AI and 3D software for design and production.

Currently, the use of Metaverse is more of a communications and marketing tool, but it has the potential to become a new way of interacting and shopping. While campaigns in the Metaverse may only be economically successful for some brands, they serve as awareness and encourage people to adopt the technology.

There are mixed feelings regarding fast fashion brands entering the Metaverse. Rather than focusing on growth, fast fashion brands should explore it as digital ways of selling clothes to reduce social and environmental problems associated with physical production. Luxury brands are exploring new ways to interact with their target audience, such as through immersive experiences in the Metaverse or by creating exclusive events. The challenge for luxury brands

is to recreate the luxurious experience in a virtual world and balance exclusivity with inclusivity.

While the Metaverse offers new ways for brands to interact with customers, it is essential to consider who is included and excluded and whether we are repeating the same mistakes from traditional fashion. It is essential to approach it with a critical lens and consider the broader societal implications.

### **Interview Expert VI: Gionata Galdenzi**

Gionata is the e-commerce manager for Aeffe Spa/Moschino, which is now starting to explore the potential of the Metaverse.

The Metaverse is a broad, diverse concept that takes away boundaries and dimensions from what we are used to. It refers to a different way of interacting with new technologies. The development of this new topic is its fluidity, both in its approach to new generations and in its evolution to omnichannel retailing. Moschino is exploring the opportunities of these channels and communities: behaviors, habits, and trends. Brands need to look at how to be relevant, earn trust and create big projects. The Metaverse allows brands to be creative, approaching this world thinking without dimensions and going outside the 3D point of view.

The main motive for brands wanting to be in the Metaverse is because it's a big way to communicate the brand, it's a world that talks with new generations, it's a way to share the brand DNA, and it's the same concept that web marketing touchpoints, it's a way to extend the customers journey and to bring them closer to the brand. All the company departments need to be aligned on the same vision.

Gen Z and younger generations will play a critical role in supporting the development of these new channels because of their digital marketing vision, which is very trends and gaming oriented. Brands are studying how to be present in these new channels, and if these young spenders enjoy and spend money in the Metaverse, brands will push their budgets and resources to invest in the Metaverse. The younger generations will be the decision-makers for this new business.

Moschino is exploring various technologies like Augmented Reality, 3D, blockchain, and digital twins to create different experiences in the Metaverse. However, it isn't easy to create a unique experience in the Metaverse, given the variety of scopes and technologies.

The Metaverse and Web 3.0 are new channels that are uncertain, making it risky to invest time, effort, and money in them. However, communities are using new and fresh channels to identify brands that are more digital-oriented and updated for new generations.

### **Interview Expert VII: Matteo Zaccagnino**

Matteo works as an innovation analyst at Limitless Innovation, connecting startups related to Metaverse technologies to fashion companies to solve their innovation challenges.

The Metaverse is now the most significant trend impacting all industries, mostly luxury ones. It allows brands to connect with Gen Z, which will be the “money spender” of the following years. The Metaverse is critical for the brand to improve its customer experience, impacting how the next generations relate to fashion and virtual try-on.

Companies are entering the Metaverse because they do not want to feel left out of the trend and feel the consequences on marketing activity in the future. Digital twins are considered the most essential part of the Metaverse and web3, in general.

The strategy to enter the Metaverse could be in two ways: enter an existing Metaverse like Roblox and install a virtual store there, as seen from the example in the Metaverse Fashion Week or use a third-party Metaverse to engage with their customer. For the short time, the most practical way to use the Metaverse will be as marketing channel. In the long term, it will be possible for companies to make money in the Metaverse using virtual stores. But right now, the number of active customers is small.

Before thinking more deeply about a Metaverse approach, fashion brands need to go through a digital transformation, focusing now on a lower layer of digitalization and when reaches a more aligned digitalization with innovation.

Metaverse is more related to an exclusive market, and because of that, it will be more of a priority for luxury fashion brands than fast fashion. Fast fashion companies enter the Metaverse for marketing purposes.

For Metaverse retailing to be possible in the future, there needs to reach a point where it exists a unique Metaverse, a dominant Metaverse platform, and the customers have a proper avatar. When that happens, it will be the moment to start thinking about creating a Metaverse store.

The gamification experience that the Metaverse can give to customers has a significant impact on customer engagement, giving the possibility to extend the life of a product by adding new experiences and layers to it, making the engagement last longer.

### **Interview Expert VIII: Carol Hilsum**

Carol is the Senior Director of Innovation for Farfetch, leading open innovation and new ventures for Farfetch.

Metaverse lacks a technical definition, being defined culturally and through social media. For the fashion industry, the current view aligns more with a gamified experience, like gaming environments, rather than a fully formed concept for the industry. The Metaverse is the next stage for fashion shopping, about evolving and improving the shopping experience. Technology is progressing rapidly and becoming more able to support and enrich the shopping experience.

In the metaverse, a consumer-first approach and the need for sustainable growth strategies are essential. The fashion industry should consider various aspects, such as tokenization, digital fashion, phygital experiences (digital versions of physical items), and the connection with sustainability.

Motives for fashion companies to enter the metaverse are the attraction and engagement with a younger, high-worth consumer base, the potential for innovation in digital experiences, and the influence of the NFT hype. Expanding into the Metaverse can be daunting due to the rapid pace of change and undefined standards and laws. The challenge of balancing innovation and experimentation with compliance with standards and rules, as well as online safety and data protection. Additionally, Metaverse technologies can also help address the negative environmental impact of fashion, with cost efficiencies linked to it too.

In terms of strategy, for brands that want to enter the Metaverse is important to think carefully about what it means for them and what their goals are with it. Test and learn is key. Partnerships are also crucial at this stage, encouraging brands to partner with those who have already experienced and been working in the digital worlds.

The timeline for significant revenue streams from the metaverse is uncertain, with gaming platforms being more established in generating revenue than broader web3 adoption. Web3 adoption at scale may take 2 to 5 years.

In response to the rise of the metaverse, there is an opportunity for traditional brick-and-mortar retail to create immersive digital experiences within physical stores. The integration of AR and VR technologies has been experimented with and well-received by customers, indicating a potential for a blended digital-physical retail experience.

### **Interview Expert IX**

The interviewee is a web3 & Metaverse strategist, helping brands extend their strategy into the virtual worlds.

The Metaverse is a virtual world that offers opportunities for virtual fashion and new business models. However, it is still evolving, and brands need a long-term vision to navigate it successfully. Brands must balance short- and long-term goals, be flexible, and create strategies focusing on learning and experimenting.

As the first step, companies must build a team of professionals and educate themselves about the Metaverse and its technologies. Fashion brands must look internally for talent and employers with Metaverse skills and passion. The decision to create a separate business unit for the Metaverse will depend on the type of brand.

Companies are still figuring out how to make money in the Metaverse by merging physical and digital commerce. New commerce models, such as virtual-to-physical and physical-to-virtual commerce, are emerging and being tested. While virtual items are a way for companies to make money in the Metaverse, traditional inventory is still necessary for fashion brands.

Regarding fast fashion companies entering the Metaverse, virtual fashion can help alleviate the fast fashion issue, but there are still concerns about the long-term impact. Successful brands will have a dynamic presence in the physical and virtual world, enabling customers to interact with their brand in an immersive environment.

Regarding limitations, hardware plays a significant role in customer adoption of Metaverse experiences, but the focus should be on creating compelling and relevant content.

### **Interview Expert X**

The interviewee is an expert on the development of digital fashion and empowers brands to tap into the Metaverse, giving them access to innovative technology and tools.

The Metaverse represents the next iteration of the internet. As physical and digital realities blend in, fashion companies explore how their value proposition can translate into the Metaverse. In this early phase, doubt and misconceptions are a natural part of the process, but as more brands start to consider the potential and capabilities of this space, more brands will follow them. Digital fashion has enabled new forms of self-expression, and as people spend more time online, it is expected that it will be adapted at a fast pace as accessibility and user experience improves.

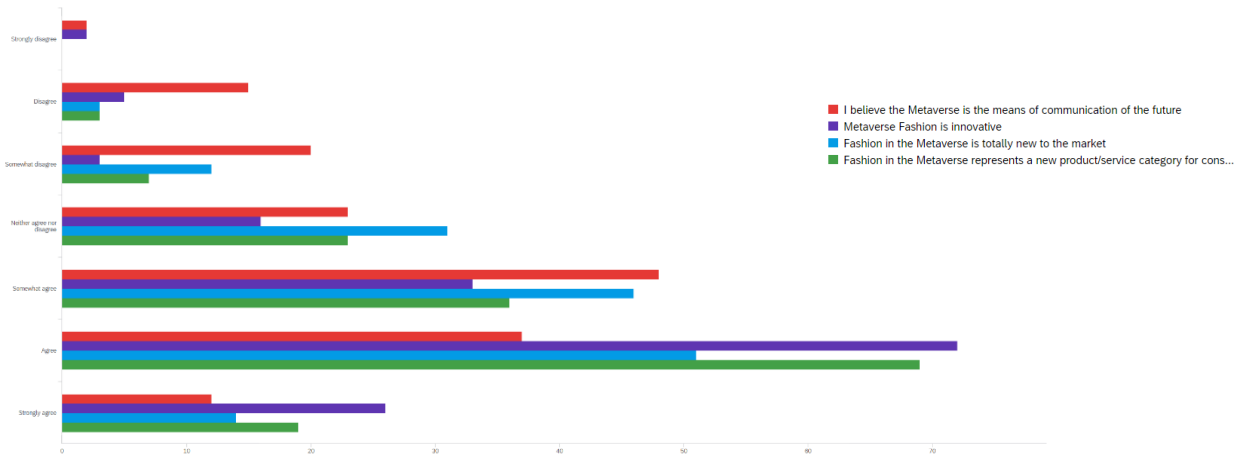
To be successful in the Metaverse, it is important to understand that *long-term strategy will always beat speed*. Brands and customers can now interact, unlocking immersive experiences and building together in whole new ways. The main challenge is that fashion companies already have a well-established business model, making it difficult to shift their focus. The first question they must ask themselves is whether their brand value proposition can translate into a material brand in the digital world. If so, then the challenge becomes finding the right talent. The main challenges are onboarding existing customers to the new digital journey and translating the brand's authenticity to the digital world.

For now, the best choice is having two separate departments with different skill sets for physical and digital products. However, digital products should be fully integrated within the brand's vision, in the long term. As the market share for Metaverse and digital products grows, it will become more revenue relevant. Therefore, it is important to be consistent with the brand's vision across all products, whether they are physical or digital.

Brands are finding ways to enhance their product offerings through the Metaverse, taking the form of physical items with digital identities that act as certificates of authenticity and allow for other experiences. Because the customer of the future wants products associated with experiences more than the product itself, fashion brands should focus on *creating products that go beyond being beautiful or functional*.

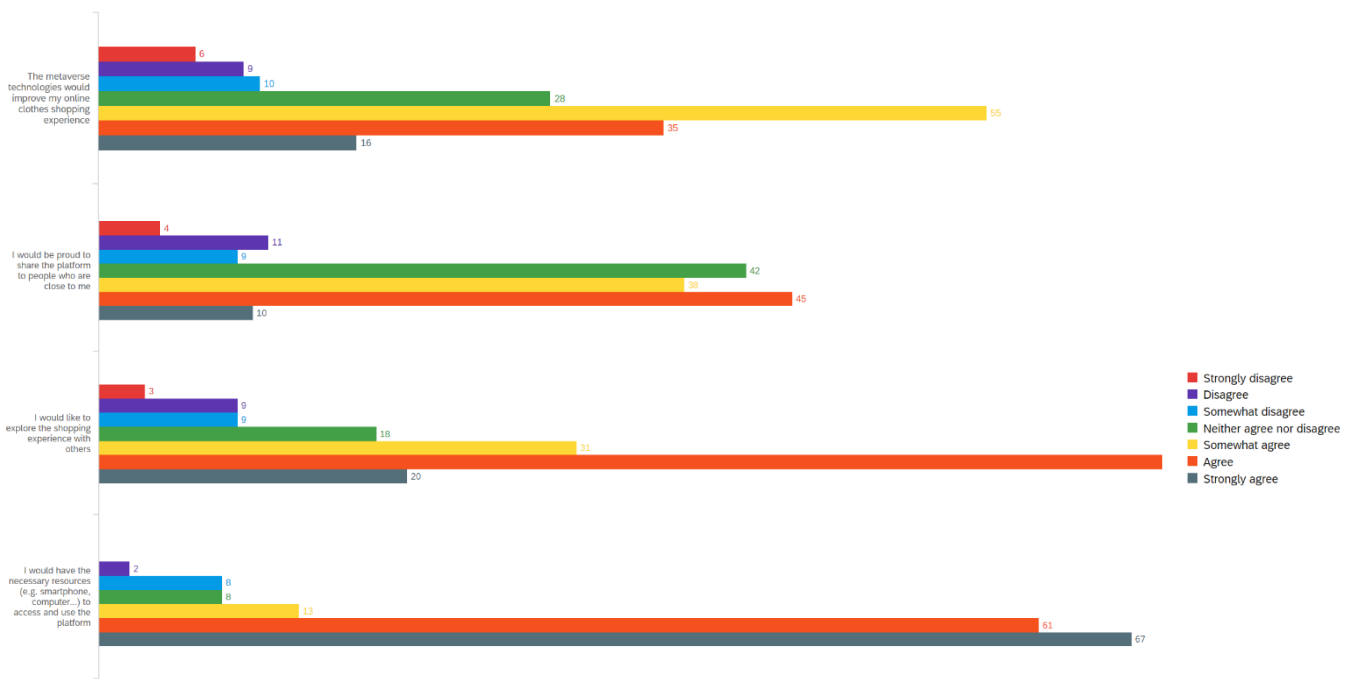
### 7.3. Appendix III – Consumer Survey Answers

Q2 - Please consider your level of agreement on the following statements, considering Metaverse Fashion:

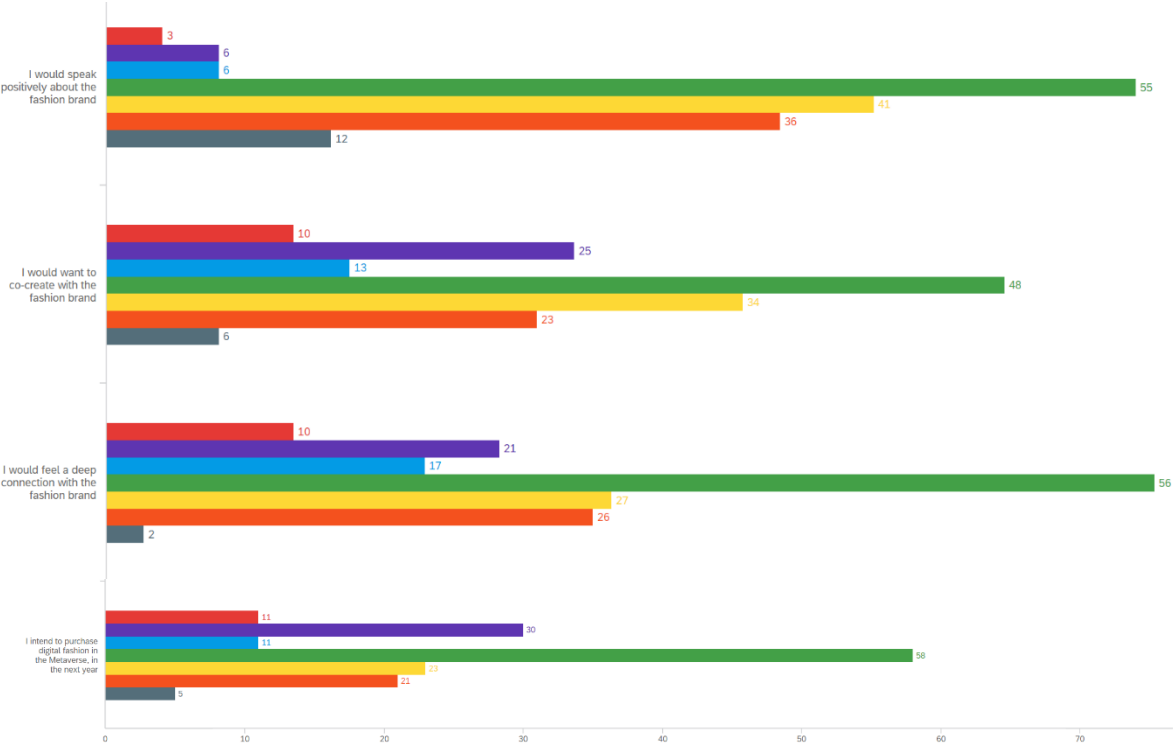


Q3 - The Metaverse is a shared virtual space created by the convergence of multiple technologies like virtual and augmented reality. It is essentially a fully immersive and interactive digital world where users can engage with a variety of experiences, including socializing, gaming, entertainment, education, and commerce.

Please visualize the situation where fashion brands start using the Metaverse and technologies associated (e.g., Augmented reality, Virtual reality...), possibilitating the creation of digital fashion collections and virtual environments that customers can explore.



Consider your agreement on the following sentences, considering this new clothes shopping experience:



Q4 - Now, consider these **two different situations** in how a fashion company can engage in the Metaverse. Please select, for each situation, the **likelihood** that best describes **your intention to engage** with a **fashion brand** in the **Metaverse**:

**Situation 1**

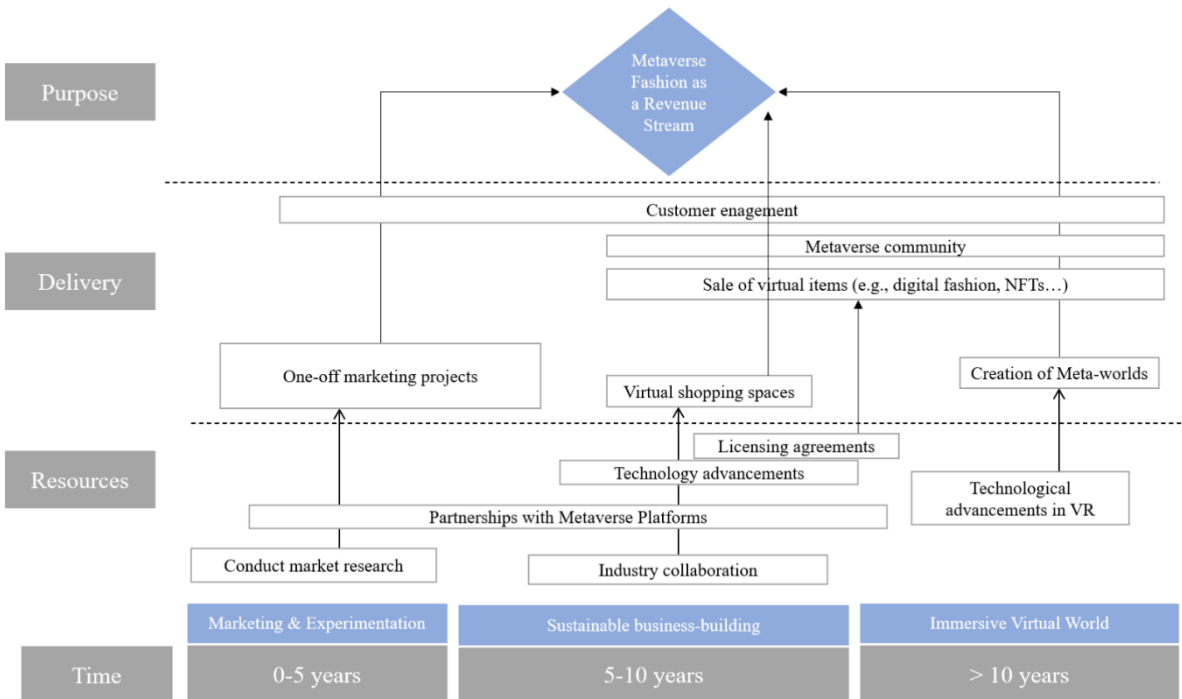
A fashion brand creates a **virtual storefront** in the Metaverse. You can browse it with your personalized avatar and the storefront features a **digital version of the latest collection**, which you can **view, customize, and try it on** in a virtual dressing room, using your avatar. You can also **purchase** digital items from the collection in the virtual environment, and having the physical items delivered to your address.

**Situation 2**

A fashion brand creates a **virtual environment** in the Metaverse, in which through an **interactive experience** you can **explore** more about the brand, **know** more about its history and products, and **attend** social events like virtual fashion shows.

Field	Minimum	Maximum	Mean	Std Deviation	Variance
Situation 1	0.00	5.00	3.25	1.25	1.57
Situation 2	0.00	5.00	2.80	1.34	1.80

## 7.4. Appendix IV – Scenario Roadmap “Metaverse is the new Fashion”



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