Living in an Immaterial World

An exploratory study on consumer value perceptions in metaverse settings

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Abstract

As sung by Madonna, "*we are living in a material world"* underscored by the consumption of physical goods. Beyond the glitz of materialism lies the grand problem of overconsumption, and correspondingly overproduction, of the world's finite resources. Consumption and why we consume are widely studied topics in academic literature, from psychology and sociology to business strategy and marketing perspectives. Consumers derive both physical and psychological value from consumption, which makes the transition to more sustainable behaviour difficult. Accompanying rapid developments of, growing use cases for, and an increasing adoption of the metaverse, are opportunities for new ways to consume in virtual contexts. This thesis aims to contribute to the emerging body of research on the metaverse by integrating existing frameworks on consumer perceived value with an inductive analysis from interviews with Generation Z metaverse consumers of virtual clothes, apparel, and other appearance-related products. The empirical findings demonstrate that consumers can perceive value from virtual products in the metaverse just as they do from consuming physical products in the material world. Perceived value in the metaverse can be described by an interplay of different value dimensions also present in physical consumption. With the metaverse being an entertainment channel at its core, experiential value is observed to take a prominent role in consumers' assessment of virtual products' ability to satisfy their needs, underlying all other value dimensions. A few experiential factors salient to metaverse consumption contexts are identified as key value sources. These are immersion, social presence, time/effort, and gameplay motivation and self-concept. The findings suggest that virtual products can fulfil psychological needs for stimulation, self-expression, social identity, and belonging for consumers who are deeply involved in the metaverse, who prioritise social engagements in it, and who associate their self-concept with their avatar's appearance. The results are promising for the sustainability discourse as they suggest that virtual consumption could substitute some physical consumption for these consumers. In addition to offering an updated perspective on existing consumer value frameworks, the thesis also identifies practical implications for brands to consider when developing their metaverse strategies and product offerings. The authors hope the findings inspire future research and propose some directions for it to take to continue exploring this nascent and evolving topic. Specifically, it will be important to extend the study to non-metaverse users to understand if they also perceive value from virtual consumption.

Keywords: metaverse, consumption-value theory, value perceptions, virtual consumption

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We truly enjoyed learning about this virtual world of opportunity and look forward to seeing how it develops.

Linn & Ellen

Glossary of Terms

This list provides an overview of key concepts and terms and how they are defined and used for the purpose of this study.

Term	*Definition in this Study*
Avatar	A digital visual representation created by a user to mediate his/her presence in and interaction with other users in virtual environments like the metaverse (Bailenson et al., 2005; Messinger et al., 2019; Miao et al., 2022).
Consumer Perceived Value	The perceived benefits in terms of worth, utility, satisfaction, or fulfilment that consumers get from the consumption of a product or service relative to what they give up in terms of cost, time or sacrifice to acquire it (Smith & Colgate, 2007; Zeithaml, 1988). It concerns consumers' overall assessment of and preference for a product/service's features or performance, or the outcomes that arise from using it that either surpass or fail to meet the consumers' expectations and needs in specific use cases (Woodruff, 1997).
Consumer Value	This thesis will focus on the definition of consumer value as value *for the consumer***,** i.e., consumer perceived or received value, and not as value for the firm (Smith & Colgate, 2007).
Consumption	Consumption entails expending psychic energy (money, time, effort) in exchange for products or services that satisfy some human need or improve the quality of life (Csikszentmihalyi, 2000). In this study, consumption will refer largely to the purchase, acquisition, and/or use of products.
Immersion	The degree to which consumers feel enveloped by a virtual environment through a sense of absorption, deep engagement in an activity or interaction, and/or emotional attachment or personal connection to a virtual experience (Dwivedi et al, 2022a; Guadagno et al., 2007).
Metaverse	A collective, persistent, and interactive computer-mediated digital "*environment consisting of virtual worlds in which people act and communicate with each other in real-time via avatars"* (Gursoy, Malodiac, & Dhird, 2022; Hennig-Thurau et al., 2022, p. 1; Miao et al., 2022).

Online Social Gaming Platforms	Social platforms that represent today's metaverse, comprising virtual environments which are continuous and persistent in which massive numbers of users play and interact in real time with virtual experiences and social gatherings through their avatars (Hamari, 2015; Oh et al., 2023).
Social Presence	The sense of co-existence or of being together with other(s) in a virtual space; the degree to which users feel they are physically together with others in the same environment (Hennig−Thurau et al., 2022; Oh et al., 2023).
Virtual Consumption	Consumption in digital virtual environments that is unrestricted by physical constraints and of which the products or services consumed cannot be used in the material reality (Denegri-Knott & Molesworth, 2010).
Virtual Products	Digital objects which are only usable in the virtual environment in which they are acquired (Hamari; 2015). In this thesis, the term "virtual products" refers primarily to clothes, accessories, and other appearance-related items such as "skins", hair, or other gameplay tools or weapons that often form part of users' outfits.

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1. Introduction

1.1 Background

As sung by Madonna, "*we are living in a material world"* (Brown & Rans, 1984). Consumption is woven into the fabrics of modern-day society and consumers derive significant value from it. An important part of consumers' identity and social relations are commoditised, with many psychological and social needs being met through individual purchases (Swim, Clayton, & Howard, 2011; Thorpe, 2010).

However, increasing consumption combined with population growth contribute to global warming and the excessive depletion of natural resources (Jauhiainen, Krohn, & Junnila, 2022; Swim et al., 2011). The unsustainable use of the planet's finite resources is a grand problem facing society today. Global consumption of apparel, footwear, and accessories has doubled since the year 2000 (Ellen MacArthur Foundation, 2017) and the amount of textiles consumed annually in Sweden increased by 40% between 2000-2022 to reach 15.2kg per person (Naturvårdsverket, 2022). With consumers consuming clothes in higher volumes and at faster rates than ever before, the fashion industry is considered a big culprit in the climate crisis (Pookulangara & Shephard, 2013).

Simultaneously, new digital technologies are revolutionising the production and consumption of products/services (Vo-Thanh et al., 2022). Technological developments influence the way in which consumers consume, communicate, and interact with each other and brands (Belk, 2013), as many now find themselves living in an immaterial world. The metaverse is a prominent technology-mediated virtual environment with the potential to disrupt businesses and the economy to the same extent the internet did (Charlton, 2022). It enables multiple users to connect and engage through avatars - user-created digital representations of themselves (Miao et al., 2022). With exponential growth in the number of consumers inhabiting the metaverse, it is expected to have profound effects on the environment and society at large (Jauhiainen et al., 2022).

Young consumers are especially invested in today's metaverse, which includes online social gaming platforms like Roblox, Fortnite, and Minecraft, and spend increasing amounts of time and money consuming virtual products (McKinsey, 2022). This challenges previously accepted knowledge of how and why consumers consume, and what has historically come to define a good consumer experience (Lemon & Verhoef, 2016), as the metaverse represents a new consumption paradigm.

While still under conception, the metaverse is expected to serve many use cases beyond gaming. By some estimates, the metaverse market for consumer and business applications could be worth $4-5 trillion by 2030 (McKinsey, 2022). Accordingly, in an era marked by consumerism and materialism, perhaps the continued development and wider adoption of the metaverse can help shift some consumption from the physical world to the virtual world. Unlocking a deeper understanding of how consumption in new virtual environments can meet the needs of today and tomorrow's generation of shoppers is therefore highly relevant.

1.2 Problem Discussion

In light of the growing interest to protect the environment, and the urgency to reverse climate change, a lot of research is conducted exploring how to promote sustainable consumption and how to overcome the barriers preventing it (Thorpe, 2010; Trudel, 2019; White, Habib, & Hardisty, 2019). While there is an increasing awareness for sustainable consumption, an evident say-do gap persists which limits the degree to which it is practised (Gershoff & Frels, 2014). One reason for this is that consumption has come to satisfy many underlying human needs associated with for example, self-worth, expression, social identity, status, entertainment, and self-consolation (Belk, 1988; Csikszentmihalyi, 2000). In short, consumption of physical products in the material world yields both physical and psychological benefits for consumers (Thorpe, 2010). One possible way to promote sustainable consumption could be to facilitate, and even encourage, consumers to fulfil these needs through digital experiences and/or digital products in virtual environments like the metaverse (Atasoy & Morewedge, 2018; Belk, 2013; Van Boven, 2005). Similarly, slow design and slow fashion are highlighted as having the potential to support more sustainable consumption by addressing psychological needs through more mindful consumption that shifts value from material objects to experiences (Pookulangara & Shephard, 2013; Thorpe, 2010).

The conditions under which consumption occurs in new technology-enabled virtual environments differ to those of the material world (Belk, 2013; Gursoy et al., 2022). Virtual products are digital objects that can be used only in the virtual world in which they are acquired (Hamari, 2015). While the full environmental impact of virtual consumption remains unknown, it commands no material packaging or physical transportation, does not contribute to landfill waste, and offers unrivalled instant gratification (Lehdonvirta, 2012). However, virtual products may lack certain attributes or qualities valued by consumers.

The metaverse's potential to reduce physical consumption, and consequently the use of natural resources, is certainly an area of interest for future research (Jauhiainen et al., 2022). If a larger share of consumption can occur virtually, it could lead to a reduced material focus in the real world (Dwivedi, 2022a). However, a prerequisite is that consumer needs and values underlying physical consumption can be met through virtual consumption. Questions therefore arise regarding consumers' attitudes towards virtual products, and what factors influence their decision-making and behaviour in virtual environments. It is pertinent to explore whether, and to what extent, existing consumer behaviour theories and consumer value frameworks apply to metaverse virtual consumption.

1.3 Aim and Research Question

Consumption is largely driven by deep-rooted psychological needs which makes it particularly hard to reduce. The study seeks to explore consumers' attitudes towards and motivations for buying virtual products in the metaverse, and how these compare to those for buying physical products.

Given that clothes, apparel, and accessories are highly visible, tangible products contributing to society's overconsumption, the study will explore consumer value in the context of virtual

consumption of this product category. The term "virtual products" will herein refer overarchingly to appearance-related goods in the metaverse. By adopting an individual consumer-lens, the study will enlighten whether virtual consumption is driven by, and can fulfil, the same needs as physical consumption. Guided by consumer behaviour theory and consumption-value theory, it will evaluate whether concepts from existing frameworks apply to new virtual settings.

By identifying and examining the roles of different value dimensions on virtual consumption, one might better understand what influences consumer perceived value. Subsequently one might learn how to elevate virtual consumption relative to physical consumption to better serve consumer needs. In doing so, it might be possible to partially shift consumption from physical to virtual products, and as such reduce the burden on the world's natural resources.

To this end, the study aims to answer the following research question and sub-question:

- *How do consumers perceive value in consumption of virtual products in metaverse settings?*
    - *How do value dimensions associated with consumption in the physical world translate to virtual consumption in the metaverse?*

1.4 Potential Contribution

1.4.1 A Nascent Field of Research

The study has the potential to develop the academic literature in a nascent, often heralded as disruptive, space. Firstly, the authors seek to build on existing consumption-value literature and contribute with a perspective better catered to the unique characteristics of new digitally-mediated virtual environments. Secondly, the research stands to contribute to the sustainable consumption literature by shedding light on whether virtual consumption can fulfil the human needs that drive physical consumption today, and hence substitute it in the future.

1.4.2 Actionable Insights

This exploratory study seeks to uncover actionable insight for practitioners regarding their metaverse strategies. If consumers are found to perceive value from virtual products which they are willing to pay for, then practitioners might be incentivised to shift at least some focus to virtual products/experiences, thereby reducing physical overconsumption. Through a deeper understanding of value perceptions in virtual consumption, the ambition is to offer guidance to brands seeking to explore the metaverse as a consumer engagement channel. To succeed, they need to challenge existing assumptions about what consumers desire and demand (Golf-Papez et al., 2022). This study will provide insight into consumer expectations for virtual products that practitioners should consider when developing their offerings to better cater to consumer needs. Finally, there may be takeaways for stakeholders like gaming, software, or technology companies building experiences, applications, infrastructure, or hardware such as augmented reality (AR) or virtual reality (VR) tools for accessing the metaverse in how perceived value can be enhanced.

2. Literature Review

This section introduces the theory of consumer behaviour and consumption-value theory as the foundation on which to explore consumer value perceptions. Next, it presents the metaverse before applying the theoretical framework to the context of virtual consumption.

2.1 Consumption

2.1.1 Consumer Behaviour

Consumption is driven by attempts to satisfy human needs that compel consumers to expend energy or money on products/services (Csikszentmihalyi, 2000). Consumer behaviour theory seeks to understand how consumers' feelings and attitudes determine their behaviour and is widely studied in the context of physical products consumed in the material world (Csikszentmihalyi, 2000; Maslow, 1968; Sheth, Newman, & Gross, 1991; Thaler, 1985). Understanding the inherent motivations that drive consumers to purchase is critical to promoting sustainable consumption (Swim et al., 2011). This thesis therefore builds on consumer behaviour theory in its quest to understand how the consumption of virtual products may fulfil consumer needs, including the psychological needs in which consumerism and materialism are grounded.

Beyond basic existential needs, such as those developed by Maslow (1968) relating to survival and safety, experiential needs in which consumers consume for the sake of engaging in conscious activity also prevail (Csikszentmihalyi, 2000). Shopping is a prime example of a goal-directed activity that fills an experiential vacuum that humans seek to avoid, resulting in a state of tuned consciousness. Similarly, retail therapy is used to describe the act of consumption to cheer oneself up or counteract stress, sadness, or boredom (Atalay & Meloy, 2011). Belk (1988, p. 139) argues, "*knowingly or unknowingly, intentionally or unintentionally, we regard our possessions as parts of ourselves*". Consumers become attached to their possessions because they use them to construct a sense of self. They serve as an internal souvenir of memories, associations, and emotions, and as an external signal to others. Research suggests that humans form an emotional attachment to and identify with physical products especially due to their perceived permanence (Belk 2013; Siddiqui & Turley, 2006). They can be touched, moved, and manipulated by their owners which garners a sense of control and ownership (Peck & Shu 2009). They become more valued as consumers become more attached to them (Atasoy & Morewedge, 2017).

Consumption undoubtedly forms an integral, meaningful part of consumers' lives and is driven by a multitude of factors. Motivated by different incentives, consumers evaluate products and the overall purchase experiences differently, which in turn influences consumer behaviour. While this is widely studied in academia, many findings apply to material products and consumption environments, owing to their physicality. Considering the environmental problems associated with increasing physical consumption, and the growing appeal for virtual consumption, it is necessary to better understand what motivates it.

2.1.2 Consumer Value Perceptions

Originating from consumer behaviour theory, Sheth et al. (1991) consumption-value theory explains the decision-making process of consumers by highlighting different consumption values that shape consumer behaviour. The theory seeks to clarify consumer decisions to-buy or not-to-buy, and why consumers choose/use one product or brand over another. It can be applied to purchasing decisions concerning a range of product types, including consumer, durable, and industrial goods.

Consumption-value concerns several factors that contribute to consumers' holistic assessment of perceived utility from the consumption of a product/service (Zeithaml, 1988; Sheth et al., 1991). Woodruff (1997) describes it as consumers' preference for and evaluation of product features, performance and outcomes emerging from use that either meet consumers' expectations and support their goals in specific usage situations, or not. Simply put, consumer value is the benefits consumers get from consuming a product/service relative to what they give up to acquire it (Zeithaml, 1988). Defining value as benefits less costs, it is common to adopt a value maximisation perspective when studying consumer behaviour (Kim, Chan & Gupta, 2007). To maximise value in a certain context, consumers weigh their possible choices and opt for behaviours that increase perceived gains relative to perceived losses associated with the acquisition, possession, or use of a product.

Scholars from different fields have studied consumption-value theory and there is consensus that consumer choice is better explained through an interplay of multiple value dimensions rather than one (Sweeney & Soutar, 2001). Several dimensions have been developed over the years to fit different consumption contexts (Table 1). In addition to product price and attributes, perceived value is defined by psychological factors and personal preferences that impact consumers' willingness to buy a certain product in a certain situation (Zeithaml, 1988). Sheth et al. (1991) comprehensive model develops five value dimensions (emotional, social, functional, epistemic, and conditional) and is recognised for providing a strong basis for evaluating perceived value (Zhang et al., 2021). The theory has been applied to new digitally-enabled consumption contexts like the sharing economy, service digitalisation, hospitality, and tourism. However, to the authors' best knowledge, it has not been applied to virtual consumption of fashion in metaverse settings.

Author (Year)	Consumption Context	Perceived Value Dimensions and Motivations	Journal
Sheth et al. (1991)	Use/do not use, product type, and brand decisions in a range of consumer choice situations.	Functional, social, emotional, epistemic, and conditional value.	Journal of Business Research
Sweeney & Soutar (2001)	Perceptions of value of consumer durable goods at a brand level in retail purchase contexts.	Emotional, social, quality/performance, and price/value for money.	Journal of Retailing
Williams & Soutar (2009)	Customer satisfaction and behavioural intentions in tourism.	Functional value, value for money, social value, emotional value, and epistemic value.	Annals of Tourism Research
Zhang et al. (2021)	Repeat purchase intention in peer-to-peer accommodation rental service in the sharing economy.	Functional, hedonic, epistemic, and social relationship value.	Data Science and Management
Vo-Thanh et al. (2022)	Perceived value of service digitalisation in hospitality fine-dining.	Usefulness and enjoyment (perceived benefits) and technicality and price (perceived costs).	International Journal of Contemporary Hospitality Management
Yuan, Liu, & Blut (2022)	Purchase intentions to adopt green products in a sustainability context.	Ecological, functional, symbolic, experiential, and epistemic value.	European Journal of Marketing

Table 1. Consumer Value Dimensions in the Literature

Heard (1993) approaches perceived value from the perspective of value-chain activities relating to design, production, and marketing through product characteristics, delivered orders, and transaction experiences. The latter emphasises the physical environment in which a product is consumed as an important value driver, highlighting that interactions with salespeople and the store environment influence how an experience is perceived. Holbrook (2005) describes value as driven by extrinsic or intrinsic motivations, whereby extrinsic motivation relates to functional, performance-related expectations of outcomes such as perceived usefulness; and intrinsic motivation relates to non-performance-related outcomes like enjoyment. To capture how retail consumers perceive value, Sweeney and Soutar (2001) modify the consumer value scale to include functional (quality and price), emotional, and social value. While a useful starting point for capturing underlying motivations behind consumption, these perspectives overlook cost/sacrifice evaluations and epistemic evaluations relating to surprise and novelty (Zhang et al., 2021), which may factor into consumption decisions made in novel digital environments like the metaverse.

Smith and Colgate (2007) review and integrate existing consumption-value literature and propose a comprehensive framework that presents four types and five sources of value. It builds on the premise that value is perceived differently by consumers, is context-dependent, is perceived in relation to possible alternatives, and evolves over time (Holbrook, 2005; Smith & Colgate, 2007). The four value types (referred to interchangeably as value dimensions) are: functional/instrumental,

experiential/hedonic, symbolic/expressive, and cost/sacrifice. The five sources across which value is generated are: information, products, interactions, environment, and ownership/possession.

Functional/instrumental value (henceforth functional value) describes the practical, performance-related benefits of a product/service. It relates to the extent to, and effectiveness with which, a product serves a desired function, is useful, or has the desired characteristics according to a consumer (Smith & Colgate, 2007). Often regarded as a main determinant of consumer choice (Sheth et al., 1991), it manifests in physical products through attributes like quality, reliability, durability, and price (Tynan, McKechnie, & Chhuon, 2010; Vigneron & Johnson, 2004; Wiedmann, Hennigs, & Siebels, 2009). Even non-physical consumption like hospitality or restaurant services can provide functional value through tangible elements like service quality, or intangible ones like atmosphere.

Experiential/hedonic value (henceforth experiential value) involves the sensory, emotional, and epistemic benefits of a product/service and its ability to arouse the senses through atmosphere, scent, visual, or tactile cues; spark feelings like pleasure, fun, excitement, adventure; or stimulate the mind through imagination, novelty, curiosity (Smith & Colgate, 2007). It also concerns social-relational feelings like togetherness, bonding, trust, and commitment. Experiential value is often linked to the uniqueness of products/services and/or to the emotional connections they evoke (Overby & Lee, 2006).

Symbolic/expressive value (henceforth symbolic value) concerns the psychological meaning that consumers associate with products (Smith & Colgate, 2007). This includes the extent to which products appeal to consumers' self-concepts (how they see themselves) and self-worth, enable self-expression, or signal social or conditional meaning. Products contribute to making consumers feel good about themselves through owning (buying a new outfit) or giving (gifting something expensive) (Sheth et al., 1991; Smith & Colgate, 2007). Consumers also use products to form a sense of self by using them to express their personality, taste, and values. Social meaning relates to how one is seen by others and this subset of symbolic value often arises from the image or exclusivity associated with branded or designer products (Smith & Colgate, 2007). Consumers buy expensive luxury goods to satisfy the psychological need for prestige and status (Kapferer & Bastien, 2012). They may choose a certain brand of product more for the social status or image it represents than its practical functionality. Conditional meaning describes value derived from certain products because of sociocultural circumstances or traditions (Smith & Colgate, 2007).

Cost/sacrifice value (hereafter cost value) concerns transaction costs associated with obtaining a product/service (Smith & Colgate, 2007). It includes economic costs like price, switching costs, opportunity costs; psychological costs like stress, search costs, cognitive strain; personal investment like time/effort; or other risks associated with financial transactions, ownership, or use like unsecure checkout systems, faulty or damaged products, or cumbersome return-processes. Existing literature on perceived value is sometimes criticised for under-emphasising the sacrifice component that consumers make in an exchange (Vo-Thanh et al., 2022). From adjacent perspectives, it is acknowledged that consumers are more inclined to use a product when they are aware of its costs (Gourville & Soman, 2002). Sunk costs influence future behaviour and use because once consumers

pay for something, they feel compelled to use it to justify the purchase and avoid feeling like it was a waste of money (Thaler, 1985). This dimension is therefore deemed important to include in the analysis.

The framework depicts value as the product of various value-chain activities amongst and within organisations (Porter, 1985; Smith & Colgate, 2007). Information through branding, marketing, and/or packaging can serve functional value by educating consumers on product use; experiential value through creative advertising campaigns that arouse the senses; symbolic value through social meaning; or cost value through price comparisons. The product itself may provide functional value through specific features; experiential value through sensory stimulation in use; symbolic value through brand associations; and cost value through superior price.

Interactions are another source of value describing the exchanges between consumers, organisations, employees, and interfaces. Functional value manifests in service quality and timeliness; experiential value through authentic consumer-brand relationships; symbolic value through the prestige of luxury servicing; and cost value through enhanced convenience. The purchase environment can also contribute to perceived value. Optimal lighting for trying on clothes in store can yield functional value; scented candles that create a luxurious atmosphere generate experiential value; visible logos or queues generate symbolic value; and shopping centres with free parking or stores with self-checkout appeal to cost value through convenience.

Ownership/possession concerns financial and contractual activities like payment, checkout, delivery, shipping, and agreements. Functional value can be perceived through quick, timely delivery or CRM systems that store one's purchase history; experiential value through surprise-and-delight check-out experiences; symbolic value through exclusive gift-wrapping ceremonies; and cost value through free delivery/returns or price guarantees (Smith & Colgate, 2007).

Smith and Colgate (2007) framework offers a strong foundation on which to evaluate consumer value perceptions in the metaverse because of its comprehensive yet universal and practical nature. It builds on underlying consumer needs from consumer behaviour theory and can be expressed in terms of existential (basic, functional) and experiential (hedonic, emotive) motivations (Csikszentmihalyi, 2000) or cost/benefit trade-offs (Zeithaml, 1988). The four by five matrix that results from overlaying the types and sources of value helps visualise different value opportunities (Table 2). It is also useful for structuring the exploration of perceived value in virtual relative to physical consumption.

Sources of Value	Types of Value: *Functional/Instrumental*	*Experiential/Hedonic*	*Symbolic/Expressive*	*Cost/Sacrifice*
	Correct/accurate attributes Appropriate performance Appropriate outcomes	Sensory Emotional Social-Relational Epistemic	Self-Identity/Worth Personal Meaning Self-Expression Social and Conditional Meaning	Economic Psychological Personal Investment Risk
Information	Size and fit, fabric materials, country of manufacture, washing instructions.	A creative advertising campaign about a new clothing range.	Celebrity brand ambassadors and endorsements.	Price and product information; clear returns policy.
Products	A coat serves to keep one warm; a handbag allows one to carry one's possessions; an umbrella shields one from rain.	The comforting, soft touch of a cashmere jumper; the smell of a new pair of leather boots.	Buying a fancy dress to enhance one's self-worth; wearing a branded t-shirt to signal group identity	Price, durability, wearability or versatility of an item; lifetime guarantee.
Interaction *(with employees and systems)*	Attentiveness of staff in store, access to or responsiveness of customer support.	Staff friendliness and politeness.	VIP servicing, fast-track or queue jump, personal shoppers.	CRM tools that store one's purchase history and recommend product sizes; storing credit card information for easy checkout.
Environment *(purchase and consumption)*	Good lighting in fitting rooms; strong visual merchandising that displays clothing range well.	Music, mood lighting, scented candles in a store; point of sale materials and collateral.	A store with limited access, pre-registration, or a queuing system; champagne served to browsing customers.	Available, affordable parking space outside a store; curated or recommended products to minimise search effort.
Ownership/ Possession	Correct and timely till transaction or online check-out and delivery.	Products being delivered in seasonal packaging.	A check-out service ritual that offers exclusive branded carrier bags or gift wrap, personal authenticity card and registry.	Transparent payment terms, next-day delivery, order tracking system and free returns, buy now pay later.

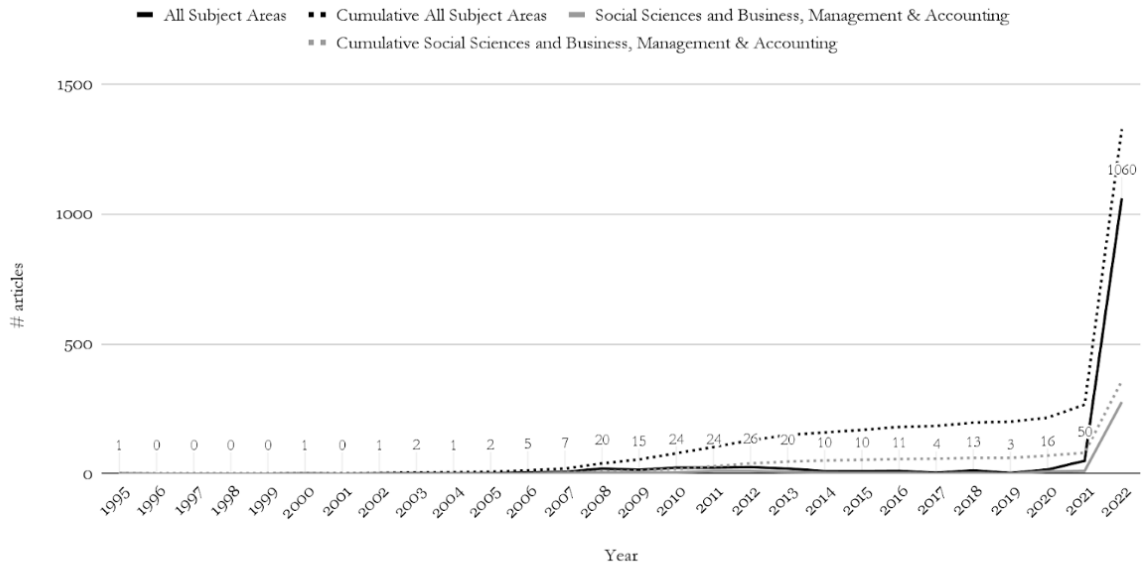
Table 2. Consumer Value Matrix (Smith & Colgate, 2007)

2.2 The Metaverse

2.2.1 Evolution of the Metaverse

The term metaverse is first used in Neal Stephenson's 1992 science-fiction novel Snow Crash (Stephenson, 1992). Digital innovation has sparked intensifying interest and research into the topic over the past years. In 2021, "metaverse" is listed in Collins Dictionary's top ten words (Golf-Papez et al., 2022) which reflects its growing attention in the technology, business, and academic worlds. A systematic review of peer-reviewed scientific publications about the metaverse in international journals from the earliest publications in the mid-1990s to the most recent in 2022 finds that more than twice as many metaverse-related papers are published in 2022 alone than in all preceding years combined (Jauhiainen et al., 2022). A Scopus search on the keyword "metaverse*" reveals that the

number of scientific publications in relevant fields increased more than twentyfold between 2021-2022[1].



Graph 1. Number of Scientific Publications Mentioning "Metaverse" on Scopus between 1995 and 2022*

Though its definition is fluid and concurrently evolving with its development, there is consensus over several features that define today's iterations of the metaverse, as well as those that will come to define it in the future. Today's metaverse is a collective, persistent, and interactive computer-mediated digital environment consisting of virtual worlds in which people interact and communicate with each other in real-time via avatars (Gursoy et al., 2022; Miao et al., 2022). It is characterised by real-time interactivity, user agency (McKinsey, 2022) and immersion, whereby through a sense of absorption, engagement, emotional attachment, or personal connection to an activity or interaction, users feel enveloped in the virtual experience (Buhalis & Karatay, 2022; Guadagno et al., 2007). Gaming, virtual teamwork, social media, and non-fungible tokens are considered current versions of the metaverse (Mourtzis et al., 2022). In the future, it will be a collection of interoperable (unbounded by platform or device) persistent, parallel environments that seamlessly blend physical and virtual experiences (Golf-Papez et al., 2022).

2.2.2 Virtual Consumption in the Metaverse

Virtual goods play an important role in many online social gaming platforms that represent today's metaverse. Yet, virtual consumption represents a departure from physical consumption as it is traditionally known and studied. Dematerialisation from physical to virtual, self-re-embodiment through avatars, and self-broadcasting through photos, text, and videos shared across social channels are highlighted as major changes driven by digital innovation that impact how consumers behave (Belk, 2013). Furthermore, consumer attitudes regarding virtual product preferences,

[1] 265 new publications appeared within *Social Sciences* and *Business, Management, and Accounting* according to a Scopus database search on March 19th, 2023.

purchase behaviours, decision-making processes, and value perceptions are likely to differ (Gursoy et al., 2022). While many costs or sacrifices associated with consuming physical products (e.g., price/time/effort) are diminished in virtual settings, many benefits (sensory experience or functional utility) may be lacking.

Whether virtual products can garner the same sense of emotional attachment, be used to signal status, or form a self, and/or group identity in the same way physical products can, is studied to some extent with mixed findings. Some argue that virtual products are just as able to satisfy desires, though their use is limited to specific contexts (Lehdonvirta, 2012). Virtual consumption can serve several needs, from stimulating demand for both physical and virtual products, actualising dreams of wealth, fueling wild fantasies, to enabling creative experimentation (Denegri-Knott & Molesworth, 2010). Research in the context of online games like Second Life and Habbo Hotel, which peaked in popularity in the late 2000s, suggests that the motivations for virtual consumption parallel those for physical consumption. They include symbolic value drivers like signalling image, status, or skill (Boellstorff, 2008; Wang, Zhao & Bamossy 2009), self-expression (Bryant & Akerman, 2014), group conformity (Martin, 2008), and exploring ownership of luxury products one cannot afford in the real world (Chahal, 2010). It is also found that consumers can become psychologically attached to virtual products in virtual environments, often as the result of extended amounts of time spent playing to acquire them (Lehdonvirta, 2009). Time, therefore, becomes an important factor, in addition to money, when it comes to evaluating in-game virtual consumption.

Conversely, because virtual products fundamentally are intangible software code, they are perceived, by some, as less special. Research indicates that consumers attach less value to digital products than to physical ones. Digital books, photos, music, movies, and artwork are perceived as having lower emotional and monetary value compared to their physical counterparts. In a series of experiments, consumers are found to exhibit greater willingness-to-pay and purchase intentions for the physical products than their digital equivalents (Siddiqui & Turley, 2006; Petrelli & Whittaker, 2010; Atasoy & Morewege, 2017). This is explained by virtual products' intangibility and confined existence within specific software environments (Watkins & Molesworth, 2012). The lack of physicality and the inability to materially showcase or touch virtual products leads to perceived uncertainty about control/ownership, and therefore lower attachment. Notably, with the acceleration of digital innovation, the aforementioned findings may no longer be applicable to the digital technologies or virtual environments available today, nor generalisable to digitally native Generation Z consumers.

Indeed, global spend on virtual products is increasing (McKinsey, 2022) which suggests that consumers perceive value from virtual consumption. This may, however, be motivated by different factors compared to physical consumption. The next section evaluates Smith and Colgate (2007) value types in the context of virtual metaverse consumption, referencing adjacent research where relevant.

2.2.3 Consumer Perceived Value in the Context of the Metaverse

The consumption of virtual products in online games is studied to some extent. Previous research focuses on in-app purchases made to advance in otherwise free-to-play games, the attitude towards and willingness-to-pay for these products, and how putting a price tag on them influences overall attitudes towards the game (Hamari, 2015) rather than consumers' perceived value of virtual products per se. At the time of the aforementioned study, it is uncommon to purchase virtual products in games. Today, almost three quarters of users claim they would spend money on virtual clothes/accessories (Roblox, 2022). Hamari (2015) finds that the more players enjoy the game, the less willing they are to buy virtual goods. Paradoxically, the more committed they are to the game, the more likely they are to buy virtual products. This aligns with previous findings that present a positive relationship between the amount of time spent in an environment where related products are sold and the likelihood for consumers to eventually purchase those products (Jarboe & McDaniel, 1987; Rosen, 2001). It remains to be understood if the same applies to virtual products consumed beyond the purpose of gameplay advancement in the metaverse.

Unconstrained by time and place, metaverse settings represent a re-worlding which endows products, environments, and users with endless new abilities (Kozinets & Kedzior, 2014). Regarding functional value, in a limitless, unbounded virtual world a product's "correct attributes" (whether it performs a desired function) are more subjective than in the material world. The value of products typically associated with practicality or usability in the physical world is less obvious. On the one hand, opportunities for utilitarian product value diminish since a coat purchased to provide warmth in the physical world serves no similar purpose in the virtual world. Virtual products "*lack material substance and cannot be used in material reality*" (Denegri-Knott & Molesworth, 2010, p.110). The fact that a virtual coat cannot be worn to keep the owner warm, or that a virtual handbag cannot be used to carry one's belongings, illustrates their questionable functional value. Conversely, opportunities for new virtual functional value arise as products essentially become invincible: they can be used without fear of degradation or loss (Atasay & Morwedge, 2017)[2]. Notably, consumers may be willing to pay more for virtual products that do not physically wear than for physical ones (Golf-Papez et al., 2022).

Concerning experiential value, while metaverse consumption cannot serve all affective needs, it may be positioned to provide more value in some areas relative to physical consumption. In sensory value, visual and auditory cues can be recreated relatively well (Gursoy et al., 2022), and perhaps even generate stronger value than in the physical world thanks to high quality graphics and 3D renderings. Whether this is enough to compensate for the current metaverse's inability to recreate value-adding tactile, olfactory, and gustatory stimuli from the physical world remains to be understood (Gursoy et al., 2022). Sensory experiences, especially physical touch, are highly important to consumption and the overall consumer experience (Ruusunen, Hallikainen & Laukkanen, 2023). Because consumers assess products like clothes' functional attributes (quality/ material/stretch) using touch, and derive hedonic sensory pleasure from doing so, the inability to

[2] A prominent Roblox designer claims that her digital wardrobe is "*literally unbreakable [...] If I want to swim in water with a beautiful gown I can, and it won't get ruined by water! If I wanted to climb a mountain in a pair of heels, they wouldn't break my ankles either*" (@lovespun, Roblox, 2022, p.17).

touch products online represents a limitation in ecommerce shopping environments. AR/VR tools, often affiliated with the metaverse, are found to improve the consumer experience and willingness-to-pay in online shopping contexts, especially for very tactile consumers (Gatter, Huttl-Maack & Rauschnabel, 2022). Brands are already using them to design value-adding experiences that improve the functionality of their omnichannel product/service offering[3]. However, the use of AR/VR is largely applied to support consumption of *physical* products. Virtual products may not necessitate the same tactile assessment of features since they are not consumed for consumers themselves, but rather for their avatars. Moreover, while metaverse applications accessed via AR/VR can offer improved sensory experiences, their mainstream use in the near future is questionable given their limited affordability and accessibility.

Experiential value is driven by experience and pleasure (Sheth et al., 1991). It is long recognised that "*what people really desire are not products but satisfying experiences*" (Abbott, 1955, p. 40; Pine & Gilmore, 2013). In today's increasingly experience-driven economy, it is arguably more important than ever for brands to create exciting consumption conditions, and new digitally-enabled environments are well positioned to support this. Relating to emotional and epistemic value, metaverse consumption is prime for activating enjoyment, adventure and fun because it unlocks endless opportunities to stimulate the imagination, facilitate experimentation, and fuel curiosity.

Video games are found to cater to sensory, experiential, and hedonic consumer needs through crafted storytelling and engaging simulations of real-life tourist destinations in the hospitality and tourism industries (Buhalis & Karatay, 2022; Buhalis, Lin, & Leung, 2023). Factors like sense of adventure, escapism, social interaction, visual stimulation, and excitement in metaverse platforms are identified as key value drivers and predictors of intent to visit a real-life destination amongst young gamers (Rainoldi et al., 2022). Experiential value through enjoyment and novelty is also observed to significantly increase trip satisfaction, intention to revisit a destination, reuse the service, and word-of-mouth recommendations in the new digitally-enabled sharing economy of peer-to-peer accommodation services like Airbnb (Luchs et al., 2011; Hamari, Sjöklint & Ukkonen, 2016; Lee & Kim, 2018).

The nature of hospitality and tourism consumption is inherently more hedonic than fashion consumption since it relates predominantly to intangible services rather than tangible goods. Nevertheless, the experiential factors found to influence perceived value and consumer behaviour in metaverse tourism/travel consumption may also apply to metaverse fashion consumption: the more enjoyment consumers get from the metaverse, the more likely they are to continue using it and to engage in virtual consumption within it.

A primary strength of virtual social platforms is their capacity to enable users to form close, emotionally connected relationships with others (Cole & Griffiths, 2007). In the context of virtual collaboration and teamwork, the ability for colleagues to interact in realistic 3D environments that can be personalised with highly visual cues facilitates communication and social interaction (Davis et al., 2009). More recently, Roblox is found to create positive social and psychological outcomes in

[3] L'Oreal's Makeup Genius application, for example, allows beauty shoppers to virtually try on makeup products (Hollensen et al., 2022).

the form of supportive interactions, enhanced relational satisfaction and reduced feelings of loneliness amongst Generation Z users (Oh et. al, 2022). These social benefits are attributed to the degree of social presence, i.e., sense of coexistence, afforded by the metaverse through strong visual cues and unique communication opportunities. Social presence triggers individuals' need for social acceptance and validation (Lee & Park, 2014). Given its inherently social nature, the metaverse may therefore be prime for social-relational value since clothes and other possessions are often consumed in pursuit of this (Belk, 1988).

Consumption is often driven by a desire to express oneself and identify with others. Symbolic value arises from products' capacity to contribute to consumers' sense of self and association with others (Belk, 2013). Generation Z increasingly sees their digital representations as an extension of their real selves. They use virtual worlds as a platform for self-expression, using their avatars' appearance and clothing to bond with others (Roblox, 2022). 70% of young US consumers regard their digital identities as equally important as their real-life identities (Lee & Malik, 2021). Amongst Roblox users specifically, 40% claim that self-expression in the digital world is more important than in the physical world (Roblox, 2022).

Avatars have a strong appeal because, contrary to one's physical self, they can quickly and easily be modified. Afforded a high degree of control of their avatars, users can change attributes (skin/hair/eye colour/body size), demographic traits (gender/age/ethnicity), and clothing to construct an identity and reflect their personalities (Bélisle & Bodur, 2010). Generally, avatars resemble their creators but with some modifications to make them better looking (Messinger et al., 2019). Virtual products of all imaginable styles, colours, and combinations allow for unlimited experimentation. The relative ease and affordability with which they can be acquired may increase symbolic value through self-expression and enhanced self-concept. Given the metaverse's massive global reach and growing penetration, social and conditional meaning through virtual products may also be heightened.

Concerning cost value, many economic costs are arguably reduced compared to the real world since virtual products generally cost less than their physical counterparts. Virtual products in the Wimbledon virtual experience, for example, sell for $2 compared to $200 in the physical store. Psychological costs may be reduced because users do not need to worry about clothing fit, quality, or comfort. New technologies like Roblox's proprietary Layered Clothing make it possible for designs to fit any avatar shape (Roblox, 2022), thereby reducing anxieties arising relating to body shape. Young consumers reportedly purchase things in virtual worlds that they would not in reality, which may partly reflect these lower associated costs and risks (Roblox, 2022). Furthermore, risks associated with buying, owning, or using a product decrease in the metaverse as virtual products do not break from use. Marked by poor quality and quickly showing signs of wear and tear, clothes in the physical world (especially fast-fashion) are often perceived as perishable and quickly degrading (Pookulangara & Shephard, 2013).

The time, physical effort, and/or energy expended to consume virtual products may be lower than in the physical world for digitally savvy consumers who can consume with the click of a finger. However, the relative ease with which users can consume in the metaverse might decrease

perceived value since working hard to acquire something, e.g., through saving up over time or queuing, can make a purchase or product more rewarding and valuable (Cialdini, 2001; Soman, 2013).

2.3 Demonstrated Knowledge Gap

Consumer behaviour is influenced by consumers' overall assessment of a product/service in relation to their specific needs and expectations, and several types of consumer value are recognised in consumption contexts that apply to material products and environments. There is also consensus that the metaverse presents a new stage for consumer value opportunities. While both consumer value and the metaverse have been explored from multiple angles, the coupling of the two to understand perceived value in virtual product consumption in today's metaverse is insufficiently addressed. Since consumer perceived value has been found to be highly context-dependent, it would be presumptuous to accept existing theories as sufficient in explaining consumer behaviour and value in this new, continually evolving virtual context. As such, the study's research questions stand as highly relevant in the case to better understand consumer value from the perspective of individual users in this new metaverse environment.

3. Method

This section details the research design, data collection and processing, followed by quality and ethical considerations.

3.1 Research Design

3.1.1 Methodological Fit

Methodological fit between the elements of a research study is critical for its quality, utility, and future applicability (Gehman, et al., 2018). Significant consideration is therefore placed on defining the perspective from which to conduct this research to achieve consistency across research question, design, and literature. Since the aim is to generate new knowledge in a nascent area, and explore individual value perceptions in the transient, emerging context, the researchers adopt an interpretivist perspective and inductive approach (Gioia & Pitre, 1990).

The interpretive paradigm posits that the world is socially and symbolically constructed, and that individuals build and sustain their own realities (Gehman et al., 2018; Gioia & Pitre, 1990). This study is interpretive in that it accesses *reality* and gathers data through interviews, recognising participants to be knowledgeable agents. This implies that they are aware of and intentional in their actions and, accordingly, able to explain their thoughts and intentions (Gioia, Corley, & Hamilton, 2013). The former positions the human experience and actions as central to revealing insights, while the latter recognises user accounts as a justified means through which to study consumer perceptions. It emphasises the importance of acknowledging participants' experiences without

imposing the researchers' prior knowledge or preconceptions. Further in line with interpretivism, the thesis highlights the differences between individual participants (4) and focuses on meaning and understanding as opposed to laws and explanation (5) (Ciesielska & Jemielniak, 2018).

With the goal of understanding users' lived experiences, this study follows the Gioia Methodology (Gehman et al., 2018; Gioia et al., 2013). Building on the interpretive paradigm, Gioia et al. (2013) develop a systematic approach to maintain academic rigour in inductive qualitative analysis whilst retaining the "*creative, revelatory potential for generating new concepts and ideas*" (p. 15). Designed to generate Grounded Theory (GT) (Glaser & Strauss, 1967), in which theory emerges from data through induction and interpretation (Gioia et al., 2013), the approach allows the analysis of the informants' experiences to develop independent of existing literature and frameworks. This in turn supports the development of novel insights (Gioia et al., 2013).

3.1.2 Research Approach

In line with the interpretive paradigm, Gioia Methodology, and study's aim, a qualitative interview approach is employed (Gioia et al., 2013; Ciesielska & Jemielniak, 2018). In the absence of much prior research, this method suitably enables an explorative, bottom-up approach (Ciesielska & Jemielniak, 2018). Though qualitative research offers limited generalisability due to small sample sizes and often unique contexts studied, it is recognised as appropriate for generating new theory (Bell, Bryman & Harley, 2019). This marries the study's aim to extract theoretical inferences from empirical data.

In-depth interviews with active metaverse users (Appendix 1) are conducted to gain a holistic understanding of the phenomenon and to uncover consumers' attitudes, feelings, and motivations towards virtual consumption (Ciesielska & Jemielniak, 2018). Ethnology is considered but deemed less feasible within the technical, financial, and time constraints of the study. Moreover, participant observation is not necessarily conducive to revealing thoughts and feelings (Ciesielska & Jemielniak, 2018). First-person accounts through semi-structured interviews, which enable unpredicted topics to emerge and be explored, are therefore deemed the most appropriate and accommodating for the novel area under study.

An interview guide (Appendix 2) is drafted to conduct the interviews and to ensure alignment between the theoretical aim and research questions being explored. Caution is exercised to formulate the questions in user-friendly, generation-appropriate language and to consciously avoid the use of theoretical language or concepts. Topics covered relate to the general user experience in metaverse platforms, avatars and their appearance, social interactions, motivations, inspiration, and attitudes towards consumption. Interviews are designed to capture variance since, per the Gioia Methodology, variance is welcomed as a source of insight (Gehman et al., 2018). The open-ended nature of the questions encourages participant elaboration and avoids leading participants to conclusions. This allows the researchers to immerse themselves into the participants' realities so that rich descriptions, explanations, and interpretations can emerge (Gehman et al., 2018).

The decision is made to complement verbal interviews with written interviews (Appendix 3) as a precautionary measure to enable sufficient empirical data collection in light of an unexpectedly poor response rate and slow snowballing effect in initial recruitment efforts. Written interviews are naturally restricted to the predefined content and flow of the questionnaire and thus less spontaneous and conducive to capturing interviewee-specific salient topics (Gibson, 2010). They are nonetheless useful when subjects are introverted, shy, or unwilling to expose themselves in spoken interviews. They hold a number of other strengths relative to face-to-face interviews too. They demand higher levels of commitment and motivation to complete (Curasi, 2001). Consequently, responses are typically more detailed and thorough. Written answers also permit time for reflection, thereby generating thoughtful responses to difficult or previously unconsidered questions (Curasi, 2001).

Data are collected through multiple sources for a deep, broad, and nuanced perspective on metaverse consumption (Gioia et al., 2013). Secondary sources, including industry reports and consumer research, are initially consulted to develop a solid pre-understanding of the phenomenon. Subsequently, prior to the user interviews, the researchers conduct semi-structured expert interviews (Appendix 1; Appendix 4) with those working in the field to familiarise themselves with the metaverse and online social gaming platforms, with which they are initially unacquainted.

3.1.3 Research Context and Scope

Given the vastness and ambiguity of the metaverse, the authors choose to study it through its existing form, namely online social gaming platforms. The context and scope of the study is further narrowed to Generation Z and their interactions on Roblox, Minecraft, and Fortnite.

The selected platforms meet the core definitions of the metaverse as computer-mediated virtual worlds marked by immersion, interactivity, and persistence, in which millions of users interact through their avatars (Hamari, 2015; Oh et al., 2023). Sometimes described as “non-virtual-reality metaverses”, users navigate 3D spaces but access them through their computers, mobiles, or standard gaming consoles rather than through VR devices (Hennig-Thurau et al., 2022).

Relevant literature identifies Roblox, Minecraft, and Fortnite as appropriate representations of the metaverse (Dwivedi et al., 2022a; McKinsey, 2022). Initially, the researchers select Roblox as the context of study. Beyond meeting the metaverse criteria, it is a publicly listed company which implies that information is readily available. However, due to difficulty recruiting participants of this platform alone, the context is extended to include Minecraft and Fortnite based on their popularity in monthly active users. User demographics and virtual consumption opportunities offered on the respective platforms are also considered. Roblox, Minecraft, and Fortnite, represent fashion-forward platforms in which virtual consumption constitutes a prominent feature[4].

Generation Z, the population group born between the mid-1990s to early-2010s (Buhalis & Karatay, 2022), is regarded as a suitable group to study for several reasons. Firstly, this demographic

[4] Fortnite hosts fashion shows; fashion games and experiences are amongst Roblox’s most popular; and Minecraft boasts the creative freedom for users to design their own skins.

represents an increasingly influential part of the economy by size and spending power, comprising 30% of the global population (Miller & Lu, 2018). Secondly, having grown up with the internet, smartphones, and iPads, this generation is both technologically- and digitally-savvy (Buhalis & Karatay, 2022). Consequently, they are the most likely to embrace the existing and future metaverse, and to advocate its adoption amongst sceptics. Thirdly, Generation Z represents the largest share of the current metaverse population (Oh et al., 2023) and Roblox, Minecraft, and Fortnite user bases[5].

Over 200 million Generation Z users globally spend an average of 2.5 hours daily playing games including Roblox, Minecraft, and Fortnite (The Gang, 2022) and virtual consumption (purchasing, acquiring, using virtual products) plays a prominent role in these games[6]. Having identified it as insufficiently addressed in existing literature, this study will therefore focus on consumption of virtual fashion, apparel, and appearance-related products by Generation Z on Roblox, Minecraft, and Fortnite.

3.2 Data Collection

3.2.1 Interview Sample

A purposive sampling method to select participants actively engaged in at least one of these platforms is employed. This implies that participants are selected based on their ability to shed light on the phenomenon through relevant personal experience. The selection criteria further include age (Generation Z), and that a purchase requiring some form of cost or sacrifice (money/time/effort) has been made. Users are identified through the researchers' own social networks, teachers at local middle and high schools, game forums and social media. Subsequently, a snowball technique is employed whereby interviewees are asked to recruit other active users. An attempt is made to achieve an even split between males/females, and an even distribution across the Generation Z age bracket. The researchers decide to accept users born in the early 1990s to ensure a satisfactory sample size can be reached. Through this multi-pronged sampling approach, targeting a combination of known users, extended contacts, and strangers, it is hoped to minimise selection bias and achieve a representative sample of the metaverse gaming population (Bell et al., 2019). A sample size of N=34 metaverse users is obtained (Table 3).

Metaverse experts (N=8) from different fields, companies, and backgrounds are recruited through contacts. In both samples, size is not determined beforehand. Rather, interviews are conducted until the researchers deem enough data is gathered. User interviews are conducted until a point of saturation at which no new codes or themes are seen to emerge from the data.

[5] Of almost 60 million daily active users on Roblox at the end of 2022, 58% are aged between 9-24 years old (Statista, 2023). Minecraft reportedly has 141 million active users as of 2021, of which 15-21 year-olds make up 43% (Statista, 2022). Fortnite's core demographic also falls in the range of 14-24 year-olds (Wilson, 2021).

[6] Spending on virtual fashion specifically by Generation Z is increasing, with some having already spent as much as $20-$100 on a single piece of clothing (Roblox, 2022).

Variable	Frequency (n=X)	%
Gender		
Female	17	50%
Male	17	50%
Age		
<15	8	24%
15-20	14	41%
20-25	9	26%
>25	3	9%
Country		
Sweden	20	59%
USA	7	20%
Germany	4	12%
Italy	1	3%
India	1	3%
Egypt	1	3%
Metaverse game(s) actively played		
Roblox	9	26%
Minecraft	6	18%
Fortnite	4	12%
A combination of two or more	15	44%
Duration (in years) played		
1 year	2	6%
1-3 years	6	18%
3-5 years	7	20%
>5 years	19	56%

Table 3. User Interview Sample Overview

3.2.2 Pre-Study

Experts are interviewed in a pre-study to provide background information and context to the metaverse. These interviews serve to immerse the researchers in the metaverse, inform them of important developments, and establish criteria for identifying an appropriate user sample. This in

turn enables a better interpretation of interviewees' accounts and ultimately a deeper, more reflective analysis of their perspectives (Gioia et al., 2013).

3.2.3 Interview Process

An initial test interview with an active metaverse user is conducted to validate the formulation and comprehensibility of the interview guide. This is completed successfully, and no major changes are deemed necessary.

Prospective participants are invited to complete an online survey enquiring about their metaverse engagement and requesting them to participate in interviews. Respondents who meet the sampling criteria described above, who agree to participate, and who give valid contact details are selected for processing. They are contacted with information detailing the purpose of the study, what to expect in the interview, a reiteration of anonymity, and request for consent. Participants are given the choice between an in-person, virtual, and written interview to ensure they feel comfortable, an aspect deemed especially important considering the young age of some participants.

All participants who agree to a verbal interview (n=21) opt to do it virtually via Google Meet. Notably, video conferencing systems such as Google Meet should not be considered inferior to in-person interviews in qualitative research (Deakin & Wakefield, 2014). The widespread adoption of these technologies into everyday life, especially since the Covid-19 pandemic, makes them a natural mode of interaction, therefore decreasing concerns of their effectiveness (Bell et al., 2019). Furthermore, the users in question may arguably be more open and talkative in virtual environments since, as digital natives engaged in the metaverse, this is often their preferred communication channel. All but four users keep their cameras off throughout the interview.

All but three verbal interviews are conducted in the participants' native language (Swedish or English) to allow them to effectively communicate their experiences and interpretations without language barriers impairing the depth of responses (Baumgartner, 2012). Both researchers are native in both English and Swedish, which supports effective communication and understanding of participants' accounts. Three interviews are held in participants' second language (English) with which they express they are comfortable.

To avoid group effects and other social biases, and to ensure anonymity, verbal interviews are conducted with one user at a time (Ciesielska & Jemielniak, 2018). Confidentiality is not promised as this would prevent data collection and reporting (Gioia et al., 2013). The presence of both researchers at each interview enables the assignment into the respective roles of notetaker and interviewer. Interviews begin with a standardised introduction in which high-level expectations are set and participants reminded of their right to not answer questions or to end the interview early should they feel compelled to. Interviews conclude with the researchers asking if the participants are willing to share an image of their avatar(s). Interviews last between 30-60 minutes (mean=40) and are audio-recorded with verbal consent from the interviewees. After each interview, the researchers reflect independently on points of interest before debriefing together.

Some participants (n=13) prefer to complete the interview in written format. Interview forms with questions paralleling the structure and content of the verbal interview guide are drafted on Google Forms in both Swedish and English. The questionnaire is informed by the 12 semi-structured interviews already conducted and analysed at the time of its creation to ensure the relevance and flow of its questions, particularly important considering its pre-defined and formalised nature. Open-ended questions and free-form answer fields are employed to enable users to express their genuine thoughts and feelings. Moreover, users are encouraged to answer and share freely. The Swedish form is sent to a sample of Swedish local middle school students and the English form is sent to users targeted through the researchers' social media channels[7]. Data from the written interviews are considered a complement to the verbal interviews as they provide perspectives from a wider group of users and help ensure theoretical saturation is achieved.

3.3 Data Processing

Verbal interviews are transcribed within 24 hours to ensure both spoken and inferred nuances are captured. The 21 verbal interviews and 13 written interviews combined yield over 120 pages of transcribed material. An inductive thematic analysis is employed in which themes and codes emerge through engagement with the data in a bottom-up manner (Ciesielska & Jemielniak, 2018). This broad form of thematic analysis allows for flexibility and adaptability, characteristics important to the explorative nature of the study.

The first analytical task is to repeatedly read verbatim transcripts whilst listening to the corresponding voice recordings. Independent first-order codes are identified through a process of constant comparison. A pillar of the grounded approach, this method implies that data from different sources is reviewed and compared several times to discern patterns, themes, and sequentially, first-order codes (Glaser & Strauss, 1967). In line with GT, this preliminary stage of analysis is initiated in parallel with the data collection to allow the researchers to concurrently adjust the interview guide based on newly surfacing insights that may be relevant to explore further (Glaser & Strauss, 1967). First-order codes use participant-centric terms to credibly capture the participants' experiences (Gioia et al., 2013). Similarities and differences amongst the plethora of initial codes are identified, streamlined, and labelled into a manageable number (Gioia & Chittipeddi, 1991).

Next, the researchers discuss observations and first-order codes. This process of comparison, which embraces and explores variance, reveals a high degree of convergence between the researchers' independent first-order codes. Divergence occurs predominantly in category semantics. The researchers share an open, equal working relationship which enables rich dialogue and negotiation.

Upon review of the verbal (n=21) and written (n=13) datasets respectively, the researchers observe a significant overlap in first-order codes. Therefore, the decision is made to combine the two datasets to facilitate further analysis and the evaluation of theoretical saturation. The researchers

[7] An incentive in the form of the chance to win a gift card worth 500 SEK is used for the Swedish pupils, while a commitment to complete the interview is obtained through personal communication and rapport nurtured with the users recruited through social media (Bell et al., 2019).

recognise risks with this approach. As data are gathered in different formats, consistency and accuracy in integration must be considered. This is mitigated by coding the two datasets in the same way and with equal rigour whilst omitting findings from the written interviews that do not appear in the verbal ones. Furthermore, it is more difficult to extract meaning from the written set as follow-up questions and probing cannot be done. As such, the written dataset serves primarily to increase the validity of the findings and to strengthen salient points already observed in the verbal interviews. Finally, while combining the datasets reduces transparency, this is mitigated by indicating which interview format each user engages in (Appendix 1).

Representative labels and second-order codes are formed through a process of aggregation. The second-order analysis welcomes researcher-centric concepts and existing literature which may emerge as relevant to this new domain (Gioia et al., 2013). The outcome is the formation of aggregate dimensions at which stage a data structure (Figure 1) is developed to explicate the link between the raw data and key themes via first- and second-order codes (Gioia et al., 2013).

3.4 Quality Considerations

To maintain a high degree of rigour in the collection, analysis and interpretation of the data and results, several considerations in line with the criteria for trustworthiness are made (Lincoln & Guba, 1985; Guba & Lincoln, 1994). Developed specifically for qualitative research to parallel widely accepted criteria in quantitative research, such as generalisability and replicability, these criteria are deemed an appropriate benchmark.

3.4.1 Credibility

Pertaining to the internal validity (Bell et al., 2019) and extent to which the results can be trusted to appropriately represent the data (Nenonen, Storbacka, & Windahl, 2019), the study is pre-registered[8] to increase control and facilitate replication. Interviews are audio-recorded and transcribed which allows for a thorough review of not only *what* but also *how* users respond, capturing nuances like tone of voice or hesitations. Triangulation is applied to drive robustness of the findings against secondary research like industry reports and expert interview insights.

3.4.2 Transferability

Regarding external validity and the applicability of the findings to other contexts (Bell et al., 2019), the study benefits from including three popular metaverse platforms rather than just one. Each has strong global penetration, massive user bases, growing use cases for, and presence of brands. Consequently, the findings are more likely to be transferable to other metaverse applications and iterations (Bell et al., 2019).

[8] Pre-registered on aspredicted.org (#121330).

3.4.3 Dependability

Concerning the extent to which the findings will be applicable at other times (Bell et al., 2019), users are encouraged to reflect on how their metaverse experiences relating to virtual consumption have evolved over time. By welcoming a narrative that spans their gaming history, the ambition is to capture insights with relevance to future metaverse applications and audiences. However, considering the rapid pace of digital innovation and metaverse development, long-term dependability is compromised.

3.4.4 Confirmability

To ensure interpretations accurately and objectively reflect users' perceptions without researcher bias (Bell et al., 2019; Nenonen et al., 2019), coding is first done independently and simultaneously by the researchers. Interpretations are then compared, discussed, and aligned on. Transcriptions allow for revisitation of the data by others to check that the researchers' values and biases have not influenced the analysis (Bell et al., 2019). Outlying observations, i.e., sentiments expressed by fewer than two users, are excluded from the analysis. To further establish confirmability, the researchers' share the preliminary findings in a narrative format with several interviewed users for feedback (Gioia et al., 2013).

3.5 Ethical Considerations

Anonymity is a key ethical concern and is thus prioritised over transparency, so all personally identifiable data points, including date and time of interviews, are concealed. Users are informed about the study's purpose, how their reflections will be used, and asked to give their consent prior to partaking in interviews. Permission to audio-record is requested at the start of verbal interviews.

Age is another ethical consideration. Recognising that users below 15 are considered underaged, the researchers consult the Swedish Research Council and Ethical Review Authority for guidelines. It is deemed acceptable to interview these users provided that their personal consent, as well as that of a parent/guardian, is obtained beforehand (Vetenskapsrådet, 2017). This is because the research does not cover sensitive information, broach controversial topics, pressurise, or compromise the integrity or well-being of users, nor inflict physical or psychological harm/discomfort[9]. Users are reassured that there will be no sensitive questions, no right or wrong answers, and are reminded of their right to deflect a question or terminate the interview at any point.

[9] As per "Lag (2003:460) om etikprövning av forskning som avser människor" (Utbildningsdepartementet, 2023).

4. Empirical Findings

This section highlights the empirical findings from the expert and user interviews respectively, presenting key findings in relation to emerging themes and using quotes to illustrate observations.

4.1 Expert Insights

Experts express different views on what the metaverse is, and whether or not it exists. Some suggest it is a future, interconnected virtual space still under development, while others argue it exists but will continue to evolve and expand into new areas along with technological advancements. Consensus exists that online social gaming platforms (specifically Roblox, Minecraft, and Fortnite) are suitable platforms through which to study metaverse consumption as they foster huge user bases and the consumption of appearance-related items. The experts believe the process, feelings, and attitudes towards virtual consumption are similar to those in physical consumption.

Through experience and insights gleaned in their professional roles, limited time, quantity, and collectibles motivate consumers to make monetary and/or time investments. They recognise core differences between consuming appearance-related and gameplay-enhancing products respectively, citing the former as driven by self-expression and the latter by experience and variety.

Expert Interviews	Examples
Conceptualising the Metaverse	*"At this point there is no clear definition or consensus over what the metaverse actually is or what it might become."* Expert 1
	"We are already there. The metaverse doesn't need to be immersive. Roblox is a perfect example of a metaverse that already exists. In my opinion, all social channels are also a form of metaverse […] VR and metaverse are not the same thing; they can be connected but [VR] is rather a way into the metaverse, like a computer or a phone." Expert 6
Virtual Consumption	"*The purchase journey in Roblox is really quite similar to that in the real world, at least in fashion, whereby you showcase products and hope customers will buy them [...] Just like in the material world, the goal is to create desire and demand for something that you don't need."* Expert 2
	"*Kids don't see a difference between expressing themselves via their avatar to themselves in real life - it's very transferable. They're also no strangers to buying things virtually"* Expert 3
Value in Virtual Products	*"I'm completely convinced that you can experience the same sense of value - I have. You want to make an impression when buying clothes, it is the same in the games. [It] creates a status symbol. Especially when it has been earned. That is a positive feeling, a sense of pride from winning it or from having the money to buy it."* Expert 6
	"You can definitely see how the scarcity principle works in these contexts - limited editions and special time offers really work as people are more inclined to buy something 'on offer' or what they perceive as a good deal at the time… Collections and collectibles are also really popular where you can show people different items available in an experience and incentivise them to complete their collection." Expert 4
	"*A lot of consumption is driven by self-signalling. You want to be seen as having something. For [skins and textures] purchases are driven by self-expression, differentiation from peers, to freshen up the experience. For [worlds, packs, games] it's more experiential and provides variety to the game, maybe some nostalgia, opens up for new challenges and activities."* Expert 5

Table 4. Expert Interview Insights

4.2 User Experience and Gameplay Motivations

Gaming is reportedly a favourite pastime amongst interviewees, and many are active on multiple platforms. Most have played on and off or consistently without break for many years, oftentimes since the games' initial release.[10] Some users play up to five hours daily whereas others play around one hour per week. Many oscillate between more and less intense playing periods in line with new releases, but the average time spent playing is five hours weekly. Users represent a passionate,

[10] Roblox was released in September 2006, Minecraft in November 2011, and Fortnite in July 2017.

dedicated sample of metaverse consumers and arguably have rich personal experiences and anecdotes to draw upon.

Gameplay Motivations	Examples
Active Stimulation	*"For me the biggest part about gaming is really the mental part - the stimulation."* User 3
	"I play because it is fun and [involves] problem solving, it stimulates your brain and it's different scenarios everytime you play and different ways you can reach your goal." User 4
	"I play because I think it's fun. When you're bored there's loads of different games you can play and do different things. Fortnite is updated all the time [...] so it's more fun to try new things." User 10
A Creative Playground	*"It's fun to create and to experiment with your imagination. It's fun to make skins."* User 2
	"I most often like feeling the joy of creating." User 22
	"I play because it's a fun game, and I get to build houses and create avatars however I want and as freely as I want." User 29
Passive Stimulation	*"Playing is a nice way to not think so much."* User 1
	"I play Minecraft as a form of relaxation [...] There are no rules or stress. If I do nothing nothing happens. It is more a way to relax." User 5
	"I play when I have free time for relaxing, when I want something to do, when I need space from my job - it's a time to do something completely different. I play when I want to disconnect." User 7
An Escape from Reality	*"I escape to my own little world where I don't have to think about real problems so I definitely think there's a psychological element to it. For me, when I play Roblox and Minecraft today there's a lot of nostalgia [...] It reminds me of an easier time."* User 3
	"I usually play on the weekends or after work if my boss has been particularly annoying that day to get my anger out [...] I definitely feel like I have played Fortnite more since I started working, I use it as my escape." User 4
	"*I like to play because it's a way to get away from reality."* User 26

Table 5. Gameplay Motivations

4.2.1 An Outlet for Creativity and Active Stimulation

Fun and *entertainment* are some of the most cited reasons for playing. Metaverse platforms provide mental stimulation through a variety of games, missions, and virtual products.

Creating, *building*, *crafting*, and *designing* are also frequently used to describe favourite things about the metaverse. Playing Minecraft is likened to painting because it is creative, artistic, and mindful. The metaverse is used as a creative channel to satisfy personal passions for architecture, fashion, or design that users otherwise would not exercise in their day-to-day tasks. For many, metaverse consumption is a goal-oriented activity that involves problem-solving, tactics, and coordination. This mental stimulation is fuelled by frequent updates and seemingly endless experiences.

4.2.2 An Escape from Reality and Passive Stimulation

Gaming is used to unwind. It is described as *relaxing* and *refreshing* after an exam, a long day at work, or a frustrating encounter with a manager. *Escape*, *adventure*, *exploration*, and *fantasy* are frequently used to describe why users enjoy playing. A break from reality, the metaverse also provides a limitless platform for expression, role-playing and experimentation. Users can be who they want to be and choose characters and clothes unconstrained by real-world parameters like body size, demographics, or socio-economic status. They can build, interact, and play in ways that defy the laws of physics.

4.3 Social Presence

4.3.1 Playing with Others versus Alone

For most users, the metaverse experience revolves around playing with others, and they rarely play alone. Users view it as a virtual space where they can hang out with friends from different areas of life. Sharing a server with friends makes the experience more fun by adding a dimension of simultaneous socialisation. A few users play alone for varying reasons: they do not have friends that play the same games, or they like to play games differently. For others, gaming is their personal escape, and they are reluctant to involve others: some want to focus on the game itself instead of socialising and some feel they are not good enough to play with others even though they would like to.

Social Presence	Examples
A Place for Socialising and Teamwork	"*I play Roblox and Minecraft to have fun and chat with friends. It is nice to hang out even without meeting in person [...] It feels like you are with others.*" User 1
	"Building stuff in communion with other people is a lot of fun. It fosters teamwork, it helps you work with people, in general. It's a lot of fun to [...] have people teaching you solutions." User 16
"Real" vs. Virtual Friends	"*I have like 20 friends right now. I think it's around half and half between people I've met in the game and real friends. Probably more real life friends though.*" User 6
	"*Those I meet online only see my avatar and probably see me as extroverted whereas those who know me from before know that I am actually an introvert [...] They only know a small part of me.*" User 11
	"*When you play with people you know in real life you have this established relationship that you bring, so have all these other things outside the video game to worry about but when you just play with some random person you only ever meet in the game, the only thing you care about is what's happening in the game, there's no relationship to worry about.*" *User 16*
	"*I have more friends online than in real life since it is so easy to get them. It is a mix of people. Some I know in real life and many I have met in real life after meeting them online. Some of the friends I met online have become really close friends. It is easy to get close to people when you spend so much time with them. I also have friends all around the world that I have never met.*" User 21
Friendships Without Borders	"*It's fun to socialise and meet new people over the internet that you wouldn't otherwise be able to meet. I have friends from the USA, Australia, Africa - I know people all over the world!*" *User 2*
	"You can chat with different people all over the world and make new online friends without them knowing who you really are [...] It's nice to be able to talk to people you don't know sometimes." User 12
	"The thing I really like about gaming is that we can connect to people who are living far away." User 32
Staying in Touch with Friends and Family	*"Minecraft is a good way to stay in touch with childhood friends. We are nine friends who played a lot when we were younger, now we all live in different cities and do different things so we connect by playing together an hour or so a week."* User 5
	"The reason I got into Roblox was when this whole Covid thing happened, I have a niece, and I wasn't able to see her so we would play Roblox games together." User 15
	"It was my quality time I spent with [my family] so I could justify playing like 3 hours per day [...] It's a way to connect and stay in touch with family in Brazil." User16

Table 6. Social Presence

4.3.2 Real-Life Friends and Virtual Friends

Users have between two and 25 friends with whom they engage virtually. Some play only with real-life acquaintances but the majority play with a combination of real and virtual friends. Whilst some are hesitant to make friends online, those who have fostered virtual relationships often do not differentiate between them and real-life ones. Some enjoy the unique social interactions permitted between others who know nothing about who they really are. They can be whoever and whatever they want to be without prior judgement or prejudice.

Users bond with others over appearance-related items, gameplay tactics, and through online forums and chat channels. They appreciate being able to make new friends all over the world and meet people they otherwise would not be able to. Consequently, users cite practising their foreign language skills, teamwork, and collaboration as positive social outcomes. Several refer to staying in touch or reconnecting with childhood or distant friends and family. In short, the metaverse facilitates socialising with old and new friends, unrestricted by time or place.

4.4 Avatar Appearance

4.4.1 The Importance of Avatar Appearance

Avatar appearance is important for many, especially those interested in fashion in reality. For some, it is even more important than their appearance in real life. Contrastingly, users who do not care for their appearance in reality do not care for it much in virtual environments either. Although many users initially claim that appearance is not important, continued discussion often suggests otherwise. Many proceed to say that it is not important but that it is fun to change or that it is not important as long as it is not embarrassing or ugly. Females appear to consider their avatar appearance more important than males, as do younger users.

The first-person view often employed in Minecraft is associated with an apparent disinterest in appearance as users do not see themselves while playing. Moreover, avatars in Minecraft are often dressed in gameplay-related armour which conceals the appearance underneath. Citing this reason, many do not devote much thought to their avatar's appearance in Minecraft, nor do they consider it worth the effort to change. Others nevertheless spend a lot of time designing their own skins and frequently updating their Minecraft avatars.

In Roblox and Fortnite, users constantly see their avatars through the third-person default view. As such, appearance is more prominent and thereby generally perceived as more important. However, there are users even here who place greater significance on performance, skill, and gameplay, and if their appearance does not affect this, it holds little meaning to them.

Avatar Appearance	Examples
Appearance is Important	*"I'd say appearance is more important in Fortnite than in Roblox. I have some skins that you can't get anymore from Battle Passes, so you can't get them so they're rare. They're cooler and have status."* User 10
	"My avatar's appearance is important to me. It is boring to not have a skin when you have the possibility to." User 11
	"In real life I don't think that much about how I look. I wear anything. In games you have to be more strategic [...] In Fortnite I spent a lot of money on skins, I care a lot about what my avatar looks like." User 21
	"I definitely purchase more things for my avatar than myself." User 23
Appearance is Not Important	*"My approach to my avatar's appearance reflects my approach to my appearance in real life too. I don't want to look unkept but I don't really care about high quality clothes or that I look a certain way. It's sort of like a first pick in the closet and that's what I wear. There's no real thought that goes into my wardrobe. I don't really go shopping. It's more of a chore than something I enjoy doing."* User 9
	"I would say I never change skins, maybe because I always play with first person view so I never see my person. Maybe if I switched up the viewing settings I probably would change it but I honestly forget it sometimes [...] Usually the avatar has armour on so other than the face, the rest doesn't matter since your armour is covering it." User 13
	"The avatar does not determine the game in any way, so for me it has no meaning." User 26
	"It doesn't mean much, as long as I don't think it's cringe or ugly, it works. I don't care about looking or being good looking either in real life or in games." User 27

Table 7. Attitudes Towards Avatar Appearance

4.4.2 Avatar Representation

Some users describe their avatars as a reflection, or even extension, of themselves. They design them to resemble their real characteristics, interests, or style. This is especially pronounced as it relates to gender, hair and colour-preferences which are often used when describing avatars in relation to the self. Playing with an avatar that represents them makes some users feel more immersed and closer to others in the game.

Many claim to not see their physical selves in their avatars and prefer to experiment more freely with its appearance and style. They embrace the ability to explore enhanced versions of themselves, role-play different characters, or be someone/something entirely different.

Avatar Representation	Examples
Avatar as a Reflection of Self	*"I think I have the same style on Roblox as in real life. I look for things that I actually like wearing. I feel like my avatar represents me pretty well."* User 12
	"I make them look similar to how I look or how I want to look. Similar hair features and stuff like that." User 15
	"My avatar is a representation of me, I think it is important simply because I like how I can play as myself [...] My avatar is a reflection of me." User 24
Experimentation and Expression	*"That's what's fun about it, you can look and dress however you want [...] Games are fun because you can do everything you can't in reality [...] You don't want to do the same thing in the game as you would in real life - that defeats the whole point."* User 3
	"Sometimes I make it look more like me or sometimes I'll experiment and make it with a new hair colour or something like that. Some days my avatar is a reflection of me and other days I want to try something completely new [...] I have brown hair in real life but my avatar is blonde today. I'm wearing some purple, which I probably wouldn't wear too much in reality." User 6
	"When you play in a game you want to look flashy and funny, maybe even a little ugly [...] I want my avatar to look as different from me or a real person as possible. It feels boring to have one that looks like me or that looks neutral." User 20
	"[My avatar] looks nothing like me, firstly because it's a female avatar and I'm a male." User 24

Table 8. Avatar Representation

4.4.3 Descriptions of Avatars

Users happily describe and share photos of their avatars (Table 9). Avatars range from realistic to highly whimsical. Some describe theirs as *normal*-looking and dressed, with hair colours, styles and clothes found in reality. Others take inspiration from movies or shows, dressing their avatars like their favourite characters. Some prefer to design completely imaginative, non-lifelike avatars. They adorn them in an eclectic mix of clothes and accessories, including rainbows, unicorns, chains, and demon masks, or choose non-human representations like animals or objects. One describes his current avatar as a pig dressed in a cape and crown, while another user recounts having once made her avatar into a hotdog.

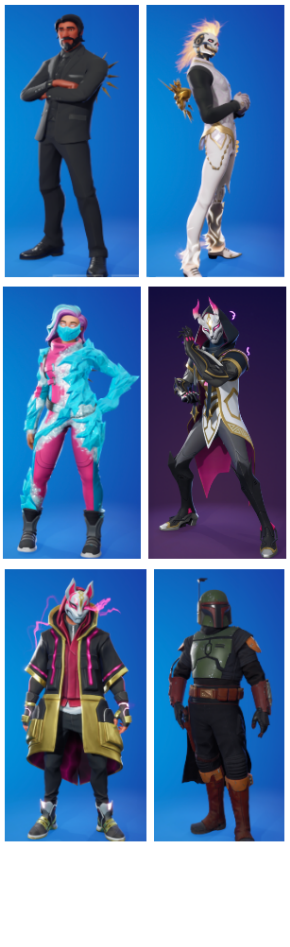
Roblox	Minecraft	Fortnite
		

Table 9. User Avatars

4.5 Virtual Consumption Behaviour

4.5.1 Consumption of Virtual Products

Users consume virtual products that directly change their aesthetic appearance and sometimes also in-game performance[11]. The most common virtual products are clothing and accessories in Roblox; skins in Minecraft; and skins, Battle Passes, gliders, and pickaxes (gameplay tools) and other accessories in Fortnite.

[11] On Roblox, users look for what is trending or search for specific items, filtering on price or colour. In Minecraft, most users download free ready-made skins online, though some design their own. In Fortnite, many purchase Battle Passes and play to unlock skins, accessories and customisability options limited to those seasons. Some only buy access to seasons and subsequently earn virtual products by levelling-up through gameplay. Others reportedly visit the avatar-store daily to look for limited-time items to buy.

Users change their avatar's appearance between daily to less than annually. Unsurprisingly, those who deem appearance as more important update their avatars more frequently than those who do not. Females change appearance slightly more frequently than males. Similarly, younger users change their appearance marginally more often than older users.

4.5.2 Willingness-to-Pay for Virtual Products

Some users are willing to spend "real" money on virtual products, whereas others prefer to use earned in-game currency. Spending ranges from 0-50 SEK on the lower end of the spectrum, 100-1,000 SEK for others, and up to 10,000 SEK for a few. Some deflect to answer how much they have spent in total, simply saying *way too much* or *a lot*. Reflecting on the most expensive thing they have bought, one user describes an exclusive, limited-edition set designed by a real-life designer costing the equivalent of 1,000 SEK. Others report being willing to spend max 50 SEK for an item, provided it meets their expectations, and they want it enough.

Users are most likely to spend money on virtual products in Fortnite. Around half of Roblox users spend money on virtual products. Many Roblox users are, however, restricted to consuming predominantly free products because they do not have their own income. Amongst them, many directly or indirectly express that they wish they could buy more virtual products, and often ask for in-game currency for birthdays or Christmas. Minecraft users are the least willing to pay for virtual products because even though there is a marketplace on the console version of the game where they can purchase skins, most play on their computers where skins can be downloaded for free.

Willingness-to-pay is also influenced by perceived rarity, desirability, and correspondingly expected resale value. Users look for items that are trendy yet unique, that serve the goal of creating a personal image/identity but at the same time are popular enough to be sold onto others, ideally for a profit.

Willingness to Pay	Examples
Accessibility and Affordability	*"I have bought a lot of things in Fortnite - everyone spends money in Fortnite! People spend a lot of money to look a certain way. It was also super easy and fast to change outfits so I change outfits all the time and combine how I want."* User 1
	"In Minecraft since all skins are self-designed and free to use they don't have any status symbol or anything like that. If you compare it to other games where you often have to pay for skins or there are limited time offers or limited quantity, they might be interesting in the sense that they're rare. But in Minecraft I don't think so." User 8
	"I don't change that often because I don't really have Robux. I've looked like this since September now. I'm not allowed to buy Robux from my mom and dad so I've only got what I've been donated or earned some so can't really buy that much." User 10
	"I don't have any Robux because mom and dad don't think I should spend money on this so that means I have like, free things." User 12
Uniqueness and Novelty	*"It was also an investment, with time things gained value and then I could trade it for more things."* User 1
	"Generally you want something more rare but that depends if there's a market for it so you can sell it." User 3
	"If you could trade and make money, there was a financial incentive and additional motivation there [...] that definitely made it more interesting." User 8
	"I guess there's something cool about feeling like I own this brand-new-spanking item from the avatar store [...] There's a feeling you get from owning the latest, coolest items. It's like people owning a brand new car and showing it off [...] with the new items that are very sought after that people haven't heard of or haven't seen or unfortunately can't afford to buy at the current time [...] That's why I keep expanding, because aside from the items being much nicer, it's just also that factor of having the coolest newest things." User 15

Table 10. Willingness to Pay for Virtual Products

4.6 Motivations for Virtual Consumption

4.6.1 Social Influence

Users with few friends or who play primarily by themselves are less bothered than those who play for, and value, the social aspects. Interestingly, many care less about their appearance when playing with friends from reality compared to playing with virtual strangers, citing that virtual strangers' impression of them is based solely on how their avatars look whereas real-life friends know who they really are.

Many users report experiencing pressures to look a certain way or to change their appearance if their friends do so. Some use virtual products to connect with others as, like in the real world, virtual possessions can help users identify and bond with others. The most commonly reported reason for consuming virtual products is to provoke a reaction, with being *funny, making others laugh,* and *getting comments* described as motivations. Users pick outfits and clothes based on what they believe friends will appreciate or recognise through shared cultural references. Interestingly, many appear indifferent to the presence of brands, and are more interested in metaverse creators or people/characters from films. Nevertheless, some are intrigued by branded virtual products.

Social Influence	**Examples**
Social Pressures in the Virtual World	*"I definitely think of what other avatars look like. Some have spent a lot of time fixing theirs which motivates me to spend time on mine as well, especially if a friend has it."* User 5
	"When looking for a new skin there's a balance of knowing others like it as well while wanting to be unique. [...] I have also taken inspiration from friends in what they wear and have done." User 11
	"Usually what drives me to buy those things is a lot of FOMO and wanting to try new things because they are flashy and cool." User 16
	"*It wasn't very expensive to buy things and everyone in the game was very personalised so [my friend and I] also wanted to fit in so bought some things."* User 21
	"People online can judge you for what you're wearing." User 23
Connecting over Clothes	"*Sometimes if I like someone's avatar I'll approach them and say 'I like your avatar' and we become friends through that. You can bond over what you and others are wearing."* User 6
	"You feel connected to those who have the same skin or something from the same creator because then you know that at the core you feel the same and want the same aura and have the same goal in the game. I guess you subconsciously seek yourself to those you think have the same starting point and view of the game." User 11
	"Interacting with other people over the outfit, gives me that high of I don't know, that I've created something cool that other people like [...] I interact with other people's creations, especially ones I have never seen before." User 15

Social Influence	Examples
Provoking a Reaction	*"Since I've started playing more with my friends I've started trying to put things together that look a little more fun [...] it's fun to see if people recognise certain references or characters."* User 2
	"I like to pick skins that make my friends laugh. In Minecraft it's definitely about getting a reaction." User 3
	"It's really funny when you see each others' characters and they really look ridiculous. We laugh a lot at it." User 20
Brands in the Metaverse	*"I don't think brands or logos are that cool or that important."* User 10
	"I feel like certain people are brands. Messi and Naruto are brands." User 14
	"I love the idea of brands in games. In Fortnite there has been Nike and things. I think it is fun when clothes look real in the game, especially if I own it myself in real life." User 21

Table 11. Social Influence in the Metaverse

While many claim not to care what others look like, several express disappointment and judgement towards those who appear not to make an effort with their avatars. There is also an aversion to the default character as it signals *noob*, i.e. beginner and therefore assumably bad at the game.

4.6.2 A Strategic Choice

Skins and/or clothes can be used to signal skill and seniority. Users avoid avatars in certain skins earned through in-game achievement, such as the Reaper, as they are associated with the best players and thus considered dangerous. They strategically select virtual products to afford them in-game advantages such as blending in or, contrarily, standing out.

Referring to appearance-related tactics, users describe "*[having] the same skins when we play together so people get a little confused*" (User 10), creating skins that are *minimalist, not flashy* or *monochrome* so as not to stick out, or wearing "*camouflage clothes to not be seen as much"* (User 14), because if your character is too easily identifiable, then everyone else will be able to spot it too. Others strive to create something unique so that they can be recognised by friends, so that "*you don't have to read their names all the time*" (User 21) or that one does not "*get lost in the middle of the clutter"* recognising that there is a "*functional aspect to standing out*" (User 16).

4.6.3 Be Who You Want to Be

Expression and Experimentation	**Examples**
Trial and Selection	*"The biggest difference in reality is that it takes longer to choose what to go for. You think about it more. Maybe because it costs more. In the game it is easier to just test things out and see how it is. Testing more things across the spectrum. Like today I can be goth in the game but not in reality."* User 11
	"I like trying to be unique [...] I want someone to immediately notice my avatar, from all the 200 friends on their friends list I want them to notice the one with the rainbow on it is me." User 15
	"My avatar [is more fun to dress]. Because there are more options than in real life [...] For example, accessories - there's like millions of options." User 17
	"[On Minecraft] it feels important that I have my own brand. I am competitive and want something that people recognise me in or as me. I want to be unique. [On Fortnite] I don't want to wear a skin if others have it. I was lucky since my favourite was a limited edition, it was only available in one of the first Battle Passes so there weren't many who had it." User 21
	"It's fun to create new looks and outfits that fit your style and most of the time those looks/outfits you can't recreate IRL, especially if you're a male and want a female avatar and vice versa." User 24
Emotive and Experiential	*"It really reflects what I am feeling at the moment. If I am feeling like a badass woman I play a female valkyrie warrior character I have. If I am feeling more grunge and dark I have an animé character I play. I will switch up my skin based on my mood."* User 4
	"Seasonally everyone changes their outfits to be with the times and to look fashionable." User 15
	"I can express how I feel whenever I make a new outfit [...] *When it's winter I'll always try to make Christmas outfits. And when it's spring, which I'm actually very excited about, I'm going to make a spring outfit.*" User 17
	"It might be connected to your mood. If you're in a good mood, a little happier, maybe you'd be more willing and active and think it's fun to change outfits. If you're feeling down or tired maybe you care less." User 20

Table 12. Endless Opportunity for Expression and Experimentation

The limitless opportunity for expression when customising one's avatar is viewed positively and drives consumption and trial. The selection of virtual clothes, colours, and styles is indisputably more wide-ranging and affordable than in reality. Users appreciate this increased possibility for experimentation to portray a unique image and identity. Some strive to create their own personal, recognisable brand. Others change their appearance daily or several times daily to reflect their mood, the seasons, or cultural holidays.

4.7 Evaluation Criteria for Virtual Products

4.7.1 Price

Price is frequently mentioned in relation to virtual consumption. Many users are young and notably price sensitive. Price is thus a key consideration, and for many, a barrier to consumption. Many visit the avatar-store and filter on price to view either free or the most affordable options and select from these. What is deemed a reasonable price depends on how much in-game currency users have, how *cool* they rate the product, and how eagerly they want/need it to create their desired look.

The interviews reveal mixed attitudes towards spending money on virtual products, with several downplaying their worth by reminding themselves they are *just virtual*. Some describe them as a *waste of money* and ask *"why would I spend money on that? I'd rather spend my money on real things"* (User 2). This attitude increases with age, with older users seemingly more self-aware and rational. Others are not opposed to spending money on virtual products per se, but rather appear reluctant to spend money on purely aesthetic products. Instead, they are intrigued by products that simultaneously serve some in-game purpose such as *"making your character fly"* (User 12). When asked whether they are prepared to pay more for branded virtual products, many say no, explaining that *"it's not like in real life where the fabric is nicer"* (User 15).

4.7.2 The Cool-Factor

Users repeatedly refer to *feeling cool* and to *cool* clothes, outfits, avatars. Interpretations of cool vary but often relate to the effort put into designing an outfit or to its degree of novelty, customisation, or detail. *Cool* can relate to the strangeness or uniqueness of virtual products because, unlike in the real world where *"you just wanted the basics that you felt comfortable in"* (User 21), in the metaverse you can opt for the *"coolest, funniest, most decked out things"* (User 19). *Cool* is also mentioned in relation to wearing things that match. The cool-factor of virtual products is partly correlated with price, with *"all the really cool things, like nicely textured things, costing money"* (User 15).

4.7.3 Quality

Users often refer to quality when talking about virtual products, assessing it against several factors. Many compare the durability of virtual products to their physical counterparts, noting that they *"last longer than in real life [...] they will essentially never break or get damaged"* (User 3). Many also refer to things like graphics, level of detail, shading, and dimension in virtual designs as a measure of quality.

There is a notable difference in quality between free and paid-for items on Roblox. Paid-for hair, for example, is described as *nicer, smoother,* and *flowing nicer*. The platform's Layered Clothing is generally perceived as better quality and cooler than free, user-generated products. Fashion- and appearance-enthusiasts feel more compelled to spend money on paid-for products due to their superior detail and often more realistic, compelling features, claiming that *"the graphics are nicer and it looks like they've put a lot of time and effort into making it"* (User 15). Importantly, Layered Clothing also boasts limitless formability to different body shapes/sizes which allows users to freely experiment with clothing items they might not be able to in the real world.

In Minecraft, the more detailed the shading of skins, the better quality they are considered. In Fortnite, users regard store-bought skins to be better quality than Battle Pass skins. Quality is judged on how *nice* or *cool* skins are perceived. Skins from Battle Passes are described as *boring* and *not that nice.* However, just as some users are sceptical about spending money on virtual products, some do not think virtual products can be evaluated or differentiated based on quality because *"it's not like it's made of something nice, it's online so there's no difference in quality"* (User 23).

4.7.4 Matching

Several users value being able to mix and match clothes to find outfit options that fit a certain colourway, aesthetic, or style. Whether they are looking for realistic or imaginative clothes, *mix and matchable*, *matching,* and *making things match* is repeatedly cited when assessing virtual products. Many look for virtual products that complement their existing inventories and enjoy matching pieces from one collection with others from another. They recognise that *"the fun of it is playing around with all the pieces in the game and making something super unique that no one else has ever made"* (User 15). This is especially important for those less able to buy new things. Finding clothes that match one's avatar is also important when acquiring free clothes on Roblox as these are not suitable for all avatar shapes like Layered Clothing items are.

4.7.5 Time

Users often refer to time when talking about virtual products, where the instant gratification and the relative ease and speed with which metaverse consumption can occur is described both positively and negatively. Many acknowledge how quickly they can consume new things, which affords more possibility for trial and error. Others feel greater attachment to virtual products in a certain game the more time they spend playing that game, and/or the more time/effort they expend to acquire it.

Evaluation Criteria	Examples
Time	*"Everything was free but it was the time you invested. I spent a lot of time here."* User 1
	"I know it is just a game but since I play it a lot it has value to me." User 14
Effort	*"I would just rather earn my way there than just pay it."* User 4
	"I think if avatars are in a way linked to game achievements, they hold more value in a way. Just because if you get it for free it doesn't really have value so if you have to kind of work for it, it is more valuable and more desirable." User 8
	"I feel rewarded and I feel so happy. It feels like I deserved it because I [saved] my money, and I feel like I kept it for a long time until I got this thing that I needed." User 17
	"I have spent a whole lot of time and money on Fortnite, so I just keep playing because of everything I have already invested. It is hard to stop when I already have put so much into it. I also feel like I need to keep playing to complete the Battle Pass. You know if you have bought it you want to complete it, not to get the skins necessarily but rather to finish all the levels." User 18

Table 13. The Evaluation of Time

5. Analysis and Discussion

This section provides a theory-driven analysis and thought-provoking discussion of the empirical findings in which the data are interpreted and critically investigated.

5.1 Data Structure

Figure 1 is an output of the inductive coding process described in (3.3). Whilst the first-order codes themselves adequately represent the findings, a complementary theoretical view is provided through aggregation into twelve second-order themes, which in turn funnel into four aggregate dimensions. These dimensions are initially defined as *perceived performance value*, *immersive/creative value*, *socially shared/expressive value*, and *investment/sacrifice value*. Upon review of existing value literature, however, it is recognised that the four value types conceptualised by Smith and Colgate (2007) align well with these emergent dimensions in capturing the poignant themes observed in the data. To facilitate the structure and subsequent discussion of perceived value, the decision is made to rename the aggregate dimensions in line with the existing value types from this well-established framework.

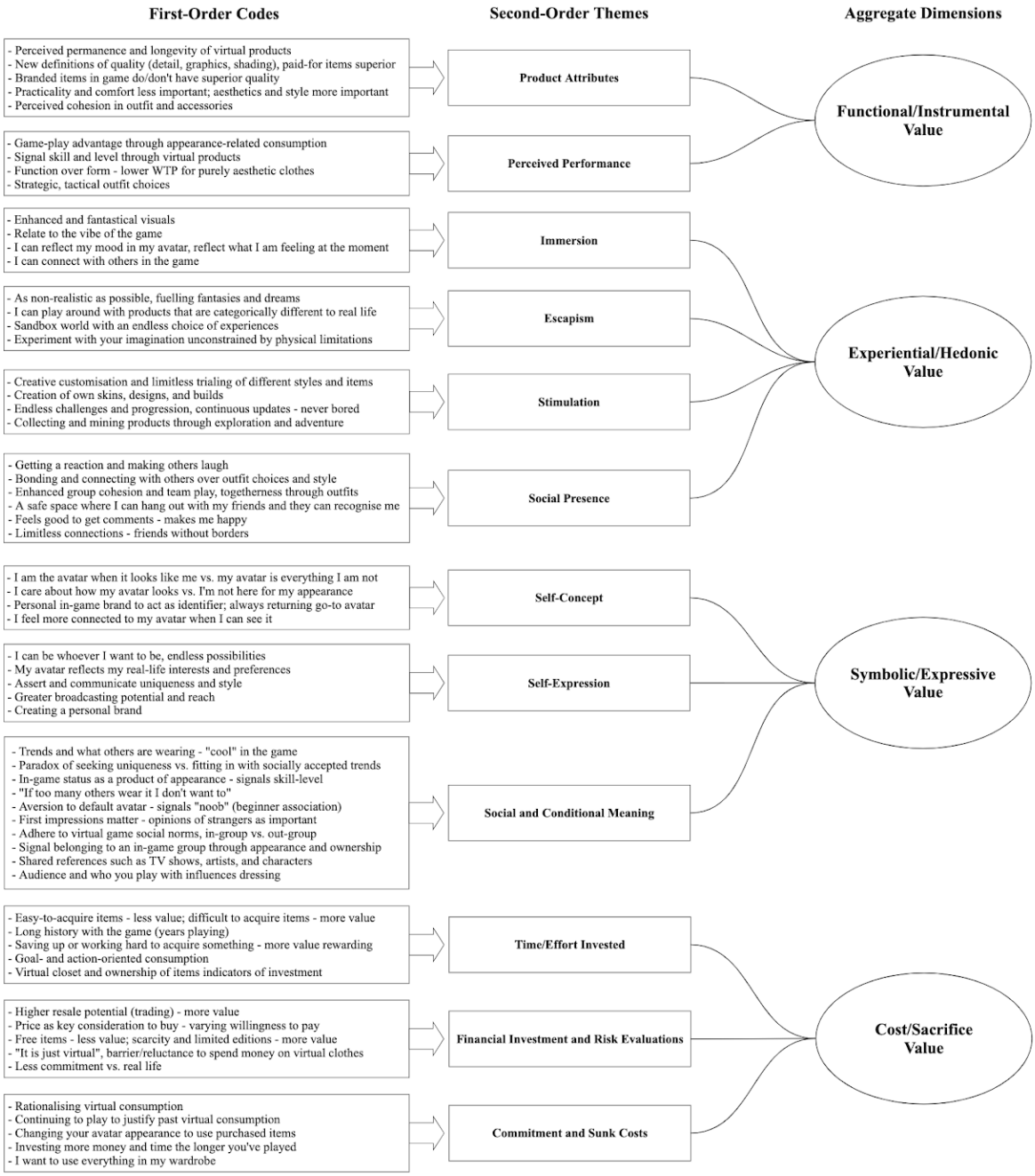


Figure 1. Data Structure

The *functional/instrumental value* dimension comprises nine first-order codes that filter into two themes: product attributes and perceived performance. Immersion, escapism, stimulation, and social presence, accompanied by 18 first-order codes, furnish *experiential/hedonic value*. *Symbolic/expressive value* comprises 19 first-order codes that funnel into self-concept, self-representation, and social and conditional meaning. Finally, under the *cost/sacrifice value* dimension, 15 first-order codes are grouped into three themes: financial investment/risk

evaluations, time/effort invested, and commitment and sunk costs. Though the data structure groups first- and second-order codes into discrete dimensions, interaction and overlap is observed between them. These dimensions are subsequently presented, analysed, and discussed in line with their respective first- and second-order codes.

5.2 Functional Value

While the future metaverse is expected to provide enhanced functional value through heightened sensory experiences via AR/VR technology (Hollensen et al., 2023), some literature points to a shift from functional to experiential value (Dwivedi et al., 2022b). The interviews certainly confirm the significance of experiential value in metaverse consumption, but nevertheless indicate the presence of a functional value dimension in consumers' assessment of virtual products. This is interesting given that users access the platforms without the luxury of AR/VR. The data reveal new aspects of functional value that influence consumer behaviour.

5.2.1 Product Attributes

Consumers consider certain attributes in virtual products, evaluating features, performance, and outcomes like they do in physical consumption (Smith & Colgate, 2007). However, the desired functions that consumers wish virtual products to perform, and the characteristics they wish them to possess, must be considered in a new light.

Quality, durability, and formability are recognised attributes from which functional value traditionally stems (Smith & Colgate, 2007). The notion of quality is frequently and unpromptedly raised by users, suggesting it plays a central role in their value perceptions. As demonstrated, users both liken and differentiate quality aspects between physical and virtual consumption. In the metaverse, quality relates to graphics/3D modelling/detail and visible characteristics that increase products' perceived value. As technology, graphics processing, and design techniques improve, the quality of virtual products will arguably increase, and the evaluation criteria come to be redefined in accordance with new standards.

Though many interviewees appear unfazed by brands in the metaverse, for some they can heighten or diminish the perceived value of a product, independent of its actual characteristics, just like in the real world (Smith & Colgate, 2007). Interestingly, pre-existing knowledge and connotations of quality and function from real brands and products subconsciously translate into the metaverse. When discussing virtual shoes on Roblox, one user claims she prefers real Converse over "inspired-by" Converse owing to the poor quality of fakes. Another reflects over the impracticality of a small virtual bag even though bags cannot be used to carry anything in Roblox. This demonstrates that perceptions of functional value do not always consider the new parameters presented by virtual environments, and rather extend accepted concepts of quality from the physical world.

The data show a polarity in opinion as it pertains to the longevity of virtual products. Many users experience enhanced functional value as items are seemingly unbreakable and will last forever

(Atasay & Morewedge, 2017). Some express heightened willingness-to-pay for virtual products due to this perceived perpetuity (Golf-Papez et al., 2022). Contrarily, many remain hesitant towards spending money on them, downplaying their worth due to their limited use to the virtual world. Similarly, some users find virtual consumption less satisfying than physical consumption because they consider virtual products to be less permanent. This is driven by concerns that the game platform might shut down, or that they will stop playing, which would render the virtual products useless. Some users take this stance after being hacked and consequently losing their collected/earned inventory. This supports the argument that virtual products may be perceived as more ephemeral and unstable than physical ones (Petrelli & Whittaker, 2010). Conversely, if visions of the future metaverse as fully interoperable across platforms and devices (Golf-Papez et al., 2022) materialise, it could mitigate this. Virtual products could then be used more widely and interchangeably across all virtual environments rather than just one platform, and thus be perceived as less transient.

Virtual products' flexibility and formability, undefined by the laws of physics, afford users greater freedom to consume virtual products based on their capacity to look a certain way or fulfil certain aesthetic or psychological goals. In the metaverse, consumers do not have to consider attributes like model, fit, or fabric/materials. When comparing physical to virtual consumption, interviewees describe the former as being steered by comfort, practicality, and suitability considerations. Relating to product size and fit, some feel constrained by the limited product offerings available for certain body types. Others' body insecurities prevent them from shopping for clothes in the real world. They experience significant value in virtual products' ability to take any shape/form to fit their avatars. Described as more available and accessible, virtual products allow users to experiment and express themselves in ways they could never imagine in reality. They can be regarded as more readily meeting desired characteristics (Smith & Colgate, 2007) of reliability/aesthetics/flexibility/form. Moreover, as several functional criteria become irrelevant (e.g., warmth of a coat or comfort of a pair of jeans) virtual products can instead be evaluated against more emotive, experiential qualities like uniqueness/novelty/fun (Overby & Lee, 2006). This reinforces the predicted shift from functional to experiential value (Dwivedi et al., 2022b).

5.2.2 Performance-Enhancing Appearances

Whilst virtual products are not subject to traditional performance criteria, their consumption is nevertheless attributed to certain performance-enhancing benefits. An important driver of perceived value is a virtual product's capacity to enhance the user experience and/or performance. Consumers often tactically choose clothes or skins to afford them various gameplay advantages. Performance-related attributes largely relate to making characters more identifiable, or to camouflaging and making them less visible to enemies. The plethora of options available arguably enhances value on both extremes, as consumers can relatively unhindered choose products that best serve their desired needs.

In Minecraft, armour serves more than appearance as it provides protection from threats. Armour is built with materials mined or bought and represents different statuses depending on the material used. Diamond is considered the best armour as it provides the most protection and is also the most

difficult to attain. Therefore, some of the useful, performance-related aspects of functional value seemingly translate into the metaverse (Smith & Colgate, 2007).

Appearance-related consumption is also used to signal status and group belonging (Boellstorff, 2008). Certain skins signal skill/commitment/intimidation and users can leverage their appearance to influence how others interact with them.

5.2.3 Functional Value in the Metaverse Summarised

Consumption of virtual products in the metaverse presents new forms and definitions of function that stem primarily from in-game user experience and capabilities, or visual cues like graphics/design/aesthetics. Since the practicality of items as it pertains to material/size/comfort/wear, becomes largely obsolete, functionality evolves to become more experiential and symbolic in nature. It represents value-adding performance benefits, freedom of expression, quality, or status. As illustrated with the example of the diamond armour, the usefulness and desired performance of virtual products is often determined by the specific game parameters.

5.3 Experiential Value

The literature review and empirical findings demonstrate that metaverse engagement is driven by experience, pleasure, and fantasy. Virtual consumption therefore caters to several aspects inherent to experiential value. Sensory, emotional, epistemic, and social-relational value (Smith & Colgate, 2007) are widely observed in the data, positioning the metaverse environment as a supercharged source of experiential value.

5.3.1 Immersion

Parallels can be drawn between metaverse fashion and hospitality consumption since immersive experiences are central to both (Buhalis et al., 2023). Roblox, Minecraft, and Fortnite, despite offering simplistic metaverse experiences accessed via mobile, tablet, standard console, or computer instead of via VR/AR, allow users to become immersed in and interact with millions of virtual worlds, experiences, and people. Sensory value is perceived through aesthetically-rich experiences wherein users are transported through ambient, 3D environments and parallel universes. Users dress their avatars to fit the virtual world they inhabit, which further suggests a link between avatar appearance and in-game immersion.

While lack of touch is a limitation for consumption in digital settings like e-commerce websites (Ruusunen et al., 2023), virtual products are evaluated against different criteria than their physical counterparts. Sensory pleasure derived from touch in the material world is experienced via enhanced auditory and visual cues in the metaverse (Gursoy et al., 2022). Users infer the tactile qualities of virtual products, such as the softness of a fabric, based on visual attributes. Users' willingness-to-pay more for what they perceive as higher quality Layered Clothing demonstrates this sensory inference. Notably, as technology develops and VR/AR become more accessible, future

metaverse applications may be able to serve tactile, olfactory, and gustatory senses too. If so, even greater experiential value could be unlocked (Gatter et al., 2022).

Despite current limitations in certain sensory stimuli, metaverse consumption yields strong perceived value along the experiential dimension due to users' ability to embrace their emotions through virtual products. They can easily update their outfit to reflect their mood or an aura they want to channel. When happy, they can change their avatar's facial expression to a smile and their clothes to colourful rainbow designs to manifest that. Emotions are thus more readily expressed than in the physical world. This desire to embody one's internal state of mind through one's appearance further indicates a sense of immersion in virtual worlds.

Metaverse consumption can be seen as driven more by experience than by necessity. In reality, users shop mostly because it is essential to *have clothes on their back*, whereas in the game they consume to be creative and emotionally expressive. The playful virtual product types available and the relative ease with which they can acquire them incentivises users to change outfits several times daily to channel their emotions or to experiment with out-of-the-ordinary things they would not feel comfortable wearing in real life.

5.3.2 Stimulation

Enjoyment is a primary predictor of consumption through digital platforms in peer-to-peer accommodation services (Luchs et al., 2011; Hamari et al., 2016). Enjoyment is a prerequisite for virtual consumption in the metaverse too, and a key driver of emotional and epistemic value. Users must enjoy the challenges, competitions, and other experiences in the metaverse to be willing to spend time/money consuming and customising virtual products. This raises the important question of whether non-users, those not active on online social gaming platforms, would perceive value from virtual products. If not, virtual consumption would remain limited to the gaming community, and the potential to replace physical consumption with virtual consumption is also unlikely.

Enjoyment and stimulation extend beyond gameplay to the act of "shopping" itself. Shopping is an often mindless act that consumers engage in when bored, sad, or in the absence of other things to do (Atalay & Meloy, 2011; Csikszentmihalyi, 2000). Virtual consumption stimulates users, providing a sense of engaged mindfulness which, likened to a state of tuned consciousness (Csikszentmihalyi, 2000), underlies the slow fashion movement (Pookulangara & Shephard, 2013; Thorpe, 2010). Users experience conscious flow when consuming virtual products through goal-directed activities like reward-driven gameplay or customisation.

Some even recognise that the enjoyment from acquiring something new virtually lasts longer than in reality owing to the time spent acquiring/customising it. This finding has promising implications for the wider sustainable consumption discussion since it suggests that metaverse consumption can provide the entertainment sought after in physical consumption, and thereby potentially partly substitute it. This will be revisited in (5.5) since experiential value from mental stimulation relates closely to energy expended: the more time/effort/money it takes to acquire something, the greater

the satisfaction/benefit/fulfilment it can provide (Cialdini, 2001; Csikszentmihalyi, 2000; Hamari, 2015).

5.3.3 Escapism

Virtual consumption serves the desire for fantasy and curiosity (Denegri-Knott & Molesworth, 2010). Supportive of this, the data showcase the importance of epistemic value. The metaverse's ability to provide escapism and an outlet for discovery and creativity through virtual products is an important driver of experiential value. While research on the metaverse for teamwork and collaboration shows that the more realistic the appearance of avatars and the surrounding virtual environment, the greater the degree of social presence and the more positive the interaction outcomes (Davis et al., 2009; Hennig−Thurau et al., 2022), the same does not apply to virtual consumption in Roblox, Fortnite, and Minecraft amongst the interview sample. Contrary to Messinger et al. (2019) finding that users generally design avatars to represent their true physical selves, in this case, many prefer to make drastic enhancements to theirs. They perceive value from the ability to experiment freely without the restrictions of the material world. Often, the more novel/strange/unworldly virtual products are, the more value users get from heightened creative stimulation and fun. Virtual products' degree of originality and provocation contributes to enhanced interactional outcomes such as teamwork in missions or friendships through social encounters. For example, unexpected outfits and unique product combinations incite laughter.

The notion that consumers value experiences more than products/services is not new (Pine & Gilmore, 2013), and may be more relevant than ever amongst Generation Z who is known to seek out thrilling experiences and authentic connections (McKinsey, 2020). Epistemic value through infinite, whimsical virtual products is especially salient to the novelty-seeking, fantasy-craving, curious young consumers under study. Whether older generations experience the same satisfaction from virtual products is debatable.

5.3.4 Social Presence

Social presence is a recurring theme in the metaverse literature (Hennig−Thurau, 2022; Oh et al., 2023). Virtual social platforms are prime for enabling and fostering social relationships (Cole & Griffiths, 2007). Social presence is strongly inferred in the empirical data, with the metaverse understood as a "third place", a neutral ground and informal home away from home where users socialise and feel accepted (Oldenburg, 1999). Recognising the importance of social interaction to value perceptions, the data suggest that the stronger social presence experienced by users, the greater perceived value from virtual consumption.

Social-relational value, relating to social interactions, trust, commitment, and connections (Sheth et al., 1991; Smith & Colgate, 2007), is significant. Virtual products play a central role in the relationships users develop in the metaverse. They express feeling closer to others who wear similar clothes, making assumptions about their character and interests accordingly. Oh et al. (2022) attribute the social benefits observed amongst young Roblox users in Korea, such as supportive interactions and social self-efficacy, to the social presence facilitated by the platform through its

strong visual cues. Similarly, users in this study experience social benefits like enhanced collaboration and communication through interacting over virtual products. Humour, another component of experiential value, is central to many in-game relationships and is expressed through virtual products. Users frequently consume virtual products to elicit laughs from friends as a vehicle for bonding and reactions (Smith & Colgate, 2007).

5.3.5 Experiential Value in the Metaverse Summarised

Experiential factors like immersion, stimulation, escapism, and social interaction motivate metaverse use and influence perceived value in virtual consumption. Freedom to experiment and feed the imagination with less time and financial commitment drives value. This is especially true for users whose self-concept is highly linked to fashion and appearance. Recurring references to escapism through the re-worlding opportunities granted by the breakdown of physical constraints and expectations (Kozinets & Kedzior, 2009) is another overarching theme. This highlights the significance of epistemic value to virtual consumption. The analysis of social-relational value as a prominent subset of experiential value underscores the importance of social presence in one's virtual surroundings (Oh et al., 2022). It demonstrates the interplay between the value dimensions, since motivations for playing, notably enjoyment, influence behaviour and perceived value.

5.4 Symbolic Value

Symbolic value is historically linked to physical products. There is ongoing debate as to whether virtual products can elicit the same consumer response as physical ones (Belk, 2013; Lehdonvirta, 2009). The empirical data adds to this discourse by demonstrating that virtual products can be perceived as valuable to *some* consumers.

5.4.1 Self-Concept

Generation Z increasingly sees their virtual selves as an extension of their physical selves, which demonstrates a level of personal investment in the metaverse (Belk, 2013; Lee & Malik, 2021). As observed, the in-game perspective determines if users see themselves in the game, and likewise to what extent they personally identify with their avatar. With a first-person view, users tend to disassociate from their character. The importance of avatar appearance, and accordingly the value of virtual products, diminishes. When one sees oneself playing, a stronger connection to the avatar is observed and appearance is deemed more important. Those who feel re-embodied in their avatars place greater meaning in virtual products consumed for it (Belk, 2013). In this case, more value is therefore perceived from virtual products in the third-person perspective.

Some research suggests that people prefer physical goods over their digital equivalents (Siddiqui & Turley, 2006; Petrelli & Whittaker 2010; Atasoy & Morewedge, 2017). This study finds that virtual products can hold just as much meaning as physical ones. Several users observably have strong emotional connections to their virtual products, for whom they form part of their self-concept. In line with Lehdonvirta (2012) argument that virtual products are phenomenologically real and of true substance to their owners, the interviews indicate that for users heavily invested in the metaverse,

virtual products hold just as much, if not more, meaning as physical products. For them, physical products are less relevant. They spend more time on virtual consumption and their avatars' appearance than they do on themselves in reality because the metaverse is where they devote their time. One might argue that the degree of immersion, and the extent to which users see themselves as their characters, increases the meaning of virtual products and therefore their perceived value.

Previous literature further argues that perceived control is a prerequisite for psychological ownership, and that this is one value-enhancing characteristic of physical goods compared to digital goods (Watkins & Molesworth, 2012; Atasoy & Morewedge, 2017). In this study, the ability to customise virtual products helps users achieve a sense of control and thereby attachment. Similarly, acquiring products through mining, trading, or winning missions creates a sense of ownership. As such, virtual products can appeal to consumers' self-concepts and self-worth by making them feel good about themselves through acquiring and owning something new (Smith & Colgate, 2007), and through personal development or pride in creating or customising something.

5.4.2 Self-Expression

Users cultivate an oftentimes fluid identity for their avatar, over which they have full control to change its features (Bélisle & Bodur, 2010). Users recognise and appreciate the possibility to look like and be whoever/whatever they want to be, with little to no hindrance (Bryant & Akerman, 2014).

The variation afforded through infinite choice and customisation is an attractive feature for those wanting to express their tastes, personalities, and values (Smith & Colgate, 2007). Some strive to create an iconic personal image through creative, fantastical virtual products. They regularly add to their wardrobes, complementing existing outfits with eclectic pieces to create a distinctive look. In this light, metaverse consumption represents the pinnacle of unbounded self-expression. For others, self-expression means designing and dressing their avatars to resemble their real-life attributes, personality, and style (Bryant & Akerman, 2014). This highlights the individual, context-dependent nature of consumer value (Holbrook, 2005; Smith & Colgate, 2007) and the metaverse's prime positioning to satisfy users at both ends of the spectrum.

Clothes and possessions in their physical form are recognised as being closely linked to self-expression and group identity through external signalling. Given the enormous reach of the metaverse, it represents a perfect stage from which to broadcast oneself and one's curated style to millions of users worldwide. Virtual products can better serve symbolic needs because users can share them to a greater audience than possible in the real world (Belk, 2013). Users living in small towns or who do not attend many social events acknowledge this. They admit that even if they buy clothes for themselves in person, they have nowhere to go and no one to show them to. There is more opportunity to flaunt new purchases through social interactions in the metaverse, which makes them more exciting and attractive.

Interestingly, the researchers observe that participants are happy to share photos of their avatars but opt to keep their cameras off throughout the verbal interviews, thereby concealing their "real"

visual identities. While this may not be transferable to all metaverse users, it supports the idea that the metaverse empowers users to construct and communicate a sense of self through their avatars that they otherwise may not find the means to.

5.4.3 Social and Conditional Meaning

The presence and acknowledgement of others in one's consumption environment is arguably a prerequisite for social and conditional meaning (Smith & Colgate, 2007). Notably, like in the real world, metaverse users are subject to normative information from their surroundings regarding what to wear and how to look. Many experience pressures to conform to social norms and succumb to expectations from others regarding virtual consumption. Several admit to judging others based on their appearance and style, or to feeling judged by others.

Thus, virtual consumption appears to be driven by similar social values as physical consumption. Attuned to which clothes and accessories are paid-for versus free in Roblox, users associate paid-for products with superior fashion-status and style. In Minecraft, users distinguish between a custom-made and freely downloaded skin, the former appreciated for its skill and dedication. Likewise, in Fortnite it is often recognised whether an outfit is purchased or earned, with the latter commanding greater respect, especially if associated with advanced gameplay levels. These products come to parallel branded or luxury goods in the real world, becoming sought after social currency for users invested in the game.

Social and conditional meaning are enhanced through factors like number of friends, time spent playing with others versus playing alone, and the nature and quality of interactions. Users who play completely alone or with a small group of friends, spend less time/money on virtual consumption and perceive less value in it. Contrastingly, virtual consumption is more important for those who play to socialise, make, or nurture friendships. Often, the more friends in the game, the more users care about appearance and value virtual products. Others are primarily concerned about appearance when playing with strangers, as it is how first impressions are formed.

Both users who seek to express themselves reflectively of reality, and those who seek to express themselves imaginatively, look for uniqueness in virtual products. Paradoxically, products consumed by users claiming to strive for uniqueness are often found amongst those trending, ranked by popularity in the avatar-store. As such, a tension exists between users' desire for individuality and for belonging through conforming to socially accepted trends. Uniqueness is also referred to regarding strategic gameplay outcomes like pinpointing one's character or signalling status to others in the game (Wang et al., 2009). The trade-off between wanting to be unique and wanting to fit in thus stems not only from consumers' competing psychological needs for both identity and belonging, but also from a gameplay performance and functionality perspective.

5.4.5 Symbolic Value in the Metaverse Summarised

The inherently social nature of the metaverse makes it a suitable environment for symbolic value as it offers a platform from which users can virtually broadcast themselves to millions of others. Through their avatars, they can express their personalities and style, seeking affirmation and

acceptance. Symbolic value through self-expression is underscored by experiential value as it pertains to excitement, fantasy, and fun, as well as to connectedness and bonding. This is because the unbounded ability to express themselves through virtual products is a vehicle for self-expression, enjoyment, and connection.

5.5 Cost Value

Recognising consumers as value maximisers, they strive to increase the benefits from consumption relative to the costs/sacrifices (Thaler, 1985; Zeithaml, 1988). The metaverse calls for a nuanced approach to the cost value dimension.

5.5.1 Time/Effort Invested

Time/effort are important mediators of value. Users appreciate how quickly and easily they can consume virtual products in the metaverse. The speed of acquisition makes it less risky to try daring, new things which further enhances the symbolic value potential.

The opposite relationship between time and value is also observed: the longer it takes to acquire something, the more value it holds. Ultimately, users who are heavily invested in the metaverse and dedicate their time to virtual worlds, perceive more value from virtual products. Time is generally found to be more strongly correlated to perceived value than price. As Belk (2013, p. 480) acknowledges, "*we invest psychic energy in virtual possessions with which we spend extended amounts of time.*" Moreover, the feeling of tuned consciousness from active stimulation also increases perceived value. The more energy in terms of time/effort expended to acquire something, the greater sense of satisfaction and fulfilment it provides (Csikszentmihalyi, 2000). Time aristocracy, describing the attachment to virtual products that arises from the time or work invested to consume them (Lehdonvirta, 2009), is apparent in the data. However, even mindless "shopping" or retail therapy (Atalay & Meloy, 2011) occurs in the metaverse, with some users claiming to spend hours scrolling through the avatar-store in search of products to complete an outfit, sometimes unknowingly ex ante of what they are looking for. Often, this occurs between matches or when waiting for friends to log on, downtime representing a vacuum to fill. This suggests that virtual consumption parallels physical consumption and that similar motivations apply to both.

Users who claim to not take the game that seriously, who do not spend much time, or have as many friends in it as they do in reality, deprioritise virtual consumption. A correlation between time and perceived value can therefore be inferred. Furthermore, cost value through time is likely heightened by experiential value since fun and game enjoyment are a prerequisite for users to be willing to engage in gameplay and customisation.

5.5.2 Financial Investment and Risk Evaluation

New digital technologies and social media enable seamless omnichannel shopping experiences that offer lower search time, better convenience, lower prices, and social validation (Lemon & Verhoef, 2016). Today's consumers generally look to maximise convenience and minimise costs which is

partly supported in the data. Most users are price sensitive and seek to minimise costs. Users benefit from being able to purchase more virtual products for their avatars than for themselves: it is cheaper and less of a commitment to pay $5 for a virtual clothing item than $50 for a physical one.

However, this cost-value mechanism only seems to hold up to a certain point. Completely free items or infinitely downloadable ones are less valued. This might be explained by the fact that it is difficult to view them as "*perfectly unique, nonfungible, and singular*" (Belk, 2013, p.481). The ability to download free Minecraft skins with one click undermines their perceived value. From a value maximisation perspective, though the financial investment is zero and personal sacrifice is negligible, it renders these virtual products insignificant. The relationship between cost and perceived value of virtual products may therefore be non-linear, just like luxury, brand or designer goods in the material world can lose value when their price decreases (Kapferer & Bastien 2012).

Virtual products' value is also assessed against their uniqueness and, relatedly, resale value. Greater uniqueness through novelty, scarcity, limited time, or reward offer, increases the resale value and minimises perceived financial risk. It arguably also contributes to greater experiential value because users get enjoyment from speculating, investing in, and trading virtual products and the prospect of making money. Spend and willingness-to-pay vary by game, with users more likely to spend money on virtual products in Fortnite where appearance is regarded as the most important.

5.5.3 Commitment and Sunk Costs

Many acknowledge that virtual consumption involves less financial commitment and practical risk. Virtual products are more affordable, generally deemed as less breakable, and more adaptable to any body type. Virtual purchases are less considered and require less information in the form of research, price comparisons, ingredients, country of origin, materials. Moreover, it is highly convenient that one does not need to physically try on products to ensure they fit or are comfortable, enabling users to consume in a more carefree way.

An escalation of commitment is observed amongst users that spend a lot on virtual products. They display a self-justification approach, emphasising the enjoyment that past consumption has given them and use it to legitimise future consumption. In line with previous research, users who have already spent time/money on virtual products for their avatar are more committed to continue using these products and consequently enjoy the experience more (Hamari, 2015). Similarly, users are observed to convert potential sunk costs from virtual products consumed into future value and enjoyment in metaverse consumption. Whether actual or rationalised, those who have purchased virtual products make a point of using them (Thaler, 1985), frequently changing outfits and mixing and matching items to get wear out of them.

5.5.4 Cost Value in the Metaverse Summarised

The data imply that perceived value is not a simple value-maximising, benefit-less-cost equation in metaverse consumption. The influence of cost value is paradoxical as it holds the potential to both increase and decrease perceived value. Undoubtedly, there is value in how quickly, cheaply, and

easily consumers can consume virtual products relative to physical ones. Initially, perceived value decreases as price increases because products become less accessible, creating frustration and sometimes jealousy amongst those who cannot afford them. Contrariwise, free items are not regarded as equally desirable as paid-for ones.

Generally, time and effort are stronger value drivers than cost, with perceived value being found to increase with time spent consuming virtual products. Interestingly, this contrasts to physical consumption, especially fast-fashion, in which consumers expect speed, convenience and instant gratification (Pookulangara & Shephard, 2013). In the metaverse, consumers perceive value from time-consuming, goal-oriented consumption that yields a sense of achievement and pride (Csikszentmihalyi, 2000). Virtual products become a token of one's expended efforts and garner a sense of attachment from their owners (Belk, 2013). These findings highlight the apparent link between cost value and experiential value since, for users to be willing to spend the time, they must enjoy the process.

5.6 Conceptual Model

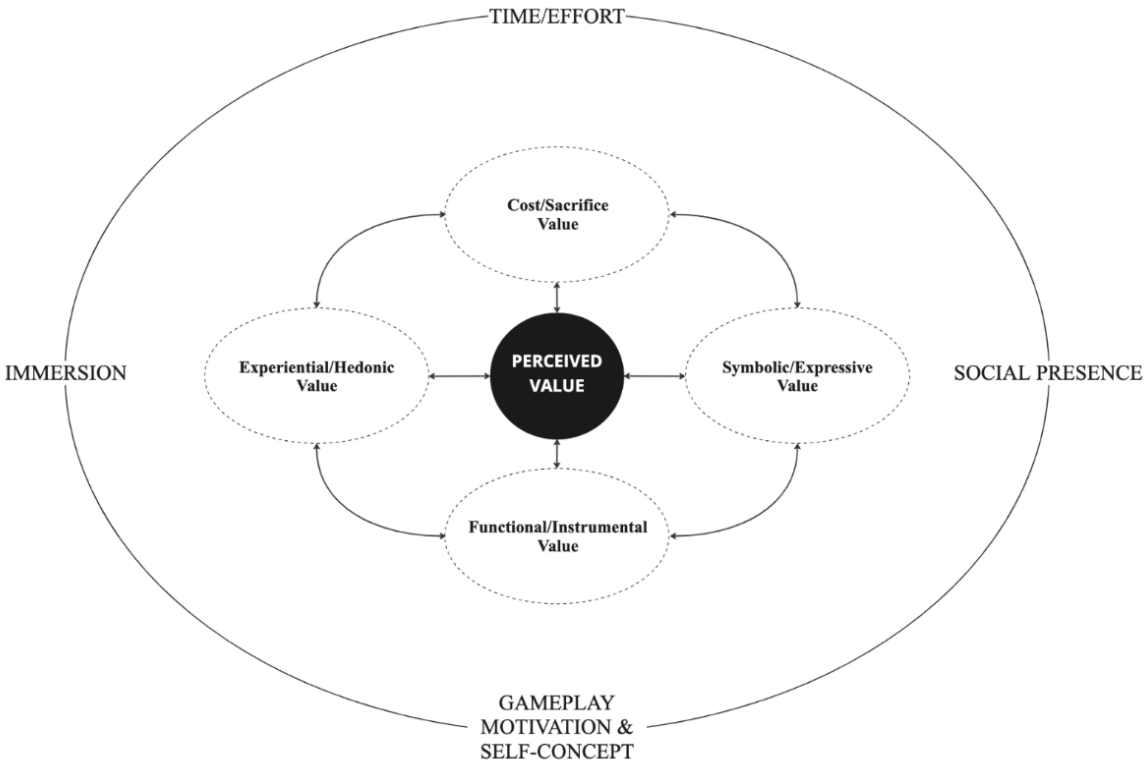


Figure 2. Conceptual Model

As illustrated in Figure 2, and in line with extant literature (Sweeney & Soutar, 2001; Smith & Colgate, 2007), perceived value is best described through a complex interplay of multiple, interconnected value dimensions. Some, or all, of the value dimensions interact to influence a consumer's unique perception of value in a specific situation, represented by the arrows between

the value dimensions and overall perceived value. These value dimensions are observed to be less distinct in metaverse settings than in traditional consumption contexts and the lines between them begin to blur, depicted visually in the model using dotted lines.

The above analysis (5.1-5.5) suggests that the metaverse is an entertainment channel at its core and incites a shift to experiential value, since users play and consume out of enjoyment. A backdrop of experiential factors seem to influence all consumer perceived value in metaverse consumption, further enhancing the interplay between the different value dimensions. These are captured by four experiential categories (immersion, social presence, time/effort, gameplay motivation and self-concept) which are portrayed conceptually by a third layer in Figure 2. To further the understanding of and derive meaning to this dynamic interplay, these specific metaverse categories are explored through the lens of the empirical findings. However, the study's inductive and interpretive nature inhibits strong conclusions and relationships to be drawn. Therefore, insights are presented as a series of theoretical propositions (i-vi) on which the researchers call for further research.

Immersion and social presence are observed to determine how psychologically, sensorily, and socially invested users are. (i) As users become more immersed in the virtual environment, they distinguish less between their virtual and physical realities. This allows them to perceive greater value in the virtual products they consume through greater attachment and sense of ownership. Relatedly, (ii) the greater the social presence experienced by users, the closer they feel to others, and the greater number and authenticity of friendships and virtual interactions they have in the metaverse. This creates more opportunity to experience e.g. social-relational value or value through social and conditional meaning and self-expression.

Equally, the more immersed and socially present users are, the more time/effort they are likely to spend in the metaverse. Correspondingly, (iii) time/effort are interpreted to be more important drivers of cost value than price per se and relate to experiential value pertaining to enjoyment. Virtual products acquired through hours of gameplay, achievement, and personal development garner strong psychological meaning and therefore the potential for strong symbolic value. Despite users appreciating the relative affordability, ease, and speed with which they can consume virtual products, they typically experience greater value from those that command more psychic energy than those they can quickly and easily consume.

Gameplay motivation and self-concept closely relate to a user's invested time/effort and degree of social presence and immersion and further influence the perceived value of virtual products. (iv) Users focused on gameplay will likely value performance-enhancing virtual products that elevate their user experience and whose functionality enable them to advance in games. (v) Users with a strong self-concept, for whom appearance is important and who are passionate about fashion, value aesthetically-appealing virtual products and attributes like detail, design, and formability that serve creative expression. This highlights how value is uniquely perceived by individuals, is less clearly attributed to one distinct value dimension, and is determined by different metaverse-specific experiential factors like users' motivation for playing and how they view themselves in the virtual world.

The experiential categories observed in the data are transient in nature and moreover, influenced by each other. (vi) Their effects on overall perceived value are circular and self-reinforcing in the sense that the more immersed and socially present users are, for example, the more value they derive from virtual consumption and vice versa. The more value users perceive from consuming virtual products, the more inclined to further immerse themselves and socialise in the game, and the more enjoyment they consequently experience from their virtual products through an escalation of commitment that incentivises continued use and commitment of time/effort. Bi-directional arrows are used to convey this symbiotic relationship between perceived value, the value dimensions and mediating metaverse factors.

The model's third layer highlights how metaverse-settings are unique in their capacity to create user experiences that meld physical and virtual realities. As such, they have the potential to elevate consumers' perception of value in virtual products in line with physical products. Arguably, the existence of immersion, social presence, time/effort, and gameplay motivation and self-concept in the metaverse unlocks its potential to generate consumer perceived value similar to that arising in physical consumption.

The mediating experiential categories are reminiscent of the value sources identified by Smith and Colgate (2007), but are more suitable at capturing the experiential, user-driven context of the metaverse than firm-orchestrated activities are. Social presence and immersion, for example, capture aspects relating to interactions and environment but emphasise the user's subjective experience of the relationships to and level of engagement with others and the surroundings in the metaverse.

6. Conclusion

6.1 Theoretical Contribution

This study investigates perceived value in a novel, growing area. It addresses an apparent gap in the research through a consumer-centric approach that integrates learnings from active metaverse consumers with previous work on consumer value and the metaverse respectively. By acknowledging new parameters unique to the metaverse, the study extends commonly accepted concepts of value to a new digital setting. The resulting conceptual model (Figure 2) illustrates several interconnected factors that shape perceived value which, together with the adapted value matrix (Table 14), can be used to aid the understanding of metaverse value opportunities.

Perceived value in metaverse consumption arises from users' personal experience of immersion, social presence, time/effort, gameplay motivations and self-concept to virtual environments rather than directly from value-chain activities orchestrated by organisations (Porter, 1985; Smith & Colgate, 2007). It is less defined by brand-owned communication (information), product/service offerings (product), point of sales (environment), staff/servicing (interactions), or transactions/check-out (ownership/transfer) and more determined by shared user experiences,

metaverse-specific platform parameters, and users' personal enjoyment and commitment. Like in physical consumption, perceived value is highly individual.

	Types of Value			
Sources of Value	***Functional/Instrumental***	***Experiential/Hedonic***	***Symbolic/Expressive***	***Cost/Sacrifice***
Information	Creator/designer or UGC 3D Layered Clothing vs. free products.	Colourful, striking visual stimuli, 3D, and motion graphics.	Newness (latest = greatest), trending (ranked by popularity), Battle Pass and seasonal releases.	Price, time in hours of gameplay or effort in missions to accomplish or battles to win.
Products	Quality through graphics and level of detail in design, durability, formability, performance-enhancing materials or product types.	Fantasy-filled, unworldly, affording in-game superpowers, game-play enhancing.	Limited editions, collectibles, colourful, unique.	Price, no risk of breakage or damage; resale value and ability to trade for profit.
Interaction *(user-user)*	Camouflaging clothes to blend in or distinctive clothes to stand out; team uniforms.	Provocative, surprising clothes that make others laugh and garner a reaction.	Group belonging and affiliation through matching clothes or shared interests expressed via clothes.	Interacting with others through trading and reselling clothes.
Environment *(specific experience, season release)*	First-person perspective to actually see one's self/avatar.	Game environments requiring teamplay and tactics; fashion-focused experiences.	First-person perspective heightens the extent to which users identify with their avatar and the value they get from virtual products.	Acceptance and social norms in different game environments; stigma around paying for virtual products.
Ownership/ Possession	Avatar store check-out experience and viewing one's new purchases in one's inventory.	Products earned through achievement, customisation, the ability to trade and make money.	Display of one's earnings.	Ease with which one can buy and use in-game currency; minimum spends.

Table 14. Adapted Consumer Value Matrix (Smith & Colgate, 2007)

The study contributes to the debate around whether virtual products are equally regarded as their physical counterparts. The results do not conclusively support either argument but rather suggest that the perceived value of virtual products relative to their physical counterparts is subjective and context-dependent. Physical products continue to command higher willingness-to-pay amongst many consumers who remain dismissive of paying for *only virtual* products. Contrarily, virtual products hold more value than physical ones for those who devote more psychic energy to the metaverse. The fact that certain individuals derive the same sense of value from virtual products as physical ones has positive implications for the sustainable consumption discourse as it supports a potential future shift from physical to virtual consumption. Granted, one cannot dismiss the environmental impact of physical hardware manufacturing, network infrastructure, or energy-intense data servers necessary to power the metaverse (Jauhiainen et al., 2022).

6.2 Practical Contribution

To create successful brand and consumer engagement strategies for the metaverse, it is critical to understand what consumers value and what influences their behaviour in this new digital context, and the findings generate some practical implications to consider. As described, the insights are promising for a dematerialised future because they insinuate that virtual consumption can, for some consumers, fulfil the same needs that physical consumption does. It may better serve the void that people use shopping to fill through superior mental stimulation and tuned consciousness. Consumers value experiential, goal-oriented consumption because it generates a feeling of achievement and pride.

Practitioners who wish to increase consumer perceived value should therefore develop their consumer experience journeys, and specifically the acquisition phase, to recreate this. Where possible, brands could gamify consumption contexts and increase customisation opportunities to simulate the state of conscious flow achieved in metaverse consumption and activate the same achievement-reward value-dynamic. This aligns with the slow fashion movement which encourages a more considered approach to consumption to make purchases be perceived as more valuable and less replaceable (Pookulangara & Shepherd, 2013; Thorpe, 2010).

Many users prioritise virtual over physical consumption because the metaverse is where they are the most committed. Though some brands benefit from their existing brand equity transferring into the metaverse, consumers are generally less influenced by and loyal to brands. Instead, they look for creators and creations with original designs. In support of decreasing physical consumption, managers must dare to think beyond the parameters that define their brands and products in the material world to develop a unique virtual offering that appeals to young consumers' desire for fantasy-filled, unworldly experiences. Luxury brands can no longer differentiate on the basis of claims like the "finest Italian leather" and must instead find other ways to convince consumers that their virtual products are worth paying for. They could partner with up-and-coming creators, giving them creative freedom to interpret their brands for specific metaverse experiences and contexts. New criteria for evaluating value to consider when developing virtual products include graphics, detail, formability, performance-enhancements, degree of novelty, and provocation.

One barrier to virtual consumption replacing physical consumption is an apparent stigma around spending money on virtual products. Brands, developers, and opinion leaders can try to normalise this by acknowledging virtual products as equal, or even superior, to their physical counterparts. By investing more in metaverse experiences and weighting marketing efforts towards virtual products, they can signal this shift in focus and reward engaged metaverse consumers.

Concerning the immateriality of virtual products and the implications on attachment and willingness-to-pay, a few recommendations emerge. Stakeholders can try to simulate an impression of non-replicability and permanence. They should prioritise limited editions and collectibles valued for their scarcity and rarity. Allowing users to freely customise virtual products heightens experiential value through creative fun, and symbolic value through self-expression and ownership.

Platform owners can create more opportunities for users to display their virtual inventories, both on the metaverse and other social platforms, to heighten symbolic and social value.

Varying price perceptions imply that brands must be cautious when developing metaverse pricing strategies, opting for a balanced mix of paid-for and free items. They must carefully price products so that users do not perceive them as infinitely available, impersonal objects with no value, but not so expensive as to create barriers-to-purchase or frustration amongst users with little in-game currency.

6.3 Limitations and Future Research

The study aims to gather in-depth user accounts to improve the understanding of a nascent topic. It is therefore important to regard the findings in relation to the specific metaverse games and users studied. The sample size is insufficient to generalise across the metaverse population or to draw conclusions based on gender/age/nationality. A larger global survey with a bigger sample size would be useful to understand if there are differences in perceived value between users of different demographics. As the phenomenon continues to crystallise, future research could quantitatively measure variables like willingness-to-pay, repeat purchase intentions, or brand/creator affinity. It could explore in detail the interplay between price and time/effort and how they contribute to perceived value. Other interesting angles to investigate are how personality traits or factors like employment/profession influence perceived value in metaverse consumption to predict future metaverse consumers.

The decision to study all three games simultaneously is both a strength and weakness. While it gives breadth of insight by shedding light on virtual consumption and value perceptions across multiple platforms, it may limit the depth of insight. As the study progresses, the researchers learn that the games vary significantly in terms of key features and objectives including in-game perspective, gameplay, and avatar appearance. Resultantly, users who play multiple games share more or less detailed responses on different platforms, depending on time constraints or the interview flow. Moreover, some questions/answers are found to be less relevant to some platforms. Future research could replicate the study but focus on one metaverse platform at a time. This would enable a deeper dive into specific user experiences and generate more specific insights on perceived value. Comparative studies into differences observed between gaming platforms would be an interesting avenue for future research to better understand the impact of context on perceived value.

Insights are generated through interviews, which introduces the risk of self-reported bias. Additionally, written interviews, comprising 38% of the sample, do not provide as rich insights since the researchers are unable to ask follow-up questions. This consequently presents potential bias into the interpretation of responses. In defence of the selected method, written interviews are used as a complementary approach due to time pressure to complete the study and the target audience's reluctance to participate in verbal interviews. To supplement the first-person accounts collected through interviews, ethnography and observation of users engaging in metaverse

consumption is recommended as a next scholarly step. This would allow for direct observations of actual behaviour which can validate or disprove reported behaviour and add further richness to the insights. This requires more time, technical capabilities, and participant access than was possible for the purpose of this thesis.

The study observes slight differences between younger and older users, with younger users appearing more appearance-conscious and willing, though not always financially able, to spend on virtual products. A direction for future research is to conduct a longitudinal study which follows active metaverse users over a multi-year period to see how attitudes towards virtual consumption and value perceptions evolve with age. From this, better inferences can be made regarding the long-term potential of metaverse consumption.

Similarly, this study focuses on active metaverse users from a digitally-savvy generation. It would be interesting to understand the attitudes towards virtual consumption amongst older generations. To truly understand whether virtual consumption can complement or substitute physical consumption in the future, non-metaverse users must also be studied to predict if they would perceive value from, and therefore engage, in virtual consumption. As recognised, resistance to virtual worlds like the metaverse persist due to its strong associations with gaming (Davis et al., 2009).

Beyond mitigating its shortcomings, the authors hope the study inspires additional research on the topic. The finding that value is highly attributed to hedonic experiences and social interactions amongst users, implies that the phenomenon would benefit from being studied from a value co-creation perspective. Given the evidence of heightened experiential value, it would also be relevant to apply a consumer experience journey framework to understand how metaverse consumption may support, complement, or replace today's omnichannel journeys.

The study highlights that perceived value is inherently linked to the context in which it arises. Since the metaverse consumption context continues to evolve in line with technological developments, extended use cases and increased adoption, it calls for ongoing study of value perceptions.

6.4 Concluding Remarks

The explorative study offers insights into a growing topic. Many consumers perceive value in consumption of virtual products in metaverse settings similarly to how they do in physical consumption. Virtual consumption is often driven by, and in many cases able to fulfil, similar needs as physical consumption.

Value dimensions conceptualised for consumption contexts in the physical world translate, to an extent, to virtual consumption. While perceived value is best described by an interplay between these dimensions, experiential value is found to be the cornerstone of all perceived value in the metaverse. It interacts with functional, symbolic, and cost value dimensions to influence consumers' overall assessment of virtual products. Fundamentally, they all relate to enjoyment through the immersive environment and social presence of this giant virtual social playground. In

the rise of the experience economy, the former caters to consumers' increasing desire for satisfying experiences and memorable events over products. As social beings, the latter caters to consumers' need for belonging and connection, ultimately a key driving force behind consumption. As such, the metaverse is well-positioned to fulfil deep-rooted psychological needs relating to stimulation, self-expression, social identity, and belonging amongst others.

We may be living in a material world, but the shift to immaterial consumption is not only necessary from an environmental standpoint but, according to this thesis, becoming increasingly possible with the developments of the metaverse and the consumer value perceived therein.

7. References

Abbott, L. (1955). *Quality and competition : An essay in economic theory*. New York: Columbia University Press.

Atalay, A. S., & Meloy, M. G. (2011). Retail therapy: A strategic effort to improve mood. *Psychology & Marketing, 28*(6), 638-659. doi:10.1002/mar.20404

Atasoy, O., & Morewedge, C. K. (2018). Digital goods are valued less than physical goods. *The Journal of Consumer Research, 44*(6), 1343-1357. doi:10.1093/jcr/ucx102

Bailenson, J. N., Swinth, K., Hoyt, C., Persky, S., Dimov, A., & Blascovich, J. (2005). The independent and interactive effects of embodied-agent appearance and behavior on self-report, cognitive, and behavioral markers of copresence in immersive virtual environments. *Presence : Teleoperators and Virtual Environment*, 14(4), 379-393. doi:10.1162/105474605774785235

Baumgartner, I. (2012). Handling interpretation and representation in multilingual research: A meta-study of pragmatic issues resulting from the use of multiple languages in a qualitative information systems research work. *Qualitative Report, 17*(42), 1.

Bélisle, J., & Bodur, H. O. (2010). Avatars as information: Perception of consumers based on their avatars in virtual worlds. *Psychology & Marketing; Psychology & Marketing, 27*(8), 741-765. doi:10.1002/mar.20354

Belk, R. W. (1988). Possessions and the extended self. *The Journal of Consumer Research, 15*(2), 139-168. doi:10.1086/209154

Belk, R. W. (2013). Extended self in a digital world. *Journal of Consumer Research, 40*(3), 477-500. doi:10.1086/671052

Bell, E., Bryman, A., & Harley, B. (2019). *Business research methods*. Oxford: Oxford University Press.

Boellstorff, T. (2008). *Coming of age in second life : An anthropologist explores the virtually human*. Princeton: Princeton University Press.

Brown, P., & Rans, R. (1984). Material girl [recorded by Madonna]. On *Like A Virgin*. Sire: Warner Bros.

Bryant, J. A., & Akerman, A. (2014). Finding mii: Virtual social identity and the young consumer. (pp. 127-140)

Buhalis, D., & Karatay, N. (2022). Mixed reality (MR) for generation Z in cultural heritage tourism towards metaverse. In J. L. Stienmetz, B. Ferrer-Rosell & D. Massimo (Eds.), *Information and communication technologies in tourism* (). Switzerland: Springer International Publishing AG.

Buhalis, D., Lin, M. S., & Leung, D. (2023). Metaverse as a driver for customer experience and value co-creation: Implications for hospitality and tourism management and marketing. *International Journal of Contemporary Hospitality Management, 35*(2), 701-716. doi:10.1108/IJCHM-05-2022-0631

Chahal, G. (2010). There's real money in virtual goods. Retrieved from http://techcrunch.com/2010/06/23/real- money-virtual-goods/

Charlton, E. (2022). 71% of executives say the metaverse will be good for business: here's why. *World Economic Forum.,* Retrieved from https://www.weforum.org/agenda/2022/04/metaverse-will-be-good-for-business/

Cialdini, R. B. (2001). *Influence Science and Practice* (4th ed.). Arizona State University: Allyn and Bacon.

Ciesielska, M., & Jemielniak, D. (2018). *Qualitative methodologies in organization studies. volume II, methods and possibilities*. Cham, Switzerland: Palgrave Macmillan.

Cole, H., & Griffiths, M. D. (2007). Social interactions in massively multiplayer online role-playing gamers. *CyberPsychology & Behavior, 10*, 575-583. doi:10.1089/cpb.2007.9988

Csikszentmihalyi, M. (2000). The costs and benefits of consuming. *Journal of Consumer Research, 27*(2), 267-272. doi:10.1086/314324

Curasi, C. F. (2001). A critical exploration of face-to-face interviewing vs. computer-mediated interviewing. *International Journal of Market Research, 43*(4), 361-375. doi:10.1177/147078530104300402

Davis, A., Murphy, J., Owens, D., Khazanchi, D., & Zigurs, I. (2009). Avatars, people, and virtual worlds: Foundations for research in metaverses. *Journal of the Association for Information Systems, 10*(2), 90-117. doi:10.17705/1jais.00183

Deakin, H., & Wakefield, K. (2014). Skype interviewing: Reflections of two PhD researchers. *Qualitative Research : QR, 14*(5), 603-616. doi:10.1177/1468794113488126

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268. doi:10.1207/S15327965PLI1104_01

Denegri-Knott, J., & Molesworth, M. (2010). Concepts and practices of digital virtual consumption. *Consumption, Markets and Culture, 13*(2), 109-132. doi:10.1080/10253860903562130

Dwivedi, Y. K., Hughes, L., Wang, Y., Alalwan, A. A., Ahn, S. J., Balakrishnan, J., . . . Wirtz, J. (2022a). Metaverse marketing: How the metaverse will shape the future of consumer research and practice. *Psychology and Marketing,* doi:10.1002/mar.21767

Dwivedi, Y. K., Hughes, L., Baabdullah, A. M., Ribeiro-Navarrete, S., Giannakis, M., Al-Debei, M., . . . Wamba, S. F. (2022b). Metaverse beyond the hype: Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management, 66*, 102542. doi:10.1016/j.ijinfomgt.2022.102542

Ellen McArthur Foundation. (2017). *A new textiles economy: Redesigning fashion's future.*

Gatter, S., Hüttl−Maack, V., & Rauschnabel, P. A. (2022). Can augmented reality satisfy consumers' need for touch? *Psychology & Marketing, 39*(3), 508-523. doi:10.1002/mar.21618

Gehman, J., Glaser, V. L., Eisenhardt, K. M., Gioia, D., Langley, A., & Corley, K. G. (2018). Finding Theory–Method fit: A comparison of three qualitative approaches to theory building. *Journal of Management Inquiry, 27*(3), 284-300. doi:10.1177/1056492617706029

Gershoff, A. D., & Frels, J. K. (2015). What makes it green? the role of centrality of green attributes in evaluations of the greenness of products. *Journal of Marketing, 79*(1), 97-110. doi:10.1509/jm.13.0303

Gibson, L. (2010). Realities toolkit #09: Using email interviews, *realities series*, Morgan centre for the study of relationships and personal life, university of manchester. *Morgan Centre for the Study of Relationships and Personal Life, University of Manchester,* (Realities series)

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the gioia methodology. *Organizational Research Methods, 16*(1), 15-31. doi:10.1177/1094428112452151

Gioia, D. A., & Pitre, E. (1990). Multiparadigm perspectives on theory building. *Academy of Management Review, 15*(4), 584-602. doi:10.5465/amr.1990.4310758

Gioia, D. A., & Chittipeddi, K. (1991). Sensemaking and sensegiving in strategic change initiation. *Strategic Management Journal; Strat.Mgmt.J, 12*(6), 433-448. doi:10.1002/smj.4250120604

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory : Strategies for qualitative research*. New York: Aldine.

Golf-Papez, M., Heller, J., Hilken, T., Chylinski, M., de Ruyter, K., Keeling, D. I., & Mahr, D. (2022). Embracing falsity through the metaverse: The case of synthetic customer experiences. *Business Horizons, 65*(6), 739-749. doi:10.1016/j.bushor.2022.07.007

Gourville, J. T., & Soman, D. (2002, -09-01T04:00:00Z). Pricing and the psychology of consumption. *Harvard Business Review,* Retrieved from https://hbr.org/2002/09/pricing-and-the-psychology-of-consumption

Guadagno, R. E., Blascovich, J., Bailenson, J. N., & Mccall, C. (2007). Virtual humans and persuasion: The effects of agency and behavioral realism. *Media Psychology, 10*(1), 1-22. doi:10.1080/15213260701300865

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of qualitative research*. Thousand Oaks, CA: Sage.

Gursoy, D., Malodia, S., & Dhir, A. (2022). The metaverse in the hospitality and tourism industry: An overview of current trends and future research directions. *Journal of Hospitality Marketing & Management, 31*(5), 527-534. doi:10.1080/19368623.2022.2072504

Hamari, J. (2015). Why do people buy virtual goods? attitude toward virtual good purchases versus game enjoyment. *International Journal of Information Management, 35*(3), 299-308. doi:10.1016/j.ijinfomgt.2015.01.007

Hamari, J., Sjöklint, M., & Ukkonen, A. (2016). The sharing economy: Why people participate in collaborative consumption. *Journal of the Association for Information Science and Technology; J Assn Inf Sci Tec, 67*(9), 2047-2059. doi:10.1002/asi.23552

Heard, E. (1993). Walking the talk of customer value. *National Productivity Review (1986-1998); Natl.Prod.Rev, 13*(1), 21-27. doi:10.1002/npr.4040130105

Hennig-Thurau, T., Aliman, D. N., Herting, A. M., Cziehso, G. P., Linder, M., & Kübler, R. V. (2022). Social interactions in the metaverse: Framework, initial evidence, and research roadmap. *Journal of the Academy of Marketing Science,* doi:10.1007/s11747-022-00908-0

Holbrook, M. B. (2005). Customer value and autoethnography: Subjective personal introspection and the meanings of a photograph collection. *Journal of Business Research, 58*(1), 45-61. doi:10.1016/S0148-2963(03)00079-1

Hollensen, S., Kotler, P., & Opresnik, M. O. (2022). Metaverse – the new marketing universe. *The Journal of Business Strategy, 44*(3), 119-125. doi:10.1108/JBS-01-2022-0014

Jarboe, G. R., & McDaniel, C. D. (1987). A profile of browsers in regional shopping malls. *Journal of the Academy of Marketing Science, 15*(1), 46-53. doi:10.1007/BF02721953

Jauhiainen, J. S., Krohn, C., & Junnila, J. (2022). Metaverse and sustainability: Systematic review of scientific publications until 2022 and beyond. *Sustainability (Basel, Switzerland), 15*(1), 346. doi:10.3390/su15010346

Kapferer, J., & Bastien, V. (2012). *The luxury strategy : Break the rules of marketing to build luxury brands* (2nd ed.). London ;: Kogan Page.

Kim, H., Chan, H. C., & Gupta, S. (2007). Value-based adoption of mobile internet: An empirical investigation. *Decision Support Systems, 43*(1), 111-126. doi:10.1016/j.dss.2005.05.009

Kozinets, R. V., & Kedzior, R. (2014). I, avatar: Auto-netnographic research in virtual worlds. (pp. 3-19)

Lag (2003:460) om etikprövning av forskning som avser människor. Utbildningsdepartementet. Regeringskansliets rättsdatabaser, Sveriges Riksdag. Retrieved from https://www.riksdagen.se/sv/dokument-lagar/dokument/svensk-forfattningssamling/lag-2003460-om-etikprovning-av-forskning-som_sfs-2003-460

Lee, D., & Malik, R. (2021). The opportunity in digital fashion and avatars report | BoF insights. Retrieved from https://www.businessoffashion.com/reports/technology/the-opportunity-in-digital-fashion-and-avatars-report-bof-insights/

Lee, E., & Park, J. (2014). Enhancing virtual presence in E-tail: Dynamics of cue multiplicity. *International Journal of Electronic Commerce, 18*(4), 117-146. doi:10.2753/JEC1086-4415180405

Lee, S., & Kim, D. (2018). The effect of hedonic and utilitarian values on satisfaction and loyalty of airbnb users. *International Journal of Contemporary Hospitality Management, 30*(3), 1332-1351. doi:10.1108/IJCHM-09-2016-0504

Lehdonvirta, V. (2009). Virtual item sales as a revenue model: Identifying attributes that drive purchase decisions. *Electronic Commerce Research, 9*(1-2), 97-113. doi:10.1007/s10660-009-9028-2

Lehdonvirta, V. (2012). A history of the digitalization of consumer culture. In M. Molesworth, & J. Denegri-Knott (Eds.), *Digital virtual consumption* (pp. 11-28). London: Routledge.

Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. *Journal of Marketing, 80*(6), 69-96. doi:10.1509/jm.15.0420

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, Calif: Sage.

Luchs, M., Naylor, R. W., Rose, R. L., Catlin, J. R., Gau, R., Kapitan, S., . . . Weaver, T. (2011). Toward a sustainable marketplace: Expanding options and benefits for consumers. *Journal of Research for Consumers,* (19), 1.

Martin, J. (2008). Consumer code: Use-value, exchange-value, and the role of virtual goods in second life. *Journal of Virtual Worlds Research, 1*(2), 2-21.

Maslow, A. H. (1968). Some educational implications of the humanistic psychologies. *Harvard Educational Review, 38*(4), 685-696. doi:10.17763/haer.38.4.j07288786v86w660

McKinsey. (2020). Meet generation Z: Shaping the future of shopping | McKinsey. Retrieved from https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/meet-generation-z-shaping-the-future-of-shopping#/

McKinsey. (2022). Generation Z characteristics and its implications for companies | McKinsey. Retrieved from https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/true-gen-generation-z-and-its-implications-for-companies

Messinger, P. R., Ge, X., Smirnov, K., Stroulia, E., & Lyons, K. (2019). Reflections of the extended self: Visual self-representation in avatar-mediated environments. *Journal of Business Research, 100*, 531-546. doi:10.1016/j.jbusres.2018.12.020

Miao, F., Kozlenkova, I. V., Wang, H., Xie, T., & Palmatier, R. W. (2022). An emerging theory of avatar marketing. *Journal of Marketing, 86*(1), 67-90. doi:10.1177/0022242921996646

Miller, L., & Lu, W. (2018). Gen Z is set to outnumber millennials within a year. *Bloomberg.Com* Retrieved from https://www.bloomberg.com/news/articles/2018-08-20/gen-z-to-outnumber-millennials-within-a-year-demographic-trends

Mourtzis, D., Panopoulos, N., Angelopoulos, J., Wang, B., & Wang, L. (2022). Human centric platforms for personalized value creation in metaverse. *Journal of Manufacturing Systems, 65*, 653-659. doi:10.1016/j.jmsy.2022.11.004

Naturvårdsverket. (2022). *Textilkonsumtion, kilo per person i sverige.* ().Naturvardsverket. Retrieved from https://www.naturvardsverket.se/data-och-statistik/textil/textilkonsumtion/

Nenonen, S., Storbacka, K., & Windahl, C. (2019). Capabilities for market-shaping: Triggering and facilitating increased value creation. *Journal of the Academy of Marketing Science, 47*(4), 617-639. doi:10.1007/s11747-019-00643-z

Oh, H. J., Kim, J., Chang, J. J. C., Park, N., & Lee, S. (2023). Social benefits of living in the metaverse: The relationships among social presence, supportive interaction, social self-efficacy, and feelings of loneliness. *Computers in Human Behavior, 139*, 107498. doi:10.1016/j.chb.2022.107498

Oldenburg, R. (1999). *The great good place: Cafes, coffee shops, bookstores, bars, hair salons, and other hangouts at the heart of a community* Da Capo Press.

Overby, J. W., & Lee, E. (2006). The effects of utilitarian and hedonic online shopping value on consumer preference and intentions. *Journal of Business Research, 59*(10), 1160-1166. doi:10.1016/j.jbusres.2006.03.008

Peck, J., & Shu, S. B. (2009). The effect of mere touch on perceived ownership. *The Journal of Consumer Research, 36*(3), 434-447. doi:10.1086/598614

Petrelli, D., & Whittaker, S. (2010). Family memories in the home: Contrasting physical and digital mementos. *Personal and Ubiquitous Computing, 14*(2), 153-169. doi:10.1007/s00779-009-0279-7

Pookulangara, S., & Shephard, A. (2013). Slow fashion movement: Understanding consumer perceptions—An exploratory study. *Journal of Retailing and Consumer Services*, 20(2), 200-206. doi:10.1016/j.jretconser.2012.12.002

Pine, B. J., & Gilmore, J. H. (2013). The experience economy: Past, present and future. *Handbook on the experience economy* (pp. 21-44) Edward Elgar Publishing. doi:10.4337/9781781004227.00007 Retrieved from http://www.elgaronline.com/view/9781781004210.00007.xml

Rainoldi, M., Van den Winckel, A., Yu, J., & Neuhofer, B. (2022). Video game experiential marketing in tourism: Designing for experiences. (pp. 3) Springer International Publishing.

doi:10.1007/978-3-030-94751-4_1 Retrieved from https://library.biblioboard.com/viewer/ed1c5a87-70ef-11ec-aa80-0a9b31268bf5

Roblox. (2022). *2022 metaverse fashion trends.* ().The New School Parsons. Retrieved from https://blog.roblox.com/wp-content/uploads/2022/10/FINAL_2022-Metaverse-Fashion-Trends-report_Roblox-x-Parsons.pdf

Rosen, S. (2001). Sticky website is key to success. *Communication World; Communication World, 18*(3), 36.

Ruusunen, N., Hallikainen, H., & Laukkanen, T. (2023). Does imagination compensate for the need for touch in 360-virtual shopping? *International Journal of Information Management, 70*, 102622. doi:10.1016/j.ijinfomgt.2023.102622

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *The American Psychologist; Am Psychol, 55*(1), 68-78. doi:10.1037/0003-066X.55.1.68

Sheth, J. N., Newman, B. I., & Gross, B. L. (1991). Why we buy what we buy: A theory of consumption values. *Journal of Business Research, 22*(2), 159-170. doi:10.1016/0148-2963(91)90050-8

Siddiqui, S., & Turley, D. (2006). Extending the self in a digital world. In C. Pechmann, & L. Price (Eds.), *Advances in consumer research*. Duluth, MN.

Smith, J. B., & Colgate, M. (2007). Customer value creation: A practical framework. *Journal of Marketing Theory and Practice, 15*(1), 7-23. Retrieved from http://www.jstor.org.ez.hhs.se/stable/40470272

Soman, D. (2013, May 1,). The waiting game: The psychology of time and its effects on service design. Retrieved from https://www.hbsp.harvard.edu/product/ROT198-PDF-ENG?activeTab=overview&itemFindingMethod=

Statista. (2022). *Minecraft number of players worldwide 2021*. Retrieved from https://www.statista.com/statistics/680139/minecraft-active-players-worldwide/

Statista. (2023). Global roblox games DAU 2022. Retrieved from https://www.statista.com/statistics/1192573/daily-active-users-global-roblox/

Stephenson, N. (1992). *Snow crash*. NY: New York: Bantam Books.

Sweeney, J. C., & Soutar, G. N. (2001). Consumer perceived value: The development of a multiple item scale. *Journal of Retailing, 77*(2), 203-220. doi:10.1016/S0022-4359(01)00041-0

Swim, J. K., Clayton, S., & Howard, G. S. (2011). Human behavioral contributions to climate change: Psychological and contextual drivers. *The American Psychologist; Am Psychol, 66*(4), 251-264. doi:10.1037/a0023472

Thaler, R. (1985). Mental accounting and consumer choice. *Marketing Science (Providence, R.I.), 4*(3), 199-214. doi:10.1287/mksc.4.3.199

The Gang. (2023,). Grabbing gen z's attention: Is metaverse the key? . Retrieved from https://thegang.io/news/blog/grabbing-gen-zs-attention-is-metaverse-the-key/

Thorpe, A. (2010). Design's role in sustainable consumption. *Design Issues, 26*(2), 3-16. Retrieved from http://www.jstor.org.ez.hhs.se/stable/20749938

Trudel, R. (2019). Sustainable consumer behavior. *Consumer Psychology Review, 2*(1), 85-96. doi:10.1002/arcp.1045

Tynan, C., McKechnie, S., & Chhuon, C. (2010). Co-creating value for luxury brands. *Journal of Business Research, 63*(11), 1156-1163. doi:10.1016/j.jbusres.2009.10.012

Van Boven, L. (2005). Experientialism, materialism, and the pursuit of happiness: Positive psychology. *Review of General Psychology, 9*(2), 132-142.

Vetenskapsrådet. (2017). *Good research practice* Elsevier Inc. doi:10.1016/j.jval.2012.06.012

Vigneron, F., & Johnson, L. W. (2004). Measuring perceptions of brand luxury. *The Journal of Brand Management, 11*(6), 484-506. doi:10.1057/palgrave.bm.2540194

Vo-Thanh, T., Zaman, M., Hasan, R., Akter, S., & Dang-Van, T. (2022). The service digitalization in fine-dining restaurants: A cost-benefit perspective. *International Journal of Contemporary Hospitality Management, 34*(9), 3502-3524. doi:10.1108/IJCHM-09-2021-1130

Wang, J., Zhao, X., & Bamossy, G. (2009). Pursuit of the sacred in the era of infantilization: A multi-sited ethnography of online gaming in china. Paper presented at the *, 36* 20.

Watkins, R., & Molesworth, M. (2012). Attachment to digital virtual possessions in videogames. (pp. 153-170) Emerald Group Publishing Limited. doi:10.1108/S0885-2111(2012)0000014012

White, K., Habib, R., & Hardisty, D. J. (2019). How to SHIFT consumer behaviors to be more sustainable: A literature review and guiding framework. *Journal of Marketing, 83*(3), 22-49. doi:10.1177/0022242919825649

Wiedmann, K., Hennigs, N., & Siebels, A. (2009). Value-based segmentation of luxury consumption behavior. *Psychology & Marketing; Psychology & Marketing, 26*(7), 625-651. doi:10.1002/mar.20292

Williams, P., & Soutar, G. N. (2009). Value, satisfaction and behavioral intentions in an adventure tourism context. *Annals of Tourism Research, 36*(3), 413-438. doi:10.1016/j.annals.2009.02.002

Wilson, S. (2021). Where brands are reaching gen Z. *Harvard Business Review,* Retrieved from https://hbr.org/2021/03/where-brands-are-reaching-gen-z

Woodruff, R. B. (1997). Customer value: The next source for competitive advantage. *Journal of the Academy of Marketing Science, 25*(2), 139-153. doi:10.1007/BF02894350

Yuan, R., Liu, M. J., & Blut, M. (2022). What's in it for you? examining the roles of consumption values and thaler's acquisition–transaction utility theory in chinese consumers' green purchase intentions. *European Journal of Marketing, 56*(4), 1065-1107. doi:10.1108/EJM-08-2020-0609

Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing, 52*(3), 2. doi:10.2307/1251446

Zhang, N., Liu, R., Zhang, X., & Pang, Z. (2021). The impact of consumer perceived value on repeat purchase intention based on online reviews: By the method of text mining. *Data Science and*

Management, 3, 22-32. doi:10.1016/j.dsm.2021.09.001

8. Appendices

8.1 Appendix 1: Interview Sample

Participant	Type of Interview	Game	Gender	Age	Country	Duration of Interview
Expert 1	Background	N/A	F	N/A	Sweden	60 min
Expert 2	Background	N/A	M	N/A	Sweden	35 min
Expert 3	Background	N/A	M	N/A	Sweden	35 min
Expert 4	Background	N/A	F	N/A	Sweden	45 min
Expert 5	Background	N/A	M	N/A	Sweden	60 min
Expert 6	Background	N/A	M	N/A	Sweden	45 min
User 1	Test	Roblox, Minecraft, & Fortnite	M	15	Sweden	60 min
User 2	Main	Roblox & Minecraft	M	16	Sweden	40 min
User 3	Main	Roblox & Minecraft	M	19	Sweden	40 min
User 4	Main	Fortnite	F	24	USA	40 min
User 5	Main	Minecraft & Fortnite	M	25	Sweden	45 min
User 6	Main	Roblox	F	15	USA	35 min
User 7	Main	Minecraft	F	31	Germany	35 min
User 8	Main	Minecraft	M	21	Germany	30 min
User 9	Main	Minecraft	M	22	Germany	35 min
User 10	Main	Roblox & Fortnite	M	13	Sweden	30 min
User 11	Main	Minecraft	F	25	Sweden	40 min
User 12	Main	Roblox	F	15	Sweden	30 min

User 13	Main	Minecraft	M	25	USA	30 min
User 14	Main	Roblox & Fortnite	M	16	Sweden	40 min
User 15	Main	Roblox	F	31	USA	60 min
User 16	Main	Minecraft	M	31	Sweden	45 min
User 17	Main	Roblox	F	13	Egypt	40 min
User 18	Main	Minecraft & Fortnite	M	24	Sweden	45 min
User 19	Main	Minecraft & Fortnite	M	22	Sweden	30 min
User 20	Main	Minecraft & Fortnite	M	22	Sweden	35 min
User 21	Main	Minecraft, Fortnite, & Roblox	F	18	Sweden	45 min
User 22	Written	Roblox & Minecraft	F	16	USA	N/A
User 23	Written	Roblox	F	17	USA	N/A
User 24	Written	Roblox	M	14	Italy	N/A
User 25	Written	Roblox, Minecraft, & Fortnite	M	16	Sweden	N/A
User 26	Written	Fortnite	F	14	Sweden	N/A
User 27	Written	Roblox & Minecraft	M	16	Sweden	N/A
User 28	Written	Fortnite	F	14	Sweden	N/A
User 29	Written	Roblox	F	13	Sweden	N/A
User 30	Written	Roblox & Minecraft	F	13	Sweden	N/A
User 31	Written	Fortnite	F	13	Sweden	N/A

User 32	Written	Roblox	F	19	Germany	N/A
User 33	Written	Roblox	F	18	India	N/A
User 34	Written	Roblox & Minecraft	M	16	USA	N/A

8.2 Appendix 2: Interview Guide for Main User Interviews

Themes	Guiding Questions
Introduction & Context	● How old are you? ● What do you like to do in your free time? Do you have any hobbies? ● Which computer games do you play?
User Experience	● How long have you played *X**? When did you start playing? ● When do you play *X*? ● Can you tell us a bit about why you play? ● What do you like/dislike about *[the game]*? ● How much time do you spend on *X* per week? ● What's your favourite thing to do on *X*? ● Is *X* different from other online games or other physical games, if so how? ● How do you feel when playing *X*? ● Has anything changed in your life since playing *X*? *[If playing multiple games]* ● What are the differences/similarities between the games? ● How does your behaviour in these games compare?
Social	● Do you have many friends in X? ○ Is it predominantly friends from "real-life", such as school, sports, etc. or people you've met virtually in the game(s)? ○ How do you meet people in the game? What do you bond over? ● Do you share your gaming experience/hobby with anyone?
Avatar	● Describe how you see yourself in *X*? ● How does your avatar in *X* compare to you in real life? ○ Is your avatar a representation of you? ○ What is similar? What is different? Why? ● Can you describe what your avatar looks like? ● What does your avatar's appearance mean to you? ○ How often do you change your avatar's appearance? ○ What do you change? Is it usually big changes or several small changes? ○ What triggers you to change your avatar's appearance? ● Do you get feedback or reactions from others on your avatar? ○ What kind of feedback? ○ How does this impact you or make you feel? ○ Do you change anything based on what people say? ● Do you give feedback or comment on others' avatars? ○ What do you comment on? What would make you say something about someone else's avatar?

	● Does your choice of outfit or skin make you feel closer to others in the game? *[If playing multiple games]* ● How do your avatars in the different games differ? ● Does your avatar mean more to you in some games? Why?
Motivations for consumption	● Have you purchased things for your avatar such as clothing, accessories, hair, etc? ○ What have you bought? ○ How much have you spent on these kinds of products? ○ How frequently do you buy these kinds of products? ○ Where do you buy these things? In an experience? In the store? Trading with othe ● How do your purchases of clothing, accessories, hair etc. for your avatar compare to your purchases of the same items for you in real life? ○ What do you buy? ○ How much do you spend? ○ How often? ● Why have you bought these things? ● What makes you want to buy something new? ● What do you look for or consider when buying something? ● Can you tell us about the process of getting something new in X? ● Have you ever seen anything branded in the game? What did you think? Is it something yo would like to see more of/buy? *[If playing multiple games]* ● How does acquiring something differ in the games? ● Do you prefer making purchases in one of the games? Why?

X = game(s) played by the interviewed user.

8.3 Appendix 3: Interview Form for Written User Interviews

Part I: Introduction
First, we would like to learn a little bit about you!

1. How old are you?
   _____

2. What gender do you identify with?
   Select only one answer.
   - ○ Female
   - ○ Male
   - ○ Prefer not to say

3. In which country are you based?
   _____

4. Do you have any hobbies? What do you like to do in your free time?
   _____

5. Briefly describe yourself.
   _____

6. Which game(s) do you play?
   Check all that apply.
   - □ Roblox
   - □ Minecraft
   - □ Fortnine
   - □ Other: _____

Part II: User experience and gaming habits
We'd like for you to tell us a little about your relation to gaming and your general user experience. Please specify which game you are referring to if you selected more than one game in the previous question. You can focus on the game you currently play the most.

7. How long have you played? / When did you start playing?
   How much time do you spend playing per week?
   _____

8. Why do you play? / What do you like about gaming?
   _____

9. Do you have friends in the game? Are your friends mostly from the “real world” e.g. from school, sports teams, etc. or ones you’ve met virtually in the game(s)?

_____

10. Describe how you feel when you play games. Which thoughts and feelings do you experience?

    _____

Part III: Your avatar

In this section we want to understand more about your avatar and what it means to you.

11. Describe your avatar. What does it look like?

    _____

12. What does your avatar's appearance mean to you? Is it important?

    _____

13. How does your avatar in the game compare to you in real life? Is it a reflection of you?

    _____

14. How often do you change your avatar's appearance?
    - Daily
    - Once per week
    - 1-2 times per month
    - Less often
    - Other: _____

15. What makes you want to change your avatar's appearance? What influences you to make an update?

    _____

16. How do you feel when you get something new or change your avatar's appearance?

Part IV: Consumption of fashion/apparel/skins

Now we want to understand more about your experience and thoughts when it comes to getting clothes, accessories, skins, hair, and other appearance-related products for your avatar.

17. Have you ever bought clothes/accessories/skins for your avatar?
    Select only one answer.
    - Yes
    - No

18. What have you purchased? Please specify the items you bought and describe why you bought them. Did you have any purchase criteria? What did you consider? How much were you willing to pay?

    _____

19. How much money have you spent on clothes/accessories/skins since you started playing?

    _____

20. How often do you buy new clothes/accessories/skins for your avatar?

    _____

21. Why do you buy things for your avatar? What makes you want to purchase something? What do you look for and what do you think/feel when acquiring something new? What is important to you?

    _____

22. Have you ever bought branded items for your avatar? Would you be willing to pay more on something branded than something non-branded?

    _____

23. How does your consumption of clothes/accessories for your avatar in game(s) compare to your consumption of clothes/accessories for yourself in the real-world?

    _____

8.4 Appendix 4: Interview Guide for Expert Interviews

Topic	Guiding Questions
Background & Context	● Could you tell us about your background as it pertains to the metaverse? ● How would you describe and define “the metaverse”?
The metaverse & the business landscape	● From your perspective, how do brands interact with the metaverse today? ● What role could the metaverse play in the future?
The metaverse user	● Who engages in proto-metaverse platforms today? ● Do you think this will change over time? ● Which consumers spend the most time in the metaverse? How do they spend this time?
Interesting and novel areas of study	● How do you think customers perceive value in consumption in the metaverse relative to rea consumption? ● How do you think the customer journey/experience differs in the metaverse and at what sta value creation/capture arise compared to more traditional customer journeys? ● With the aim of exploring consumption of digital/virtual fashion, apparel, luxury, which pla you recommend we study?