The Future of the Sneaker Industry: What metaverse-driven business opportunities are likely to emerge for sneaker companies?

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ABSTRACT,

In recent years, there has been a growing hype around the concept of the metaverse. It is believed that it will begin the new era of the internet. As new inventions surrounding the idea keep coming up, and the metaverse platforms, such as Roblox, are gaining popularity, more companies are starting to realise the potential for business growth that this concept carries. From increased online interconnectedness to significantly improved immersiveness, the metaverse is going to greatly impact various businesses around the world. The sneaker industry is one of the industries that is likely to be strongly influenced by the emergence of the metaverse. This research paper aims to explore the potential business opportunities that the metaverse can create for companies in the sneaker industry. The outcomes are based on seven open interviews with experts on the topic, which have helped identify and explore numerous novel business opportunities in detail. The recognised opportunities have been grouped into seven categories. The identified categories turned out to be: Sales of virtual sneakers, Enhanced feedback, Improved product development, Brand interaction, Engaging advertisements, Increased personalisation, and Immersive shopping experience. Each of the categories has been analysed in a detailed and coherent manner. This research paper expanded the current knowledge about the potential for business growth that the metaverse holds for the sneaker industry, providing a comprehensive analysis of the metaverse-driven business opportunities that are likely to emerge in the foreseeable future.

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1. INTRODUCTION

In 2021, the CEO of Meta, Mark Zuckerberg, announced his plans to create the metaverse (Meta, 2021). The metaverse, according to Zuckerberg, would be the new version of the internet, in which all of the applications and games would be interconnected. In the metaverse, people will be able to perform most of their daily activities online (Song et al., 2023), such as socialising with friends, exercising, working, studying, etc. With the emergence of virtual reality (VR) technology, the whole online experience will become much more immersive (Meta, 2022). The possibilities are endless, and it is hard to predict to what extent this invention will grow.

The metaverse can be defined as a virtual parallel universe filled with limitless digital spaces that offer various interactive experiences (Song et al., 2023). There are already many metaverse platforms in existence today. However, none of these platforms represent the metaverse envisioned by Mark Zuckerberg, that is they are not a one fully interconnected digital world (Meta, 2021). Currently, they cover only some features and are completely separated from each other. A good example of such a platform is Roblox. It is one of the most popular metaverse platforms, as it had as many as 150 million monthly active users in 2021 (Han et al., 2023), and has kept growing ever since. Roblox is a digital world where users can play various games with their friends. The platform also allows its users to develop their own games, so that this digital world keeps growing by itself. Moreover, Roblox allows its users to create and sell various virtual goods and accessories within it, thus creating a brand-new digital economy (Ibrahim, 2024). This digital economy, along with many novel technologies such as blockchain and virtual reality (VR) headsets, can potentially create many new business opportunities for companies around the world (Yuan & Yang, 2022).

One of the industries that is already trying to discover and leverage those opportunities is the sneaker industry. Some sneaker companies, such as Nike, have already taken multiple steps towards entering the metaverse. In December of 2021, Nike acquired RTFKT (Nike, 2021), which is a company specialising in creating and selling non-fungible tokens (NFTs), in this case mostly in the form of virtual sneakers. The sneakers can then be bought by customers online. Moreover, Nike has also created a small digital world called Nikeland within the Roblox metaverse, in which customers can interact with the brand in various ways (Carter, 2023). Thanks to virtual reality (VR) headsets, the metaverse will allow businesses to interact with their customers online in a much more immersive way. For instance, individuals would be able to try various clothing items on their avatars within the metaverse without leaving their house (Enache, 2022). Nike has already made such a function available to their customers by creating a virtual store that gives them a new immersive shopping experience (SuperWorld). However, Nike is not the only sneaker company that is trying to pave their way into the metaverse. Adidas, New Balance, Puma, Skechers, and Under Armour are only a few examples from the sneaker industry (Garner, 2021), but there are many other industries that are also taking steps in that direction.

However, the topic is still very new, and most people are not familiar with it. According to a survey conducted by YouGov, only about 39% of adults know something about the metaverse worldwide, with as little as 7% claiming to know a lot about the topic (Simeon, 2023). People do not realise the potential that this invention has. The metaverse market size reached around $65.5 billion in 2022 and is forecast to reach as much as $936.6 billion in 2030 (Grand View Research, 2023). Further research that would investigate potential business opportunities that the metaverse can provide for firms is required in order to inform them about how they can fully leverage the emergence of this invention.

Since the topic is particularly broad and the metaverse might influence nearly every industry in the world, it was decided that this paper would focus on the sneaker industry. The decision was based on the fact that the retail industry is going to be one of the most influenced sectors (Solanki, 2022), and as mentioned before, sneaker companies in particular have already taken multiple steps towards leveraging this digital world.

1.1 Research Question

Considering the significance of the emergence of metaverse platforms (such as Roblox, Decentraland, and Sandbox) and the possible new opportunities for businesses that they can create in the near future, this research will aim to answer the following question:

"What metaverse-driven business opportunities are likely to emerge for companies in the sneaker industry in the foreseeable future?"

This question will be answered based on seven open interviews with experts on the topic of the metaverse, with most of them having their recent careers focused on the future of digital sneakers and apparel. The metaverse-driven business opportunities refer to the possible new ways in which sneaker companies can leverage the metaverse for business growth. Such business growth could include expanding the customer base, adding new sources of revenue, increasing customer engagement and loyalty, and improving marketing accuracy. For clarity purposes, the metaverse in this research paper is defined as the current metaverse platforms as well as the conceptual future metaverse, with all the potential technologies that may come with it. However, this paper focuses on the foreseeable future, that is the outcomes are based on the current knowledge about metaverse technologies and the current predictions on how these technologies will develop. Therefore, the outcomes are not based on the speculations on the novel metaverse technologies that may emerge in the future, as that would make the outcomes too abstract. By sneaker industry, it is meant the companies that specialise in the production, designing, and sales of sneakers, as well as clothing items, as many of the sneaker brands also sell clothing items on the side of sneakers.

1.2 Academic and Practical Relevance

The practical relevance of this study is that it should help companies in the sneaker industry understand and recognise the new business opportunities that the metaverse will provide. Having research with a summary of those business opportunities should help companies across the sneaker industry take steps towards entering the metaverse. This paper is academically relevant because it expands knowledge about the topic that lacks research, due to its recent emergence. There are a few articles (Iqbal & Campbell, 2023) that briefly point out that the metaverse will generate business opportunities for the fashion industry but fall short of exploring them in depth. Therefore, this paper should become a stepping stone for future research in this field.

2. THEORETICAL BACKGROUND
2.1 The Technological Background of the Metaverse

As mentioned in the *Introduction*, there are many metaverse platforms currently being used, and even more being developed. Apart from Roblox, examples of other popular metaverse platforms are Sandbox and Decentraland. Sandbox also allows

its users to create and sell content, mostly in the form of games (Ibrahim, 2024). Decentraland is a slightly different digital world in which users can buy pieces of virtual land, modify them, and sell them. However, in the future, metaverse platforms should become more advanced and provide more features than just gaming and entertainment. As mentioned before, metaverse would allow people to perform many of their daily tasks online, such as work or communication (Song et al., 2023). One of the companies that is taking significant steps towards the creation of such an advanced metaverse platform is Meta (Meta, 2021). Meta has also created a metaverse platform called Meta Horizon Worlds. On the contrary to the previously mentioned platforms, Meta Horizon Worlds focuses more on the social aspects, such as communication and virtual events (Song et al., 2023). Meta's project seems to be the most influential as it involves the biggest names in the digital technology industry, like Mark Zuckerberg and Bill Gates (Teper, 2022). Moreover, the project has received a substantial amount of investment. According to Nasdaq, Meta has already invested as much as $46 billion in the project since its beginning in 2021 (Fool, 2024). It shows that the concept of the metaverse is taken seriously, as the biggest tech companies in the world display their great interest in the project.

People would be able to enter the metaverse with the use of virtual reality (VR) glasses. Meta is constantly developing new and improved VR headsets, with the aim of making them accessible and affordable for everyone (Meta, 2023). Another big player in VR technology is Apple. Apple, on the contrary to Meta, aims to develop VR headsets that would offer higher quality, but would come at a higher price (Orr, 2024). Those headsets are already as powerful as whole stationary computers and are not limited to a flat screen (Meta, 2023). Both Apple and Meta, with their newest VR headsets, Apple Vision Pro and Meta Quest 3, respectively, are breakthrough, innovative headsets that offer a new feature – mixed reality. It is a mix between virtual reality (VR) and augmented reality (AR). While virtual reality lets people fully dive into an abstract digital world, augmented reality is the normal world with some digital extra layers covering it (Kaplan et al., 2020). For instance, AR technology can significantly improve the precision of surgeries by visualising the internal organs of the patient (Ha & Hong, 2016). Recently, Meta started a collaboration with EssilorLuxottica with the aim of developing innovative AR glasses that would be built into normal-size Ray-Ban glasses (Meta, 2023). Such an invention would allow people to enter the metaverse wherever they are.

Coming back to mixed reality headsets, apart from games, exercises, and other activities, they can also be used for working (Song et al., 2023). For instance, Meta developed an application called Meta Horizon Workrooms in which individuals can work in new immersive ways and experience fully immersive video conferences in the form of avatars (Meta, 2022). Moreover, all of the Microsoft 365 applications, like PowerPoint, Excel, and Outlook, are coming to the VR headsets (Malpartida, 2024) as a result of Meta's collaboration with Microsoft (Teper, 2022). Working in the metaverse will allow companies to increase cooperation between distant departments, reduce expenses associated with office space, save on travel costs, and allow for much more immersive online interaction with their partners and clients (Choi, 2022). Accenture, a Fortune Global 500 company hiring over 700 thousand employees worldwide (Accenture, 2024), is now moving into the metaverse (Meta, 2022). The company is offering multiple services to their customers with the aim of helping them make the most of the metaverse, with a focus on *"safety, privacy and security"* (Accenture).

2.2 Business Opportunities for Companies in the Sneaker Industry

Before companies will fully transition to the metaverse, they have to explore all the ways in which they can leverage the business opportunities it provides. This paper will focus on the sneaker industry, but it is worth mentioning that the metaverse will create business opportunities for many other industries. Some of these include the gaming, education, and healthcare industries, as well as completely novel industries that do not exist yet.

One of the ways in which sneaker companies can leverage the metaverse is to develop and design digital sneakers. The more professional term for those virtual products is non-fungible tokens, that is NFTs (Clark, 2022). NFTs are pieces of data (picture, video, music, etc.) that are stored on a blockchain. Thanks to blockchain's traceability and public transparency (Song et al., 2023), the ownership of NFTs is secured and generally out of the reach of hackers (Sharma, 2024). NFTs are comparable to cryptocurrencies, with the exception that they are non-fungible. *"Like physical money, cryptocurrencies are usually fungible from a financial perspective [...] one bitcoin is always equal in value to another bitcoin on a given exchange"* (Sharma, 2024). NFTs are designed to be unique. There is no instance in which two NFTs are the same, and therefore they are non-fungible (Sharma, 2024). Examples of NFTs can be any item, land, or any property that users are able to buy in the previously mentioned metaverses.

Such NFTs can also be digital sneakers, like the ones that Nike is producing with RTFKT (Nike, 2021). Customers who buy such virtual shoes would be able to wear them on avatars in the metaverse. Nike and RTFKT have already created various NFT collections available to customers for purchase. An example of such a collection can be the new CryptoKicks Dunk Genesis (Marr, 2023). Nike is also taking other steps in order to leverage the business opportunities that the metaverse creates. As mentioned in the *Introduction*, Nike has created their own little metaverse inside Roblox and called it Nikeland (Carter, 2023). Nikeland is a small, freely accessible virtual world where people can play a variety of games as well as wander around this virtual place which looks like Nike headquarters. Furthermore, in Nikeland, players can check out many digital products and see how they look on their avatars. Nike is also going to hold special events related to important sports games and championships in order to draw a larger audience into their metaverse (Golden, 2021). By taking these steps, Nike will not only generate additional sources of revenue, but also widen the customer base and increase customers' attachment and loyalty to the brand (Mancuso et al., 2023). As players in Roblox are mostly kids and teenagers, Nike creates a bond between the new generations and its brand, and therefore gains a significant long-term competitive advantage over its competitors. Nikeland turned out to be an overall success, and attracted some big names like Lebron James (Sutcliffe, 2021). There are multiple other clothing companies that created their own little digital worlds later on. For example, Gucci, Vans, and Tommy Hilfiger. Metaverse is also a place where companies can easily ask their customers about their products and general performance. Brands can involve their customers in the formation of a new digital product and in voting for their preferred versions of new products in a more efficient manner (Periyasami & Periyasamy, 2022). This interaction allows customers to give feedback directly in the metaverse, rather than when they visit the physical store or receive an email they are unlikely to answer. Out of generation Z, that is people who were raised surrounded by the internet (McKinsey & Company, 2023), 55% have already registered on Roblox in the

United States (Han et al., 2023). These people are more likely to participate in product development, cultivate a deep sense of loyalty, and feel connected to the brand (Periyasami & Periyasamy, 2022). Involving customers within the metaverse in the product development process is therefore very beneficial for the companies, as it increases their connection to the brand.

Metaverse and the invention of NFTs, will also allow for the production of completely new types of collections called digital twins, that is a pair of digital sneakers (or any other clothing item) with a corresponding physical product (BaseN, 2024). This invention will allow metaverse users to own a certain clothing item both online and in real life. Metaverse will also make it possible for people to see how they look, in certain clothing items in a much more immersive way compared to the photos and videos that current marketing strategies employ (Enache, 2022). Nike has already created a digital store within the Roblox metaverse, where consumers can try on Nike's new clothing items (SuperWorld). As mentioned in the *Introduction*, there are currently a lot of companies within the sneaker industry that are taking steps to enter the metaverse. Adidas, for instance, has created a collection of NFTs, which come with physical and virtual clothing items (that can be worn across the Sandbox metaverse) that match the ones on the NFT, and therefore created a digital twin collection called *"Into the Metaverse"* (Garner, 2021).

Moreover, the metaverse will also allow businesses to gather and analyse data about their customers' behaviours (Enache, 2022), which can help in creating more successful and adaptive advertising. Marketing inside such a virtual world could be much more immersive, appealing, and could demonstrate the product better, allowing for more informed purchasing decisions (Enache, 2022). Furthermore, an integration of artificial intelligence (AI) into marketing strategies within the metaverse would create endless possibilities for digital retailers. The virtual clothing store could be personalised according to users' own preferences (Rathore, 2017). The stores could look different, play different music in the background, and the clothes showing up around the store could be personalised to what a certain user usually buys. Whenever a customer would choose a certain clothing item, the system could quickly deliver intelligent product suggestions that would match the chosen item (Rathore, 2017). All the clothing items would be visible on users' avatars, and therefore it would be much easier for the customers to choose a product they will feel comfortable with later on – all from the comfort of their house (Raghavan, 2023).

2.3 Categorisation Framework of the Business Opportunities

To summarise the business opportunities that the metaverse is creating for the sneaker industry, a framework has been developed, that assigns those opportunities into different categories (see Table 1). The order of the categories does not reflect their significance or any other value.

Table 1. Categorisation of the business opportunities

Nr.	Categories of business opportunities:
1.	Sales of virtual sneakers
2.	Enhanced feedback on product development
3.	Brand interaction
4.	Engaging and personalised marketing
5.	Immersive shopping experience

2.3.1 Sales of Virtual Sneakers
The first category is the sales of virtual sneakers in the metaverse in the form of NFTs (Clark, 2022). Such NFTs can be digital sneakers, but also corresponding apparel, like sport accessories or clothes. Buyers should be able to wear them across the whole metaverse. Moreover, companies can create digital twin collections, which also grab wide interest (BaseN, 2024).

2.3.2 Enhanced Feedback on Product Development
The second category, enhanced feedback on product development, is the increased consumer's involvement in the look of new sneaker collections and other products. Companies can easily interact with their customers within the metaverse and display new design options in the new, much more immersive way (Enache, 2022). They can even let customers design sneakers themselves from scratch and introduce the ones with the highest number of votes (Periyasami & Periyasamy, 2022). These actions could significantly increase sales as products would better match customers' preferences.

2.3.3 Brand Interaction
The third category, brand interaction, is the new, much more interactive experiences that a company can provide to their customers within the metaverse (e.g., by creating digital brand worlds). Companies can hold various events within the metaverse (Golden, 2021), which can possibly boost their revenue, make customers' connection to the brand stronger, and create a sense of loyalty (Periyasami & Periyasamy, 2022).

2.3.4 Engaging and Personalised Marketing
The fourth category, engaging and personalised marketing, are the new ways in which companies can advertise their products in the metaverse. Firms can market their new sneakers in much more immersive ways (Enache, 2022). An example could be displaying the user's avatar in the new sneakers on the virtual billboards, as all of the users are most likely going to see personalised advertising content. Therefore, personalisation of advertisements is another opportunity for businesses that can increase their marketing accuracy (Rathore, 2017).

2.3.5 Immersive Shopping Experience
The fifth category, immersive shopping experience, means making it easier for customers to buy physical products online. In the metaverse, consumers will be able to try the new sneakers on in the form of their avatars without standing up from their sofas (Raghavan, 2023). Since the fitting experience will be much more immersive, customers will be much more likely to pick the right product for them (Enache, 2022). Later on, they can simply order the chosen shoe and wait for delivery, without worrying about what will come in the package.

3. METHODOLOGY
3.1 Research Design
This research followed a qualitative approach as there is not much data available about the topic and it is very futuristic. The data collection has been performed via open interviews with experts on the topic of the metaverse. The interviews were semi-structured, that is they contained a set of open-ended questions, with a set of smaller but relevant questions that might have come up during the interview, depending on the direction in which the conversation was going (DiCicco-Bloom & Crabtree, 2006). The addition of follow-up questions allowed for a more in-depth investigation of every category from the categorisation framework. The goal of these interviews was to gain a better understanding of what is coming for the sneaker industry, that is to analyse in-depth the business opportunities recognised based on the literature in the categorisation framework, as well as to

explore and find new ways to leverage the metaverse, which might not have been found in the literature.

3.2 Sampling

For the interviews, a convenience sample of seven experts on the topic of the metaverse has been selected. A convenience sample is a non-probabilistic sample of respondents that are convenient or available to the researcher (Edgar & Manz, 2017). The experts on the topic were considered individuals whose recent careers have focused on the concept of the metaverse. In order to protect participants' privacy, their names and the companies they are associated with have not been disclosed in this research. For that reason, participants have been labelled as P1, P2, P3, P4, P5, P6, and P7, where "P" stands for "Participant". The interviewees with general information about their background and experience have been listed below (see Table 2).

Table 2. List of selected interviewees

Candidate number:	Short background/experience:
P1	Design director at a sneaker company mainly specialising in digitalisation of physical products in collaboration with other brands and providing various additional experiences to such products
P2	Lead designer at a sneaker company mainly specialising in the designing and creation of digital wearables and metaverse spaces
P3	Co-founder of a company mainly specialising in bringing brands into the metaverse and helping them leverage its opportunities
P4	Founder of a company being a digital gallery in a metaverse space bringing digital fashion artists and designers together, and also specialising in creating augmented reality events in the metaverse
P5	Founder of a consultancy company mainly specialising in guiding brands on their expansion into the metaverse. Also, a metaverse explorer deeply investigating various metaverse spaces, mainly in terms of digital fashion
P6	Chief Executive Officer of a company mainly specialising in helping brands leverage the metaverse and designing metaverse spaces
P7	Used to work in director positions in two of the biggest tech companies that have a deep influence on shaping the future look of the metaverse

Those participants have been assumed to be the most knowledgeable and beneficial for exploring the research question of this paper.

3.3 Data Collection

The interviews have been held online via Microsoft Teams, and all interviewees have been asked for consent on whether they agree for the interview to be recorded. The recordings were subsequently used to make transcripts of the conversations and, further on, for data analysis.

The interviews began with a few introduction questions and then continued with eight main questions, with many of them having multiple follow-up questions (see Appendix A). The order of the questions could be modified if the researcher believes it could bring better results. For instance, a certain answer may have touched on the topic of one of the other questions, and then it would be wise to continue with that other question instead of sticking strictly to the question order. Some of the most important questions from the interview guide included: a) What are your perceptions of the sales of virtual products, such as virtual sneakers, within the metaverse?; b) Do you believe that the metaverse has the potential to revolutionise marketing as we

know it?; c) Do you recognise any potential new ways to interact with customers within the metaverse?; d) What are your thoughts on how the emergence of the metaverse might influence e-commerce?; e) Do you recognise any other potential new business opportunities that the metaverse has or might create in the near future for companies in the sneaker industry?. The clearer connection between the questions and the categorisation framework has been displayed in the reliability check (see Appendix B). The interviews took approximately 30-40 minutes, mainly depending on the responses of the interviewees. The aim of the questions and the correlated follow-up questions was to explore in depth the possible business opportunities that the metaverse creates for the sneaker industry, but also to discover some new business opportunities that the metaverse creates or might create in the near future that are not yet commonly recognised.

3.4 Data Analysis

This research followed an inductive approach, as it was the best-suited method for the topic being analysed. It means that there was no predetermined initial theory that this research would be willing to confirm or deny (Chandra & Shang, 2019). Instead, the paper analysed what is known so far about the business opportunities that the metaverse creates for the sneaker industry, and aimed to build on that via data collection and create a complete summary of business opportunities, also including the ones that are not yet widely known nor introduced in the sneaker industry. Interviews brought some new insights on the topic and expanded the initial categorisation framework.

After conducting the interviews, the raw data have been read and analysed multiple times, in order to gain a thorough understanding of the content (Thomas, 2003). During the analysis, many quotations that were relevant to the research question were collected and put under labels, which the researcher called 1st-tier categories. The labels have been later categorised into broader labels called 2nd-tier categories, as there were far too many 1st-tier categories. Finally, the 2nd-tier categories have been grouped under larger themes called 3rd-tier categories. This work has resulted in an updated categorisation framework. Most of the process has been performed with the help of ATLAS.ti, with some parts of the process being further continued on paper by the researcher. The full overview of categories and labels from all tiers has been displayed in the appendix (see Appendix C). The aim of this research was to create a list of categories that will be relatively small and consist only of the most important categories so that the research will be an actual, in-depth summary and not just a broad framework that readers will have to further summarise by themselves.

4. RESULTS

The analysis of the seven interviews with experts on the topic of the metaverse has resulted in many valuable insights. They were summarised in the updated categorisation framework, with 3rd tier labels being the categories (see Figure 1). The new framework has been created with the help of online.visual-paradigm.com. Each of the categories has been examined in detail below, following the same order as the initial framework. The analysis of the interviews has also brought many additional findings unrelated to the research question, such as insights on what the metaverse will likely look like in the future (see Appendix D).

4.1 Sales of Virtual Sneakers

Firstly, the interviewees were asked about their perceptions of the sales of virtual sneakers in the metaverse. This category has been broadly expanded after the data analysis, but its scope has remained the same.
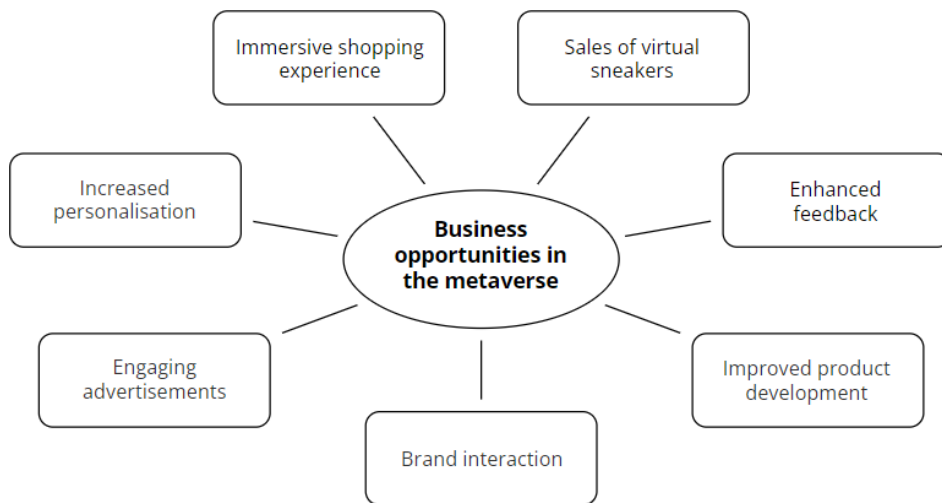
Figure 1. Updated categorisation framework

Demand for Virtual Sneakers

The respondents have underlined the importance of virtual sneakers and apparel in general. *"Whether it's sneakers, whether it's apparel, whether it's hats, whether it's whatever, it's a form of identity for people. And so it's a form of expression and giving people a way to customise and signal to other people, whether digitally in the metaverse or physically in real life (P1)"*. The findings from the interviews suggest that younger generations are more eager to be interested in purchasing digital clothing items. *"The young people, and we use this statistic and I don't think it's like old study, that I think more than 70% of young people care more about their digital image than the real world image (P4)"*. It might suggest that the demand for virtual sneakers and apparel will only be growing, as the young generations are the future buyers. *"I think it's great in terms of, you know, obviously there's a market for it (P3)"*. On top of that, data from the interviews shows that the metaverse might influence demand as people's buying behaviour might be different in the virtual world than in the real world. *"So, in the metaverse world you will be able to have a new segment of customers in that world that might have a totally different buying behaviour (P7)"*. Moreover, this shift in buying behaviour can significantly increase the demand for sneakers in all forms. *"I might be buying these sneakers and get the traditional or basic model delivered to me and I'll wear it every day. But in that virtual world, I actually spend double money to buy the same model plus more other crazy stuff on top of it. But I only use it in the metaverse, right. So that's what I'm saying. So then, you know, you can see how the economy will be like, you know, like on steroids, from that aspect (P7)"*. The collected data suggests that sales of digital sneakers and apparel are likely to become a viable revenue stream for companies in the sneaker industry in the long run. *"It can be substantial part of the revenue of a sneaker brand, because if you can wear it by augmented reality filters, for example, and there is a real usage into it, or in the metaverse, then people will be doing that, people will be buying goods. The whole question is more about the price itself, how much will they pay for it (P4)"*. *"So, you know, it's very clearly a very viable revenue stream. I don't know if there is any question about it (P3)"*. Therefore, it is something that sneaker companies might want to look into in the near future.

Ways to Increase the Demand

The demand for virtual sneakers can also be increased by creating additional perks associated with those items. For example, such perks can be creating NFTs in the form of collectibles. *"I think allowing people to treat sneakers more like Pokémon cards where you know you may want to keep complete the 2018 round or, I know they also do stuff around them, like trying to use Chinese Zodiac symbols, you know, the time of the year they bought it [...] I think you know it's a great way to incentivize collectors (P3)"*. Another perk could be a ticket to a game that would go as an addition to the purchase of virtual sneakers. *"... same deal with our stuff, like, in some of our NBA champions stuff, some of the perks were like, oh, yeah, well, if you buy our shoes, maybe we can give you a court view ticket for an NBA game, stuff like that. And of course, the scale of this is the limit (P2)"*. As suggested at the end of this quote, such perks can be anything that the companies would come up with. The perks can make the products more attractive and desirable to customers.

Unusual Designs

Another significant insight collected during the interviews is the fact that these virtual sneakers do not have to look like real-life sneakers, but instead can have completely different, unusual designs. *"Those metaverse platforms, what they allow you to do is to be able to have products that aren't physically able to be created or worn in real life. So, you'll see different space boots or different shapes that are very difficult to wear or to produce in real life. And so, when you remove the barrier of creativity like that, I think there's a huge opportunity because you can design whatever your mind can create (P1)"*. Moreover, those unusual designs could be seen not only while being fully immersed in the virtual reality headsets, but also while walking around the city with augmented reality glasses on. *"If you have AR glasses, and you see someone else walking, in the real world, he's wearing like some sort of sneakers, obviously, but with the filters you would see, I don't know, that the shoes are on fire, right, or that they have wings around it, or any kind of design (P4)"*. This quote presents a very concrete, novel use for virtual sneakers. Instead of only wearing such special sneakers in the metaverse, there would be a possibility to wear them in real life with the use of mixed reality glasses. Such inventions could significantly increase the demand for such goods.

Virtual Second-Hand Sneaker Market

Furthermore, one of the interviewees recognised a new business opportunity that sneaker companies could leverage. That is the creation of a virtual second-hand sneaker market, in which users could trade their virtual sneakers and the company could collect a commission fee on every transaction. *"So right now if, you know, you have a pair of rare trainers, for example, maybe you go to StockX to buy and sell them, but it's a very fragmented process. If they had this whole sneaker line and they were tokenized and you can buy and sell, you know, sneakers, it becomes a market within itself. And obviously if you're Nike, you charge maybe a 5% fee on every transaction that happens. So now they've got an additional revenue stream through speculation. [...] Once they know that they have this digital economy running, letting their digital economy run and let people speculate and buy and sell and scalp and everything, just let it become a market itself. They say it's the market maker. They just collect fees from that. I see that as a very viable business*

opportunity (P3)". As mentioned by the interviewee, because of speculation and creating trends and hype for certain products, the price of certain virtual sneakers could go significantly up, which could boost the company's revenue.

4.2 Enhanced Feedback

During the data analysis, it was decided to split the initial *Enhanced feedback on product development* category into two new categories: *Enhanced feedback* and *Improved product development*. This decision was based on the insights from the interviews, which suggested that feedback in the metaverse can be significantly increased and improved in general, and it does not have to only relate to product development. Therefore, it would not be right to limit the feedback category to just this one aspect.

Enhanced Direct and Indirect Feedback

The findings from the interviews suggest that the metaverse will generate enormous amounts of data about user preferences and fashion trends. *"It's very good that brands like Nike and Adidas, they can ideate, and they can create trends or they can nail down trends in real time. You know, using all the data that they can collect through the trainers they create and everything, they know what the trends are going to be. [...] They just have to look up how platforms like Roblox and see what people are really wearing and then they can create the physical versions (P3)"*. Such a continuous stream of information on customer preferences could allow sneaker companies to continually adjust and match customer expectations. *"So right now every product, every great product from any brands, they kind of tuck away in the research department. You know, they have a whole team of people thinking about what the market wants, right? But in the metaverse, you probably would be able to connect real time data, information of what people want. And be able to come up with different scenario continually to customers, to the market, where the market will be able to continually respond to these things until you know you have a perfect product. [...] Because you can't do it in the real world today. You can't hire enough people to collect this data, and it's a lot of physical process that cost a lot of money. In the metaverse it's all robotic, it's all AI (P7)"*. Apart from the indirect feedback in the form of data, the metaverse should also allow for much faster direct feedback from customers. *"Web 3 as a whole has an opportunity unlike any other. Unlike things that exist is to really gain direct feedback from your customers in a faster way (P1)"*. Therefore, the metaverse will allow sneaker companies to collect an enormous amount of feedback of better quality, in a more cost- and time-efficient manner.

Ways to Generate Feedback in the Metaverse

There are many ways in which sneaker companies can generate such increased feedback. As findings suggest, one way is through collaborations with platforms like Fortnite. *"There are brands that have done it well, right? Like if you consider Fortnite a metaverse, I think the way that they've collaborated with other brands and other partners, they can get people's feedback. And, to me that is helpful and insightful for the next release, the next collaboration. So yeah, there's a lot of ways to learn faster (P1)"*. Another way is by putting new designs for voting in various metaverse communities. *"The designers, brands, will be able to put the product out there, and the community will be either voting on it, or being able to order it right away (P4)"*. Moreover, such increased feedback can be achieved by engaging with customers via online events, surveys, etc. *"They can participate in terms of voting, like where should we have our next real-life event. We have a new product coming out. What colour should it be? Why don't you vote? These are all kind of new ways that marketers*

can use to engage their customer (P5)". Additionally, a deeper connection with customers, which can be achieved in many ways, as mentioned later in the *Brand interaction* category, should allow for more feedback as well. *"You build deeper connections with your customers and so therefore they want to give you more feedback (P1)"*. Therefore, the interviews have shown that the metaverse will be able to create new advanced forms of feedback in significantly larger quantities than what the real world allows for.

4.3 Improved Product Development

The second part of the initial *Enhanced feedback on product development* category focuses on the new advanced techniques that can be used in the product development process in the metaverse.

Advanced Product Development Techniques

As suggested in the findings, the product development process in the metaverse can become much more interactive and can include new, advanced tools for product creation. *"You can see how everything will start transforming into that sensor instead of you designing on a screen, very boring, and taking you a lot of months to design something, now you can do it almost like with your hands, almost like Tony Stark, in a way, where he's modelling stuff and we're actually doing it like that (P2)"*. It could make it much more enjoyable for the designers, but it could also allow for a more detailed process, which could later result in a higher quality of the new products.

Collaboration Design

Another way to improve the product development process that the metaverse should allow for is so-called collaboration design. It is a concept of multiple designers working together online on the same sneaker, and in a much more immersive way. *"What I'm a little bit excited about, always, is collaboration design. So, I believe that metaverse would allow for example, to have five or ten people working on one sneaker in real time through the metaverse collaboration. [...] And they can meet in the virtual location from different remote locations, they can work and play together, right? Have fun together when designing something. And yeah, for me this is, like, one of the opportunities that exist for sure (P4)"*. Such a collaboration design could be performed not only between the designers, but also between normal customers, or between a designer and customers. *"yeah, it can be between them, or it can be between a designer and them, for example. [...] Like, it's not something that you can do in real life, right? [...] You can't have 10 or 20 people doing this on a big shoe floating in the air, right. It's just not realistic, but with metaverse you can do that (P4)"*. Such an invention could let people become more engaged with the new collections and get in contact with the designers. For designers, it would help them receive real-time and very detailed feedback regarding the new sneakers.

4.4 Brand Interaction

This category has been broadly investigated during the interviews, and many new insights were provided on the topic. Similarly, as with the *Sales of virtual sneakers*, the scope of this category remained the same, but it became significantly more elaborate.

Benefits of Interacting with Customers in Metaverse

One of the ways of leveraging the metaverse that was most commonly spoken about in the interviews is the creation of the virtual brand world within platforms like Roblox or Decentraland, such as Nikeland that was mentioned in the literature review (Carter, 2023). The findings show that the brand presence on platforms like Roblox can turn out positive in terms

of increasing the customer base, even when talking about the youngest players who might have never bought anything by themselves before. "I*magine if a five-year-old doesn't know what Nike is. [...] But maybe they keep coming across this Nike tick mark. And at some point, when they go into the real shopping centre, it would be, it's either two things would happen. Something that they claim in Roblox that they can take in real life and they go into Nike to claim it, or they would be like, ohh, mom, let's go in there because I've seen this on Roblox before, and I want to go in (P5)"*. Moreover, the interviews have shown that by entering the metaverse, the company can increase customers' engagement with the brand. The interaction with the customers makes them feel like they are part of the team, and therefore they will care more about the brand and maybe even associate themselves with it. *"I think there is a connection between the higher engagement and brand going into the metaverse. [...] They are organising games and contests that engage the community. Maybe it's not a super new way, but the tools that are used are new and that brings these young communities to the table, right, they can feel like a part of the story which was never happening (P4)"*. It was also found that brand-oriented games can increase customer engagement with a certain project. *"Well, we had organised a few events, which were helpful. So, you would get a group of people together, represented by the brand. [...] Those definitely helped engage with them, the gamification aspect. So, if the brand creates a game around their solution, normally users tend to be a bit more engaged (P6)"*. Such virtual brand worlds can create a completely new level of emotional connection between the customer and the brand. *"I think engagement wise would be, as I said, you know, you can now probably have a more emotional connection with customers even in the Internet world. Because everything would be, like, you are there, right. [...] I mean that kind of emotional connection is huge (P7)"*. As the findings suggest, companies should not hesitate to enter the metaverse, as there is a completely new audience waiting for them. *"I'm always a big believer that people should try to reach their customers in these unique ways because everybody likes different things. And so you can't please everybody. But you can definitely try to reach as many people as you can through these expansions of the brand (P1)"*. Therefore, interacting with customers in the metaverse is likely to turn out to be very beneficial for sneaker companies.

Ways to Successfully Interact with Customers

On the other hand, even though interacting with customers by creating a digital brand world seems to have many benefits, there are multiple things to consider while launching such a project, as many of them turned out to be failures, as mentioned by one of the interviewees. *"Does it help the brand in any way that really depends. What is their activation? How did they launch it? How long is it launched for? Is there any physical element or social media that brings these people into Roblox? Do they learn anything? Is the game fun? All of these factors will matter for a brand. So, for example, I would use Roblox as an example. I've been on majority of these brand activations. [...] Some are hits and some are misses (P5)"*. Therefore, the companies that are willing to launch their digital worlds in the metaverse like Roblox, should properly think it through. As the main reason, the interviewee provided that Roblox users are mostly very young, and they do not necessarily know anything about sneakers or clothing brands. *"They attracted me, I went in there, but I went in with a purpose. I'm not a gamer, I'm more like a content creator and I'm trying to understand this space. Will it attract young people like my kids? This is why I try to understand this space. They're not going to go in. There's just no way. They already have their predefined 10 games that they play [...] So in terms of brand, it really depends on how they draw people in*

(P5)". One of the ways to draw young players, unacquainted with the brand, is for retail brands to try to collaborate with the popular games on that platform by, for example, offering their virtual sneakers as a reward inside such games. *"I think the biggest unlock is for young generation to see brand awareness. And say what is Nike? They may not go into Nike, but maybe through some kind of like scavenger hunt or between the two worlds of, say, Adopt Me into Nike. If there's such collaboration, it would draw them to collect something. It also involves their authentic creator and their own community. So, you cannot be like this is a Gucci hat. My kid doesn't care, you know, but maybe if there is a number one creator, they follow, somebody who is a number one community member who's in Adopt Me, something that they've been playing all the time. And that person creates some sort of UGC that's worth something and they want it, then through there maybe Gucci needs to work with someone like that and have that item in their world to draw these people in there. Cause I think that's the missing link (P5)"*, where UGC means user-generated content. As suggested in the interviews, right now one of the best ways to draw people into Roblox is to create a link between the platform and the physical items that could be later claimed in the real world. *"Brands need to consider the physical element of it in order to bring you into the digital world. That's because the metaverse is still very new and most of us are not yet ready to explore it in its full potential. [...] So, a good example would be the idea of having some sort of item that you can claim in real life that brings you into, say, Roblox (P5)"*. Another interesting way to attract more people to a brand is to create collaborations between digital brand worlds inside the metaverse. *"There are co-branded worlds. I think Vans and Gucci did a co-branded world where they did scavenger hunt. These kinds of fun games can draw one kind of audience from Vans, into, say, Gucci and they can collect something (P5)"*. Such actions can connect the customers of each brand and turn out to be beneficial for both companies.

Deeper Sense of Loyalty

Another distinguishing form of interaction with customers in the metaverse is loyalty programmes. Based on the interviews, after companies manage to bring people into the metaverse, they will have to make sure that these people will stay with the brand, and that can be done through loyalty programmes. *"I think now there's this big idea of like, how do we bring people to the metaverse? But later on it will be now we have all these people in the metaverse, how do I convince them now that my shop is where they should go, in my experience is the place to be. So, then you start incentivizing them with loyalty (P3)"*. Such programmes would not have to be strictly limited to purchases, but also relate to actions, that could make people spend more time in their metaverse. *"You get points for shopping, maybe you get points for interacting with metaverse experiences, you know? Building this brand loyalty, proving that you are loyal to the brand, not just through what you're purchasing, but also through how you interact with them (P3)"*. The findings also suggest that the sense of loyalty may become much deeper compared to what is nowadays considered a loyal customer. *"So just like when you go into a new website and sometimes it be like sign up and get 10% off, are you really a loyal customer? Not really. It's just push messages, right. But imagine if I spend enough time in this world, in a sneaker store. Just when I put things in my basket, it may say something like oh, guess what, there is a runway cat model, a catwalk strutting competition. You and all of the other players are invited to show your best dance move, or your emotes, or your walking competition. Those that are not qualified, they are allowed to vote so they earn points and rewards, right? [...] But that is an element of the engagement that we'll see (P5)"*. As mentioned in this quote, this deeper sense of loyalty achieved via

such strategies will most likely increase customer engagement, which in turn can help sneaker companies create stronger connections between the customers and the brand.

4.5 Engaging Advertisements

It was decided to narrow the scope of the initial *Engaging and personalised marketing* category, as marketing is a very broad term, and this research does not examine every aspect of it. Therefore, it was decided to limit it to the new *Engaging advertisements* that the metaverse makes possible and *Increased personalisation* and split them into two separate categories.

New Ways of Advertising in the Metaverse

The findings from the interviews have shown that advertising in the metaverse will become much more immersive and interactive. *"It is the next level of storytelling, is the next level of engagement, dwell time, creating memories (P5)"*. One of the new ways to market products will be by holding online events within the metaverse. It was always possible to hold such events in the real world, but as it was found out during the interviews, now it can become much cheaper, and the audience that such events would be possible to reach will be limitless. *"We are already doing it with, yeah, with our friends from different brands and we are organising metaverse festivals where we are coming out together from all over the world, and we don't need to travel. We don't need to have any additional costs. Design on Spatial can cost a few thousand, obviously, or even more, yeah, to have some metaverse space, but you can organise a marketing action, marketing activation for people around the world at one time and they can be together in one place. [...] You can have one content, but have it sort of like distributed over the world (P4)"*. One of the participants brought up the concept of advertising through community leaders within the metaverse, instead of the company itself, as in their perception, such community leaders have more authority and more influence on the players within platforms like Roblox. *"I just mentioned the UGC is a huge factor, co-creation, having people who are the community members become your brand storyteller. So no longer is a brand in charge of what I want to tell you, who I am. Of course that's important. The brand DNA should be closely guarded by the brand legacy and everyone. But I think they also need to be open and carve out the idea of participants economy (P5)"*. This new way of advertising could become much more influential and engaging for the communities within platforms like Roblox, as those community leaders carry more trust among the players than the companies.

Low Risk of Advertising Campaigns

Furthermore, as one of the interviewees mentioned, there is an important new factor that should be considered when thinking about the future of marketing in the metaverse – the low risk of failure. Companies can launch bolder marketing campaigns with more ease and lower cost, and therefore the risk of failure becomes less influential on marketing decisions. *"Whatever that in the physical world might not be as possible, it would be a possibility in the metaverse, because there's no risk of failing, right? In terms of marketing, you can try out something in that world that you might not be able to try out in the real world, right? You can do crazy things without taking too much risk and providing more value. For example, if you want to do a big event, with crazy things going on in the middle of Broadway in New York, you're going to have to pull a lot of strings and spend a lot of money to ensure safety and access. But you can do all that in the metaverse, right, without going through all this trouble and then you can provide the same marketing effect to the people (P7)"*. Later on, the interviewee provided an example with Tesla, about how metaverse marketing can be a much safer way to

advertise products than real-world marketing campaigns. *"In the real world, there's not much room for you to fail. [...] And you know, like Tesla, right, when they come up with that, you know, big SUV, right, they thought they can throw away iron ball into the window and it won't break. And it broke, right? That's an immediate screw up, right? And these are the things in the metaverse you can actually do. With very, very low risk. Because you would make sure it won't happen, right? (P7)"*. Therefore, advertisements within the metaverse can become much more immersive and adventurous, but at the same time, they hold no risk of harm and provide assurance that they will go as planned.

4.6 Increased Personalisation

The second part of the initial *Engaging and personalised marketing* category focuses on how sneaker companies can market their products better by displaying personalised content to each individual player. Moreover, the category expanded a bit further beyond the scope of marketing into the enhanced customisation that might become widely offered to customers in the near future.

Hyper-Personalisation of Advertising

As the findings show, the metaverse will allow people to have multiple digital identities for different experiences. Depending on your avatar and preferences in a certain experience, for example, a sneaker store, the display can adjust directly to your data, and the whole outlook of the same sneaker store can look different for different players. *"The idea of our digital collectibles and hyper- personalisation. For example, if I have many wallets and I manage them very well, one is my mom life, so maybe my mom kind of stuff like, you know, where to bring kids that are kids-friendly amusement park, one is my fashion self, [...] my music lover, one's my grocery shopping, whatever. [...] So instead of using my Google or my Facebook, right, I can put in my wallet the right identity. So I'm going to go grocery shopping in a grocery shopping store, maybe I use my grocery identity. [...] So no longer are companies looking for basic information, she's in the age group of 20 and 30, she is a female, she spends this much, her household income is this much. It just helps them target ads, right? Because in the metaverse, I would expect that it would be like, ohh, under her profile in this fashion Metaverse, fashion website, her wallet, she's giving us access to her personality, her personality showcased as 70% of her NFTs digital collectible is in the colour purple. I'm going to shape this world to be a tinge of purple because data tells me she happens to like purple (P5)"*. The interviewee has summarised their thoughts with *"So I think these are the hyper-personalisation stuff that is a marketing element that helps us shop more, engage more, share more, buy more (P5)"*. Such personalisation of advertisements can help companies in the sneaker industry sell much more products while also satisfying customers more than ever before.

Enhanced Customisation

Beyond the marketing part, one of the interviewees brought up new advanced ways of customisation as a business opportunity that has not been fully leveraged yet. They claimed that in the current state of the sneaker industry, there is not much room for the customisation of sneakers. *"How can you actually create your own shoe as quickly as we speak? [...] That uniqueness could be actually added at home by your own creativity, or that speediness in that way, to kind of shape something nowadays. I think that's definitely lacking and that's I think the business opportunity right now. [...] Instead of you designing one colour here and then like designing that in another colour, that can be actually split it up in a matter of seconds. [...] And then an AI programme will give you 1300 of different type of colour

combinations [...] as a customer, I will say I like the number 235 just because, you will pick it and you will load it, and you'll be very happy. That's I think the whole, the work that it's still kind of needed to be patched, but it is being worked on right now as we speak (P2)". Such enhanced customisation would allow to make every pair of sneakers have such a combination of colours or patterns, that could catch the interest of every single customer. Moreover, it would make the sneaker industry more diverse, and customers would no longer only try to pick the best pair of sneakers but could also test their creativity by picking the best version of such sneakers.

4.7 Immersive Shopping Experience

This category has remained the same as in the initial categorisation framework, but it was examined in detail during the interviews, and many valuable insights have been provided by the participants. It is a very broad category that touches upon the future of both marketing and e-commerce in the eyes of the metaverse.

New Level of Product Visualisation

As the findings suggest, the metaverse will allow for a completely different level of product visualisation. *"I think being able to get an idea of how it looks and just, you know, looking around and everything and just seeing it kind of in person adds a lot of value. So yeah, I think the whole shopping experience will get a lot more interactive online (P3)"*. Moreover, the metaverse will allow for enhanced interaction with the product. *"With the interaction now almost that you can feel, let's say, with the shoes, you can. You can almost wear it in a way like it's already yours without being yours. That's what is actually kind of going to change (P2)"*. That sense of feeling is already being worked on, as it was suggested in the interviews. *"There are ideas to have that now, yeah, to have the haptic controllers and haptic controllers would also put it on another level, right, in the future (P4)"*. *"I've seen it already with different companies that they're designing almost like a glove. But imagine in the near future the glove would not actually exist, but maybe with some sensors, you would feel and actually would be able to stop, on the borders of the shoe. [...] That is actually already being developed right now as we speak (P2)"*. Such immersiveness and close-to-reality visualisation of the sneakers could make the whole online shopping experience much more enjoyable and could allow customers to make more accurate purchase decisions. That could, in turn, limit the returns of products that turn out to be disappointments.

Virtual Sneaker Stores

Moving forward, the much more immersive visualisations of the products could make the whole e-commerce shopping experience shift from a rapid process of clicking and finding the cheapest option to a completely new, more engaging version. *"The experiences that we craft, we can be looking at 10 to 15 to 20 minutes of average engagement time, which is huge compared to a website. A website you know, especially if we're talking about e-commerce. Yeah, the average engagement is in seconds. You have to hook people so quickly because people click 50 different links and they're just browsing. So, by having something that hooks people in very quickly and actually they don't leave so suddenly is massive for engagement, then you know you can create a whole journey of selling rather than just competing purely on price (P3)"*. Moreover, the metaverse will allow for the creation of virtual sneaker stores. *"You could see it's a lot more interactive, you can just, in essence replicate the traditional shop, shopping experience, but in the confinements of your own home (P3)"*. Furthermore, within the metaverse people would be able to travel to whichever store they would like to in a matter of

seconds. Sometimes people would decide not to go to a physical store, for example because of the traffic, and the current e-commerce is not comparable to the real shopping experience. *"So, for example, today I like to go shopping. But I'd like to go to this particular store in Hong Kong. So, I'm not able to fly over there in the next three hours, right? But if I go on this virtual world I can literally by myself walk into the store that I want to go to (P7)"*. The whole journey of e-commerce will become much more engaging, which is crucial for convincing the customer to buy a product. *"You have a good vibe, you feel good, you like how the store looks. You know, you like how you're treated there and then you just buy it, for no reason, right? And that is part of retail, right. And that journey? It's going to be even better in the metaverse (P7)"*. Therefore, such virtual sneaker stores in the metaverse could increase sales and customer satisfaction, as the online shopping experience would become much more pleasant and immersive.

Quicker and More Intuitive Online Shopping

As the findings suggest, the current e-commerce experience is far too slow, and making it quicker, more transparent, and more intuitive could boost sales significantly. *"I think brands that struggle are when they create too many layers between when somebody sees something and has an initial reaction to when they have to purchase it (P1)"*. The same interviewee has also shared a very interesting concept of intuitive e-commerce on the fly in the metaverse. *"But in the metaverse, let's say, you're playing in Roblox or you're exploring Decentraland and you see somebody wearing a really cool outfit, right? And you see that, let's just keep using T-shirt as an example, but you're able to, like, click on their outfit and the T-shirt. And it pulls up a window and it shows you what it is and then it has a quick purchase button right there. [...] If you could purchase within the platform, I always think like the less amount of steps for people, I think there's an opportunity in that (P1)"*. Such a simplified online purchasing system could significantly increase sales as it will simply become much easier and quicker for customers to buy new products.

Immersive Shopping Experience

The metaverse will unlock a completely new way in which people perform their shopping online. Some of the new experiences that the future online shopping experience might include are the possibility of online shopping with friends, seeing exactly how you look in new sneakers or clothes, having the programme tell you what is the right size for you, or even understanding which product you like the most based on your heartbeat. *"Why am I still shopping online by myself? So, in the future of the metaverse, in other words immersive converse is the word I use. It will be able to draw you into the world. So instead of scrolling down or instead of pressing left, left, left to see how an item looks on a model, that means nothing to me because she's 5'11, she's a size small, it doesn't help me in any way. This is so outdated. So, in the future of e-commerce and metaverse, it would have the hyper-personalised me standing beside the 5'11 model having the exact data points on my shoulder right and it will tell me what is the right fit. It could also use biometrics to scan my heartbeat, if I see something ohh that tells you physically like this item. This is the right item for you. So, all of these things are part of what I see the future of Metaverse will entail (P5)"*. Another idea that came out in the interviews is the use of AI shopping assistants, which would be able to provide instant help with full focus on the customer. Such AI assistants could also provide feedback on how you look, which could be very helpful during the purchase decision. *"So, you can see how they fit, and also with AI you know you have these shop assistants who are always there to help you, trained on, you know, sets of sets of data, they*

understand every product that's in stock. [...] Online shopping is a big thing now, but you don't get that opinion, you know, that second opinion is very important when I think people buy things, does it look good on me? Do I suit this? [...] I think with AI in the metaverse, there could be a lot more frank about you know what's in fashion, what the trends are, and then you'll be able to visualise it all very quickly (P3)". Furthermore, the metaverse should also allow for much more advanced search engines, powered by AI and enhanced visualisation. *"I've seen more advanced search features where you will describe what you're looking for, so you know I want a pair of black trainers with blue laces, and it will understand all the stock that they have and then it can present selections (P3)".* All of these novelties can significantly improve the quality of the online shopping experience and contribute to both increased sales for sneaker companies and a lower probability of customers picking the wrong product.

> *"It has limitless possibilities because it can reenact our reality, right. So, in our reality we also have sort of endless possibilities, but we are limited by the law of physics, which doesn't exist in the metaverse, right? You can fly, you can teleport, you can do all this stuff. You can be small, you can be big, [...] Like we are not limited by the laws of physics in the metaverse, so that makes it, like them endless possibilities realistic. And that's very exciting for sure (P4)".*

5. CONCLUSION

This research was aiming to answer the following research question, *"What metaverse-driven business opportunities are likely to emerge for companies in the sneaker industry in the foreseeable future?"*. In order to answer this question, the researcher has conducted seven open interviews with experts on the topic of the metaverse. The interviews helped to significantly expand the initial categorisation framework and resulted in its updated version. The new categorisation framework provides a broad, but coherent summary of the categories of metaverse-driven business opportunities. Some of the initial categories have been expanded, and some have been split into two categories. The research has resulted in the following seven categories of metaverse-driven business opportunities that companies in the sneaker industry can exploit: *Sales of virtual sneakers*, *Enhanced feedback*, *Improved product development*, *Brand interaction*, *Engaging advertisements*, *Increased personalisation*, and *Immersive shopping experience*. Each of the categories has been analysed in detail in the *Results* section, where all of the identified business opportunities have been introduced. Beyond providing more detailed and practical information on the initially recognised business opportunities, the interviews have also uncovered new business opportunities that are not yet commonly known or leveraged by sneaker companies. Examples of such include enhanced customisation, low risk of advertising campaigns, AI shopping assistants, and the creation of a second-hand virtual sneaker market. All in all, the paper explored many potential new business opportunities that the metaverse carries for companies in the sneaker industry. It has brought to light many unheard-of possibilities as well as expanded the current knowledge about the potential for business growth that the metaverse holds for the sneaker industry.

5.1 Theoretical Implications
As it has been suggested in the *Introduction*, the topic of the metaverse, and especially the topic of digital fashion in the metaverse, is lacking research. Some academic papers mention that the metaverse might create business opportunities for the fashion industry (Iqbal & Campbell, 2023), but they do not elaborate on that. The sneaker industry is assumed to be a part of the fashion industry, but since the concept of fashion is very broad, this research focused mostly on the sneaker industry. This paper provided an elaborate picture of the potential business opportunities for sneaker companies and, therefore, paved the way for future research and discussion on that topic. It can serve as an introduction to the topic of the sneaker industry in the metaverse in an academic setting.

5.2 Practical Implications
This research can serve as an overview of the possibilities that the metaverse creates for companies in the sneaker industry. The paper could be investigated in detail by companies that are considering expansion into the metaverse. It could serve as an overview of opportunities that they would need to later examine further to see if they could be leveraged by their company. This paper does not serve as a guideline or a manual for sneaker companies on how to enter the metaverse, but more as a general overview of what is possible. This research serves more as an introduction to further research, and hopefully it will help create more academic work that can turn out to be even more beneficial for companies in the sneaker industry in the near future.

5.3 Limitations and Future Research
As explained in the theoretical implications, the topic of the future of the sneaker industry in the metaverse is not yet widely researched. Therefore, more research is needed in order to fully understand the possibilities that the emergence of this new technology creates. This research is more of a preliminary study on the topic, as it provides a rather broad summary of possible business opportunities. This list of potential business opportunities is not complete, as the possibilities that the metaverse presents are endless, according to the findings. Further research could draw more insights on each of these opportunities and add new possibilities on top of these ones. It is worth noticing that further studies can continuously provide more and more new insights on the topic, as the metaverse and the technologies related to it are rapidly evolving, and every month some new insights might become available. Moreover, more research is needed on how to exactly leverage each of the business opportunities presented in this paper. That can mean investigating the requirements to begin a project in any of those areas, possible business strategies that can help leverage these opportunities in the best way possible, the limitations and pitfalls to keep in mind while trying to leverage any of these opportunities, and many other topics. The metaverse carries limitless possibilities for the sneaker industry, and therefore, further research on the topic will always be needed.

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APPENDIX A – INTERVIEW GUIDE

Hello, my name is Łukasz Kościński, and thank you again for your participation in this interview.

I am going to ask you some questions about the business implications that the metaverse has for the sneaker industry. However, before we start, I would like to ask you if you are willing to give me consent to record this interview? It is solely for transcription purposes, and it will not be shared with anyone other than my professor, Robin Effing.

- o Could you give me a brief introduction about yourself and your profession?
    - ▪ What are you responsible for? What is your role in your company?
- o What made you choose this industry?

Let's now move on to the main part of the interview. As I have mentioned before, this research concerns the potential business opportunities that the metaverse creates and might create in the future for companies in the sneaker industry.

Section 1 – Into the metaverse

1. Are you familiar with the concept of the metaverse?
    - ▪ Do you believe it will grow as projected? That is do you believe that the metaverse will start a new era of the internet?

Section 2 – Sales of virtual sneakers

2. What are your perceptions of the sales of virtual products, such as virtual sneakers, within the metaverse?
3. To what extent do you consider it a viable future source of revenue for the companies in the sneaker industry?
    - ▪ Do you perceive such strategies as a way to reduce carbon emissions?

Section 3 – Enhanced feedback on product development

4. What are your thoughts on the potential of the metaverse to increase customer engagement in the product development process?
    - ▪ (If not mentioned how) In what ways do you think that increased customer engagement might be achieved in the metaverse?

Section 4 – Brand experience

5. Do you recognise any potential new ways to interact with customers within the metaverse?
    - ▪ Do you notice any possible benefits or drawbacks coming from those actions?
    - ▪ (If having their own little metaverse was not mentioned) Some companies have built their own little virtual worlds inside some of the current metaverse, for example, Nike has created a Nikeland inside Roblox. Have you heard of such concepts, and do you recognise any benefits or drawbacks coming from them?
        - (If yes) Is your company planning on having similar project in the future?

Section 5 – Engaging and personalised marketing

6. Do you believe that the metaverse has the potential to revolutionise marketing as we know it?
    - ▪ (If no practical examples given) Can you provide some examples of how do you think the metaverse might change marketing?

Section 6 – Immersive shopping experience

7. What are your thoughts on how the emergence of the metaverse might influence e-commerce?

Section 7 – Anything else?

8. Do you recognise any other potential new business opportunities that the metaverse has or might create in the near future for companies in the sneaker industry?

Okay, that would be all of my questions. Thank you very much for every answer, and for your time and effort. Your contribution is invaluable for my research, and it has brought many important insights on the topic. Thank you very much!

Would you like to receive a copy of the final version of my research when it will be completed?

APPENDIX B – RELIABILITY CHECK

The interviews started with a few introduction questions in order to help the interviewees feel more comfortable. The answers to those questions are not be included in the analysis, nor are they displayed anywhere, as they include sensitive data about the participants.

The goal of the main interview questions is to explore in detail the broader business opportunities included in the categorisation framework. In order to gain a better understanding of those categories and possibly expand them, the follow-up questions have been added as well – those questions did not necessarily have to be asked during the interviews, if the interviewer decided that the participant had already provided an answer to them. Therefore, they are not included in the table below. In order to draw a clearer connection between the main questions, the categorisation framework, and certain topics, a table has been developed:

MAIN QUESTIONS	THE CATEGORY AND THE TOPICS THAT THEY ARE EXPECTED TO EXPLORE	SOURCES
1) Are you familiar with the concept of the metaverse?	Question not contributing to the research question or categorisation framework. The goal of this question is to warm up the interviewee by entering the topic of the interview without exploring the potential business opportunities for the sneaker industry yet.	---
2) What are your perceptions of the sales of virtual products, such as virtual sneakers, within the metaverse?	Exploring in detail the category *"Sales of virtual sneakers"* from the categorisation framework. It should touch upon the topic of: - Virtual sneakers and apparel in the form of NFTs	- Clark (2022) - BaseN (2024) - Song et al. (2023) - Sharma (2024)
3) To what extent do you consider it a viable future source of revenue for the companies in the sneaker industry?	Further exploring the category *"Sales of virtual sneakers"* from the categorisation framework.	---
4) What are your thoughts on the potential of the metaverse to increase customer engagement in the product development process?	Exploring in detail the category *"Enhanced feedback on product development"* from the categorisation framework. It should touch upon the topic of: - New advanced ways to generate improved feedback regarding the product development process - Increased feedback as a way to increase customer loyalty to the brand	- Periyasami & Periyasamy (2022) - Enache (2022)
5) Do you recognise any potential new ways to interact with customers within the metaverse?	Exploring in detail the category *"Brand interaction"* from the categorisation framework. It should touch upon the topic of: - Digital brand worlds, as well as their benefits and drawbacks - Other interactive activities that can boost customers' connection to the brand	- Carter (2023) - Golden (2021) - Mancuso et al. (2023)

6) Do you believe that the metaverse has the potential to revolutionise marketing as we know it?	Exploring in detail the category *"Engaging and personalised marketing"* from the categorisation framework. It should touch upon the topic of: - New immersive ways of marketing - The increased personalisation of advertisements	- Enache (2022) - Rathore (2017)
7) What are your thoughts on how the emergence of the metaverse might influence e-commerce?	Exploring in detail the category *"Immersive shopping experience"* from the categorisation framework. It should touch upon the topic of: - Increased immersiveness while online shopping	- Enache (2022) - Raghavan (2023)
8) Do you recognise any other potential new business opportunities that the metaverse has or might create in the near future for the companies in the sneaker industry?	Further exploring the potential business opportunities that have not been included in the categorisation framework due to their low existence or lack of existence in the current literature. Exploratory question, that will help expand the categorisation framework.	---

As underlined in the table above, the questions directly contribute to a deeper understanding and expansion of the initial categorisation framework, which was based on the available literature. By asking these questions during the interviews, many important insights were gathered, that allowed for the creation of an updated categorisation framework. That categorisation framework should directly answer the research question, as it is a transparent summary of all of the identified business opportunities that the metaverse is likely to create for companies in the sneaker industry, that have been discovered during data collection and analysis.

APPENDIX C – DATA ANALYSIS PROCESS OVERVIEW

The following table is an overview of all the categories in all tiers. Direct quotations throughout the interviews have been labelled and grouped under broader *Tier 1 categories*. It is worth mentioning that *Tier 1 categories* can significantly vary in terms of size. This occurred because some of the topics were mentioned just by one or two of the interviewees (e.g. *Virtual second-hand market*), and others were mentioned by everyone (e.g. *Benefits of interacting with customers in the metaverse*). Moreover, the size of each quotation could vary significantly as well. Later on, the *Tier 1 categories* have been clustered into broader *Tier 2 categories*, which have been used as the subsections names under each of the main categories. Finally, the *Tier 2 categories* have been grouped under broader themes, that is the *Tier 3 categories*, which also became the main categories of business opportunities in the categorisation framework.

Tier 1 categories	Tier 2 categories	Tier 3 categories
Importance of virtual fashion	Demand for virtual sneakers	Sales of virtual sneakers
Young generations' appreciation for digital		
Hike in demand in the metaverse due to having multiple personas		
Sales of virtual sneakers as a potential revenue stream		
Extra perks around the virtual sneakers	Ways to increase the demand for virtual sneakers	
Virtual sneakers as collectibles		
Virtual second-hand market	Virtual second-hand market	
Unusual designs	Unusual designs	
Increased data generation in the metaverse	Enhanced indirect feedback in the metaverse	Enhanced feedback
Increased feedback from customers	Enhanced direct feedback in the metaverse	
Faster direct feedback		
Feedback through events in metaverse	Ways to generate feedback in the metaverse	
Deeper connection with customers as a way to increase feedback		
Advanced product development tools and techniques	Advanced product development techniques	Improved product development
Enhanced feedback as a way to improve procduct development process		
Collaboration design	Collaboration design	
Reaching young audience as a way to increase future customer base	Benefits of interacting with customers in the metaverse	Brand interaction
Benefits of interacting with customers in the metaverse		
Possible pitfalls during the launch of digital brand worlds	Ways to successfully interact with customers	
Co-branded digital brand worlds		
Ways to draw people into the metaverse		
Loyalty programmes in the metaverse	Deeper sense of loyalty	
Metaverse marketing campaigns with unlimited reach	New ways of advertising in the metaverse	Engaging advertisements
Advertising through metaverse communities' members (leaders)		
Low risk of advertising within the metaverse	Low risk of advertising within the metaverse	
Hyper-personalisation of advertising	Hyper-personalisation of advertising	Increased personalisation
Enhanced customisation	Enhanced customisation	
Increased product visualisation	New level of product visualisation	Immersive shopping experience
Haptic sensors		
Virtual sneaker stores	Virtual sneaker stores	
Quicker and more intuitive online shopping	Quicker and more intuitive online shopping	
Improved process of trying on new products	Immersive shopping experience	
AI shopping asistants		
Improved search engines		
Sales of virtual sneakers as a way to fight climate crisis	Sales of virtual sneakers as a way to fight climate crisis	Additional findings
Future metaverse population	How will the metaverse look like?	
Will metaverse deliver?		
How will the metaverse look like?		

APPENDIX D – ADDITIONAL FINDINGS

Throughout the interviews, the researcher has managed to also collect some additional data, that is not directly related to the research question. These findings mostly relate to the vision of how the future metaverse will actually look like. The other additional topic that was mentioned in the interviews is *virtual sneakers as a way to fight climate crisis*. Apart from these topics, the researcher decided to include the reasoning of the biggest sneaker brands for their refusal to participate in this research.

Vision of Future Metaverse

As it turned out in the interviews, there is no main view of how the metaverse will look like. *"You know, different people have a very, still yet have a very different perspective and vision about what it is (P7)"*. The finidngs suggest that the view that Mark Zuckerberg presents is simply an attempt by Facebook (now Meta) to monopolise this idea. *"They say there will be one because they are monopolies on the market [...] Yeah, they think themselves are the market and that they had this idea, which is freaking crazy, right? Like if you talk to the more people like me, they will be always annoyed about the Meta's part, because it didn't bring us anything positive to the market. It only stopped our progress because many people that could go into cool platforms they didn't know about them because stream of information was monopolised by Facebook (P4)"*. *"When we talk about the possibility of this platform in the future, it's not just zero down to one person, or one company vision, right? What Mark Zuckerberg says is really not very important in this picture, in my view. But what technology, from the technology point of view, what is possible on this platform is the key, right? (P7)"*. On the contrary to Mark Zuckerberg's view, the findings suggest that the metaverse will not be one massive platform, but instead there will be many platforms connected to each other in some way. *"There won't be one platform for everything. There will be different platforms from many different players. [...] There is a lot of work that's being put into creating connections so you can move, yeah, from Sandbox, for example, to another metaverse (P4)"*. These many digital worlds could be created by companies or other entities. *"I think the term Metaverse could be equivalent to the Internet, so all of us in our own domains, maybe corporate organisations, institutions, will all have their own domains. [...] If we think of that, it's many, many, many different worlds in the whole bigger universe of the metaverse, which is like online life, that's how I see it (P5)"*. Each website could be such digital world. *"You know, like you're not entering anymore into www.google.com, but you're getting into Google's world (P2)"*.

Moreover, in the metaverse, people will be able to do many other things that they can so far only do in real life. *"It's basically doing everything you're doing in real life, except digitally. You're, you know, you can get married in a metaverse, you can buy a car in a metaverse. You can, you can be a completely different person, right? Like you, you know, I identify as a man in real life, but I could become a woman in the metaverse, right? And so you can be whatever form of identity you want to take. So to me, it's just a digital world (P1)"*. *"To me, Metaverse is really a new platform, it's like an Internet platform for, you know, for a new way of connecting and doing everything that you're doing today, you know, online (P7)"*. As findings suggest, the metaverse will most likely expand its presence beyond just the big headset that people have at home, and add some features to the real life situations. *"We believe in the future of companies like Apple, that will make googles that would allow people to see virtual reality attached on top of the real world in real time. [...] it will be more a mix of digital reality and our own reality (P4)"*. People would be able to enter the metaverse in various modes of immersion, from fully immersive VR headsets, to advanced AR glasses that could be worn around the city. Many businesses could offer some AR features inside their stores that would be accessible with AR glasses. *"I guess we'll see a blur between augmented and full metaverse. So the way I thought about it before is kind of like your smartphone versus your laptop. So when you're out and about, you'd have your smartphone on you, which would be maybe like, you know, your kind of basic headset, which has a lot of augmented reality and maybe in the real world we have kind of trigger points, if it's done spatially, so you know, in this area it's something gonna pop up around you. Or maybe just very simple QR codes that it pops up in front of you. So you have this kind of like semi digitalized, well that's semi immersive. And it's not, you know, it's kind of something you can switch on and off and it's not, it's not full time. And then when you get home, it's where you get on your desktop, right. So you have this more immersive completely a theoretical world that you can plug into, which is like this whole universe (P3)"*. Therefore, the metaverse is a complex concept, that would most likely consist of many different virtual experiences or worlds that could be interconnected to some extent. In a more broad sense, it could be defined as the future of the internet, the next level of immersiveness, limitless possibilities, and mixed reality life, but in a more specific context, it is a very sophisticated set of inventions that does not really have any limits in terms of definition.

Virtual Sneakers as a Way to Fight Climate Crisis

On one hand, the findings show that virtual sneakers and fashion in general will not solve the climate crisis. It has been underlined that people will still need physical sneakers, as their lives will not move 100% to the digital world. The only thing that will change is that when they spend time in the metaverse, their digital experiences will be much more immersive, but people will still have their lives in the real world as well. *"I don't really think there's going to be a much offset if you just start buying virtual sneakers, because the screen time will still be the same, right? So you're still going to be going outside because we're going to be travelling, so offset all carbon emissions, unfortunately I don't think so (P6)"*. On the other hand, metaverse can help significantly reduce carbon emissions associated with production of sneakers and clothing. This will

occur not due to a drop in demand, but because of a lower need for special clothing, as with AR glasses people will be able to see amazing designs without the clothes being actually amazing themselves. *"There will be no need for amazing clothes, because if you can put a filter on and have any kind of item, why would you, yeah, pay these thousands of dollars. Or leather jackets, yeah actually, you know, it doesn't need to be produced, right? If it doesn't need to be produced, we are helping the climate (P4)".* Therefore, the emergence of virtual sneakers and fashion will not stop the climate crisis. However, it will be able to reduce carbon emissions due to a simplified production process and more unified demand for clothing products, that is people will buy similar sneakers and clothing designs.

Why Did the Biggest Sneaker Brands Refuse to Cooperate?

Apart from the interview participants that have agreed to participate in this research, that is the metaverse experts and representatives of smaller sneaker companies, the biggest sneaker brands have also been contacted. However, the ones that responded were not eager to cooperate. The main reason for that was that they did not want to share their insights on the topic, as they believe it is sensitive data that they would not like anyone else to have access to. Some of them have said that it is *"confidential"* and they cannot share their knowledge about the future of sneakers in the metaverse. Therefore, it can be assumed that the biggest sneaker companies are taking the idea of the metaverse as a business opportunity seriously, and they prefer to keep their strategies secret so that they can do better than their opponents.