THE MARKETING OF RADICAL VR SOLUTIONS

A case study of how SynergyXR can market VR to an immature market

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ABSTRACT

With the emergence of the metaverse and virtual reality (VR) as mirrors to a possible future dominated by spatial technology, the concept has been met with both ambivalence and doubt. However, as VR evolves and makes rapid advancements, what will it take to convince people that it could be a force for good? This paper examines how the value of radical VR solution can be expressed to markets that are either unfamiliar or resistant to the new technology. Based on the expressions of diffusion theory by Everett M. Rogers, a semi-structured interview was conducted with the CMO of the virtual reality company *SynergyXR* to gather industry insights about the challenges of marketing radical VR technology. These insights were subsequently compared to the thematic analysis of *Facebook's* rebranding to *Meta* and the mass media response that followed its public claim to the metaverse. The analysis showed a correlation between *Meta's* bold marketing and the resistance to the metaverse felt by VR marketers and the mass media alike. This study concludes that VR solutions should be marketed with their tangible value proposition front and centre in favour of visionary storytelling. As such, it advances our understanding of VR adoption as tackled through the lens of mass communication. Suggestions for further research are discussed.

TABLE OF CONTENTS

CHAPTER I: INTRODUCTION

The following chapter details the background for the research topic of this paper and provides the reader with an impressions of its overall purpose.

1.1 Research topic

In a time of rapid technological advancement, from the proliferation of smartphones to the emergence of 5G internet, it may seem as though the next technological boom is just around corner. One expectation is that virtual reality (VR), the vehicle for the so-called 'metaverse', may come to revolutionize the way we intersect with technology. However, it is as yet a medium early in its innovation cycle, and with tech giants like *Meta* staking its claim on a monopoly of the metaverse, as much scepticism as enthusiasm has taken hold of the public discourse around it. If VR is to become a breakthrough, mainstream technology comparable to the next iteration of the internet, how then should developers communicate its value to an immature market fraught with doubts?

1.2 Research question

The research question that best reflects the aim and focus of this thesis reads as follows:

"How does a radical VR solution gain prominence in an immature market?"

CHAPTER II: LITERATURE REVIEW

The following review of literature explores the intricacies of marketing radical innovations globally and unpacks the strategical considerations companies might implement to adopt a more customer-centered approach. It brings VR into sharp focus and investigates the 'how' and the 'why' behind people's current usage of spatial technology, considering drivers and barriers of adoption across industries, and examines ways forward to expand its popularity.

2.1 The marketing of radical technology

Having studied the development of new technology in the global market, Birgitta Sandberg describes radical innovations as technological inventions that are new both for the firm and the market. In a simplified sense, they do something that most people did not realize was possible. Sandberg claims that "The development of radical innovations is critical to the long-term survival of many firms, since they provide the foundation on which future generations of products or services are created, and they seem to have a greater return on investment than less-original new products" (Sandberg 2008, 1). The newness of radical innovations, Sandberg posits, creates various challenges for the innovating firms. First, when transforming an idea into an invention, firms need to be able to cope with significant technological uncertainty. However, overcoming the technological challenges is not enough to turn invention into innovation, i.e. to make it succeed commercially. Commercializing a radical invention also requires coping with considerable market uncertainty (Sandberg 2008, 1). Due to the inherent newness, it may be extremely difficult to react to customers' needs and wishes during the radical innovation development process, even though reactiveness would often increase the chances of success in the marketplace. Sandberg believes that proactive behaviour towards customers in terms of anticipating and influencing their needs may play an important role in building bridges between the innovation and the market (Sandberg 2008, 2).

Contemporary scholars of technology marketing, Jakki Mohr et al. state that although new technologies often offer compelling benefits over more established 'legacy' technologies – benefits that innovators believe should be obvious to customers – customers can be considered 'balky'. Because 'balky' consumers are inherently sceptical about the advertised benefits of brand new innovations, they rarely embrace new technology as quickly as developers anticipate (Mohr et al. 2006, 85). In this regard, Mohr et al. clarify that the ability of the firm to communicate product benefits to potential adopters plays a pivotal role. This factor captures the ease and clarity with which the benefits of owning and using the new product can be communicated to prospective customers. Adoption rates are enhanced when customers in a marketplace can see the benefits other customers have received from adoption (Mohr et al. 2006, 98).

The likelihood of successful adoption is therefore tied closely to the way the benefits of the technology are communicated. To this end, Ker (1996) suggests that the core of the launch strategy for a radical innovation should be to educate the market by finding influential

spokespeople who would try the product and endorse it as brand ambassadors. By working closely with early adopters, these opinion formers can judge the technology on its merits and provide valuable feedback to decide what will work promotionally and what will not. Ker recommends that tech marketers be flexible enough to change their pitch according to these experiences, applying the fundamentals of marketing strategy to achieve customer-centred communication that elevates the market appeal of the innovation (Ker 1996, 57).

2.2 Virtual reality – drivers and barriers of adoption

Understanding the rationale behind the marketing of radical innovations is instrumental to applying it to the emergent technology trends in the market. Among these are virtual reality (often shortened as VR) and the associated concept of the ‘metaverse’. According to Junghyo Lee et al., VR is defined as a computer-generated simulation of a 3D environment that mimics reality using special electronic devices, such as head-mounted displays (HMD) equipped with screens, sensors and hand-held controllers (Lee et al. 2018, 37). The term VR first appeared in the 1960s, but in the past, the price of VR equipment and similar HMDs was virtually unaffordable to the average consumer. Hence, VR was used more specifically in specialised fields such as medical, defence and education. In recent years, however, VR technology has evolved to become more sophisticated at simulating real digital presence, which is its major selling point. As a result, the technology overall has received considerable notoriety as new VR devices hit the market, both more affordable and widely available (Lee et al. 2018, 37).

Having conducted a study into the consumer usage of VR in South Korea, Lee et al. point out that as VR technology advances and the VR device market grows, studies related to VR technology in various industrial fields, such as architecture and medical, are being conducted on a more frequent basis. Those studies focus mainly on the technical aspects such as application and development, but for the technology to reach mainstream appeal, it must be easily accessible and adopted by users. Therefore, researchers have also analysed users' intention to use VR technology (Lee et al. 2018, 38). In these studies, the technology acceptance model (TAM) has been used to explain user attitudes and behaviour towards information technology and devices. As a common theme throughout these studies, the intention to use VR technology contain features that assess enjoyment as an important variable, in addition to the basic elements of TAM. Moreover, research suggests that the level of user enjoyment

could be an important factor in explaining consumers' intention to use VR devices (Lee et al. 2018, 38).

Following a similar research design, Sagnier et al. (2020) conducted a study proposing an extended version of the TAM which addresses the specific aspects that contribute to the intention to use VR. In this study, they surveyed 89 users who had been using VR for aeronautical training and found that the perceived ease of use had no significant effect on the intention to use VR. Likewise, they found no significant correlation between the perceived ease of use on user acceptance of VR, either directly on the intention to use VR or indirectly via its perceived usefulness. By implication, the study suggests that VR technology need not be easy to use in order to be considered useful and for users to intend to use it (Sagnier et al. 2020, 1000).

Investigating other factors impacting VR adoption, Sagnier et al. found perceived usefulness to be a stronger predictor of intention to use VR than its perceived ease of use. Perceived usefulness might be expected to be even more important for utilitarian technologies, among which the effects of perceived usefulness on the intention to use were found to be significant, suggesting that users must consider VR to be useful in some capacity before they intend to use it (Sagnier et al. 2020, 1000-1001).

The utilitarian promise of VR seems to have a recurring significance to its wider adoption. Studying the user acceptance of VR glasses with an emphasis on hedonic consumer settings, Eva Hartl and Benedikt Berger conducted a laboratory study to analyse the behavioural patterns of 155 participants, basing responses on the unified theory of acceptance and use of technology model (UTAUT). In the study, they found that VR glasses' ability to induce presence, a sense of being in another environment, is a key characteristic of the technology that influences adoption (Hartl and Berger 2017, 2418). The study also found that a person's sense of escapism influences the effect of presence on performance expectancy, indicating that user personality affects the evaluation of technologies' design features. As a motivational user characteristic, escapism can explain not only the adoption of VR by gamers, but also by video viewers or others that have the common motivation to escape reality (Hartl and Berger 2017, 2422).

Judging the results of the study in its totality, Hartl and Berger found utilitarian benefits to remain the main driver of user adoption. This implies that practitioners should focus their marketing strategy on promoting the functional benefits of VR glasses and expanding the amount of functional content available (Hartl and Berger 2017, 2423). Their research supports the notion that presence is a key feature of VR technology that determines its adoption.

By finding common threads among respondents, their research identified escapism as a personality trait correlated with increased adoption. As such, their prescription for marketers of VR is to emphasise its high capabilities to induce presence in future VR technology development (Hartl and Berger 2017, 2423). In this regard, marketers can apply that segment and specifically target consumers with high escapism tendencies which allows for more direct market communication. The study showed that not only gamers but also video viewers exhibited tendencies towards escapism. Thus, to construct the messaging and positioning of VR marketing more efficiently, targeting escapism-prone audiences beyond gamers is advised (Hartl and Berger 2017, 2423).

To determine how the diffusion of VR technology is taking place in the market and identify what its barriers of adoption are, Laurell et al. (2019) employed social media analytics (SMA) for data collection across 6044 user-generated content online and machine learning (ML) for the analysis of how users associate meaning and value vis-à-vis VR technologies. The study found that the stand-alone value of the market-leading headsets *Oculus Rift* and *HTC Vive*, as well as their associated network value, are the most frequently discussed aspects among consumers. Within their content analysis, Laurell et al. noted how even though discussions regarding price and trialability were less frequent, the nature of these discussions suggested that the price and trialability dimensions also represented obstacles for widespread adoption. Both the technological performance and the number of complements available constituted barriers to adoption. They also observed how price point seemed to play a role, but less attention was devoted to this parameter overall (Laurell et al. 2019, 5).

By illustrating that barriers associated to adoption are noticeable in the technological advancement of VR and in its limited availability for mass consumers, Laurell et al.'s study indicates that a cautious marketing approach is to be preferred given scarce adoption and the fact that the technology does not seem entirely matured yet. However, given exponential improvements in performance and the availability of complementary goods which develop over time, they judged that the trend would evolve positively going forward (Laurell et al. 2019, 5).

As important as the behavioural draws of VR technology can be, however, there are hard limitations that make it challenging to market for wider adoption. Myroslavia Zaiets highlights the challenge that not only do providers need to host VR videos to attract and retain users, but the viewers must simultaneously own VR headsets to be able to experience immersive visual content. Besides, the industry indirectly depends on the software providers to produce the computer-generated VR content as well as on the state of technology and

infrastructure for it, such as network speed. Zaiets raises the point that because VR is a short-term medium (meaning the customers spend a fairly small amount of time in VR daily), the value of the technology deteriorates in the eyes of the end consumers and thus narrows down the opportunities for video monetisation via advertising, subscriptions for the video platforms and content developers (Zaeits 2021, 11).

Zaiets draws attention to the fact that the interest in VR video platforms is mostly fuelled by marketing and media coverage. Thus, understanding the intention behind the use of VR is less pressing than its accessibility on the whole. Zaeits notes that most consumers are aware of VR only through indirect experience, mainly from TV and online media such as social networks, YouTube, etc. Therefore, advertising and investments into hands-on VR experiences like arcades may be a way to stimulate the curiosity of the potential adopters. It corresponds with the past use construct - people who already tried VR favour it more (Zaiets 2021, 12). Through her research, Zaiets observed that the adoption of VR video platforms depends on several factors, which can be presumably divided into a few categories (individual, technology and content related). The inability of VR devices to deliver the low-latency, high-quality video content with an advanced level of immersivity, combined with limited VR content offerings and the relatively high price of the hardware that will only be used short-term, adversely affect the perceived usefulness and perceived enjoyment of VR, and therefore negatively impact users' attitude towards the VR video platforms. The lack of socialisation features in VR, as opposed to the group viewing of films or sport events, also hinders adoption rates (Zaeits 2021, 13).

2.3 Social functionality drives VR adoption

Despite being hindered by hardware limitations and challenges in the perceived enjoyment of VR, Lee et al. point to studies which show that enjoyment can be directly or indirectly increased by social interactions among users of entertainment services, such as online games. Using these trends as an example, Lee et al. argue that because the game and entertainment sectors represent the largest portion of VR's prominent industries, social interactions among the users of VR services are expected to increase user enjoyment and intention to use VR. Integrating social interactions, they posit, is becoming an increasing trend within the gaming industry (Lee et al. 2018, 37). For instance, *Oculus* and *Sony*, leading manufacturers of VR game devices, announced that they have developed services that enable social interactions.

The social interaction strategy of those companies is focused around connecting extant users with other VR device users through social networking services that enable them to interact in the digital worlds. This has become central to the marketing of VR gaming, just as more companies centre strategies around promoting the networking capabilities of their VR offerings (Lee et al. 2018, 38).

Designing an efficient VR marketing strategy, according to Lee et al., requires an understanding of the factors that influence consumers' intention to use VR devices and the relationships among those factors. They point out how even though the VR industry is strategically introducing social networks, there is a lack of TAM research considering these VR industry strategies. Many Korean consumers already have smartphones that make VR applications relatively easy to use, and consumers already interact socially through social media platforms such as *Facebook*, which may therefore make them more susceptible to social VR strategies (Lee et al. 2018, 38). Pointing to the concept of social presence, Lee et al. describe how it represents a perception of being connected to other social users in online video games. This ability to simulate a real-life connection within the context of a digital interaction is part of what accentuates the sense of togetherness which VR technology directly captures. VR interaction between social users ultimately provides a feeling of coexistence (The Sense of Togetherness), which artificially creates an arena of hyper-realistic social interaction and a context in which coexistence is seen as a factor that allows users to immerse themselves in the experience, thereby increasing enjoyment (Lee et al. 2018, 40).

With the marketing of immersive technologies playing such a crucial role in their adoption, Lee et al. reassert that social interactions in VR enhance user enjoyment, and the positive attitude formed through those social interactions strongly influences the intention to use VR. Their study highlighted the fact that adding social network services can promote VR acceptance and suggested that social interactions are an integral part of growing VR in the entertainment industry. As a result, Lee et al. recommend that companies focus on marketing strategies that introduce social networking functionalities to VR and promote interpersonal relationships among users. In addition, marketing strategies should target users who already have experience with VR. They stress that providing an environment in which users can share their experiences with a wider audience will enable viral marketing. Lastly, the study indicated that the enjoyment factor may be more effective towards young people, suggesting a marketing strategy that takes these factors into account (Lee et al. 2018, 46).

2.4 The adoption of VR in education

Lee et al. also identified teacher acceptance of technology in the VR education environment through the TAM, showing that usefulness had a significant effect on the intention to use VR. They highlight how this can be attributed to different purposes for using the technology. In the case of teaching, Lee et al. discovered that the use of VR devices for educational purposes was found to have a significant effect on the intention to use VR because it improved the quality of education and facilitated effective learning. They noted that although specific areas such as education and marketing saw a very different utility for VR, entertainment was still an important factor regardless of the original intentions behind using the technology (Lee et al. 2018, 45).

Similarly examining the educational adoption of VR from the perspective of students using the TAM, Gerardo J. Moreira et al. studied the role of perceived engagement and enjoyment in adopting VR and its effect on learning effectiveness. The study involved a focus group of university students engaged with VR applications, and through their experiences it was observed that the perceived enjoyment of using the technology was a key factor influencing student attitudes towards VR. It also affected their overall satisfaction with the technology, the intention to adopt VR applications, and its perceived learning effectiveness. This implies that a highly enjoyable student experience with the VR application will generate more positive attitudes towards VR and therefore also the intentions to adopt it, as well as higher levels of satisfaction and perceived learning effectiveness (Moreira et al. 2021, 232).

Contrary to Hartl and Berger's findings regarding escapism, Moreira et al.'s research showed no significant effect of immersion on students' attitudes towards educational VR, no indirect effect on the satisfaction with the technology, the intention to adopt VR applications, nor its perceived learning effectiveness (Moreira et al. 2021, 232). The study instead indicated that preconceived attitudes towards VR showed a positive influence on satisfaction with the technology, the intention to adopt VR applications, and its perceived learning effectiveness. The results of the study also revealed a positive relationship between the perceived learning effectiveness and the intention to adopt VR applications. However, the level of satisfaction was found to have no significant influence on students' intentions to adopt VR applications. In other words, the perceived learning of effectiveness of VR was shown to be the most integral to the intention to adopt VR among students (Moreira et al. 2021, 233).

Taking users' subjective experiences into account, Sagnier et al. also found that users' personal characteristics had an impact on how they perceived VR. According to their study, personal innovativeness affects perceived usefulness: users who are attracted to new technologies are more likely to judge VR as being useful. Sagnier et al. also noted that the effect of personal innovativeness on the intention to use VR is indirect: users interested in new technologies are more likely to find it useful, and it is the perceived usefulness of VR that is a predictor of the intention to use the technology (Sagnier et al. 2020, 1002).

2.5 VR in industry and organisations

Following the Unified Theory of Acceptance and Use of Technology (UTAUT) model, Markus Heinonen studied the rate of virtual and augmented reality adoption among different industries and identified three main use cases for enterprise adoption: design, marketing and sales, and training and simulations. By looking at common drivers and barriers, the results of the study indicated that the expected performance of VR was the biggest driver of adoption in each use case. With factors such as expected performance, facilitating conditions, behavioural intention and social conditions taken into consideration, the UTAUT-based study found that the field of design had the most favourable conditions for adoption, followed by marketing and sales, and lastly, training and simulations, which had most barriers for adoption (Heinonen 2018, 6-7).

According to Heinonen's study, the reason for the higher rate of adoption in design was linked to the observation that designers are usually more technical people inside the organisation. As such, adopting VR into their workflow carries with it fewer points of friction, and testing new technologies is also more encouraged among these professionals. Therefore, design was the only use case with positive social conditions for adoption. The study also showed that the behavioural intention to use VR was strongest in design because VR is a natural extension to current design tools instead of a completely new way of working. Facilitating conditions, however, still posed a barrier for wider adoption, because the workflow to port 3D objects from current 3D software applications to VR required too much manual work. (Heinonen 2018, 7).

For marketing and sales purposes, Heinonen's study found that VR could already provide quantifiable benefits, but that there were still barriers to overcome for wider adoption. Facilitating conditions were still the biggest barriers for adoption because external help was

often needed either in the development of new models or the conversion of old ones. Another barrier was the social conditions for sales and marketing professionals because they were generally less technical people in the organisation. As such, adopting new technologies was less frequently encouraged. Despite these barriers, behavioural intention to use VR (which is the best determinant of future usage) was still positive in marketing and sales (Heinonen 2018, 8).

In terms of VR adoption for training and simulation, Heinonen found that the interest in use cases such as emergency training and machinery operation in VR were attractive because such simulations are difficult to replicate in real life, but there were still significant barriers to adoption. First, the study showed that facilitating conditions pose significant barriers because creating training applications is more laborious than only transferring static 3D models to VR. Second, insufficient social conditions for adoption seemed to be the most significant barrier for adoption in training, which was reported to be due to the lack of knowledge about these technologies. Therefore, behavioural intention to adopt VR for training purposes is neutral because the potential and interest towards these technologies is high, but barriers to adopt remain significant (Heinonen 2018, 8).

Christian Zabel and Verana Telkmann conducted a study which aims to identify the determinants influencing the adoption of emergent technology-driven innovations within organisations, using the example of XR (which encompasses virtual, mixed and augmented reality). They cross-examined eleven use cases of German pharmaceutical, automotive and media companies, whose implementation of XR showed three overarching factors which play a vital role in successful adoption: technology, organisation and environment (Zabel and Telkmann 2020, 241). On the whole, the main drivers of adoption in the study differed significantly between the media and manufacturing cases. For media firms, the rationale for adopting XR was strongly driven by editorial or content-related aspects. Therefore, the media companies focused on their core competencies by developing specific use cases and generating editorial/content knowledge instead of building up technology know-how that could be reused in later projects (Zabel and Telkmann 2020, 256). The study also found that a lack of technological expertise and the rigidities of internal resources in organisations could lead to long-term dependence on technical suppliers and hamper successful long-term adoption of the new technology. The analysis thus indicated that even though established media companies can react quickly to emergent technologies and can drive the projects in an entrepreneurial manner, they generally attested weakness in adopting new or emerging technologies (Zabel and Telkmann 2020, 255).

This contrasted with the pharmaceutical industries, whose participation in the study showed that innovation projects were seen as part of a wider strategic initiative and also took a more formal, top-down approach to decision making. Their strategy to use the pilot projects in order to build up a technical knowledge base proved more conducive to adoption, which pointed to ways of how the potential of technologies can be evaluated and seized more sustainably, even if the technologies do not form part of the core set of the activities or products of the industry (Zabel and Telkmann 2020, 256-257).

Recognising the benefit of visual and communication enhancing technologies in the architecture, engineering and construction (AEC) industry, Mojtaba Noghabaei et al. conducted a study to determine the trends in adoption of AR/VR technologies in the AEC industry and detect the limitations of the utilisation of these technologies, focusing specifically on the development of trends between 2017 and 2018. Through their findings, they found that the AEC industry is far behind other industries such as healthcare and retail in adopting AR/VR technologies in the research literature, but the results of the study also showed that the AEC industry is changing its previous path towards utilising these technologies more actively (Noghabaei et al. 2020, 2).

Furthermore, the results showed a significant increase in AR/VR utilisation in the AEC industry over the past year and potential opportunities arising from that, such as how older generations are significantly more confident about the future of AR/VR technologies and see more benefits in the utilisation of such technologies, that the residential and commercial projects were the top sections that utilised AR/VR technologies, and finally that the industry is growing significantly in the adoption of these technologies (Noghabaei et al. 2020, 14). Respondents indicated, however, that while VR software communication has improved within the past year, there still exist a number of limitations that can improve the capabilities of VR/AR technologies for AEC professionals which might be lost during the export and import process. One such improvement in high demand was the ability of connecting several VR headsets to enable a group meeting in a virtual space, which can enhance and improve communications among stakeholders. These social factors are central to convincing the AEC industry to spend more money on the development and adoption in this area (Noghabaei et al. 2020, 14).

One study that does examine the abilities and limitations of multi-user, social virtual reality (SVR) usage in the AEC industry was conducted by Henri Jalo et al., who identified the enabling factors that the technological attributes of SVR have on the diffusion of VR. They found that users' ability to access SVR with multiple devices would moderate the effect

of ease of business process integration (compatibility) on SVR diffusion because they enable a greater number of stakeholders to participate in the collaboration. Their findings also indicated that a wide variety of factors such as multi-user testing, younger lead users, applicability of standalone VR head-mounted displays, and organisational competence with 3D models altogether mitigate the negative effects that perceived technology difficulty (complexity) has on SVR diffusion. According to Jalo et al., these factors enable more efficient handling of the examined content in SVR as well as an easier user experience due to more effective peer support and more easily operated VR hardware (Jalo et al. 2020, 12) In other words, the perceived ease of use is generally important to the adoption of VR in the AEC industry, and there was a link identified between increased social functionality and professional adoption of VR.

As a practical implication of this study, organisations can utilise the findings to evaluate their readiness to adopt SVR. Jalo et al. posit that effective SVR adoption requires significant resources and commitment from an organisation and its stakeholders, and the present findings indicate that organisations need to identify the task areas that best match the strengths of SVR in collaboration around visual content and in graphically distributed teamwork. Users' initial impressions are also critical in adopting SVR, and SVR adoption should be efficiently facilitated to enable teams to overcome initial reluctance and the perceived complexity of using SVR. As such, the study found that organisations should also identify champions for SVR adoption from among their younger and more innovative users (Jalo et al. 2020, 13).

2.6 The commercialisation of VR

Exploring other areas of commercial VR application, Christian Peukert et al. researched the effects of immersion on system adoption by looking at users shopping in virtual reality. In their study, they found that immersion influences the user's intention to reuse the shopping environment along two paths – a hedonic and a utilitarian path – which ultimately cancel each other out. Immersion has a positive effect on the hedonic path, whereas the effect on the utilitarian path is negative. This result provides some evidence for the notion that when even more advanced VR technology is available, immersion will also positively affect the utilitarian path (Peukert et al. 2019, 782).

The degree of immersion increases users' enjoyment, because they perceive higher

telepresence. Thus, they have more fun while shopping in this environment because they escape reality and feel as if they are present in the shopping environment. Peukert et al. therefore assert that immersion has a positive impact on user experience and can not only positively influence the user's intention to reuse the IT device, but it can also make other important benefits available to the IT system provider. So, while the utility of the VR environment has partially been diminished by technological restrictions, their findings suggest that adoption will climb as the technology advances (Peukert et al. 2019, 777).

Recognising that most of the companies embracing XR technologies in the public discourse were multinational enterprises (MNE), Henri Jalo et al. sought to examine the extent of XR adoption among small and medium-sized (SME) European industrial companies compared to MNEs, looking at factors such as awareness, usage, perceived limitations (Jalo et al. 2022, 1746). Through a cross-sectional online survey, they found that there were no distinct differences in the awareness, perceptions or usage between AR and VR in either organisation type, although MNEs tended to employ AR technology more frequently than SMEs. Beyond that, they conducted 45 semi-structured interviews across nine European countries using the Technology-Organization-Environment (TOE) framework to identify 13 enabling factors for XR adoption (Jalo et al. 2022, 1755), as illustrated by the following model:

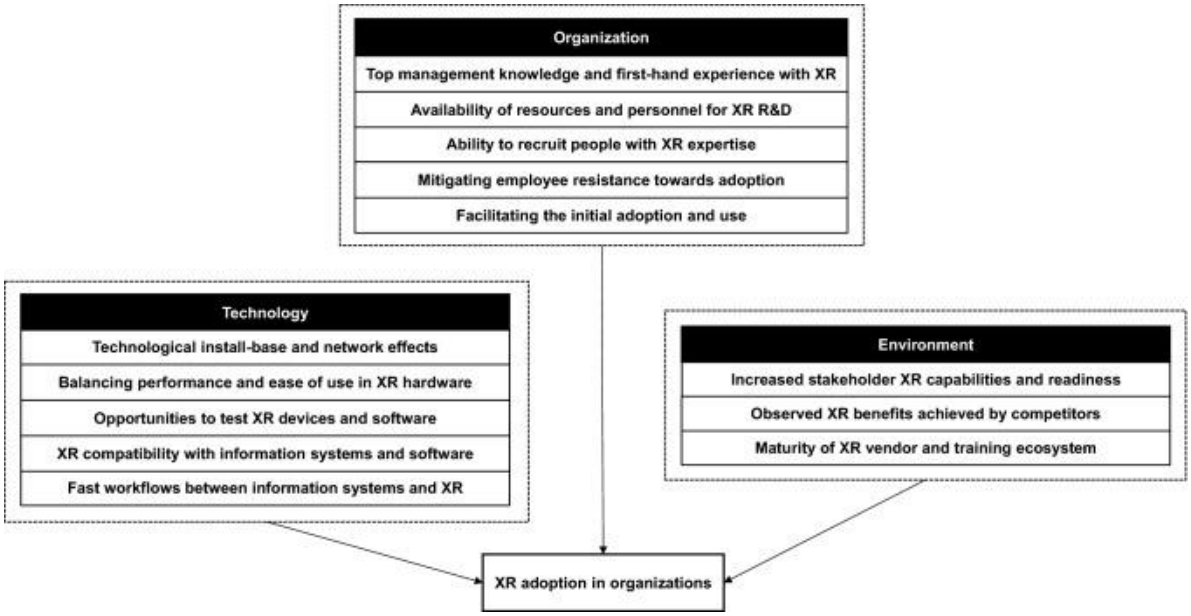

Fig. 1 The identified XR adoption enabling factors categorize under the TOE framework (Jalo et al. 2022, 1755).

These enabling factors, according to Jalo et al., are crucial in advancing the diffusion of XR in business organisations and carry a particular significance for SMEs looking to adopt the immersive technologies. Concurrent with the advancement of the innovation across multiple metrics, such as increased opportunities for collaboration, the value add for organisations increases. As an observation for researchers of VR adoption, Jalo et al. assert that, "This is especially crucial for SMEs, as the intraorganizational application potential of XR will likely be wider in large companies. In addition, wider diffusion provides opportunities for organizations to test XR. This can be especially helpful for SMEs, which often do not possess the extra resources to obtain XR devices for experimentation purposes," (Jalo et al. 2022, 1757).

2.7 VR post-adoption and the effects of the pandemic

While much of the explored literature in this review is recent due to the novelty of current-generation VR applications, having a basis of understanding for the post-adoption phase is likewise important to understand what will drive further growth. In this regard, Dehgani et al. have taken a departure from much of the extant literature on this topic and focused on identifying the factors that contribute to the continuance of current VR usage. Their aim was to narrow down what the barriers are to continued usage of VR and, conversely, what factors contribute to its continuance. (Dehgani et al. 2022, 1453). To this end, they employed a nethnographic content analysis of 3,205 verified users who had purchased a VR device on Amazon.com and found that, despite the innovative appeal of VR, there were major concerns regarding the discomfort of wearing head-mounted displays, the perceived health risk of using VR devices and the visual appeal of wearable technology, all of which were identified as recurring barriers towards the continuance of usage (Dehgani et al. 2022, 1464).

In an effort to establish more empirical commonalities as barriers and drivers, Dehgani et al. conducted a complementary quantitative study of 119 VR users in the post-adoption phase and surveyed them on metrics of perceived discomfort, focused immersion, temporal dissociation, perceived health risk and task quality. The study found that task quality and temporal dissociation were a positive indicator of actual usage, while perceived health risk and perceived discomfort were two significant barriers towards continuance usage and actual usage of VR devices altogether (Dehgani et al. 2022, 1457). As a result of these findings, Dehgani et al. recommend that VR developers and practitioners focus specifically on the identified drivers of continued usage, such as a higher temporal dissociation. It indicates that

users are keen on feeling as though they are lost in time when using VR technology, constituting a sense of telepresence which promotes higher rates of usage, which also coincides with the primary selling point of immersive technologies (Dehgani et al. 2022, 1466).

The recent worldwide pandemic of COVID-19 significantly disrupted our usual ways of life, and that likewise had an impact on the appeal and adoption of radical innovations like VR technology, whose capability to artificially replicate presence was naturally highlighted during a time of constant lockdowns and social distancing. Christopher Ball et al. examined the impacts that COVID had on VR adoption by surveying 289 Amazon Mechanical Turks, an online crowdsourcing platform in the United States, during the height of the pandemic in 2020. In this study, they specifically sought to discover whether VR ownership and device variability during the pandemic impacted VR usage and found that those who purchased VR devices during the pandemic were more likely to use it for work, education, and gaming (Ball et al. 2021). In addition, those who reported owning a high-end VR headset were more likely to use VR for games, movies, socializing, work, mental health, physical health and telemedicine. They thus found a correlation between those with higher-end hardware and a tendency to use VR for everything except tourism and education (Ball et al. 2021, 9).

While investigating whether the pandemic had an impact on further adoption, Ball et al. found that respondents of the study who reported higher health anxiety about the pandemic were almost twice as likely to purchase VR hardware during the crisis. Other pandemic-related factors were not associated with an increased likelihood of purchasing VR hardware. However, those who reported less social support during the pandemic were more than twice as likely to buy high-end VR hardware during the pandemic, suggesting that social interactivity appeared to be a strong predictor of both intentions to use VR and an intention to purchase VR. Therefore, Ball et al. observed that highlighting the social interactivity of VR can promote its adoption from a marketing perspective (Ball et al. 2021, 9-10).

In conclusion, the literature reviewed in this paper defines multiple drivers and barriers of adoption for VR technology. As a radical innovation, VR marketers must confront the challenges of catering to an uncertain market and divert the focus from the innovations themselves to the tangible benefits they provide the end customer. These benefits can be expressed as the perceived enjoyment and the perceived usefulness of VR, which generally lead to increased adoption. Social network features likewise strengthen the appeal of using VR among consumers, complemented by the sense of social presence generated by spatial technologies.

In education, the entertainment factor is important and immersion less so, whereas greater significance is placed upon the learning effectiveness of using VR. For industry and organisations, making VR applications easier and more adaptable to collaboration and workflows can harness the existing enthusiasm for spatial technology, especially as it regards the utilitarian potential it offers. As the technology advances with fewer entry costs, the literature reviewed suggests that VR adoption will rise accordingly.

CHAPTER III: THEORY

The following chapter explains the theoretical framework for this paper, expanding upon the insights provided by Everett M. Rogers' diffusion theory.

3.1 Diffusion of Innovations

In order to qualify how the value of VR solutions can practicably be communicated and thereby increase their prominence in the marketplace, this study draws on the theory of diffusion of innovations as it is described by Everett M. Rogers in his seminal book "Diffusion of Innovations", first released in 1962. Establishing the theoretical framework for how and why new technologies spread and reach mainstream adoption, Rogers describes diffusion as "the process by which an innovation is communicated through certain channels over time among the members of a social system," (Rogers 2003, 5). This definition stresses that technological adoption is tied to social interaction and that it can thus be engineered or affected by strategic communication. Diffusion theory is as such pertinent to investigate the purpose of this paper, which is to better understand "*How does a radical VR solution gain prominence in an immature market?"*

Rogers' focus on the communicative aspects of technological adoption is what renders his theory especially relevant to this paper. He defines communication, in its broadest terms, as the exchanging of information between interlocuters. Derived from this understanding of communication, diffusion is "a special type of communication, in which the messages are concerned with a new idea … A technological innovation embodies information and thus reduces uncertainty about cause-effect relationships in problem solving." (Rogers 2003, 6). He further qualifies that by describing how "Diffusion is a kind of social change, defined as the

process by which alteration occurs in the structure and function of a social system. When new ideas are invented, diffused, and are adopted or rejected, leading to certain consequences, social change occurs," (Rogers 2003, 6). We can thus assume that diffusion theory bears a particular emphasis on a type of communication which aims to affect and shape the nuances of social interconnectivity within its framework.

To provide us with further insights as to how the positioning and messaging of VR solutions can be guided through diffusion theory, we must first understand the nuts and bolts of what constitutes the communication of technology at its core. In this capacity, Rogers defines the process of diffusion of innovations through four central elements:

1. The Innovation
2. The Communication Channels
3. Time
4. A Social System

In the following chapter, we will examine Rogers' definitions of these elements in closer detail and better understand the contexts in which they may be applied.

3.1.1 THE INNOVATION

According to Rogers, we may define anything that is perceived as new as an innovation. Whether it be the more traditional connotation of an object, an idea or an activity, these are all considered innovations insofar as they are perceived as new by those adopting them. In Rogers' theoretical interpretation, it makes no difference whether the innovation is "objectively" new in regards to its temporal conception. Its newness in the eyes of the adopters is what designates it as an innovation (Rogers 2003, 12).

Rogers qualifies innovations further by offering standards by which innovations can be characterised and measured:

1. Relative advantage
    a. "The degree to which an innovation is perceived as better than the idea it supercedes … The greater the perceived relative advantage of an innovation, the more rapid its rate of adoption will be," (Rogers 2003, 15).

2. Compatibility
    a. “The degree to which an innovation is perceived as being consistent with existing values, past experiences, and needs of potential adopters. An idea that is incompatible with the values and norms of a social system will not be adopted as rapidly as an innovation that is compatible,” (Rogers 2003, 15).
3. Complexity
    a. “The degree to which an innovation is perceived as difficult to understand and use … New ideas that are simpler to understand are adopted more rapidly than innovations that require the adopter to develop new skills and understandings,” (Rogers 2003, 16).
4. Trialability
    a. “The degree to which an innovation may be experimented with on a limited basis … An innovation that is trialable represents less uncertainty to the individual who is considering it for adoption, as it is possible to learn by doing,” (Rogers 2003, 16).
5. Observability
    a. The degree to which the results of an innovations are visible to others. The easier it is for individuals to see the results of an innovation, the more likely they are to adopt,” (Rogers 2003, 169).

These five attributes play a major and are used cumulatively to judge and predict the rate of adoption among new innovations. The more prominently they feature in an innovation, the greater its chances of successful adoption are.

3.1.2 COMMUNICATION CHANNELS

As diffusion is described to be a means of communication in which something new is conveyed by one individual to another, the communication channels are the means by which this information exchange is transmitted. Rogers distinguishes between mass media channels and interpersonal channels. The former he describes as being faster at promoting diffusion due to their wide reach, giving it a quantitative character, whereas interpersonal, face-to-face interaction is more effective at persuading an individual due to biases and trust (Rogers 2003, 18).

3.1.3 TIME

Time is a critical component of diffusion theory as it relates directly to our understanding of technological progress being tied to temporal maturity and immaturity. According to Rogers, the time dimension is expressed in diffusion as:

1. The time it takes for a knowledge transfer to occur which either leads to the adoption or the rejection of an innovation.
2. How early or late an innovation is introduced to the market relative to other alternatives in the social system.
3. The sheer speed at which an innovation is adopted by members of a social system.

(Rogers 2003, 20)

To illustrate the time dimension and the typical rate of adoption for innovations, Rogers observed the S-curve paradigm, which displays the cumulative diffusion of innovations among the total amount of adopters, measured over time. This shows an almost linear progression that indicates a clear relationship between how long an innovation is on the market and how many adopt it. If instead measured over the frequency of adoption, i.e. when people are adopting it on a timescale, a bell-shaped progression curve tends to appear, indicating that the largest volume of people adopt an innovation during the mid-stage of its life cycle. Although Rogers identified these as recurring patterns, what dictates the rate of adoption are the aforementioned attributes of innovations, such as their relative advantage and compatibility (Rogers 2003, 23).

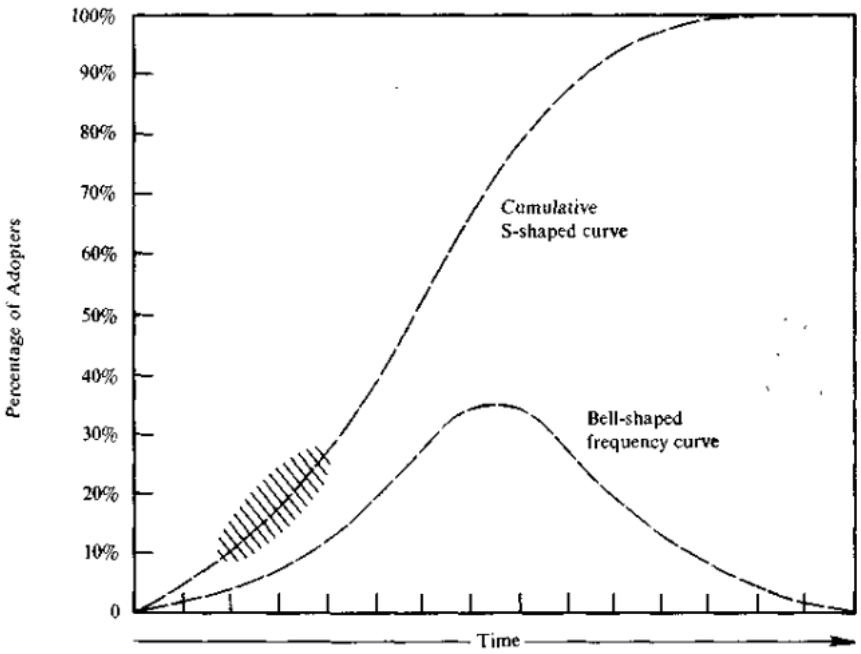

Figure 2: The bell-shaped frequency curve and the s-shaped cumulative curve for an adopter distribution (Rogers 2003, 272).

3.1.4 A SOCIAL SYSTEM

To contextualise and delineate the social concepts applied in our theory, it stands to reason that Rogers refers to diffusion as something which occurs within the boundaries of a social system. He defines it more specifically as units of people, whether it be groups, organisations, communities, or entire populations that interface to solve problems and reach goals that are common to them. Held together by these social contracts, they seek the benefits of new innovations as a common good. Thus, Rogers describes his understanding of the social system as the ways in which "we deal with how the system's social structures affects diffusion, the effect of norms on diffusion, the roles of opinion leaders and change agents, types of innovation-decisions, and the consequences of innovation," (Rogers 2003, 24).

3.2 The Innovation-Decision Process

In order for us to understand how an immature market might embrace VR, it is crucial for us to first visualise the steps it generally takes for an innovation to be adopted. Rogers does this by suggesting an innovation-decision process, describing it as "the process through which an

individual (or other decision-making unit) passes from gaining initial knowledge of an innovation, to forming an attitude toward the innovation, to making a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision," (Rogers 2003, 168). Each of these sequential stages characterise a level of progression within the diffusion process wherein different conditions apply. Rogers defines them as the following:

1. Knowledge: "*Knowledge* occurs when an individual (or other decision-making unit) is exposed to an innovation's existence and gains an understanding of how it functions," (Rogers 2003, 169).

2. Persuasion: "*Persuasion* occurs when an individual (or other decision-making unit) forms a favourable or an unfavourable attitude towards the innovation," (Rogers 2003, 169).

3. Decision: "*Decision* takes place when an individual (or other decision-making unit) engages in activities that lead to a choice to adopt or reject the innovation," (Rogers 2003, 169).

4. Implementation: "*Implementation* occurs when an individual (or other decision-making unit) puts a new idea into use," (Rogers 2003, 169).

5. Confirmation: "*Confirmation* takes place when an individual seeks reinforcement of an innovation-decision already made, but he or she may reverse this previous decision if exposed to conflicting messages about the innovation," (Rogers 2003, 169).

These stages constitute a way to fundamentally to perceive the factors which lead to diffusion. Merged, they form a decision-making process as visualised in the model below:

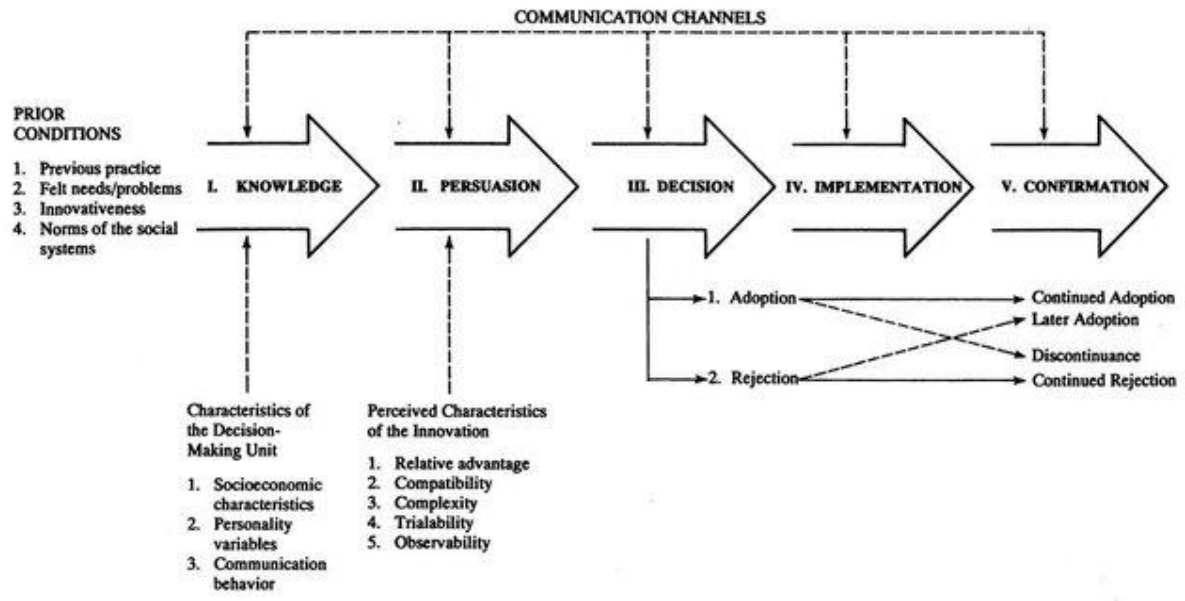

Figure 3: A Model of Five Stages in the Innovation-Decision Process (Rogers 2003, 170)

From this progressive understanding of technology adoption, Rogers' diffusion theory offers a distinct framework in which marketers of VR can tailor their communication to fit each step of the process that the recipient is corresponding to. By identifying what stage of decision-making prospective customers are at, an informed action can be prescribed accordingly and gradually develop along the observed progression of the five stages. The ability to identify these stages among customers, however, naturally warrants an understanding of the types of adopters operating within a social system.

3.3 Adopter Categories

Central to understanding Rogers' diffusion theory are his adopter categories, which offer concrete ways to classify different archetypes of adopters throughout the lifecycle of an innovation. Through these, we find common threads and are able to deduce a suitable prescription for how to communicate effectively to each category. Rogers makes it explicit that these are "ideal types" developed from empirical observations, so as to provide a measuring stick for comparison, rather than account for each and every instance of adoption (Rogers 2003, 282). Described in consecutive order, the categories are innovators, early adopters, early majority, late majority and the so-called laggards.

In the following chapter, we will unfold what each adopter category entail.

1. Innovators

The very first to seize on a brand-new trend or gadget, the innovators are thrill-seekers drawn to the novelty of untapped potential, or the rush of being the first to put their stamp on an emergent technology. Inherently venturesome by the very nature of their gamble on untested innovations, the innovators take great risks to reap great rewards and are therefore typically a smaller minority of people who are tech-savvy and less risk-averse. Rogers places an emphasis on these adopters because of how "the innovator plays an important role in the diffusion process: that of launching the new idea in the social system by importing the innovation from outside of the system's boundaries. Thus, the innovator plays a gatekeeping role in the flow of new ideas into a social system," (Rogers 2003, 282)

2. Early adopters

Although their names carry a measure of overlap, the early adopters differentiate themselves from the innovators in the sense that this group tends to make more measured and nuanced decisions about adopting new technology. Rather than taking on a radical innovation for the sake of its innovativeness, early adopters carefully evaluate the benefits of new technology before putting their stamp of approval on it (Rogers 2003, 283). It is in this sense that Rogers regards their role in the diffusion process as opinion leaders, noting how "Because early adopters are not too far ahead of the average individual in innovativeness, they serve as a role model for many other members of a social system," (Rogers 2003, 283). In short, their proximity to the average person makes them more approachable and respected than the 'unvetted' innovators, whose less judicious decision-making renders them more outcast than the early adopters.

3. Early majority

Neither resistant to new innovations nor particularly embracing of them, the early majority denotes most of the people who follow social trends and adapt to that which is already becoming mainstream. Rather than take any overt stance for or against an innovation, they wait for others to prescribe an opinion for them. According to Rogers, they play an instrumental

role in establishing legitimacy for an innovation because “The early majority’s unique location between the very early and the relatively late to adopt makes them an important link in the diffusion process. They provide interconnectedness in the system’s interpersonal networks,” (Rogers 2003, 284). We thus see them as the binding agent whose acceptance of an innovation truly cements it as an established product. Their mantra, Rogers argues, can be summarised as “Be not the first by which the new is tried, nor the last to lay the old aside,” (Rogers 2003, 284).

4. Late majority

Signifying those who only jump on a trend when it has become too unfashionable not to do so, the late majority are the sceptical fraction of people who wait until an innovation has already broken ground, been thoroughly embraced by the masses, and won overwhelming approval in the court of public opinion before they choose to throw their hat in the ring, whether out of work necessity or social pressures. Rogers describes the late majority as some of the last to be swayed in a technological evolution, noting that “The weight of system norms must definitely favor the innovation before the late majority are convinced. They can be persuaded of the utility of new ideas, but the pressure of peers is necessary to motivate adoption,” (Rogers 2003, 284).

5. Laggards

The hardest to win over in any technological transition, laggards obstinately refuse to entertain new innovations in favour of keeping to their traditional ways of life, or what is viewed as tried and true in their eyes. As such, they will rarely forgo legacy technologies to embrace newly introduced innovations, even if vast improvements to the innovation are presented to them (Rogers 2003, 284). Rogers observes a socioeconomic correlation as “their [laggards] resources are limited and they must be certain that a new idea will not fail before they can adopt. The laggard’s precarious economic position forces the individual to be extremely cautious in adopting innovations,” (Rogers 2003, 284-285). In this regard, laggards may not necessarily choose to eschew radical innovations out of some irrational fear of change, but rather apply a survivalist rationale to preserve their means.

While there are additional themes and nuances composed within Rogers' school of thought, the central elements described in this chapter constitute what we consider the mainstay of his diffusion theory. Although it may include a rather broad scope insofar as the theory covers the diffusion of innovations more generally, the implications its core concepts have for the marketing of an emergent technology as corporate VR were deemed highly relevant because of our aim to better understand how such an innovation can be successfully integrated in the public consciousness. In Rogers' own words, "My main motivation for writing the first book on this topic … was to describe a general diffusion model and to argue for greater awareness among the various research traditions," (Rogers 2003, 39). As such, we consider diffusion theory a well-researched lens through which we may unfold and challenge our pre-existing notions of marketing VR, as well as offering a more qualified prescription as to how it should be approached based on these insights.

CHAPTER IV: METHODOLOGY

The following chapter describes in detail the methodological approaches embraced within the analytical framework of this paper.

4.1 Research approach

In this study, we applied an overall qualitative approach to answer our research question "*How does a radical VR solution gain prominence in an immature market?"*. Upon the whole, qualitative research design is a flexible and iterative process that seeks to understand and make sense of the concepts and phenomena in the social world through the in-depth analysis of communicative observations. Instead of confirming or rejecting specific hypotheses, the aim of qualitative research design is to explore the breadth and nuances of a defined research question. The answering of these research questions fulfils the aim of achieving a greater depth of understanding (Fossey et al. 2016, 723). Contrary to qualitative research, there is quantitative research. These form two broad and distinct approaches to collecting and analysing data and differ in numerous ways, including the type of data collected in each, the methods used to collect and analyse data, and the objectives of the research. With quantitative

research, the focus is on collecting and interpreting numerical data to gather insights from a sample that can be extrapolated and generalised unto a larger population (Ivankova and Creswell 2009, 137). Qualitative research, on the other hand, takes a more in-depth look at a central phenomenon, such as a text, interview or case study, and analyses its data in search of common patterns (themes) for a deeper understanding of what that phenomenon represents. Contrary to quantitative research, however, the aim of qualitative research is not to prove or disprove a hypothesis. Instead, it seeks to unfold words and concepts to gain a deeper understanding of the phenomenon that is being examined (Ivankova and Creswell 2009, 137).

More specifically regarding the qualitative approach, this study subscribes to grounded theory at the core of its design, which is commonly defined as the methodological aim to "understand the process by which actors construct meaning out of intersubjective experience," (Suddaby 2006, 634). Because this thesis is rooted in a social constructivist interpretation, grounded theory supports the effort of making sense of the social world through subjective observations and knowledge claims. In conjunction with this grounded theory, or arguably derived thereof, this study employs an inductive approach to the synthesis of our data, which we understand as "approaches that primarily use detailed readings of raw data to derive concepts, themes, or a model through interpretations made from the raw data by an evaluator or researcher," (Thomas 2006, 238). In short, we make observations in our data set, derive a pattern from these observations and develop a theoretical conclusion informed by the pattern. This grounded theory and inductive research approach contribute to an exploratory character for the study, in which the answer to our research question is progressively formulated through the incremental observations made about the qualitative data at our disposal.

4.2 Data collection methods

For our collection of data, we set up a semi-structured interview with the CMO of *SynergyXR* as the initial stage of our study to gain industry insights that could help us better understand how the marketing VR solutions was being actively approached by marketing practitioners 'in the field' with the unique challenge of formulating communication strategies in an emergent technological market. The interview was furthermore conducted to discern the perceptions or opinions of our interviewee, whose experience with the marketing of VR supported the construction of a reality upon which we could formulate our hypotheses. In practice, this

was facilitated by asking the interviewee open-ended questions related to our research problem of marketing professional VR solutions in an immature market. We chose this open-ended question format for our study because "open-endedness allows the participants to contribute as much detailed information as they desire and it also allows the researcher to ask probing questions as a means of follow-up," (Turner 2010, 756). This aligns with our grounded theory inductive research designs, which are based on the premise of developing hypotheses that emerge from the data.

Next, we wished to measure the insights from our semi-structured interview with a mass media example of marketing professional VR solutions by what is arguably the most influential brand in the current VR landscape, *Meta*. To capture their market communication stance and analyse the media item with the greatest measurable reach, we selected the flagship rebranding presentation *The Metaverse and How We'll Build It Together – Connect 2021*, which Meta released on their official YouTube channel on October 28 2021, currently sitting at a staggering 7.2 million views as of December 2022. In the interest of brevity and sharpening the focus of our study on the marketing of corporate VR solutions, we restricted our study to the segment "Work better and do more", which has a total duration of 4:03 minutes. The audio speech was transcribed and interpreted in tandem with its visual elements as the basis of our secondary research data.

To assess how the mass media reacted to *Meta's* rebranding and presentation, an analysis of mass media coverage on the metaverse was conducted, in which the study was purposely limited to a cross-section of online articles published between October 28 and April 28 with respect to the release of *Connect 2021*. This was prioritised for the purpose of examining reactive articles written within a 6-month window and detecting a possible correlation between the communicative events. The criteria applied in this sample of data was that they had to be published by a major English-speaking mass media outlet, like *Wired* and *Forbes*, and must include the keywords 'metaverse', 'Mark Zuckerberg' or 'Meta' in the headline. On a practical level, this was carried out by using Google's search engine and modifying its search criteria with the 'tools' function to delimit the time frame and broaden the search to 'all results' containing the previously mentioned keywords. By selectively filtering the search for articles published by English-speaking mass media sources, a sample size of 20 written articles were chosen and indexed for data analysis.

4.3 Data analysis

In this thesis, I conducted one semi-structured interview with the Chief Marketing Officer in the business case of this study, *SynergyXR*, who was responsible for the internal and external communication strategies of the organisation. The interview consisted of 10 open-ended questions and follow-ups. These questions were focused on topics related to our research problem of how a communication professional in the corporate VR industry deals with marketing to an undeveloped market. The 1-on-1 interview was recorded using a cell phone, transcribed verbatim and analysed for data on the research question. Before the interview itself, the interviewee was given a primer on the context and purpose of the interview as part of a master's thesis in market communication and was sent the primary questions, not including follow-ups, in advance of the interview to prepare their thoughts and stances.

Starting initially with a question about the interviewee's enthusiasm for working in VR, this 'ice breaker' served to establish a comfortable tone and atmosphere throughout the interview before moving on to more targeted questions about:

- The interviewee's perceived differences between marketing in VR versus other industries.
- What they view as ways to increase adoption and make corporate VR solutions mainstream in the market.
- What they identify as the greatest challenges of marketing VR.
- How the buzz around the 'metaverse' has affected their marketing strategies.
- Their thoughts on companies like *Meta* influencing public perceptions of VR.
- Their perception of gaps between media hype and the technology itself.
- How the research on VR adoption has affected their market communication.

Once the questions and answers had been rendered, the interview was transcribed and read through thoroughly for first impressions and reflections. When it came to analysing the data inputs from the interview, this study applied a thematic analysis (TA) framework to interpret and synthesise the qualitative data set. According to Virginia Braun and Victoria Clarke, "TA is a method for systematically identifying, organizing, and offering insight into patterns of meaning (themes) across a data set. Through focusing on meaning across a data set, TA allows the researcher to see and make sense of collective or shared meanings and experiences," (Braun and Clarke 2012, 57).

With this framework in mind, the analysis of our semi-structured interview with *SynergyXR* and the secondary research of *Meta*'s advertising were carried out with the labelling of all words, phrases sentences or entire sections relevant to our research question, including visual cues when it came to the secondary research. These formed our initial codes representing the meanings and patterns discovered in the data. After reading and parsing through these initial codes, more specific codes were derived from repeated thoughts and brought together to form more distinct categories of codes. These categories were then collated with similar codes in the data set to form our themes, from which we derived the primary meanings and insights on the research question. The themes were revised iteratively to arrive at a distinct set of themes which were deemed the most insightful and essential to the interviewee or the secondary research matter's views and stances. Finally, the themes were formulated into coherent narratives about the data sets, including the interpreted claims and arguments of the researcher, whose analytical framework was informed by diffusion theory.

With regards to collating the overall reception of *Meta's* market communication among mass media, the data for the mass media study was collected through a content analysis. Within a content analysis, our data collection was carried out in accordance with the understanding that it is "a technique which aims at describing, with optimum objectivity, precision, and generality, what is said on a given subject in a given place at a given time," (Macnamara 2018, 2). Here, the emphasis was on the collection of conceptual data in the shape of attitudinal codes found throughout the mass media articles, and interpreting whether they exhibited generally positive or negative opinions toward *Meta* and its conception of the metaverse. As these codes were identified, tabulated in a word-processing document, and measured against one another, the sheer plurality of attitudinal codes within an article dictated whether it was deemed mostly positive, negative or neutral toward the metaverse. Once all mass media articles had been systematically interpreted in this manner, the aggregate of positive, negative, or neutral articles determined the dominant attitude of the mass media toward the subject matter.

4.4 Justification for methodology

Forming the basis of this study, the qualitative research design and grounded theory were deemed most appropriate for their ability to subjectively describe perceived realities, thus acknowledging up front that there is no objective right answer to our research question of "*How*

does a radical VR solution gain prominence in an immature market?". Rather, this approach supported the stance that we can arrive at a more qualified understanding of the problem through in-depth analysis of social phenomena. It was therefore chosen for its strong alignment with our constructivist perception of the social world and its complexities. This exploratory nature had an appeal because it seeks to establish new and informed conventions for underdeveloped research fields. With this overall inductive approach, the intention of the study was to explore several facets of the research problem and propose a basis of theoretical and practical prescriptions for the marketing of corporate VR solutions based on our empirical observations and the extant research in the literature review.

For the collection of data, this study selected *SynergyXR*, a Danish start-up company developing VR solutions for corporate stakeholders, for its proven experience and direct familiarity with the business challenge of our research problem. Among its executive team, the Chief Marketing Officer was asked to participate and form the basis of our qualitative data for his direct involvement with formulating the organization's external communication and go-to-market strategies, whose perceptions were considered particularly insightful to understand how marketing practitioners in the field are dealing with the crux of our research problem on a regular basis. *SynergyXR* was furthermore chosen due to the researcher of the thesis' familiarity with the business case as a student assistant employed at the company.

The purpose of choosing *Meta's Connect 2021* as the central phenomenon of our secondary research was to capture the primary item of external communication related to *Facebook's* rebranding to *Meta,* an enormous marketing shift which arguably created the media hype and popular understanding of the term 'metaverse'. *Meta*, as opposed to other tech giants like *Apple* who are similarly investing in spatial technology (Heath 2020), proved particularly instrumental to this study because of its wholesale committal to becoming 'the' metaverse brand, thus offering potent insights on a marketing level. Additionally, with Mark Zuckerberg's direct involvement and commentary in the public broadcast, the data provided in *Connect 2021* served as a primary account of *Meta's* market communication, which could be directly interpreted and critiqued as secondary research.

The rationale for including a content analysis of mass media articles on the metaverse was grounded in a desire to measure the impact of *Meta's* big shift to embrace VR and turn it into a highly debated topic. Focusing on articles specifically published within 6 months of *Connect 2021* was done to maintain the relevancy of the pivotal rebranding and sampling the

relatively recent reactions to this move by the mass media. The mass media, in our estimation, is an indicator of public perceptions as the moderators of messages and societal discourse. Therefore, zeroing in on their communication was motivated by a desire to dissect the constructed social reality of those who are discursively influencing the VR market and its maturity. In this capacity, our intention was to identify a potential correlation between the market communication *Meta* had adopted and the media response, which could reveal to us whether such decisions had been effective or ineffective.

As it concerns the data analysis of this study, using a thematic analysis method resonated with the researcher because of its ability to identify common threads and references across multiple data sets, allowing the researcher to observe and interpret collective or shared meanings and experiences (Braun and Clarke 2012, 57). This was especially important to this study since the connections between the qualitative data from each central phenomenon had to be discovered comparatively by the researcher, in which having thematic reference points served as a common indicator of relevance and significance across each data set and provided a measuring stick for further analysis. Similarly, approaching the mass media articles with a content analysis approach was deemed useful in order to identify conceptual codes that could be categorised on a standardised basis. As the aim of this study was less driven by analysis at the granular level, the content analysis served to make qualitative inferences about the mass media as a collective and helped with finding correlations between *Meta's* communication and their own. While this approach could rightly be considered reductive insofar as ignoring more detailed context in the articles goes, it provided an easily accessible method of gaining a cursory impression of the mass media discourse surrounding the metaverse.

CHAPTER V: ANALYSIS

The following chapter delves into the data collected for our research and unfolds the qualitative insights gained from their interpretation.

5.1 Case description

SynergyXR ApS (formerly *Unity Studios*) is a Danish software start-up company specialising in extended reality (XR) services for businesses and corporations. Based in Aarhus and

launched in 2008 by the founders of *Unity Technologies*, *SynergyXR* was originally conceived as a consultancy that helped companies develop video games using the *Unity* platform. This service gradually expanded into the creation of bespoke XR solutions for customers across a wide variety of industries. Today, *SynergyXR* is a software-as-a-service (SaaS) company that offers both custom solutions and its trademark, cloud-based metaverse platforms for companies seeking a plug-and-play solution to build corporate XR spaces (SynergyXR, n.d.a.).

Originally named *Unity Studios*, the company was established in 2008 by the founders of *Unity Technologies*, serving as a subsidiary unit focused on expanding the *Unity* engine across the gaming industry and developing XR projects using the proprietary game engine (North-East Venture, n.d.). However, as the demand for their services increasingly shifted towards the development of applications for virtual and augmented reality, *Unity Studios* officially shut down its video game development team in 2016 and made a full pivot to focus exclusively on VR and AR technologies, notably taking on clients like Saxo Bank, Grundfos, Schneider Electric, Procter & Gamble, VELUX and Volkswagen, for whom they created tailor-made XR projects (SynergyXR, n.d.b.).

In 2020, *Unity Studios* launched its flagship software platform, *SynergyXR*, which combines VR and AR capabilities in a plug-and-play presentation platform. In the following year of 2021, the XR company rebranded itself from *Unity Studios* to *SynergyXR* as a full-scale effort to reflect a new direction for the company. With old as well as new management at the helm of the company, *SynergyXR* is today led by Mads Troelsgaard (CEO), Sune Wolff (CTO), Thomas Fenger (CXO), Jakob Søderberg (CSO) and Corey Morris (CMO), who collectively define its day-to-day business strategies (SynergyXR, n.d.a.).

In June 2022, the company raised $3 million in a round of funding from the venture capital funds *Innovestor Ventures*, *AURA Ventures*, *Vækstfonden* and *North-East Venture*, a momentous milestone for the company which cemented its new goal of scaling the plug-and-play metaverse solution unto the global market and expanding revenue sevenfold within two years, according to the CEO Mads Troelsgaard (SynergyXR, n.d.b.).

With these ambitious goals front and centre in their mission statement, the team at *SynergyXR* stand before the twofold challenge of not only having to broaden their reach beyond Denmark's borders, but also needing to convince immature markets and industries that they should adopt radical XR technology – an application that is not yet commonplace in corporations (Laurell et al. 2019, 5). As such, this paper aims to identify and prescribe ways in which *SynergyXR* and companies in a similar position may inform their diffusion strategy and make

judicious decisions regarding their corporate communication in a global and predominantly untested marketplace.

Among the people most routinely familiar with the challenge of articulating the value of VR to immature markets at *SynergyXR* is the Chief Marketing Officer (CMO), Corey Morris. Formally in charge of the company's branding, positioning and overall corporate communication strategy, Corey expresses an urgent need to educate the market on XR technology before you can expect to get any buy-in on the radical vision for the future that it presents. He agreed to participate in an in-depth interview to lay out his thoughts on the challenge of marketing VR products in the current landscape.

5.2 Interview with the CMO at SynergyXR

When asked to unpack his reality and perception of VR's position in the current marketplace, alongside the advent of *SynergyXR* as a corporate VR solution, Morris recognises that the technology is in a nascent stage in the industry and requires product-specific considerations, yet he firmly asserts that the business approach when dealing with radical innovations like VR does not necessarily change from the marketing of more traditional products. "*The fundamentals are basically the same, but it's the tactics that are a little bit different, and it's obviously heavily influenced by market dynamics. 'What's this product? What's the market maturity? What's the overall demand? Where do you focus your attention?' That's where the strategy may vary,"* (Appendix I). Therefore, despite dealing with an unestablished product in corporate VR solutions, which may have difficulty being embraced in an immature market, all roads lead to the same destination for Morris of creating value for potential customers.

To provide further context around his logic, Morris fleshes out his answer by describing how it affects his thought process, "*You're probably starting a lot more with demand generation than demand capture. We're in a B2B context (at SynergyXR), so obviously our primary goal is to create a healthy pipeline that we can hand off to our sales team. That's kind of the way our organization works,"* (Appendix I). Here, we identify codes of marketing strategy in Morris' answer, related specifically to *SynergyXR's* position as a provider of corporate VR solutions, and how his theoretical business approach does not change simply based on working with a radical innovation. Instead, his answer seems to suggest that utilising marketing fundamentals is more important to him than reinventing the wheel just for the sake of

it. Gleaned from this are also codes that the product fits into a diffusion framework, with Morris' focus being on generating a demand for it – an approach comparable to the *knowledge* stage of in the innovation-decision process.

As Morris goes into detail about his experience marketing VR as a tool for corporations through lead generation, the codes we encounter further express an understanding of the market maturity and the early stage of diffusion which makes itself applicable here.

> I've had to focus a lot more on educating the market in the overall interest of driving demand for the product. It really boils down to: if people don't know what the problem is and if they're not problem aware, and if they're not solution aware, and then obviously the third component is if they're not brand aware, if they don't know about you. If those three things don't really work, then it's really hard to sell your product. (Appendix I)

These codes, which we identify as diffusion characteristics, indicate a relational response between understanding where *SynergyXR's* market is perceived to be and applying a communication strategy which corresponds to that perception. More specifically, Morris emphasises "educating the market" in much the same manner as the *knowledge* stage in diffusion theory, like the prior instance, and indicates a strategy to capture the *innovator* category of adopters with his focus on articulating the problem, solution and brand for the customer. What that means for Morris is focusing on "*helping people understand it at a level that's not so techy and kind of removing the tech from the equation as much as possible, even if the tech kind of wants to take centre stage,"* (Appendix I). The codes we identify here are again the *knowledge* stage conventions of communicating the product in a way that seeks to create understanding around the problem it solves first and foremost, which is core to Rogers' prescriptions. "*It's more just simplifying things. So, taking complex ideas, taking complex concepts and simplifying them in a way that most people can understand them,"* Morris says (Appendix I).

When asked about why Morris focuses on the problem rather than the technology itself, he defended his position by saying,

> If you look at the product life cycle, I mean we're very much at the tip of the spear and you're going to have your early adopters … then obviously the market will pick up, and the maturity will expand over time, but that doesn't always come by itself. Especially because we're not just working across all areas of XR. We're working specifically within B2B, so it's about finding where you have a product-market-fit and that's also been kind of that exploratory journey that we've been through. (Appendix I)

The codes embedded here, such as the term "early adopters", indicate Morris' awareness of diffusion theory, or at the very least some of the terms derived from it, and the belief that technology moves progressively along its life cycle. Codes like "product-market-fit", which

are not exclusive to the diffusion of innovations, indicate an awareness that the VR solution must reach an active engagement from early adopters before it can take off. Here, the codes suggest that Morris identifies *SynergyXR* and its customer base as falling within the early adopter category.

To further unfold Morris' perception of his target audience and delineate where VR for industry stands within the diffusion process from his point of view, we compared his product to the state of VR in gaming and asked if his marketing approach is reflected by its rising popularity (Lee et al. 2018, 38). He responded by saying,

> That's where you see growth within the whole XR field and metaverse field, but then that also brings with it some kind of negative connotations … because a lot of businesses don't take it seriously. Because they think of it more as a game. But there's a huge gap between Beat Saber and being able to deliver remote support or having VR showrooms … we're trying to sell a new way of working, so it's much more at the conceptual level. (Appendix I)

From his response, which iterates on the problem of conveying VR solutions to an immature market, we discover more codes in Morris' answer which reflect a disjunction between what he characterises as early adopters and what are, at least conceptually, still an even less developed adopter category based on the overarching need to create a new market and generate demand. His response further signals a conscience effort to differentiate *SynergyXR's* offering from the predominant use of VR in gaming, and this stresses an additional challenge of having to communicate the value of a technology in ways that have seldom been done before. The codes of differentiation also suggest that Morris considers his product to be of a different maturity than VR in gaming, i.e. less developed. We may therefore interpret its diffusion to occur in another lane while still intersecting with VR for gaming on points of shared characteristics and public perception.

In defining SynergyXR's product as an innovation separate from gaming, Morris was asked how he envisions VR as a corporate solution gaining traction and reaching mainstream status in the current marketplace. He answered that by saying,

> The more we see bigger companies, more recognised and respected companies lean into it, obviously that will help. There has to be the first movers, not only in terms of just trying the technology, but also producing positive returns on investment. So, really good customer stories and then, I think, once you have those who are willing to go in, who maybe are not afraid of taking this big risk and begin to show some type of positive outcomes, we'll start to see the others kind of take over. (Appendix I)

This answer suggests that *SynergyXR*, as a business-to-business (B2B) software provider, is chiefly concerned with gaining an acceptance of VR technology from corporations rather

than consumers. In this regard, the social system, as it is understood and applied in Rogers' diffusion theory, limits Morris' message to companies operating with digital technology in some capacity. Here, the focus is on the companies who are perceived to be respected within that social system, who could occupy the *innovator* category, as these would be the "first movers", as Morris puts it, and lead the charge for this new industry. Additionally, we identify codes of *persuasion* in the innovation-decision process, of trying to convince others to adopt the technology through "good customer stories" and "positive outcomes" generated by the successful first movers. Morris therefore puts a special emphasis on accelerating VR adoption through positive word-of-mouth exposure and technology ambassadorship, which aligns with Rogers' definition of the *persuasion* stage and how the respondent of said market communication "decides *what* messages he or she regards as credible," (Rogers 2003, 175). By cementing trust in a product through the endorsement of respected companies in the social system, the legitimacy of the innovation is promoted in a similar fashion as the *early adopters* in diffusion theory take the position of *opinion leaders* who drive trends and sway public perceptions. In this regard, we identify codes of *observability* in Morris' strategy, expressed through the showcasing of customers' successes with the VR solution, which serves to encourage increased adoption among companies who may be on the fence.

Another challenge Morris articulated with popularising VR for industry was the hardware limitations of the VR medium overall. He expressed a desire to see the technology reach a greater level of sophistication, which had him expanding on all the things that, in his view, would vastly improve the appeal and therefore also the adoption rate of VR technologies. He explained this by saying,

> The technology itself just has to advance … The headsets have to become maybe lighter, smaller in order for the average person to feel comfortable with using those. I mean, like most things there's entry costs and exit costs. The entry costs have to be removed as well and those aren't just actual monetary costs, there's also social costs as well. What are the social consequences of actually having the headset on? You know it's something that most people have never seen before, it hasn't been normalized yet. (Appendix I).

The codes identified within Morris' answer here, particularly regarding the removal of entry costs and exit costs, express a logical framework compatible with the progressive understanding of diffusion theory. In other words, Morris perceives the advancement of VR technology on a sophistication level to be play an instrumental role in making it more commercially appealing. Here, Morris also speaks to the innovation-driven aspects of *relative advantage*, i.e. making the solution better than the alternatives by being lighter, smaller and more comfortable to use, and the *compatibility* of VR technology with the existing norms and values among

corporations, such as being normalised among businesspeople and lessening the social consequences of wearing VR headsets. These are identified by Morris as important factors which may hinder or enable the diffusion of VR solutions to a broader market.

Diving further into the nature of marketing VR in the current landscape and what challenges it brings, Morris had some thoughts on the notable presence of media conglomerates like *Meta* staking their claim on the 'metaverse' term and VR technology on the whole (Meta n.d.a.). He shared his view on their prominence in the market by saying,

> I think if it wasn't for companies like Facebook, or Meta, then we wouldn't be where we are today. I probably wouldn't be having this same conversation. All things considered, they have put the metaverse on the map. Now, the people are not always super happy about that, and there's a lot of pushback and a lot of fear, and I think that's natural. (Appendix I)

The codes identified in this statement are reflective of Morris' perceived market dynamics in the VR space, and how the prominence of tech giants in this space is affecting his own communication strategies. This acknowledgement of *Meta* from Morris indicates a competitive relationship between the multinational corporation and the Danish start-up company, who are operating in the same social system with the shared mission of advancing VR adoption altogether. That also means sharing in some of the pushback and criticisms that have been levied against *Meta* as a corporation. However, Morris expresses a fairly positive outlook on how that will affect the VR industry as a whole, *"I think we'll see them starting to work closer together as we have recently with Microsoft and Meta … Because I think everybody knows right now that the Meta Quest is the predominant market leader … I think they'll have to work and sync in harmony to establish the foundation for the metaverse"* (Appendix I). In this regard, there is a recognition of the fact that Morris cedes some of the responsibility of shaping the VR market to the larger business conglomerates in the VR space through his acknowledgement of their enormous corporate influence, albeit with an air of optimism in his answer about what the outcome of that collaboration will yield.

In continuation of this thread on 'big tech', we asked Morris how the active competition *SynergyXR* has in these gigantic, multinational enterprises and the discourse around them are affecting his own marketing strategy as a start-up company. To this, he responded by saying, "*We're not blind to the fact that there are concerns out there, but we're also using those concerns to our advantage. When people talk about privacy and control and things like that, those are things that we're building into our product offering to make sure that we're addressing those, and those are things that companies want,"* (Appendix I). Here, Morris'

answer contains codes of proactive marketing tactics which address the *compatibility* of his VR solution with the prominent safety and privacy concerns among corporate stakeholders. He expresses a balancing act for marketers in his position to capitalise on the buzz around VR and the metaverse created by major corporations while also carefully managing the negative attention wrought by these same *change agents*.

Morris further elaborates on how the rhetoric from companies like *Meta* can skew customers' expectations regarding the metaverse unrealistically, and how his communication strategy recalibrates on the basis of these distorted expectations,

"You're always going to have people painting this really rosy picture about things that are possible, and then they're not possible. I mean, we're optimistic. We try to talk about the future, but with us it's all about keeping things real and saying "Hey, we're not where some of these other people are saying we are right now". This whole idea of this interconnected metaverse where we're just tossing Bitcoin around. That doesn't exist," (Appendix I).

Morris' answer displays codes of expectation management and avoiding over-promising. His reluctance to exacerbate an expectation gap between the innovation, its sophistication level and its perceived capabilities by the wider public indicates that he is purposefully not accelerating the *persuasion* stage with false promises in favour of providing an accurate representation of the VR solution in its *knowledge* stage. He elaborates on his alternative communication strategy by saying, "*I like to show a picture of where we're headed, but also really temper that quickly and say, 'but that's not where we are right now. What we are capable of doing is this and this and this',*" (Appendix I). In short, we identify codes of diffusion-awareness built into Morris' communication strategy that too wide an expectation gap between the marketing of a product and its perceived reality can lead to an erosion of trust in the innovation altogether. Morris clarifies that this is a greater concern for *SynergyXR*, whose product is designed for corporations, where the barriers of adoption are arguably stricter,

Because when you're marketing in a B2B context, you're marketing to companies and the sales cycle is obviously a little bit longer and people want to know immediately "Okay great. I'm investing in this. Where's the immediate value?" And if you over-promise and under-deliver, then you're going to churn. And retention is the new black. When you work in our business, if you cannot retain a customer, you're probably not going to get positive word of mouth, which is your best marketing tool. (Appendix I)

This underlines Morris' marketing approach as one devised for long-term investment in the VR market as opposed to a more hype-fuelled strategy. We identify codes in his answer reflective of diffusion theory insofar as over-promising and under-delivering are highly discouraged by factors expressed by the innovation-decision process and the adopter categories,

which collectively instil a prescription for measured communication. Fundamental to Morris sentiments here is a correlation between the *innovation*-based properties of the VR solution and the *time*-bound circumstances for the technology and its market maturity, without which you run the risk of creating false expectations.

When qualifying what communicative consideration he employs instead, Morris makes a note of emphasising that referencing the past is just as powerful as painting an image of the future, and how that plays an active role in defining the external communications strategy of *SynergyXR*, which he defines by saying,

> Given our background as Unity … we've been a part of it from the very beginning, so we could talk to people about it, "Hey you know, 10 years ago you had to have a massive headset connected to a computer. Look how far we are now". And that's just over the course of 10 years. So, one thing is to look for, or talk about all the stuff that may or may not happen. The other is just to focus on where we've come over the last 10 years and I think that can get people just as excited as it is focusing on where we're going. (Appendix I)

Notably here, Morris' strategy draws the focus from the perceived immaturity of the VR medium towards all the progress it has made instead, which is a way to deal with the challenging position of being at the infancy of a whole new industry. In this manner, Morris leverages the *relative advantage* of VR technology against its predecessors rather than comparing it to alternative legacy technologies, against which VR may not offer the same competitive edge. From a strategic standpoint, this approach strengthens the *persuasion* stage of the innovation-decision process by offering favourable comparisons rather than unfavourable ones, which may in turn affect respondents' attitude towards the VR solution.

As a final note of the interview with Morris, we wished to glean how the academic research on VR adoption might have had an impact on his marketing strategy, whether directly or indirectly. By highlighting to him how the perceived usefulness of VR is a main driver of adoption (Sagnier et al. 2020), he was asked what impact that could have had on his corporate communication. He responded by saying,

> By focusing on our customers and getting them involved in showcasing how they're using the product, I think it's a clear way to demonstrate to sceptics that it isn't just a gimmick. That it has a practical use. We try to weave elements of that real-life perspective into most of our marketing material, whether it's our online ads, webinars, or PR. I definitely think that's how we can get people on board with this and show that it's useful to businesses. (Appendix I)

Whether actively informed by the studies or not, Morris' communication strategy ostensibly takes into account some of the barriers and drivers of adoption for VR technology shown in the research. He capitalises on customer advocacy with testimonials which serves as tangible

proof of success and amplifies VR's *observability* within an otherwise unproven corporate use case. This suggests to us that Morris has evaluated the strengths and weaknesses of his product and what people perceive to be its most critical selling points or lack thereof, addressing them directly and proactively.

5.3 Deconstructing Meta and the metaverse

Acknowledging the monumental impact Facebook's rebranding to *Meta* has had on the VR industry and the metaverse concept on the whole, this study dissects the flagship public broadcast, *Connect 2021*, which marked *Meta's* pivotal relaunch and served as the catalyst for the succeeding media hype around the metaverse. To draw a relevant comparison between *Meta* and *SynergyXR's* corporate marketing, we focus specifically on *Connect 2021's* spotlight on "Work better and do more" (Meta 2021), which features *Meta's* vision for the future of working in VR and AR on their platforms.

The video presentation *Connect 2021* features the founder and CEO of *Meta*, Mark Zuckerberg, speaking directly to his audience. He introduces the work-focused VR segment by providing a context for the conversation. *"Over the last year and a half, a lot of us who work in offices have gone remote. And while I miss seeing the people I work with, I think remote work is here to stay for a lot of people. So, we're going to need better tools to work together,"* (Meta 2021, 26:35). Starting the segment on this note, of drawing attention to the recognisable circumstances of the pandemic, supports Zuckerberg's intention to make XR for work seem more relevant and needed. With codes like "people" and "work together", he swiftly establishes a focus on collaboration and social connectivity, which contributes to a work-conducive and humanising quality to *Meta's* XR services. Within the diffusion paradigm, this rhetoric highlights the *compatibility* of Zuckerberg's products with the needs of the targeted adopters within the consumer-oriented social system, namely necessitating better ways of conducting remote work for the modern workforce.

From initially conveying a utilitarian argument that speaks to the need for better remote work conditions, Zuckerberg segues into more of a visionary proposition by saying, *"Imagine if you could be at the office without the commute. You would still have that sense of presence. Shared physical space. Those chance interactions that make your day, all accessible from anywhere,"* (Meta 2021, 26:50). Here, Zuckerberg deploys codes like "imagine" which function

more at the conceptual level, whereas he previously had brought the rhetoric down to a practical level with the framing of remote work. He uses codes like “presence” and “physical space” in conjunction with “accessible from anywhere” to denote what the future of work will be with XR. This focuses largely on Zuckerberg’s visionary idea of what is possible rather than what the present reality is. We see this also in the visual narrative of the video presentation, where an AR simulation of an office with interactive co-workers is superimposed in the home office of a remote worker (Meta 2021, 26:50). These features are far from the reality of what *Meta* is offering and lean more into sci-fi depictions of XR technology, which contributes to a skewed customer perception and arguably over-promises on the capabilities of current-generation XR technology. From a diffusion standpoint, contextualising the innovation in this futuristic manner may reduce its *complexity* by way of making it more recognisable from sci-fi depictions, but it also strips away its *trialability* by misrepresenting the capabilities of the technology and increases uncertainty in the product by inaccurately portraying what it is.

Meta further iterates on this futuristic vision with the visuals of a person interacting with a floating, digitally generated screen that responds to finger touch and an interactable 3D hologram of a building blueprint that rotates, enhances and reshapes itself for the convenience of its user (Meta 2021, 27:02). These narrative visuals are accentuated by Zuckberberg’s commentary, which says, *“Now, imagine that you have your perfect work setup and you can actually do more than you could in your regular work setup. And on top of all that you can keep wearing your favourite sweatpants,”* (Meta 2021, 27:02). As in the prior instance, Zuckerberg’s voiceover contains the code “imagine”, which builds on a premise of possibility and wonder rather than strict adherence to the perceived reality. Moreover, using codes like “you can actually do more than you could in your regular work setup” asserts the *relative advantage* of XR tools over legacy technologies that are more commonplace in work setups. Paired with the aforementioned visuals, the overall promise being communicated here is an advanced reality where high technology interfaces seamlessly with our surroundings. However, because *Meta’s* products are not accurately represented by this narrative, the *relative advantage* falls flat and its hyper-futuristic representation appeals to no particular adopter category.

The projected theme of futurism is further expanded upon as the visual narrative transforms into a medley of intersecting technologies that supposedly enable work productivity. In this narrative, we are presented with the digital feature of being able to transport a real person into a virtual office as a hologram, surrounded by virtual avatars of co-workers and a grid of

co-workers connected to the work session through a video conferencing software a la *Zoom* (Meta 2021, 27:56). This scene depicts a confusing mixture of signals that does not present quite a coherent narrative of what the technology is, or even how it is meant to be contextually understood with all the convoluted interfacing of physical, virtual and video worlds mashed together. Through voiceover, Zuckerberg adds his commentary to the visual narrative and says, "*Imagine a space where you can tune out distractions and focus on the task at hand. And when you're ready to share what you've been working on, you can present it as if you're right there with the team,"* (Meta 2021, 27:46). Once again, the recurring code "imagine" sets up the succeeding sentences as a hypothetical rather than as a practical value proposition, grounding *Meta's* rhetoric in wishful assertions. While it does succeed at laying out Zuckerberg's vision for the future, the lack of *observability* in his communication makes it less convincing to potential adopters of *Meta's* work innovations. Additionally, the assertion that "you can present it as if you're right there with the team", paired with the hologram visuals which are not reflective of where the technology is, can easily come across as a hyperbolic embellishment of what is currently achievable with the technology. While this message may excite more devoted tech enthusiasts, it is likely to be rejected by early adopters who are more judicious about their choice to adopt and thus demand more concrete evidence of success than what Zuckerberg's futuristic vision offers.

A transition breaks the visual narrative into a talking head of Zuckerberg, who goes on to address the camera directly and ties the conversation back to what *Meta* is offering, *"You can already see some of these elements in Horizon Workrooms, which we launched a couple of months ago. Later this year, we plan to introduce room customisation, so you can put your own logos and posters in your workrooms,"* (Meta 2021, 28:07). On a rhetorical level, Zuckerberg manages to create a link between the futuristic narrative and *Meta's* own product, *Horizon Workrooms*. While that serves to generate initial hype and interest, it could backfire if the service does not live up to the sci-fi vision laid out previously, thus leading to expectation gaps. In practice, this approach pushes the *persuasion* stage of the innovation-decision process, but as scarcely any information on the product was provided, we identify the *knowledge* stage as insufficiently addressed, resulting in a suboptimal diffusion strategy. Instead qualifying it with relatively banal features like "room customisation" and "logos and posters", Zuckerberg leaves the impression that *Horizon Workrooms* is nowhere near the level of sophistication that his futuristic vision suggested.

Zuckerberg further explains that his vision is to get to the point where apps like *Horizon Workrooms* can enable the futuristic design laid out in *Meta's* visual narrative, *"So,*

giving everyone the tools to be present no matter where they are, whether it's a hologram sitting next to you in a physical meeting or in a discussion taking place in the metaverse, that's going to be a game changer," (Meta 2021, 29:37). Here, the codes "be present no matter where they are" and "hologram sitting next to you" are promises of features that are not yet achievable with our current technology, and when Zuckerberg goes on to say that it's "going to be a game changer", he is applying an idealised scenario rather than a practical reality. These lofty promises contribute to increased uncertainty in his innovation because they lack a strong degree of *observability* compared to the futuristic vision he projects.

Breaking somewhat with the prior focus on its futuristic wow factors, Zuckerberg delivers a final note and perspectives as to why XR tools for work are beneficial. Focusing on the essential advantages of advanced remote work conditions, he lays out a sustainability argument for reasons to adopt it by saying, *"Actually, if you travel for work and working in the metaverse means that you just take one less flight each year, that's probably better than almost anything else that you can do for the environment,"* (Meta 2021, 30:10). The codes embedded in this appeal to environmentalism support the *compatibility* of *Meta's* XR tools with the green transition and pro-environmental sentiments in the social system and market, which are arguably prevalent. In this manner, Zuckerberg can associate the metaverse with sustainable practices and generate goodwill among potential adopters.

5.4 Mass media reception of the metaverse

In an effort to gauge the online media coverage of the term 'metaverse', especially as it relates to the 6 months following *Meta's* rebranding and the *Connect 2021* broadcast, this study scoured the online metaverse coverage and identified 20 written articles of relevance to gain a cursory understanding of how the mass media has perceived the popularisation of the metaverse concept and its connection to VR.

The study found that the mass media coverage was mostly neutral or negative. Of the 20 articles analysed, 9 were categorised as mostly neutral. 8 were categorised as mostly negative. 3 were categorised as mostly positive. These categories were defined by attitudinal codes in the

articles, which were labelled as either negative or positive. The absence of either defaulted the article to the neutral category, including when as many negative as positive codes were identified in an article. Because the attitudinal codes came in a variety of expressions, they were labelled interpretively instead of through specific keywords.

An example of this analytical approach in practice is demonstrated with the article "What Is the Metaverse, Exactly?" by Eric Ravenscraft, published by *Wired* on 25 April 2022, which was selected according to the criteria in the data collection section and parsed for attitudinal codes. Words, phrases, and entire sentences were coded for any expressed attitudes in relation to the metaverse, *Meta* as an organisation and the *Connect 2021* presentation, such as overall verdicts like, "*In the months since Facebook's rebrand, the concept of "the metaverse" has served as a powerful vehicle for repackaging old tech, overselling the benefits of new tech, and capturing the imagination of speculative investors,"* or the more specific impression of marketing efforts like, "*The holographic woman from Meta's presentation? I hate to shatter the illusion, but it's simply not possible with even very advanced versions of existing technology,*" (Ravenscraft 2022). Here, the phrases 'repackaging old tech', 'overselling the benefits of new tech' and 'shatter the illusion' stand out as examples of an explicitly negative attitude towards *Meta* and its marketing of the metaverse. These phrases were consequently labelled as negative codes and counted in the aggregate of negative and positive codes to determine whether the article in its entirety expressed a mostly negative, positive or neutral attitude towards the metaverse concept. Because the article contained 29 negatively charged codes as opposed to its 10 positively charged codes, it was designated as having a mostly negative attitude towards the subject matter.

Upon the whole, this process was repeated across the sample of 20 articles to arrive at the result that the mass media coverage of *Meta* in the months following its rebranding was perceived as mostly neutral or negative and that *Meta's* value proposition was generally received poorly. While this does not account for the detailed commentary in each sampled article beyond generalised attitudinal codes, the data provided aligns with the purpose of this study with regards to reflecting on how the mass media has received the marketing of the metaverse. The results suggest that there is a measurable correlation between *Meta's* marketing and the succeeding mass media coverage of the metaverse, which skewed mostly neutral or negative, and that this communicative event has caused a seismic shift in the conversation around VR and the metaverse altogether.

CHAPTER VI: DISCUSSION AND CONCLUSION

The following chapter unfolds the results of the analysis chapter. In this section, the results will be interpreted, the practical implications of the study are discussed, and the methodological approach and its limitations considered.

6.1 Discussion

The analysis of our qualitative data yielded three separate and distinct sets of insights which altogether contribute to the answering of our research question of "*How does a radical VR solution gain prominence in an immature market?"*. In the semi-structured interview with the CMO of *SynergyXR*, Morris provided a detailed account of his thoughts and experiences as a marketer of corporate VR solutions in a global and immature market landscape. Among chief observations was his commitment to educating the market on the fundamentals of XR, facilitating it through customer stories and bringing down to earth some of the inflated expectations that companies like *Meta* have engineered. Dissecting *Meta's* market communication and its claim to the metaverse revealed that the tech giant relied heavily on futuristic narratives of XR technology and the appeal of Zuckerberg's vision rather than concrete value propositions. This was reflected in the mass media response to *Meta's* rebranding, which was found to be mostly neutral or critical of the metaverse and how it had been marketed.

The combined results of the study contribute to the answering of our research question by collating the overarching patterns found across each data set. Although a definitive prescription is difficult to formulate based solely on these observations, the insights gleaned throughout the analysis strongly indicate that VR solutions and the metaverse have been oversold and inflated with false expectations. This impression is expressed through the correlations between Morris' ambivalence towards *Meta's* metaverse monopolisation, the mass media's tepid and generally pessimistic discourse around the metaverse, as well as Zuckerberg's futurist vision which works against the market maturity. Altogether, this communicative misfire and the observably lukewarm reception it has generated among the publics informs us that VR and the metaverse, as it is currently being marketed by the likes of *Meta*, should be communicated with more grounded and customer-centred relevance at the heart of

its value proposition, rather than over-embellished visions of future possibilities.

The capabilities of spatial technology are real and promise great potential. However, the disregard for diffusion dynamics in the present discourse threatens to render it obsolete before it has the chance to catch on. Instead, careful consideration for the innovation-decision process, such as focusing on the *knowledge*-stage when the market maturity is young, serves to establish relevance, recognition and *observability,* which are central to buy-in from early adopters. Contributing to the development of our hypothesis, Morris' communication strategy at *SynergyXR* already exhibits strong characteristics supported by diffusion theory, such as focusing on market education and teaching fundamental XR terminology. This focus on *knowledge*-stage communication makes it likelier that the new concepts of spatial technology and the metaverse can be disseminated with less friction, misunderstanding and fewer expectation gaps than the predominant standard set by *Meta*.

However, to promote the diffusion of VR even more effectively, additional care should be given as to which adopters are being targeted. While early adopters may be the most attractive category to get on board for traction and social influence, they are challenging to convince and respond mostly to a track record among innovations with observable successes. At this nascent stage of corporate VR market maturity, efforts should arguably be made to first get innovators on board, who serve as the "gatekeeping role in the flow of new ideas into a social system," (Rogers 2003, 282). In practice, this could involve the recruitment of voluntary brand ambassadors who are supported with ample resources to test the product and provide reviews for a wider public.

The practical implications of this study are further compounded by the extant research on the drivers and barriers of VR adoption covered in the literature review. While those insights are primarily concerned with studies which show behavioural and technology-focused inputs related to adoption, the aim of this thesis is to explore ways in which the scientific literature can support communicative recommendations and thus drive the overall adoption of VR solutions to greater heights. The first connection observed in this capacity is the alignment of corporate marketing strategies with the perceived usefulness of VR. As demonstrated across Sagnier et al. and Lee et al.'s studies into the drivers of VR adoption using TAM research, utilitarian use cases, such as education and medical, are strongly susceptible to the perceived usefulness of VR. Therefore, a company like *SynergyXR,* whose corporate VR solution targets utilitarian industries, would benefit from incorporating perceived usefulness into its market communication. This speaks to the promotion of *observability* in the product, such as can be achieved through investing in case studies within education and medical,

which likewise supports the appeal to early adopters who are drawn to practical successes.

Similarly informed by the scientific literature, an effort to align the social functionalities of VR with its market communication is predicted to increase adoption across the board, whether it be among general users or more specific industries like the AEC, which are keenly interested in enhanced collaboration tools. Naturally, this necessitates having social networking capabilities built into the VR solution, but if it already applies to the product, then having that message amplified should lead to increased interest and engagement with the socially empowered VR brand. This was shown to be a strong draw for younger demographics in particular, whose active engagement on social media generates further publicity. As such, embedding the marketing of social VR functionalities with youthful communication may yield a positive response.

It is worth noting, however, that these prescriptions for communication professionals are informed solely by the extant research on the drivers and barriers of VR adoption discovered through behavioural tests with active participants, which may not necessarily translate into the market communication among respondents who have never tried VR. This thesis has sought to approach the lack of clinical data with an exploratory study grounded in the qualitative analysis of subjective sources and merged their insights with the scientific literature and diffusion theory as an anchoring point in communication practices. This is with the express intent of arriving at qualified recommendations for the marketing of VR, but it is also acknowledged that the methodological approach to this research problem is based on data which cannot be reliably applied to all instances of VR marketing as an objective standard due to its inherent bias in the communicative context of the case study. Therefore, the generalisability of the results is limited by the social factors directly concerned with the market landscape in which the study was conducted, hence its focus on grappling with the concept of market maturity.

6.2 Conclusion

The study set out to answer the following research question:

"*How does a radical VR solution gain prominence in an immature market?*

By analysing the lived experience of a marketing professional in a radical VR industry and dissecting the market communication of the predominant industry leader, this thesis has shown how over-promising the value of VR can unintentionally distort public perceptions and lead to market dissonance. Although this does not explicitly answer the research question, the grounded theory and inductive approach to this thesis have provided a framework upon which the reviewed literature can be interpreted and brought into a communicative context that does answer the question.

In this case, the insights showed that a more measured approach to the marketing of radical VR solutions that does not over-promise and under-deliver on its value proposition will lead to better outcomes. With this measured approach, the immaturity of the market is addressed through the sharpening of user-focused communication that does not reflect an intangible futuristic vision, but instead offers concrete ways in which the radical VR solution can enhance workflows, strengthen social connectivity and render utilitarian benefit to the first movers of any industry – such as through the social influence and legitimisation of brand ambassadors and their success stories with the radical VR solutions.

Tackling the research question from this angle was deemed necessary to account for the research gap that has left the marketing of VR largely unaddressed due to its emergent quality. As such, this study contributes to the scant literature on VR adoption focused primarily on communication by offering concrete reference points for practical consideration and a lens through which such market conditions might be understood and managed. This, however, is beyond the scope of the study and therefore limits its applicability to case studies subjected to similar circumstances, instead of offering stringent principles to follow.

Further research is required to establish a consensus on the research problem that is independent of temporal specificity and the market conditions described in this study, such as a quantitative study that investigates a larger sample size of people's responses to specific marketing messages and audio/visual cues to determine what drives adoption among users communicatively and in more universal terms than what this study proposed.

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APPENDICES

Appendix I: Interview with Corey Morris

0.00 J: Hello Corey Morris, CMO at SynergyXR. I'd love to ask you a few questions today regarding marketing in the VR space.

0.10 C: Yes. I'll do my best to answer.

0.13 J: Perfect, so I want to start off just by asking you – what is it that excites you about working with emergent technologies like VR?

0.28 C: I think I'm driven by things that have yet to be fully explored or fully hashed out, but it's not something I think I've ever made a really conscious decision about. I've always kind of gravitated towards them naturally, but if you go back and look throughout my career, I seem to have always sidled up to things that are kind of emerging, that have not really hit the mainstream yet, so I guess I've always just been kind of allured by the challenge of convincing others that this is worthwhile.

0.59 J: Interesting.

1.02 C: I guess so, yeah. I mean, it's just that I'm also a pretty curious person in general. It's not necessarily because I have the foresight to see that these things are going to be amazing, but I guess it's the idea of the excitement of being able to introduce something new. Something that's going to have a positive impact on people. And it's also because I'm a bit rebellious by nature, so I kind of enjoy the challenge of how maybe there's going to be an initial pushback on this. Obviously, it makes my job kind of a headache sometimes, yeah, but I guess I'm attracted to that.

1.44 J: It sounds like it's a bit of a discovery for you as well, of taking on the challenge of marketing something that isn't tried and true already, but you're kind of going into uncharted territory, right?

1.55 C: Yeah, it's kind of that whole exploratory aspect of it. Good point.

2.01 J: Now I want to ask you, as you mentioned your previous career – as someone who has experience in marketing from other industries – how do you approach the marketing of VR specifically? Do you approach it in a different way, and if so, how do you do that?

2.18 C: I think fundamentally it's the same as you market any other product. I mean, marketing is fundamentally about bringing products and services and connecting those with the people who can benefit from them the most. You're a matchmaker in some way.

2.40 C: So, I mean the fundamentals are basically the same, but it's the tactics that are a little bit different, and it's obviously heavily influenced by market dynamics. 'What's this product? What's the market maturity? What's the overall demand? Where do you focus your

attention?' That's where the strategy may vary. Clearly this product is some of the most deep tech that I've ever workeded with. You're probably starting a lot more with demand generation than demand capture. We're in a B2B context (at SynergyXR), so obviously our primary goal is to create a healthy pipeline so that we can hand off to our sales team. That's kind of the way our organization works.

3.35 C: I think what I've probably done differently in this capacity versus other roles as a marketing guy is that I've had to focus a lot more on educating the market in the overall interest of driving demand for the product. It really boils down to: if people don't know what the problem is and if they're not problem aware, and if they're not solution aware, and then obviously the third component is if they're not brand aware, if they don't know about you. If those three things don't really work, then it's really hard to sell your product. So, we focused probably more than I have in my other careers on making people problem aware and solution aware. And then also kind of, you know, helping people understand it at a level that's not so techy and kind of removing the tech from the equation as much as possible, even if the tech kind of wants to take centre stage.

4.38 C: I don't like to use the word dummying down because that seems kind of denigrating, but it's more just simplifying things. So, taking complex ideas, taking complex concepts and simplifying them in a way that most people can understand them.

4.56 C: I've had to focus a lot more on this. That's probably the best way of just answering that question, that's probably the thing that I've done more in this job than I had to do in others and that's simply because most people have never even tried an XR device as we know them.

5.14 J: It's interesting how you mention that you don't focus all that much on the qualities of the technology necessarily. That's not taking centre stage in your approach, it seems as though you focus more on the fact that it is a nascent technology. It's completely new and it's about where that is in the stage of the development and focusing on that aspect.

5.34 C: Yeah. If you look at the product life cycle, I mean we're very much at the tip of the spear and you're going to have your early adopters. You're going to have a group of people who are going to want to go out, your nerds for lack of a better expression, and that's fine, but then obviously the market will pick up, and the maturity will expand over time, but that doesn't always come by itself. Especially because we're not just working across all areas of XR. We're working specifically within B2B, so it's about finding where you have a product-market-fit and that's also been kind of that exploratory journey that we've been through.

6.21 J: And which is also kind of new as well, using VR in a more industrial and corporate context as opposed to where we have seen it take off in gaming. And you know there's probably a lot of distinctions to be made, such as how do we reach our market?

6.36 C: That's a really good point. Obviously, that's where there's traction right now. That's where you see growth within the whole XR field and metaverse field, but then that also brings with it some kind of negative connotations, negative package as well because a lot of businesses don't take it seriously. Because they think of it more as a game. But there's a huge gap between Beat Saber and being able to deliver remote support or having VR showrooms.

7.11 J: So almost a way to look at it is that VR is just the medium, it's not necessarily definitive of what you're actually trying to sell?

7.21 C: It's a new way of working because effectively what we're trying to sell, we're not trying to sell technology, we're trying to sell a new way of working. So, it's much more at the conceptual level, and again, if people can't get their heads around that, then it's really difficult for them to look at a VR headset and really take it seriously and want to take the leap of faith that it often requires to see that "okay, this can be a big game changer for us".

7.52 J: That's great insight. I want to ask you on the back of that, how do you see VR now that we've spoken about it as a medium, but specifically in the context of the B2B corporate side of things? How do you see that becoming mainstream and what do you believe will promote more adoption?

8.16 C: If we start with the second question first, I think the more we see companies take this so-called leap of faith that I talked about before, the more we see bigger companies, more recognized and respected companies lean into it, obviously that will help. There has to be the first movers, not only in terms of just trying the technology, but also producing positive returns on investment. So, really good customer stories and then, I think, once you have those who are willing to go in, who maybe are not afraid of taking this big risk and begin to show some type of positive outcomes, we'll start to see the others kind of take over. That's one aspect of it, the other is the technology itself just has to advance.

9.01 J: Yeah, definitely.

9.04 C: The headsets have to become maybe lighter, smaller in order for the average person to feel comfortable with using those. I mean, like most things there's entry costs and exit costs. The entry costs have to be removed as well and those aren't just actual monetary costs, there's also social costs as well. What are the social consequences of actually having the headset on? You know it's something that most people have never seen before, it hasn't been normalized yet.

9.41 C: So we actually see that with a lot of people, they don't really want to put their headset on because they feel as though they're going to look silly and you don't really think about that, but that's really where humanity and technology intersect because we've always been so focused on the technology and what it can do, but wearable technology is a little bit different. It's difficult to compare to things like Google and Facebook and Microsoft because most of them haven't been built around wearable technology. A phone is something that you hold in your hand, but you normally walk around with in your pocket. Yeah, they've got the Apple Watch, but a watch is something that we've seen forever.

10.22 J: That's a good point.

10.24 C: I mean, all these other things, like our laptops, they're in front of us. They might reflect on who we are in terms of what brands we use, but they're not wearables in the same way. They're not so much in your face. That's something that's really new to us.

10.40 C: What was the first question again?

10.42 J: That was more or less the question, just how do you see it becoming more mainstream?

10.49 C: Well, I think there's a lot of things that have to happen, there's not just one thing. It's many things and then I think just in general we live in a very impressionable, hyper realistic

world. What I think the one thing is that companies will start using these influencers, people who not only business people look up to, but also in the B2C capacity that they look up to. So, get the right people to wear the technology, to embrace the technology, get the right companies to embrace it and I think this will happen over time, and we're already seeing it happen now and things will start to take off, but that's not enough. I mean there also has to be real hardcore value in doing that in order for people to make that switch, but it'll be gradual. It'll definitely be gradual.

11.44 J: Definitely. So it's almost like it's the buy-in that we need from the users and society at large, and then also the way I kind of understood your answers is that, it's almost two-pronged. That's one element, but then it's also the advancement of the technology and all the factors that come with it. Because you mentioned earlier how this is quite a radical technology in the sense that it's so different from using a tablet or a phone. While those were big inventions at the time, we've gotten so used to them and they kind of have this transferable quality, whereas this is very different because you have a head-mounted display that is kind of so weird to people who have never seen it before.

12.25 C: It's far out, yeah. And it's been pre-cursed by dystopian movies like Ready Player One. People have seen that headset and it's often associated with and perhaps it's kind of loaded with negative connotations, and it's often also associated with gaming so much. I think legitimacy of it has a hard time getting the legs sometimes in the business world, but again, once we see more businesses using it and actually talking about the value that it brings them, it will become more mainstream. It's just like most new technologies, it’s going to take time.

13.10 J: Yeah, and that feeds perfectly into my next question, which is what do you view as the greatest challenges of communicating the value of VR to an immature market?

13.21 C: So just helping people understand the terminology, because one thing you have to bear in mind is that a lot of the terms that we're using, people have never heard of before, so they don't really understand what they mean, and when we're quick to toss these terms around as though they're commonplace, but they're not. So understanding the definitions, coming up with really good examples.

13.55 C: What was the question again, sorry?

13.57 J: Just what are the greatest challenges?

14.00 C: Yeah so, understanding the terminology that can be done obviously with really good examples. I would also say, I think we’ve mentioned this before, the actual hardware is a huge challenge right now. It's too bulky, it's too heavy. I would say it's too pricey, some of the more high-end headsets that are coming out right now are a little bit too pricey. And then continuing to convince people until the technology hits that sweet spot. Which we saw with the iPhone. I mean smartphones were big. Nokia was doing quite well, Blackberry was doing quite well. But it wasn't until you have like a big game changer like Apple again, where suddenly, okay now we're seeing billion dollars in revenue. Well, actually I'm pretty sure Nokia and Blackberry had that before, but probably not at the same level that Apple came out. Everybody is talking about that will be Apple when they come out with their new product (VR headset). I'm sceptical. I think they will come out with an amazing product. I think it's going to be more driven by the content that you can get access to on the product than it actually is the hardware. The hardware will be nice, but it's like, what can you do with the hardware, what can I access?

15.15 C: Which brings me to my next point is, I think one of the hurdles is actually getting people to put on the headset. The other is like what you can do with it, what you can experience once you put it on? Same thing with the iPhone. The iPhone would just be a piece of really nice hardware if you didn't have the whole App Store behind it, if you didn't have this ecosystem of content that you could access through the iPhone. The iPhone's just a gateway. A really nice, well-designed gateway, but it's a gateway. I think the same thing applies for this world as well. It's like that beautiful mashup between hardware and software. But look, if you make a really good product that brings people some type of benefit, joy, better working conditions, or whatever, people are going to gravitate towards it.

16.07 J: Right, so that's at the heart of it. Regardless of the gadgets and all their features, it has to bring that main value to the end user, it improves and enhances their experience.

16.21 C: It has to provide value in some way and obviously value is different from person to person. I don't think this is just a fad. I think we've gotten to the point now where most people are convinced that this is the next iteration of the internet. Whether or not we're all seeing it the same way, I don't know. But there are so many things going on in the world right now and the technology is advancing so quickly that it would be silly not to continue in this direction. We often refer back to saying that this is analogous to the advent of the internet, and back then you didn't have big companies like Apple, Meta, Google and Microsoft. Yeah, they were around, but not nearly in the same capacity as today. And so the internet was basically created by universities trying to communicate with one another, and now it's almost like with the third wave of the internet, you've got these behemoths out there. Are they the ones who are going to lead this? And then what about privacy? What about control? So, we're at a very different starting point this time than we were 30 years ago with the internet.

17.41 J: And speaking to this situation in the market of VR. Like you mentioned these giant corporations, such as Meta especially, capitalizing and wanting to monopolise almost this term “the metaverse”, that they're trying to make their own by rebranding themselves to Meta and really doubling down on that strategy. So, having players like that in the game and being in it yourself, how do you sort of view that? Do you think that it's good for the market or do you view it more as like a trepidatious thing?

18.20 C: It's hard. I think if it wasn't for companies like Facebook, or Meta, then we wouldn't be where we are today. I probably wouldn't be having this same conversation. All things considered, they have put the metaverse on the map. Now, the people are not always super happy about that, and there's a lot of pushback and a lot of fear, and I think that's natural. You're always going to have your luddites. You're always going to have your naysayers whenever there's new technology. Do I want a future in which Meta owns the metaverse? Absolutely not. I don't think anybody can imagine one company owning the internet. So, it will be an open metaverse, we’ll be able to connect between different worlds. And at some point in time, I'm pretty sure there will be some type of protocol standardization. Hopefully there'll be more government intervention which is taking the governments around the world far too long to kind of intervene into the internet as we know it today.

19.37 C: But I think that's just how it is, though. I mean, private tech companies are always going to move much faster than government agencies, especially when they have to connect and work together across the globe. But hopefully we've learned something over the last 30 years and there'll be a little bit more intervention, a little bit more oversight. But now I think companies like Meta, and now we're seeing of all the big techs that are invested. I think we'll see them starting to work closer together as we have recently with Microsoft and Meta. So,

Microsoft I think they basically acquiesced and said “hey we're not going to win a hardware game, but our business is software. Always has been software, so what we're going to try to do is get our software on Meta's headsets”. Because I think everybody knows right now that the Meta Quest is the predominant market leader. So that's the first signs of us seeing big tech work together, and I think we'll see more mergers. Well, I don't know if we'll see acquisitions – not with these companies and sizes, but I think they'll have to work and sync in harmony to establish the foundation for the metaverse as I’m thinking about it, at least.

20.54 J: Great. So, speaking to some of that, with this metaverse idea. It's generating a lot of media attention, and like you mentioned yourself, there's a lot of people who support it and then there's a lot of people who are naysayers and are kind of trying to tear the idea down. You see a lot of this discourse online especially–

21.21 C: A lot of vitriol out there.

21.23 J: Yes, that they don't want to see it succeed. Now with all of the discourse around it and all the eyeballs on the metaverse, that whole dynamic, how does that affect your marketing strategy coming from the position of a small to medium-sized enterprise?

21.43 C: From the position of what?

21.46 J: Of an SME. So you have the big players that are making their mark and then you have all the discourse around it. So how does that influence your marketing strategy and how you want to communicate to your customers?

22.06 C: I think you have to sift through all the noise out there. I think the fact that there are different voices, different opinions isn't necessarily a bad thing. I would be more concerned if everybody was just all in and weren't cautious about this. I think you obviously just have to, for lack of a better expression, cherry pick what you want, and it's just going to support your cause. Obviously, we're pro metaverse. We're not blind to the fact that there are concerns out there, but we’re also using those concerns to our advantage. When people talk about privacy and control and things like that, those are things that we're building into our product offering to make sure that we're addressing those, and those are things that companies want. But it's very much in this the zeitgeist right now.

23.04 C: I think it was one of the top three words that Oxford was going to declare as the word of the year. They did something different this year, though. They actually put it to the people. So instead of them just collecting the words and choosing them amongst themselves, they actually put it to the people. And that was the first time they did like a truly democratic process, but the metaverse was up there. Now again, people are divided, some people love it, some people hate it. Same thing happened though almost 20 years ago when second life was here.

23.33 C: Well before your time, Jens, but you were young then.

23.36 J: I remember.

23.38 C: You remember… you were like one? (laughs)

23.41 C: But people were like “Oh, Second Life is the best” and they’re like “Oh, Second Life is the absolute worst. Who wants to spend their time like that?”

23.49 C: I think to answer your question, as a marketing leader, you have to take that momentum and kind of that counter current and just try to navigate it as best as possible. Take the things that speak positively about what you're trying to do and use those to your advantage, and also take the negative things and try to use those to your advantage as well. By having a very clear-cut position on how you feel about those things. It's okay to have an opinion, and it's okay to have an adverse opinion. But also, if these are some of the factors that are maybe preventing you from marketing your product or your customers coming closer to the product, make sure that you address those. You can build those into your product. You can always take the positive, obviously use that to your advantage, but also take the negative and use that to your advantage as well, if that makes sense.

24.45 J: That makes sense. And do you see any gaps between how people are talking about the metaverse in terms of what it can provide now and then where the technology is?

24.59 C: I mean, you're always going to have people painting this really rosy picture about things that are possible, and then they're not possible. I mean, we're optimistic. We try to talk about the future, but with us it's all about keeping things real and saying "Hey, we're not where some of these other people are saying we are right now". This whole idea of this interconnected metaverse where we're just tossing Bitcoin around. That doesn't exist. I guess it could just be because we're humble Danes. We're quick to call BS when it's BS, but that doesn't necessarily mean that we have to temper our enthusiasm and our optimism for things going forward. But whenever I'm doing a presentation, I like to show a picture of where we're headed, but also really temper that quickly and say, "but that's not where we are right now". What we are capable of doing is this and this and this. It's just about honouring the technology and really just being honest with the people, and that's also because we're working with B2B.

26.04 J: Yeah, it's a little bit different.

26.05 C: It's different because when you're marketing in a B2B context, you're marketing to companies and the sales cycle is obviously a little bit longer and people want to know immediately "Okay great. I'm investing in this. Where's the immediate value?" And if you over-promise and under-deliver, then you're going to churn. And retention is the new black. When you work in our business, if you cannot retain a customer, you're probably not going to get positive word of mouth, which is your best marketing tool. That's the key to product leg growth. It's that the product is so great that your current customers are going to, through positive word of mouth, bring other people into the product. That's not going to happen if you're selling a crap product. If you over-promise and under-deliver, you're going to churn. And getting a new customer is 10 times more expensive than retaining a customer, so that's not a calculation the marketing director is really happy with. But some of those things are obviously outside of the control of the marketing team as well, and I think a lot of marketing directors maybe they can get pretty far by over-promising, but I think at the end of the day, when people actually get the product in front of them, they'll realize that maybe it doesn't necessarily live up to the hype.

27.23 J: To quickly recap on that, for you it's about managing the expectations, but also being optimistic about what it can do for businesses?

27.33 C: Yeah, I think it's about setting establishing expectations fairly, as quickly as you possibly can. And it's okay to embellish a little bit in your marketing, but you have to be really mindful of the whole over-promising, under-delivering ratio and make sure that you don't

stretch it too far. It's okay to show people where you're headed and talk about the future, but we're much more interested in focusing on what's possible right now. But bearing in mind though, everything's relative, so you can easily make people understand how amazing this is by talking about what was possible just three, five, ten years ago. Which is obviously something that we can talk a lot about now, because we've been a part of it since almost day one. Given our background as Unity, we've almost ushered in this whole XR industry. At least we've been a part of it from the very beginning, so we could talk to people about it "Hey you know, 10 years ago you had to have a massive headset connected to a computer. Look how far we are now". And that's just over the course of 10 years. So, one thing is to look for, or talk about all the stuff that may or may not happen. The other is just to focus on where we've come over the last 10 years and I think that can get people just as excited as it is focusing on where we're going.

28.52 J: Okay.

28.53 C: Does that make sense?

28.54 J: It does. And lastly, I want to ask you – since the research shows that the perceived usefulness of VR is what will drive its adoption. What are ways your market communication reflects this?

29.03 C: Oh, we absolutely put an emphasis on the utility of our product. That's really where the rubber meets the road for this technology because it's hasn't really been worked into the mainstream consciousness yet. So for us, we try to achieve this through customer stories and case studies. By focusing on our customers and getting them involved in showcasing how they're using the product, I think it's a clear way to demonstrate to sceptics that it isn't just a gimmick. That it has a practical use. We try to weave elements of that real-life perspective into most of our marketing material, whether it's our online ads, webinars, or PR. I definitely think that's how we can get people on board with this and show that it's useful to businesses.

31.46 J: And I think that's a great note to end it on. So, I want to say thank you very much for your time today.

31.53 C: Sure, no problem.

Appendix II: Meta Connect 2021 – Transcripted

Mark Zuckerberg: (26:35)

Over the last year and a half, a lot of us who work in offices have gone remote. And while I miss seeing the people I work with, I think remote work is here to stay for a lot of people. So we're going to need better tools to work together. Let's take a look at what working in the metaverse will be like. Imagine if you could be at the office without the commute, you would

still have that sense of presence, shared physical space, and those chances and interactions that make your day, all accessible from anywhere. Now, imagine that you have your perfect work setup and you can actually do more than you could in your regular work setup. And on top of all that you can keep wearing your favourite sweatpants.

Speaker 14: (27:15)

Looking good. Let's get together real quick for a debrief.

Speaker 15: (27:27)

I'm free now. Let's jump in. Hi.

Speaker 14: (27:29)

Hey.

Speaker 15: (27:31)

So what do we think?

Speaker 14: (27:36)

I think it's ready.

Speaker 15: (27:38)

Great.

Speaker 14: (27:40)

I'll prep it for the presentation.

Speaker 15: (27:42)

All right. Good luck.

Mark Zuckerberg: (27:46)

Imagine a space where you can tune out distractions and focus on the task at hand. And when you're ready to share what you've been working on, you can present it as if you're right there with the team.

Speaker 16: (28:01)

Wait, where's Mark?

Speaker 17: (28:03)

I think he's in the middle of something.

Mark Zuckerberg: (28:07)

You can already see some of these elements in horizon work rooms, which we launched a couple of months ago. Later this year, we plan to introduce room customization. So you can put your own logos and posters in your work rooms. We're also introducing a new office space in horizon home, for when you want your perfect workspace to do some focused work or just cross a few things off your to-do list. We're also announcing 2D, progressive web apps for the Quest Store. And as a new developer frameworks, they're easier to build. So you can drop in and check on a work project while you're in VR using services like Dropbox, Slack, or stay connected with Facebook and Instagram. This starts bringing more of your 2D internet services into the metaverse. And as we've focused more on work, and frankly, as

we've heard your feedback more broadly, we're on making it so you can log into Quest with an account other than your personal Facebook account.

Mark Zuckerberg: (29:04)

We're starting to test support for work accounts soon. And we're working on making a broader shift here within the next year. I know this is a big deal for a lot of people. Not everyone wants their social media profile linked to all these other experiences. And I get that, especially as the metaverse expands. And I'll share more about that later.

Mark Zuckerberg: (29:23)

But I'm genuinely optimistic about work in the metaverse. We know from the last couple of years that a lot of people can effectively work from anywhere, but hybrid is going to be a lot more complex when some people are together and others are still remote. So giving everyone the tools to be present no matter where they are, whether it's a hologram sitting next to you in a physical meeting or in a discussion taking place in the metaverse, that's going to be a game changer. I think this could be very positive for our society and economy. Giving people access to jobs and more places, no matter where they live, will be a big deal for spreading opportunity to more people. Dropping our daily commutes will mean less time stuck in traffic and more time doing things that matter. And it'll be good for the environment.

Mark Zuckerberg: (30:10)

Actually, if you travel for work and working in the metaverse means that you just take one less flight each year, that's probably better than almost anything else that you can do for the environment. I think working in the metaverse is going to feel like a huge step forward. And these dynamics, like the ability to teleport places with people and interact around shared

projects and virtual space, they're going to be valuable and a lot of other categories of experiences too.

Appendix II: Content Analysis of Mass Media, 28th October 2021 to 28th April 2022 –

KEYWORD SEARCHED: METAVERSE –

1. https://www.wired.com/story/what-is-the-metaverse/
   What Is the Metaverse, Exactly?
   Everything you never wanted to know about the future of talking about the future.

   FOUND TO BE MOSTLY NEGATIVE

   NEGATIVES –
   1. *"To hear tech CEOs like Mark Zuckerberg or Satya Nadella talk about it, the metaverse is the future of the internet. Or it's a video game. Or maybe it's a deeply uncomfortable, worse version of Zoom? It's hard to say."*
   2. *"It's been nearly six months since Facebook announced it was rebranding to Meta and would focus its future on the upcoming "metaverse." In the time since, what that term means hasn't gotten any clearer."*
   3. *"The pitches for these visions of the future range from optimistic to outright fan fiction."*
   4. *"With the metaverse, there are some new building blocks in place, like the ability to host hundreds of people in a single instance of a server (idealistic metaverse predictions suppose this will grow to thousands or even millions of people at once, but this might be overly optimistic),"*
   5. *"When tech companies like Microsoft or Meta show fictionalized videos of their visions of the future, they frequently tend to gloss over just how people will interact with the metaverse."*
   6. *"VR headsets are still very clunky, and most people experience motion sickness or physical pain if they wear them for too long. Augmented reality glasses face a similar problem, on top of the not-insignificant issue of figuring out how people can wear them around in public without looking like huge dorks."*
   7. *"And then there are the accessibility challenges of VR that many companies are shrugging off for now."*
   8. *"The holographic woman from Meta's presentation? I hate to shatter the illusion, but it's simply not possible with even very advanced versions of existing technology."*
   9. *"there's no janky version of making a three-dimensional picture appear in midair without tightly controlled circumstances. No matter what Iron Man tells you."*
   10. *"However, the last several months of metaverse pitches—from tech giants and startups alike—have relied heavily on lofty visions that break from reality."*

11. *"This kind of wishful-thinking-as-tech-demo leaves us in a place where it's hard to pinpoint which aspects of the various visions of the metaverse (if any) will actually be real one day."*
12. *"The paradox of defining the metaverse is that in order for it to be the future, you have to define away the present."*
13. *"Spend enough time having discussions about the metaverse and someone will inevitably (and exhaustingly) reference fictional stories like Snow Crash—the 1992 novel that coined the term "metaverse"—or Ready Player One, which depicts a VR world where everyone works, plays, and shops."*
14. *"Sure, NFTs are bad for the environment and the public blockchains most are built on come with massive privacy and security problems,"*
15. *"In the months since Facebook's rebrand, the concept of "the metaverse" has served as a powerful vehicle for repackaging old tech, overselling the benefits of new tech, and capturing the imagination of speculative investors."*
16. *"The history of tech is littered with the skeletons of failed investments."*

POSITIVES –

1. *"motion-tracking tools that can distinguish where a person is looking or where their hands are. These new technologies can be very exciting and feel futuristic."*
2. *"To a limited extent, this is fine. Microsoft, Meta, and every other company that shows wild demos like this are trying to give an artistic impression of what the future could be, not necessarily account for every technical question."*
3. *"You've just transformed your hobby of buying memes into a crucial piece of infrastructure for the future of the internet (and possibly raised the value of all that cryptocurrency you're holding.)"*
4. *"That doesn't mean there's nothing cool on the horizon."*
5. *"VR headsets like the Quest 2 are cheaper than ever and finally weaning off of expensive desktop or console rigs. Video games and other virtual worlds are getting easier to build and design. And personally, I think the advances in photogrammetry—the process of creating digital 3D objects out of photos or video—is an incredibly cool tool for digital artists."*

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2. https://time.com/6116826/what-is-the-metaverse/ – **FOUND TO BE NEUTRAL**
The Metaverse Has Already Arrived. Here's What That Actually Means – Mentions Meta in the article, but it does not have any attitude. It is just explaining what experts are saying and explaining what the Metaverse is.

No strong attitude was identified in this article.

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3. https://www.vice.com/en/article/93bmyv/what-is-the-metaverse-internet-technology-vr – **FOUND TO BE NEUTRAL**

What Is the Metaverse? An Explanation for People Who Don't Get It.
Is it just a buzzword, the next internet, a video game, or an idea? We asked experts to break it down for us.
Mentions Meta in the article, but it does not have any attitude. It is just explaining what experts are saying and explaining what the Metaverse is.

No strong attitude was identified in this article.

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4. https://www.nytimes.com/2021/07/10/style/metaverse-virtual-worlds.html – **FOUND TO BE NEUTRAL**

Are We in the Metaverse Yet?
Crypto people say they're building it. Gamers might already be living in it. The art world is cashing in on it. Web veterans are trying to save it. But what is it?
Mentions Meta in the article, but it does not have any attitude. It is just explaining what experts are saying and explaining what the Metaverse is.

No strong attitude was identified in this article.

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5. https://www.economist.com/the-world-ahead/2022/11/14/a-reality-check-for-the-metaverse-is-coming?utm_medium=cpc.adword.pd&utm_source=google&ppccampaignID=13742798847&ppcadID=124846132472&ppcgclID=CjwKCAiAkrWdBhBkEiwAZ9cdcG3fuPuWPZGJs3J9JlLF7dx1BuxbkAOm0sMB4cHjPu7EJShBNpm9URoCitQQAvD_BwE&gclid=CjwKCAiAkrWdBhBkEiwAZ9cdcG3fuPuWPZGJs3J9JlLF7dx1BuxbkAOm0sMB4cHjPu7EJShBNpm9URoCitQQAvD_BwE&gclsrc=aw.ds

A reality check for the metaverse is coming
Is it really the next big thing? Watch this virtual space

FOUND TO BE MOSTLY NEGATIVE

Although this article is behind a paywall, the headline and preview exhibit a negative attitude.

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6. https://www.vox.com/recode/22799665/facebook-metaverse-meta-zuckerberg-oculus-vr-ar

Why you should care about Facebook's big push into the metaverse

The futuristic tech Mark Zuckerberg is investing billions in could remake the internet. Mentions Meta within the article.

FOUND TO BE NEUTRAL

NEGATIVES –

1. *"It's the next big breakthrough in technology. It's a joke. It's a marketing strategy. It's a techno-dystopian nightmare. It's the metaverse — defined most simply as a virtual world where people can socialize, work, and play — and Facebook's CEO Mark Zuckerberg believes it is the future of the internet and of his trillion-dollar company."*
2. *"But in a reflection of how young the technology still is, I found it impractical to use for long stretches of time, especially outside of an entertainment or gaming capacity."*
3. *"But there were clear drawbacks — mainly, that my avatar didn't have any legs (because the headset can't pick up your leg motions the way it can your head and hands, there are no legs in the Horizon Workrooms app), and I looked less professional than a normal video or picture of myself."*
4. *"After I spent a few hours in the metaverse, more drawbacks of this new world emerged. For one, I started to sweat and feel nauseated."*
5. *"My headset weighed on my face. Anytime I wanted to play a game in this space that Facebook hadn't developed itself, I had to go through the process of creating a new avatar from scratch."*
6. *"The initial wonder I had felt started to drain away. It's hard to imagine myself wanting to hang out in the current version of Facebook's metaverse for long stretches of time."*
7. *"Facebook will have to convince people to give up their time in the real world for participating in the metaverse instead, and to trust Facebook — a company mired in privacy and political scandals for the past five years — to be their stewards of this new realm."*

POSITIVES –

1. *"Even if these criticisms and questions stand, Facebook's investment in the metaverse is something we should take seriously. Mark Zuckerberg sees the metaverse as the "successor to the mobile internet," an invention that reshaped all our lives by allowing us to go online anywhere, and made it possible for Facebook's current business to exist."*
2. *"So even if you're not itching to jump into the metaverse anytime soon, you should pay attention to it, and to how Facebook is investing in it."*
3. *"The idea is to create a more immersive internet, in which we'll use tech like AR and VR to spend our time engaging in virtual spaces and experiences rather than the physical world."*
4. *"The first time I tried it out, I was impressed. The graphics have come a long way since I last used a VR headset (just a few years ago), and that made my experience transporting."*

5. *"a virtual room that looks like a tropical hotel lobby with palm trees, hanging egg-shaped chairs, and views of red rock mountains in the distance — a definite upgrade from the decor of my 500-square-foot studio apartment."*
6. *"That being said, technology develops quickly, and it's easy to imagine a world where all the practical problems I had with the metaverse are solved with lighter headsets, advanced hardware, and improved avatar graphics."*
7. *"the odds are high that the metaverse will be more than a passing, oddball whim from a billionaire tech CEO."*

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7. https://www.theguardian.com/technology/2021/oct/28/facebook-mark-zuckerberg-meta-metaverse

Enter the metaverse: the digital future Mark Zuckerberg is steering us toward – FOUND TO BE NEUTRAL

The company, now rebranded Meta, already has a foothold in the digital world. How far will it go to see it succeed?

Mentions Meta in this article. No real attitude.

NEGATIVES –

1. *""Hiro spends a lot of time in the Metaverse." And if Facebook gets its way, so will you."*

POSITIVES –

1. *"It will also include augmented reality, a sort of step back from VR where elements of the digital world are layered on top of reality – think Pokémon Go or Facebook's recent smart glasses tie-up with Ray-Ban."*

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8. https://www.forbes.com/sites/bernardmarr/2022/03/21/a-short-history-of-the-metaverse/

A Short History Of The Metaverse – FOUND TO BE NEUTRAL

Today we describe the metaverse as a fully immersive internet, where we will be able to access augmented and virtual reality and interact with all sorts of environments using persistent avatars and innovative digital technology.

No strong attitude was identified in this article.

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9. https://www.bloomberg.com/professional/blog/metaverse-may-be-800-billion-market-next-tech-platform/ – **FOUND TO BE NEUTRAL**

Metaverse may be $800 billion market, next tech platform

No strong attitude was identified in this article.

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10. https://www.reuters.com/technology/whos-building-metaverse-2021-11-01/

Who's building the metaverse? – FOUND TO BE NEUTRAL

No strong attitude was identified in this article.

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11. https://abcnews.go.com/Technology/metaverse-impact-world-future-technology/story?id=82519587

How the metaverse could impact the world and the future of technology –

FOUND TO BE MOSTLY POSITIVE

NEGATIVES –

1. *Virtual interactions offers enticing financial opportunities for big businesses, but they also raise concerns over the impact on users and safety of its users.*
2. *“"If you're trying to moderate something of that level of freedom, then you're going to have to be moderating in a way that's like incredibly invasive," Maini said.”*
3. *“"So we either end up in a situation where it's complete chaos and everyone's allowed to do everything and you know, there's racism, sexism, abuse and all that kind of stuff, or there's incredibly tight moderation and no one's allowed to do anything."”*

POSITIVES –

1. *“The metaverse aims to innovate the way people interact with each other on the internet, interacting in a way previously only thought possible in science fiction.”*
2. *“While the excitement around the concept of a metaverse is rapidly growing, Ratan said bringing that vision to reality is still many years away.”*
3. *“"Over the next five years, you're going to see Metaverse technology become real, concrete and sampleable," said CNET Editor-at-Large Brian Cooley. "I*

think it's going to be impressive, but I think it's going to have many flavors, not just one.""

4. *"'In the metaverse, you will still have those stupidly expensive designer Gucci trainers to be able to show that, 'Oh yeah, look, I'm doing well for myself,' even if really it's just a line of code," Maini said."*
5. *"'Like every day, the promise of this virtual land is increasing. So like a person's willingness to pay is going up and up and up. And if at the same time that hardware is getting cheaper, there probably will be a point where there's like mass adoption," Maini said."*

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12. https://www.cnbc.com/2022/01/25/no-one-knows-what-the-metaverse-is-and-thats-driving-all-the-hype.html

No one knows what the metaverse is and that's what's driving all the hype

FOUND TO BE MOSTLY NEGATIVE

NEGATIVES –

1. *"Every week, it seems, another company is planting its flag in the metaverse, scrambling to figure out how to make money in this next digital frontier."*
2. *"But as with anything on the receiving end of breathless hype, there are skeptics."*
3. *"that the metaverse is a "squishscammy word. If you include things like video games and, um, the internet, it's already a big success. AR has future potential. But I'm calling b.s. on a persistent, decentralized, skeuomorphic, interconnected 3D world, experienced primarily through VR.""*
4. *"he says. "The Microsoft and [Activision] Blizzard deal would have happened regardless, and it has nothing to do with the metaverse. But because it happened now, p.r. people sprinkled some metaverse pixie dust on it.""*
5. *"In CNBC's Technology Executive Council survey at the end of last year, executives were asked to describe the metaverse. Among the responses were "online gaming," "socially awkward teenagers," "hype," and "Facebook trying to rebrand.""*
6. *"To which Libin says, why? "I recently went to a conference where I had to wear a headset and it was the dumbest thing I've ever done," he says. "I would rather chew my arm off than stand in my house by myself, wearing a headset pretending to be in an auditorium watching someone on a virtual stage.""*
7. *""We should be making actual reality better. We shouldn't be spending time making a different reality," he says. "Let's put more effort into making a world where you can work in a way that gives you time to have an actual in-person dinner with your family or friends, not having a virtual dinner in the matrix.""*

POSITIVES –

1. *"she says. "This is how they show up as they interact with technology. They're already comfortable across virtual environments and they know how to curate a mix of these tools and services and technologies in order to interact and work.""*
2. *"Jeetu Patel, general manager of Cisco Security and Collaboration, says a few years from now it won't be unrealistic for two people "sitting 10,000 miles apart having dinner together in full 3D and they're both seeing holographic images of each other at the table.""*

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13. https://www.cbsnews.com/news/what-the-metaverse-looks-like/
You've heard of the metaverse. Here's what it looks like.

FOUND TO BE MOSTLY POSITIVE

NEGATIVES –

1. *"Days later, a user reported that she was verbally and sexually harassed within minutes of using Meta's product."*
2. *More specifically, Givens raises concerns about how companies could seek to use biometric data gleaned from metaverse users, such as pupil dilation or arm movements.*

POSITIVES –

1. *"Although the virtual environment is cartoon-like, for Kiernan Pearce the metaverse conjures up its own compelling version of reality — one that, perhaps counterintuitively, can offer richer opportunities to meet and socialize with others than is commonly found beyond the screen."*
2. *""I have had more real experiences inside VR than I ever had outside," the meditation instructor said."*
3. *""You are not alone in VR," she added. "There's somebody that you can reach out to and talk with. And one of the things that happens naturally is amazing communication and conversation.""*
4. *""We have comedy clubs, we have discos, we have meditations, we have people who lead world tours. On Wednesdays different creators show off all these amazing game worlds. You know there's something for everybody here, not just for the gamer. It's not just for the person who wants to attend events. We have AA meetings here, we have peer support.""*
5. *""I'm a website developer by trade," Pearce said. Coding skills are helpful in the metaverse, but not essential. "VR is more accessible. I can build a world that has any number of effects in how it looks and sounds. It's a more immersive experience.""*

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14. https://www.washingtonpost.com/technology/2021/12/30/metaverse-definition-facebook-horizon-worlds/

In 2021, tech talked up 'the metaverse.' One problem: It doesn't exist.
Meta's 'Horizon Worlds' app, Microsoft and Roblox are capitalizing on a buzzword that's far from reality.

FOUND TO BE MOSTLY NEGATIVE

NEGATIVES –

1. *"People are getting married in the metaverse now, we're told. Speculators are buying real estate in the metaverse, according to the headlines. Managers must learn to hold meetings in the metaverse, it would seem. This month, an executive at Facebook — er, Meta — gave an interview in the metaverse."*
2. *"One slight hitch: The metaverse doesn't exist yet, and it probably won't anytime soon."*
3. *"What does exist is an idea, an explosion of hype, and a bevy of rival apps and platforms looking to capitalize on both — without a clear path between the idea and reality."*
4. *"It was the year of rebranding existing technologies as building blocks for the metaverse, while leaving intact the corporate walls that make a true metaverse impossible."*
5. *"Many of those stories treat the metaverse as if it were a fait accompli — a real thing, like the World Wide Web or social media. After all, the metaverse has to exist in order to get married there, right?*
6. *"Indeed, interoperability — the working-together of many virtual worlds — is key to the concept. It's also what's missing from almost everything that's suddenly being called "the metaverse.""*
7. *"That isn't a metaverse. It's just another walled garden, the venerable tech term that denotes a self-contained online environment that's closed off from the wider digital world."*
8. *"Horizon Worlds is to the metaverse as AOL was to the Web — except that there really was a Web beyond AOL, whereas at this point, there's no metaverse beyond Horizon Worlds."*
9. *"But getting rival companies to meld their products into a single metaverse would require a level of cooperation and openness for which today's tech gatekeepers have shown little appetite or aptitude."*
10. *"Historically, the development of interoperable technologies such as email and the Web has been driven by the government, academia and nonprofits — not corporate giants such as Meta."*
11. *"The idea is to build a metaverse that exists independently of today's tech giants, breaking the grip they've established on today's mobile Internet with protocols that theoretically allow anyone to build apps and experiences that are accessible to all."*
12. *One obstacle is that blockchain transactions can be slow, insecure or environmentally wasteful, depending on the protocol, making them potentially an awkward fit for a technology that would require intensive, real-time processing on an unprecedented scale.*
13. *"Defining the term down to the point that it already exists plays into the hands of those that already hold the most power. But calling today's walled-off apps*

"the metaverse" lets them off the hook for the hardest part: building a metaverse in which anyone can participate."

POSITIVES –

1. *"For now, the best microcosm of what a metaverse might look like is Roblox, an online platform wildly popular with children that encourages users to program their own games and experiences within it."*
2. *"There is a vocal and moneyed contingent that sees a solution in the blockchain — decentralized ledgers that can track activities without corporate or government oversight."*

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15. https://www.businessinsider.com/mark-zuckerberg-the-metaverse-golden-goose-2022-1?r=US&IR=T

Mark Zuckerberg is creating a future that looks like a worse version of the world we already have

The vision he presented is a worse version of a reality we already have.

FOUND TO BE MOSTLY NEGATIVE

NEGATIVES –

1. *"The metaverse has, "the potential to disrupt almost everything in human life," analysts at Jefferies, led by equity strategist Simon Powell, said in a December note."*
2. *"The whole thing seems like it could've happened over FaceTime or Zoom or any various pieces of technology we already use."*
3. *"In another sense, it's a vision that takes our existing reality — where you can already hang out in 2D or 3D virtual chat rooms with friends who are or are not using VR headsets — and tacks on more opportunities for monetization and advertising."*
4. *"It's no surprise, then, that the gold rush is on from investors and companies in the tech world: Meta's video, and Zuckerberg's commitment to "the metaverse," successfully convinced them that it's the next golden goose."*

POSITIVES –

1. *None were identified.*

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16. https://fortune.com/2021/12/07/how-i-signed-up-metaverse/

A 22-year-old breaks down how to join the metaverse

FOUND TO BE MOSTLY NEGATIVE
NEGATIVES –

1. *"I have to admit that I was still confused about what it was, and how to even get started."*

POSITIVES –

1. *None were identified.*

Although this article is behind a paywall, the headline and preview exhibit a negative attitude.

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17. https://edition.cnn.com/2021/12/09/tech/meta-launches-horizon-worlds/index.html
It's not quite the metaverse, but Meta is launching its virtual world – NEUTRAL

NEGATIVES –

1. *None were identified.*

POSITIVES –

1. *"Attending a demo with a small group of people (Meta employees and another journalist) was more fun."*

No strong attitude was identified in this article.

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18. https://www.newyorker.com/news/letter-from-silicon-valley/money-in-the-metaverse
Money in the Metaverse
In a virtual world full of virtual goods, finance could get weird.
FOUND TO BE MOSTLY NEGATIVE

NEGATIVES –

1. *"Watching Zuckerberg stroll through a blandly monied virtual set, appointed, as if from a drop-down menu, with books and trinkets and unused-looking sports equipment, I wondered if there were people who wanted this, or would find this vision exciting."*

2. *"Reading about the metaverse, I've often had the uneasy feeling that I am taking something far too seriously—giving credence to the wrong things, internalizing the wrong logic—simply because a small number of world-historically wealthy people have told me to."*
3. *"The over-all point is that it will be simultaneously a place for connection, community, and so on, and also a forum for transaction and extraction. For its makers, the metaverse will be stuffed with money—in every dimension, all the way down."*
4. *"The metaverse, if it takes off, will reflect its cultural and technological moment, too. Taking cues from today's tech ecosystem, it will probably be privatized, centralized, and financialized, with rampant artificial scarcity."*
5. *"Listening, I wondered, Could I make this my life? Banking dashboards, cryptocurrency wallets, ledgers and spreadsheets. I tried to imagine myself in a corporate-owned and venture-funded metaverse: a virtual axolotl in a virtual sweater, writing for a virtual magazine in a virtual office, hemorrhaging virtual money. I might covet the Gen Z copy-editor's avatar, and hope that readers would invest in N.F.T.s of my work. I could be paid in CondéCoin, with a cut going to Meta or Minecraft or Microsoft, whatever corporation or game was my virtual landlord. Weekends would be spent at the arcade, or the casino. My husband and I would go on virtual vacations to virtual worlds, stay with virtual hosts who played virtual games set on virtual farms. I could play to earn—and earn, and earn. I could have everything I wanted, and nothing at all."*

POSITIVES –

1. *For millions of people, video games already serve as everyday, immersive virtual experiences; gaming companies provide infrastructure for Hollywood films, spatial visualizations, and live performances.*
2. *Aesthetically, the metaverse could have the gauzy realism of 2019's "The Lion King," the anesthetized cheerfulness of The Sims, the pixel-art graphics of the sixteen-bit era, or any other vibe.*
3. *"(Arguments in favor of web3 are frequently made using utopian rhetoric—democratization, decentralization, transformation, freedom, revolution, and so on—that elevates, or obscures, what would otherwise be a financial conversation.)"*

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19. https://www.economist.com/business/2021/12/18/the-billionaire-battle-for-the-metaverse
The billionaire battle for the metaverse
Forget space. The race is on to take people beyond reality

FOUND TO BE MOSTLY POSITIVE
NEGATIVES –

1. *None were identified.*

POSITIVES –

1. *"You have to hand it to Mark Zuckerberg."*

Although this article is behind a paywall, the headline and preview exhibit a positive attitude.

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20. https://www.businessinsider.com/facebook-new-name-meta-rebrand-metaverse-zuckerberg-apps-2021-10?r=US&IR=T

Facebook is changing its name to Meta

Facebook's name change comes amid sweeping public backlash against the company.

FOUND TO BE MOSTLY NEGATIVE

NEGATIVES –

1. *"Facebook has faced a rocky few weeks after leaked documents exposed the company's controversial business practices. It has increasingly emphasized its metaverse mission."*
2. *"And experts told Insider the name change wouldn't be enough to save it from the torrent of criticism."*
3. *"The company is likely trying to "divert the conversation from their current problems onto the metaverse, which is exciting and futuristic," Anne Olderog, a senior partner at the consulting firm Vivaldi with 20 years of brand-strategy experience, said."*

POSITIVES –

1. *None were identified.*

IN CONCLUSION –

8 articles were mostly negative, 9 were neutral and 3 were mostly positive in attitude.
