

Preparing for the New Paradigm of Business: The Metaverse

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Abstract

The objective of this study is to explore the challenges and changing needs of companies in the age of the metaverse and its implications for business. It used a qualitative research methodology and is based on a review of the emerging academic discourse on metaverse and also on semi-structured interviews with corporate experts. The study found the various aspects of the metaverse that may affect business organizations, namely strategic aspects, technological aspects, human resource-related aspects, legal aspects, and ethical aspects. The study highlights the need for

organizations to be flexible and adapt quickly to future unpredictable developments in the age of the metaverse. It accentuates the fact that the companies would be required to devise new marketing, e-commerce, and human resource strategies for taking advantage of the business opportunities presented by the metaverse. It also has important implications for policymakers as it highlights the legal and ethical aspects of the metaverse that may affect business and society in the future. The current study has laid the foundation for further research on the metaverse as a new paradigm of business.

Keywords: metaverse; augmented reality; virtual reality; legal aspects; learning; technology; ethics

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Introduction

Digitalization has been an important factor in transforming societies and businesses. Recent technological developments such as artificial intelligence (AI), virtual reality (VR), augmented reality (AR), machine learning, cloud computing, big data, and the internet of things (IoT) have transformed the goods and services that are on offer for the consumer, the way they are provided and how the consumers access them. New technology has not only transformed the way companies do business but has also resulted in new competition, new markets, and new industries. The current kind and pace of digital transformation were never witnessed before.

Covid-19 has further enhanced the penetration of digital technologies in business and society. Online shopping, virtual meetings, e-learning, etc. were already in use before the advent of the pandemic. But the restrictions on physical movement during the pandemic augmented the usage of digital technologies manifold in all spheres of human activity (Ivari et al., 2020; Nagel, 2020; Spurk, Straub, 2020). Businesses harnessed digitalization for building organizational resilience during the pandemic (Elgazzar et al., 2022). The businesses that did not have an online presence were also forced to change their business model to digital and had to find internet-based solutions. Before the pandemic, it was hard to imagine that businesses could run virtually and students could attend classes via zoom meetings. The pandemic also had several negative repercussions for the global economy and industries (Kumar et al., 2020) in the form of increased unemployment, reduced industrial production, a slowdown in business activities, and a rise in poverty and income inequality. Despite these overwhelming challenges for businesses, it also encouraged business organizations to adopt new digital technologies and innovations (Baig et al., 2020; Vig, Agarwal, 2021). Business organizations that understood and adopted digital transformation during the pandemic would be able to boost their business resilience (Close et al., 2020; Keshky et al., 2020).

During and after the pandemic the world has witnessed an unprecedented usage of new technologies such as big data, social networking, online gaming, and AI, which have resulted in the convergence of the physical and digital worlds (Pellegrini et al., 2020; Secundo et al., 2021). The difference between the actual and virtual worlds will be further dissolved by the metaverse (Seok, 2021). It will provide a new dimension of human experience. The metaverse is creating new waves as ‘the next big thing after the internet.’ It will impact organizations and people in a greater way than the internet. The metaverse is a three-dimensional virtual world (Lee et al., 2021) in which the users will interact through their ‘avatar’, which is a user’s visual im-

age that can be tailored to be anything that a user may imagine (Cheong, 2022; Davis et al., 2009).

The metaverse is likely to transform the markets and many companies have commenced preparation to take advantage of the e-commerce market potential in the metaverse. Metaverse permits users to make interaction with other users in a digitally immersive environment where they can become a part of a physical environment virtually or they can be shown around an imagined environment. An immersive environment is created through the combination of various technologies like AR, VR, MR, AI, etc. Consumers can try the products by running virtual product simulations, which will provide them with a more informative product experience. Consumers can become a part of various events like art exhibitions, product launches, trade shows, concerts, etc. happening in any part of the world through an immersive experience. In recognition of the immense business opportunities presented by the metaverse, leading technology companies such as Google, Microsoft, Nvidia and others have invested in the metaverse.¹ The E-commerce, education, gaming, entertainment, and advertising industries will be most significantly affected by the introduction of the metaverse (Hollensen et al., 2023; Zhang et al., 2022; Gadalla et al., 2013; Hemp, 2006). However, no industry or company will remain unaffected once the metaverse technology becomes more popular, available, and cheaper. Big brands such as Nike, Gucci, Warner Brothers, and McDonald’s have already started to operate in the metaverse. Metaverse like other paradigm shifts in the past is expected to transform the quality of human experience.

“For some companies, the initial question of why a VW [Virtual World] presence might be needed for their organization has been answered by market pressures. Some organizations have a VW presence simply because their competitors are doing it, a phenomenon that mimics the early days of the Internet.” (Davis et al., 2009, pp. 110–111).

Along with incredible opportunities, the metaverse also poses a gamut of challenges for business organizations, such as the need to adopt new strategies for increased competition, make decisions about the deployment of their financial, technological, and human resources, and also governance issues like cyber security, data privacy and so on (Mackenzie, 2022). Metaverse offers immense economic prospects for business but it also requires organizations to prepare themselves for the upcoming transformation in terms of their strategy, specialized and skilled workforce, and governance policies. With this background, this study aims to explore the changing needs of companies in the age of the metaverse and its implications for employers and workplaces. It seeks to find answers to the following research questions:

¹ <https://tech.co/news/metaverse-companies-whos-involved-whos-investing#giant>, accessed 18.04.2023.

RQ1: What challenges and risks will the metaverse present for business organizations?

RQ2: What are the various aspects of the metaverse affecting business organizations?

What is the Metaverse?

Metaverse has attracted the attention of businesses and society the world over as the biggest technology companies have started investing in the metaverse and have declared it as the “future of the internet” (Narin, 2021). As can be seen in the emerging academic literature and the industry discussions there is no explicit definition of the metaverse (Lee, Kim, 2022; Peukert et al., 2022). However, researchers agree that it will be a combination of various technologies such as AI, AR, VR, mixed reality, blockchain technology, and non-fungible tokens (NFTs) (Lee et al., 2021). Metaverse was originally presented by Neal Stephenson (1992) in his novel “Snow Crash” as a fictional idea. Now, this idea of the metaverse has transformed into a reality with the help of various technological advancements. Metaverse enables a fusion of the physical and the virtual worlds where the users can interact, collaborate, play, learn and work with each other in three-dimensional immersive virtual spaces. “Metaverse...is a network of interconnected experiences and applications, devices and products, tools and infrastructure” (Kevins, 2022). The metaverse will transform the way people make social interactions. It uses visualization and simulation of sensory experience to create a virtual world that allows the copresence of the users and their movement between virtual spaces. It fades the difference between physical and virtual reality (Lee et al., 2021). Users can be involved in shared social experiences such as shopping, attending, and participating in concerts, exhibitions, movie shows, and games together with other users in the metaverse through their digital avatars. The metaverse may be put to numerous uses in business, entertainment, education, learning, health, training and development, and so on.

Methodology

The study used a qualitative research methodology. Data was collected from a review of the emerging academic body of knowledge on metaverse and semi-structured interviews with 26 corporate experts working in the area of information technology, marketing, human resources, and legal practice in India, who consented for participation in the study. The experts belonged to different areas of specialization which helped to capture various dimensions and implications of the metaverse from multiple perspectives (Dwivedi et al., 2022). The desk research method was applied to collect data from articles in newspapers, research publications, and internet sources accessible in the public domain, related to the objective of the study. It was

followed by semi-structured interviews of the respondents. The semi-structured interview technique was used as it helps the researcher to collect information without being constrained by fixed-response questions (Arksey, Knight, 1999). 10 respondents were initially identified based on purposive sampling. The participants were then requested to suggest further potential participants for the study (Silverman, Marvasti, 2008). During the interviews, the experts were asked questions such as what challenges or risks the metaverse may pose for business organizations in the future. Which aspects of the metaverse will impact business organizations and how? How businesses can prepare themselves for meeting these challenges? The interviews were held telephonically and in person and transcribed in writing simultaneously.

Data Analysis

The study used the thematic analysis method for analyzing the transcripts of interviews to identify the merging themes. This method has been defined by Braun and Clarke (2006) as “a flexible and useful research tool, which can potentially provide a rich and detailed, yet complex account of data” (p. 5). Thematic analysis is a frequently used method of qualitative research wherein data is classified into units of analysis (Fereday, Muir-Cochrane, 2006). Thematic analysis “produces accounts of patterns across the dataset” (Terry et al., 2017). Analysis of responses obtained from the participants was made. This was followed by comparison with other responses for the identification of similar themes (Ozcan, Eisenhardt, 2009). Common themes in the data were identified through codes, which were then reduced into categories.

Findings

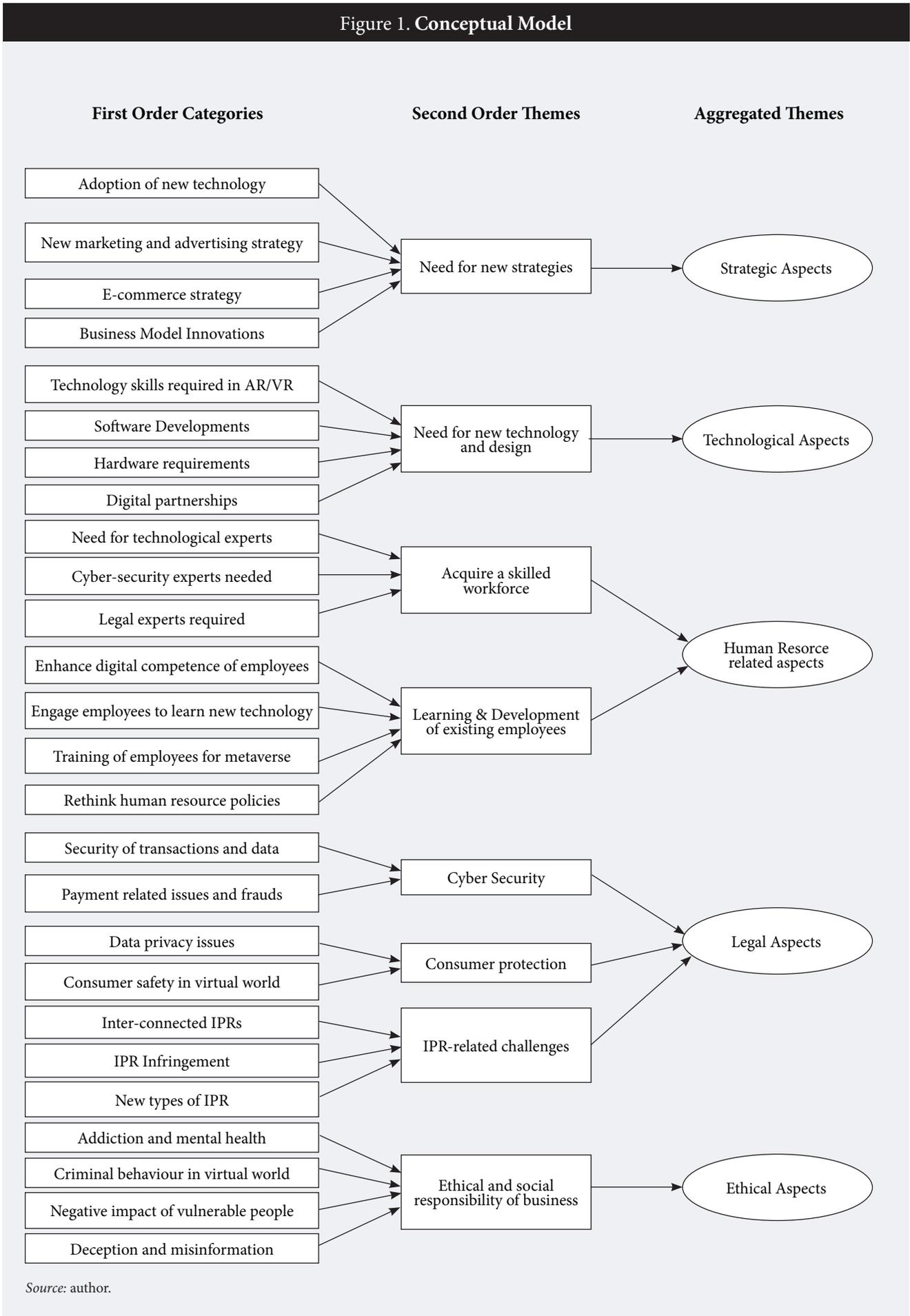
Based on the interviews and reflections from the literature five major themes emerged from qualitative data analysis. These themes have discoursed in this section. The conceptual model developed on the basis of analysis can be referred to in Figure 1. Illustrative excerpts from interviews with respondents on each topic are presented in Table 1. The findings revealed various aspects of the metaverse affecting business organizations. The major themes obtained from analysis were strategic aspects, technological aspects, human resource-related aspects, legal aspects, and ethical aspects.

Theme 1 - Strategic aspects

According to an analysis made by Bloomberg, metaverse carries a commercial potential of around 800 billion \$ in 2024 against 500 billion \$ in 2020. This revenue opportunity from the metaverse has attracted technology giants, the gaming industry, and social media platforms. In addition, the live entertainment industry comprising films, music, arts, and sports may

² <https://www.bloomberg.com/professional/blog/metaverse-may-be-800-billion-market-next-tech-platform/>, accessed 12.04.2023

Figure 1. Conceptual Model



Source: author.

Table 1. Excerpts from interviews with respondents regarding the relevant analysed aggregated themes

Theme 1 - Strategic aspects
“Metaverse is in a nascent stage but it can offer many potential benefits and strategic opportunities for business.”
“It will take many years before the metaverse will fully develop or will be widely adopted, but companies are already investing in it.”
“Enterprises have to understand- is the digital transformation necessary? If yes, they have to be flexible and adapt to the new paradigm quickly”.
“Companies will have to make a metaverse strategy for adoption of new technology in their business...and make decisions about utilization of various resources for the metaverse-financial, technological, human, etc.”
“Companies are thinking about metaverse to devise their future strategy. They have to decide what investments should they make today to be ready for tomorrow.”
“Businesses will have to focus on how they can make a strategy for metaverse and how their competitors are doing it.”
“Ignoring the new trends could be fatal. They have to take the decision before it's too late.”
“The era of metaverse will demand a fundamental shift in the approach of the companies towards product development, service delivery, innovation, customer engagement and in a way, their complete business models”.
“It will be challenging for the companies as metaverse will increase competition and open up opportunities for new markets and new business models”.
“Brands will have to rethink themselves in a virtual space.”
“Brands are required to make substantial expenses for advertising in the metaverse.”
“For advertising in the metaverse, companies will have to understand what they want to achieve and what their customers will love.”
“Metaverse will help the brands to make better connections with their customers by providing a unique customer experience. It also allows companies to interact with their customers in virtual reality.”
“What will the consumer get if he/she comes to your metaverse?”
“Try to understand how you can use the power of metaverse to create a magical experience for your customers.”
“Metaverse elevates the customer experience.”
“Metaverse will create new sales channels and establish newer kinds of customer relationships.”
Theme 2 - Technological aspects
“It is not a single company or a single technology. Many companies are constructing it. It requires the companies to work together”
“You have to find the right partners and make digital partnerships. Ensure that there is a good fit with your partner.”
“Collaborative approach will help the companies to achieve their goals in the future of the metaverse.”
Theme 3 - Human-resource-related aspects
“Companies are trying to figure out what new skill sets will be required for the metaverse. How will it affect their talent management and talent acquisition policies?”
“Metaverse will come with its fair share of cyber security issues. Business organizations will have to thus look for specialized talent in cyber security and regulation.”
“There will be a huge demand for skilled professionals for the metaverse.”
“In the new scenario, organizations will have to make important decisions regarding the investment in upskilling, reskilling, and learning functions.”
“Metaverse will revolutionize the training and development programs by making them more interactive and real-life like.”
“Companies can also use it for new employees' onboarding and training.”
“Metaverse will open up new opportunities to rethink the work environments.”
“It will lead to possibilities of virtual offices which are exciting and fun and located in distant and exotic places. A virtual workplace is not necessarily to be a dull space.”
“Work teams will be able to discuss the ideas in a virtual environment while being located in different parts of the world.”
Theme 4 - Legal aspects
“Metaverse will raise serious legal issues such as data privacy, financial frauds, etc.”
“They will have to have to be really careful on how they protect their customers' personal data.”
“Companies will have to check what and how data can be collected from the customers in a legal way.”
“It will require policies at the organizational level for adequate data governance.”
“Buyers get proof of ownership through NFTs but actually, it provides only partial property rights on such assets.”
“We are faced with the question- what can be sold as digital assets or NFTs?”
“According to my understanding, metaverse will create lots of issues relating to trademarks and copyrights.”
“It will be challenging for the companies to protect the trademarks in the virtual world as the IPR legislations around the world were made for physical goods and real-world services. Nobody could think of virtual goods at that time.”
“Metaverse is a new idea so there aren't clear legislations and judicial precedents to refer to.”
“Companies need to rework their IPR policies such as terms of use for the subscribers, licensing of IPRs, IPR protection, etc.”
Theme 5 - Ethical aspects
“Metaverse can lead to both types of outcomes for humans- good or bad.”
“Social media platforms have been associated with technology addiction in younger generations. Metaverse will provide a more immersive and engaging experience and may become the way people interact with each other. Thus, we will have to think about its impact on the mental health of the users.”
“It will change the personal lives of users, it may be addictive and dangerous.”
“Many people faced mental health issues during the covid period. If the metaverse grows and people start interacting socially on the metaverse, it will reduce personal interactions and further increase the feeling of loneliness for some people.”
“If the metaverse becomes a reality, we may see people developing dual personalities- one for the real world and another for the virtual world.”
Source: compiled by the author based on survey results.

also earn around 200 billion dollars by becoming a part of the metaverse². Metaverse will be used for making social and economic interactions in the virtual world and will be used for entertainment-related activities. For example, after the pandemic, companies were engaging their employees through virtual meetings but with the passage of time it became quite challenging to engage their attention in zoom calls. NextMeet, a start-up based in India, worked on this idea and developed a business model based on metaverse. NextMeet is an immersive platform that allows users to meet, interact, collaborate for work, and create networks based on avatars in a virtual three-dimensional space. This platform was created to reduce the feeling of isolation of employees who have been working remotely for long³. In similar ways, metaverse will drive a new wave of technology and offer new avenues for organizations. Business organizations will have to devise a new strategy for making the best of opportunities shortly and in the long term. The change in strategy will depend on the size of the business, type of product or service offered, target audience, state of technology and digitization, innovation, finances, and the goal of the organization. For example, in the automobile sector, a large player like BMW has adopted a metaverse-based platform, created by Nvidia, for its virtual factory planning⁴. It is being used for planning very complex manufacturing systems, as it allows engineers to collaborate from different time zones and different parts of the world. They can efficiently work with virtual simulation anywhere and increase the speed and accuracy of their planning. It may also help them to identify errors before the commencement of the real production process.

Brands like Nike and Adidas have devised different strategies to ride the wave of the metaverse. Nike created Nikeland on metaverse where its users can visit sports grounds, stadiums, and running tracks and buy various Nike products. In this way, Nike is using metaverse to increase customer engagement. On the other hand, its competitor Adidas collaborated with NFT brands to sell its exclusive sportswear through online games⁵.

The metaverse will have a substantial impact on the business models of companies. The business model comprises nine components – “customer segments, key values, sales channels, customer relationships, revenue streams, key resources, activities, partners, and cost structure.” (Osterwalder, Pigneur, 2010). Metaverse will bring changes to all these aspects. When existing businesses shift to the metaverse some companies will change their business models and others will create new ones (Duwe et al., 2022). For instance, metaverse

was adopted by an Indian start-up that launched a university-like platform called ‘Invact Metaversity’ in 2022. This platform was created for providing quality education and improving the employability skills of students where they were provided immersive learning scenarios in practical skills like marketing, product management, etc., while studying from their homes⁶. With such business ideas, the metaverse will lead to business model innovations as new kinds of products and services will be introduced in the metaverse.

As the metaverse will create a virtual marketplace, it will be widely used by companies for marketing and advertising (Kim, 2021; Hemp, 2006; Castronova, 2005). Metaverse will offer increased levels of interaction and immersive experiences which will provide humungous opportunities for the companies to place their products and services in innovative ways, which were not possible earlier. The users will get a three-dimensional e-commerce experience in the metaverse where consumers would be able to try on products like apparels or other fashion items and they can view the product’s unique features such as in the case of automobiles through VR and AR. Consumers will also be able to view the products such as furniture or interior decoration items in 3-D virtual spaces, which will help them to make better purchase decisions. It may also be used in the real estate industry where metaverse can be used to provide elaborate tours to buyers. Metaverse will enable companies to show photorealistic images of their products to consumers. The consumers will be able to virtually interact with the brands through their avatars in the virtual markets which will help in the advanced customization of the products and services to fit their needs. Thus, organizations will have to change their marketing strategies to find new and innovative ways to promote their products and services by engaging with consumers in the virtual world. It will no longer be enough to spend marketing budgets on social media marketing. However, many companies are apprehensive to invest in digital transformation due to the high cost of new technologies for their financial, intellectual, and human capital (Pramanik et al., 2019).

Organizations will have to learn more about artificial intelligence to be able to make personalized communication with their users and will have to evolve and adapt to the changing needs of customers. Metaverse will bring to life all brands in a three-dimensional interactive virtual space. This will have a revolutionary effect on the marketing function of the companies (Hollensen et al., 2023).

The Internet brought a substantial change to commerce and retail by introducing e-commerce, where the consumers had a different shopping experience

³ <https://nextmeet.live/>, accessed 12.04.2023.

⁴ <https://www.press.bmwgroup.com/global/article/detail/T0329569EN/bmw-group-and-nvidia-take-virtual-factory-planning-to-the-next-level?language=en>, accessed 12.04.2023.

⁵ <https://www.candidplatform.com/en/news/platform-news/all-platform-news/marketing/adidas-versus-nike-metaverse-experiences-for-a-gen-z-audience.html>, accessed 23.02.2023

⁶ <https://yourstory.com/2022/08/invact-metaversity-relaunch>, accessed 23.02.2023

as compared to physical commerce. In this situation, the companies had to focus on building information technology infrastructure and competencies, instead of their physical assets such as store locations. With the advent of e-commerce, businesses realized the importance of the collection, storage, and management of customers' data for customer relationship management (Bourlakis et al., 2009). Both the physical and the online spaces existed together. Now, with the development of the metaverse, commerce and retailing will take place in a three-dimensional virtual world. So, the companies will have to make their strategy for selling goods and services in physical, online, and metaverse spaces. The customer's preferences and expectations will also change as they would like to not only consume the products or services but also would want to interact and experience the same in the virtual world. This will pose challenges for several companies as was witnessed earlier when some traditional retailers had difficulty in moving to e-commerce.

Theme 2 - Technological aspects

Metaverse requires multiple technologies to function. It is a combination of several innovative technologies such as VR, AR, AI, blockchain, IoT, NFTs, etc. It will also require technological capabilities in spatial technologies and 3D reconstruction (Anderson, Rainie, 2022; Lee et al., 2021), extended reality (XR), and Web3 tools. Apart from these technologies, the creation of a metaverse will require the support of software, apps, hardware, and content created by the users. AR will help in real-time interaction by the users in a virtual world and VR will provide a real-life-like sensory experience to the users. Blockchain technology will be used for making payments, value transfers, and for storage of data. But, all the companies planning to operate in the metaverse may not have such advanced technological capabilities. Thus, they would require to forge partnerships with other companies, which help them to identify collaborative business opportunities and the potential risks in the metaverse. Also, the metaverse is expected to create interoperable economic offerings, which will require the companies to come together for the alignment of diverse technologies. Metaverse can be built up by collaborations between industry partners.

Another important consideration for companies in the metaverse is the cost involved in developing technological capabilities. Many further innovations will be required before the metaverse becomes widely used like the internet. It would be dependent on underlying technologies like 5G connectivity, chip technology, cloud computing, edge computing etc. Business organizations have to carefully determine which investments will be viable for their business in the long run. The adoption of new technology is always related to risks (Dwivedi et al., 2022). The organizations will need to ensure that they possess adequate resources and infrastructure for handling computing power and

connectivity. Metaverse has opened up new prospects for inventors and businesses producing AR technology-related devices such as eyeglasses, headsets, head-mounted devices, or tablets, and mobile devices or wearable devices like smartwatches. Companies will need to identify the gaps and develop new technologies to enhance the user experience in the metaverse and make it easy to use and accessible.

Theme 3 - Human-resource-related aspects

The emergence of the Metaverse will have important implications for workplaces. With all the potential for growth in the metaverse, it will become mandatory for organizations to acquire a skilled and talented workforce equipped with new skills required for the metaverse. The new skills required in the new paradigm are 3-D modeling, computer programming, software development, AR/VR development, VR engineering, VR designing, blockchain/ NFT engineering, and data skills (Marr, 2022). Skilled professionals can help organizations drive their metaverse strategy through analysis of market opportunities, recognition of technological possibilities, and innovation. Some companies have already appointed Chief Metaverse Officers for implementing new metaverse strategies. Adoption of the metaverse will also multiply the cyber-security risks such as identity theft, financial fraud, etc. caused by the breach of security. Thus, organizations would benefit from recruiting experts who are well-versed in the metaverse and can understand the security-related implications of metaverse applications.

With the growth of the metaverse many conventional professions such as content creators, designers, architects, professionals working in event management companies, real estate companies will be transferred to the metaverse. These professionals will have to adapt and/ or acquire new skills required for operating in the virtual world. In the new virtual world created by the metaverse, the focus of organizations will be to enhance the digital competence of their employees. Thus, human resource departments will be required to make skill-gap analyses for the existing employees and restructure their training strategy for the continuous learning needs of employees. Human capital is the most important factor for the adoption of new technologies in any organization. Thus, continuous training acquires significance in facing the challenges of digital transformation and increasing the competence of the teams (Ferreira et al., 2020). The organizations will have to motivate and engage the employees in learning and enhancing their digital capabilities, which will, in turn, help in employee retention. In addition, organizations will have to conceptualize their digital transformation policies to ascertain the business use of metaverse within their organization and also ensure the involvement of employees in the new policy by communicating the organizational goals and values to them (Hwang et al., 2022).

It is interesting to note that the metaverse itself can be

adopted as a training ecosystem and can be used for providing immersive training which may be beneficial for both the employees and organizations (Upadhyay, Khandelwal, 2022). It will also have cost advantages for organisations (Schwirn, 2022a). For example- companies can organize virtual training for their sales and marketing teams in the metaverse where they can experience the product of the company in three-dimensional virtual reality, irrespective of the time and place. Metaverse through the extensive use of AI-enabled trainers can be used for training and skill development. It can also help to train the employees through virtual role plays, gamification, and simulation exercises. According to the US Metaverse Survey conducted by PWC in 2022, thirty-four of the responding companies agreed that metaverse will be very beneficial in training their employees by offering real-life-like simulations⁷. Metaverse can be used by Business schools to provide experiential learning to business executives and it can help to deliver more relevant content in a specific context. For example, the executives working in a multi-national FMCG company in the USA may not be aware of the consumer attitude in India. In this scenario, the metaverse can be used to create a real-life simulation to provide experience and insights into Indian consumers' behavior and attitude. This will help the executives to appropriately target consumers in other markets.

The pandemic, by placing restrictions on physical interaction, has required organizations to accept remote and hybrid working as the new normal. In the post-covid world where several organizations are still continuing to use the practices of remote working or working from home, metaverse can help by providing a more immersive environment (Peterson, 2022). Metaverse can make it possible for employees to work from any location but still be present in the office virtually, without sacrificing their personal time with family or friends. It can also help increase work efficiency by enabling information exchange and collaboration between colleagues, leading to more effective knowledge sharing. By leveraging the power of technology, companies can also create an immersive metaverse environment within their organizations wherein the employees remain connected through human-like interactions through their digital avatars. Metaverse simulates real-world scenarios through digital twin technology. Thus, these avatars can participate in board meetings or company meetings from different parts of the world in the virtual environment. Thus, organizations may have to rethink the way they work.

For creating this metaverse environment it will be indispensable for the organizations to put into place training programs for the employees to train them on

how to use metaverse and prepare them for the technological changes in the future.

Theme 4 - Legal aspects

There can be several legal issues surrounding the metaverse. These issues may relate to data privacy and data protection; cyber security; payment systems; consumer protection; frauds; contractual relationships between the organizations i.e. the platform owners and their users, or between platform users; etc. For example, users can buy virtual land space in the metaverse through metaverse service providers. But if the metaverse service provider shuts down the business or becomes bankrupt, then the question arises will virtual land cease to exist? What will be the property rights of the owners of virtual land in such a case? The legal framework on such concerns is not yet clear as the right will exist only against the metaverse service provider as a personal claim.

Metaverse will also raise concerns relating to cyber security and cyber crimes which will not be straightforward to address as the identity of the criminals may be hidden behind several layers. Metaverse users can create their avatars and use them to harass other people's avatars. In such a case what will be the liability of the harasser? Will it be considered a crime against a person? Will the intermediaries such as internet or telecom service providers, search engines, web hosts, websites, etc. be also held liable? According to Indian legislation governs all cyber crimes⁸, "an intermediary" has been provided protection from all liabilities arising out of information or content generated by third parties or users. This implies that metaverse platform providers shall not be held liable for any activity of their users. In such cases, law enforcement may become challenging and enforcement agencies will have to depend on the service providers' terms of use for metaverse platforms.

Metaverse will not only allow the companies to interact with customers in more engaging ways in the virtual worlds but it will also enable them to collect more personal data of the customers such as their activities, choices and preferences, location, etc. for providing rich social experiences virtually. This type of data would come under the ambit of "sensitive personal data" under the abovementioned cyber-legislation⁹, and would thus, need protection. Indian law requires the maintenance of reasonable security systems and practices by the companies that possess or handle such sensitive information as it may this data may be used in various harmful ways and may be shared for their business gains. Any non-compliance with these legal provisions may attract penalties and punishment. Data theft of personal information may happen by targeting

⁷ <https://www.pwc.com/us/en/tech-effect/emerging-tech/metaverse-survey.html>, accessed 19.04.2023.

⁸ Information Technology Act of 2000 (<https://eprocure.gov.in/cppp/rulesandprocs/kbadqkdclswfjdelrquehwuxcfmijmuixngudufgbuubgubfugbububjxcgfvvsdbihbfgHdhfgFHtyhRtMjk4NzY=>, accessed 19.03.2023) and Information Technology Rules of 2011 (<https://prsindia.org/billtrack/the-information-technology-rules-2011>, accessed 19.03.2023).

non-accessible systems (Indarta et al., 2022). Thus, it raises serious concerns for the data privacy of the customers (Bale et al., 2022).

Multinational companies are already facing the mire of stringent EU regulations governing social media, which are impacting the data privacy policies of these companies. A similar set of policy guidelines may apply to the metaverse in the future. Thus, organizations operating in the metaverse will have to strike a balance between innovation and regulation to create an open, creative, and trustworthy virtual world for their consumers. The legal teams of the companies will have to respect data protection and other laws without curbing the possibilities of innovation offered by the metaverse (Dwivedi et al., 2022).

Apart from the protection of the data of their customers, companies will also have to devise policies relating to the collection and usage of data of their employees. If organizations use metaverse-based training or development programs for their employees, then they may collect data such as the time taken for employees to answer the questions, the time spent to complete a module, the pattern of their answers, and even their facial expressions or eye response to certain questions and so on. This data may be used for analytics without the trainees knowing about it. Thus, companies will have to build standards for maintaining the confidentiality of such data.

For assessing the potential impact of the metaverse on a company's business model, it will have to comprehend the legal aspects of the metaverse in terms of money, transactions, and payments, as consumption will become digital and virtual. It will become imperative to understand the application of the existing legal framework regarding movement and payment in the virtual world. Transactions in the metaverse will be facilitated by crypto-currencies and NFTs (Belk et al., 2022). The NFT market for unique digital objects such as music, artistic pieces, books, collectibles, software, photographic works, and other creative works is already thriving.

Virtual assets and NFTs relate to an area of law that is still ambiguous and emerging. Metaverse will potentially give rise to new kinds of property, thus, new property rights and legal claims. These rights and claims are currently subject to the existing regulations in various countries which have no clear provisions relating to the possession of virtual assets or property rights on virtual assets and currencies. Thus, companies will need to contemplate how they will sell or buy virtual assets and how they will operate according to the existing laws.

Countries across the world have taken different views on the legitimacy of cryptocurrencies. Whereas coun-

tries like China, Algeria, Egypt, Turkey, Morocco, and Iran have completely banned it, other countries like Singapore, Malaysia, Belarus, El Salvador, Germany, and Portugal have allowed transactions through cryptocurrencies. In India, the Reserve Bank of India (RBI), the central bank, and the apex regulatory body of the Indian banking system has prohibited the use of virtual currencies as legal tender for payment. It has also articulated its apprehensions regarding the usage of cryptocurrencies for money laundering, creating financial instability, and other illegal activities. However, the Indian Government, through the Finance Bill, 2022 recognized 'virtual digital assets' to be a separate class of assets for taxation purposes⁹. India does not have a legal framework for virtual digital assets¹¹ (Duggal, 2022). Also due to the overall varying stances on the legality of virtual digital assets in India, their future still falls in a grey zone. Thus, in the absence of a legal framework, companies will need to take a comprehensive view of how they will mitigate the risk of financial fraud and cybersecurity scams in relation to virtual digital assets. It poses increasing risks for the companies, their board of directors, management, accountants, auditors, and regulatory bodies (Smali, de Rancourt-Raymond, 2022)

Intellectual property rights (IPR) related issues will assume great relevance in the metaverse as it incorporates a plethora of technologies such as hardware, software, designs, moving images, brand names and logos, and artistic creations and works covered under the IPR legislations in different jurisdictions (Vig, 2022). All types of IPR-related challenges that are common in the virtual world, such as infringement, unauthorized usage, licensing of rights, etc. shall arise (Goossens et al., 2021). Metaverse will lead to an upsurge in some unique IPR-related issues in the context of copyrights, trademarks, patents, designs, and publicity rights. Thus, business organizations will have to deal with these issues to be able to extract a fair price for their virtual offerings in the virtual marketplace. Organizations will have to holistically consider the IPRs for brand enforcement because all kinds of IPRs will be interrelated in unparalleled fashion in the metaverse.

There will be an increased threat of infringement of trademarks and copyrights in the metaverse as the digital experience will be interconnected with virtual and augmented reality. Several legal issues relating to trademarks may arise such as trademarks for virtual goods/ services, infringement of trademarks in virtual form, and usage of fictional trademarks. For example, a company may have a registered trademark for its physical product, but it may be used by another company on a fictional product in the metaverse. In such a scenario, the question may arise whether it will be con-

⁹ <https://prsindia.org/billtrack/the-information-technology-rules-2011>, accessed 19.03.2023.

¹⁰ <https://incometaxindia.gov.in/news/circular-23-2022.pdf>, accessed 21.04.2023.

¹¹ <https://www.tribuneindia.com/news/comment/digital-assets-await-enabling-legal-framework-369625>, accessed 21.04.2023.

sidered an infringement or not because it wasn't used on actual goods.

Companies may create fictional logos, names, or marks affixed to their virtual goods/ services, which means that these trademarks will only be used in the virtual world. In such cases, there will be an issue of whether the fictional trademarks are registerable under the trademark law or copyright law, as such a name or logo is a creative work. Some companies may create non-traditional trademarks for digital goods/services offered in the metaverse such as motion marks and sound marks. These types of trademarks are difficult to register and protect as there is an absence of international standards for the same (Lukose, 2015).

As the metaverse platforms will provide the users with an interactive immersive experience, they will manage to generate their own virtual 'avatars'. These avatars will make use of AI fed into metaverse platforms to replicate the feelings and emotions of the user. They would be used for making profits by commercializing these virtual characters. Thus, users may claim the 'copyrights' of these avatars as their creative works. Thus, raising the question of ownership of such avatars-whether it is the user or metaverse platform (Kim, Jeon, 2021). Adoption of Metaverse will require innovation in hardware components, software, and design elements, which may be covered under the patent legislation. But it will be hard to discern whether the primary technology is new as it may be merely a novel use of the pre-existing technology. Regulators have rejected metaverse-related patent applications as "novel non-functional descriptive material" (Chaudhri et al., 2022). Thus, IPR protection in the metaverse will be a big challenge for the companies in future.

Theme 5 - Ethical aspects

The organizations and their employees who are involved in creating metaverse experiences and environments will have an ethical and social responsibility to ensure that they do not cause any risk of harm or adverse impact on their users or society. Some studies have identified serious concerns regarding the ethics, safety, and data security of vulnerable members of society (Lee et al., 2021). Internet is also used for criminality, so it has to be seen if the metaverse gives rise to new types of crimes in the virtual world (Laue, 2011). Several users had reported objectionable and offensive behaviors such as harassment of users, sexualization of avatars, pornography, gambling, misuse of data, etc. in the existing metaverse environments (Jamison, Glavish, 2022).

There can be other ethical issues in the metaverse as AR and VR technology enables users to completely replace their own physical appearance using their virtual avatars. Thus, users can imagine themselves to be what they want to be. This may lead to a harmful impact on their self-esteem and with regular use of the metaverse it may start to spill into their actual physical

world. Such "beauty filters" which allow users to digitally distort their physical features have already faced a lot of criticism in the past, as it leads to low self-esteem in individuals and negative social behaviour (Javornik et al., 2021; Ryan-Mosley, 2021). It may also damage the service experience of users in the metaverse (Golf-Papez et al., 2021)

Thus, the organizations will have an important role to play in ensuring that the virtual world of the metaverse does not promote deception, misinformation, harassment, defamation, or criminal behavior and does not have negative consequences for privacy, authenticity, equality, and inclusivity. Moreover, as the development of the metaverse is dependent on blockchain technology, the companies will have to face controversy surrounding the high energy consumption of servers powering the blockchain networks, which may lead to an increase in carbon emissions and thus, contribute to climate change (Rillig et al., 2022).

Practical Implications

The study found the various aspects of the metaverse that may affect business organizations, namely strategic aspects, technological aspects, human resource-related aspects, legal aspects, and ethical aspects. The current study has laid the foundation for further research on the metaverse as a new paradigm of business. Though the metaverse may acquire an important part in the lives of people in the future business organizations need to prepare for the future in the present. Research should also accompany this development from a business and managerial perspective. Thus, the study has several practical implications for business organizations by highlighting the changing needs of companies in the age of the metaverse and its challenges and implications for companies and workplaces. The study accentuates the fact that the companies would be required to devise new marketing, e-commerce, and human resource strategies for taking advantage of the business opportunities presented by the metaverse. It brings attention to skilled human resources being a very pertinent enabler for the adoption of new technology in companies. The study represents the important aspects to be considered by the companies for being successful in the metaverse based on which companies can start to strategize and build their workplaces of the future. Along with business prospects, the metaverse will be accompanied by various negative consequences. Companies would be required to be prepared to counter these negative consequences and to understand the legal and ethical implications of the metaverse for their business.

The study also has important implications for policy-makers as it highlights the legal and ethical aspects of the metaverse that may affect business and society in the future. Several experts who participated in the study expressed their concerns about the probable undesirable bearings of the metaverse in the form of

data privacy/security-related issues, cyber frauds, IPR infringement, identity thefts, criminal behavior, and so on. The policymakers and regulators would thus, be required to issue requisite policy guidelines for regulating the activities in the metaverse. Construction of a safe metaverse would require collaboration between the government, companies, and researchers.

Conclusion

The study aimed to gather a comprehensive understanding of what challenges and risks will be posed by the metaverse and what aspects of the metaverse will affect business organizations, through a qualitative research approach. The ability to understand it is important as the metaverse continues to develop. There are some significant risks and limitations associated with the metaverse. First of all, it is in the commencement stages of development and causing unknown and unpredictable changes in digital spaces, which has created an environment of uncertainty. Businesses will have to commit substantial time and resources to learn its effective usage. Commerce in the metaverse will be enabled by cryptocurrencies which are still considered to be high-risk and transactions in crypto have not been allowed by several countries. Also, access to a great deal of information will become easier in the metaverse, but it will be quite challenging to discern genuine information from fake (Scwirn, 2022b). Orga-

nizations will also have to be more cautious about the privacy and security of their users.

Despite the challenges and risks, business organizations can harness the benefits of the metaverse by adopting the appropriate corporate strategies in the area of marketing, advertising, human resources, finance, legal protection, and risk management. Companies need to understand their place in the metaverse ecosystem and accordingly be flexible and adapt quickly to the new technological advancements. Organizations will have to be ready to make sure that they are not left behind. They need to identify and understand the human aspects of the metaverse and use human-centric approaches for participating in the virtual world by integrating technology with human factors. Metaverse has posed new challenges but also opened a new realm of possibilities and innovation for all businesses. The question is how they prepare for this new paradigm of business.

The study has a few limitations. The study was based on the views of experts based in a single country i.e. India. It is based on a qualitative methodology and does not provide statistically derived findings. Rather it focused on the views of experts from multiple disciplines. As Metaverse is an emerging concept future research studies may make further analysis into the various aspects of metaverse affecting the business organizations, as highlighted in the current study, in different specific industries or sectors.

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