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The Metaverse as a Convergence of Virtual and Real Worlds: A Risk Assessment in the Context of Ethics

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Abstract: When Bitcoin first emerged as a virtual and digital asset, skepticism about its potential for even short-term success was widespread. Yet, it ultimately reshaped financial systems globally. Now, Facebook, one of the largest virtual platforms with nearly 3 billion users, has taken a pivotal step toward establishing a digital parallel universe known as the Metaverse. Rebranded as "Meta," the company has consolidated social media platforms like Instagram and WhatsApp under its umbrella, signaling a bold move toward a fully immersive digital realm. However, this initiative has triggered significant reactions from economic, technological, political, and religious domains. While the Metaverse promises to revolutionize human interaction through technologies such as virtual reality (VR) and augmented reality (AR), it also raises profound concerns regarding technology addiction, cyberbullying, data privacy, psychological dependency, and ethical dilemmas. These concerns are particularly salient in the commodification of personal faith and the trivialization of sacred practices. This study conducts a theoretical and conceptual analysis of the Metaverse, focusing on the intersection of technological advancements with religious, moral, and ethical values. Drawing on existing literature, it examines cultural, spiritual, and technological risks while identifying significant gaps in scholarly discussions. By highlighting these risks, the research advocates for the development of comprehensive ethical

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frameworks to ensure inclusivity, authenticity, and accountability in this hyper-connected digital realm. Additionally, the study explores the potential role of the Turkish Presidency of Religious Affairs in mitigating these risks, offering practical recommendations for managing challenges in a balanced and reasonable manner. This work aims to contribute to a more nuanced understanding of the Metaverse and its implications for human values in an increasingly digitized world.

Keywords: Metaverse, technology addiction, cyberbullying, virtual reality, ethical and religious realities, mixed realities, risk assessment.

Introduction

There is a security issue in terms of how vulnerable personally private information (PPI) is and sharing data with other people. There is a pervasive digital world where all the data about the general flow of PPI is instantly collected. The person's political, social and sustainability preferences, love, community, and affiliations etc. are not secret. More predictive data on everything could be extracted and, if that could be achieved, drawn into the meta universe. There is no guarantee for full privacy and pure truth in the digital world anymore. There are risks compromising on truth in the name of virtue, morality, honor, and decency, and all efforts do not seem to contribute to life and strive for the continuation of nature. Everything that we receive with our sense organs, God transforms them into an electrical wave with the nervous system in the human body and reflected meaningful in the natural algorithms. If high tech can provide all the human 5 senses in the Metaverse, it can enable people to talk, move around and socialize in the new universe, feel the parallel universe, thus cutting off their contact with the real world. Someone can argue that they put people under control. It is the thrill of continuous surveillance, monitoring and controlling people.

One key area of concern is the impact of the metaverse on moral and ethical values. As people spend more time in virtual environments, it is possible that they may begin to adopt different ethical and moral standards, which could have implications for society as a whole. Additionally, the metaverse may create new forms of moral and ethical dilemmas, such as whether or not it is ethical to use virtual reality to simulate violent or illegal activities. Another

area of interest is the impact of the metaverse on religious practices. Many religions require physical presence or action in specific locations, such as praying in a mosque, temple, or church, or performing a pilgrimage to a holy site. The metaverse may offer opportunities to simulate these experiences virtually, but questions arise regarding the validity and efficacy of such practices. Overall, the relationship between the metaverse and ethics and religion are complex and multifaceted. As the metaverse continues to develop, it will be important for individuals and societies to consider how it may impact their values and practices.

We have set our research Assumptions as follows:

- The technology addiction to the innovative virtual realms like metaverse will facilitate
 new forms of moral and ethical dilemmas that have not been previously considered in
 the physical world.
- 2. As people spend more time in virtual environments, their ethical and moral standards may change, potentially affecting society as a whole.
- 3. The metaverse may offer new ways to engage with religious practices, but the validity and efficacy of these virtual experiences are uncertain.
- 4. The increasing prevalence of metaverse-related issues, such as privacy breaches and cyberbullying, will lead to more significant concerns about its impact on moral, ethical, and religious values.

We have identified the research hypothesis as follows:

The increasing use of the metaverse will lead to significant risks in moral, ethical, and religious values, resulting in the emergence of new moral and ethical dilemmas, shifts in societal norms, and potential alterations in religious practices and beliefs.

Setting aside security and privacy issues, here in this study we need to consider some different questions as such:

- What about the moral, ethical and religious risks in the virtual environment?
- Is it possible to cover religious obligations such as prayers and pilgrimage in the Metaverse?

To get proper answers for the above questions we start with literature knowledge and research problems; elaborate conceptual framework; discuss Metaverse and possible religious services; discussion over Metaverse conspiracy scenarios and Opportunities for true faith against superstition.

Literature Knowledge and Research Problem

According to Scholar Database, there are 14.600 articles published on Metaverse only 480 articles used "Metaverse" in allintitle. However, with the keywords of this study "Metaverse, exemplary world, virtual reality, religious realities" we have found 60 articles in general but none in the headlines. Therefore, this study is considered to provide value to the related literature.

Neal Stephenson coined the term "Metaverse" for the first time in his 1992 sci-fi novel "Snow Crash", in which he envisioned the nearness to reality in virtual reality environments. Since then, we have seen various rapid technological advances to the extent that we have almost opened the door to an online virtual world that includes augmented reality, virtual reality, 3D holographic avatars, video, and other communication tools (Cvj, 2021). These critical developments that opened the doors of the Metaverse are the content of the subject we study. As the Metaverse expands, it will present us with a hyper-real alternative world that we can live with. There are already traces of metaverses in online game universes such as Fortnite, Minecraft, and Roblox. The game companies following these masses have enough ambition and effort to be a part of the metaverse evolution (Slider & Molina, 2022). The idea of the virtual world through virtual reality technologies is not very new. Hollywood also gives ideas about how these technologies will affect our lives. Ready Player One offers a future-oriented perspective. Movies such as The Matrix, Avatar, Surrogates, and Tron also deal with the idea of a virtual world. So, are these movies real, or are they a utopia? Zuckerberg, who started his investments years ago by buying Oculus, shows that he is determined with his

latest move. Time will tell whether people will live in capsules or with VR glasses on their heads (Haihan et al, 2021).

In Metaverse, users will be able to create a digital avatar and live in the virtual world with their real identities. People will be able to come together with friends in a virtual environment, play games, and shop. For example, it will be possible to attend a live concert online. Virtual classrooms will replace distance education. Doctors will be able to perform examinations on Metaverse. The need for a bank branch will be eliminated. We will buy items for our avatars, and even the digital plots will create a brand-new economy. In addition, Facebook is not the only company investing in this issue. In addition, companies such as Unity, Epic Games, and Nvidia are making their investments and developing their projects for Metaverse. Therefore, we will have the opportunity to do everything we can do in real life in the virtual environment (Kiong, 2022). Apart from visual and aerial interaction, almost all senses are satisfied. One ethical issue related to the metaverse is the potential for addiction. As people spend more time in virtual worlds, they may become detached from reality and experience negative consequences such as social isolation, depression, and anxiety (Bányai et al., 2017). Additionally, virtual worlds can be designed to be highly engaging and addictive, leading to concerns about the potential for exploitation by developers (Petersen & Lieberman, 2021). Another ethical issue is the potential for virtual crimes, such as theft, harassment, and even virtual murder (Yee, 2006). While these crimes may not have the same physical impact as their real-world counterparts, they can still have significant emotional and psychological effects on the victims. Religious obligations may also come into play in the metaverse. For example, virtual worlds may contain content that goes against certain religious beliefs or values, which could cause distress or offense to individuals (Gilbert, 2017). Additionally, virtual reality technologies such as brain-computer interfaces (BCIs) raise questions about the implications of altering one's consciousness, which may conflict with certain religious beliefs (Bostrom & Sandberg, 2009). Finally, there are concerns about the impact of the metaverse on social justice and inequality. The cost of accessing and participating in virtual worlds may create barriers for individuals from lower socio-economic backgrounds, perpetuating existing inequalities (Kharif, 2021). Additionally, virtual worlds may reproduce real-world power structures and hierarchies, further entrenching inequalities (Bainbridge, 2007).

In this hyper-virtual world, immersed in an abundance of images, people, the world and life will be completely different. We are invited back to the cave (the realm of illusions and imitations) where Plato tried to lead humanity out. Both violence and love will take place on this digital platform, as well as actionable activities such as trade and politics. All kinds of deception and manipulation will be easier on such a ground where there is no "truth". On this platform where there is no truth, serious problems may arise in important areas such as ethics, religion, law, economy, and politics. Non-existent or illegal goods and services can be sold, not someone with a strong personal identity, but imaginative types of state administrators can be chosen. While it is likely to cause many such problems, the metaverse seems to be a widely accepted on the ground. We need to ponder on the possibilities and weaknesses (Dağ, 2022).

There are many serious cases reported in the Metaverse. According to the news of the British Daily Mail newspaper, a 43-year-old mother of four was sexually assaulted by a mob a minute after she entered Facebook's Metaverse. Nina Jane Patel, who created an avatar for herself, watched and listened in horror as three male characters attacked her avatar via a virtual reality headset (Iamthymeta, 2022). According to the news of the BBC, children entering the metaverse can easily enter virtual strip clubs. In research, conducted by a person pretending to be 13 years old, it was stated that this situation was observed in a metaverse application called VRChat. The researcher, who stated that she was taken to a virtual sex club despite showing herself at the age of 13, also noted that many adult men tried to be close to her, and sexually explicit toys and avatars were shown to her while she was browsing the platform (Webtekno, 2022).

All scientific, cultural, social, environmental, vegetative, animal, and personal information collected in the Universe is collected for Metaverse and Matrix! Adapting the obtained scientific data to technology and putting it on the market, everything from virtual glasses and headgear to virtual gloves, shoes, cloaks, and clothes will be the Metaverse instruments. In this system, where other systems are outdated, even an ID may not be given

to those who do not have an Avatar! In a sense, the Metaverse is boundless, and it destroys the conscience and gives people the opportunity to realize their desired dreams. Everything is prepared for Metaverse, and products are registered with Blockchain. There is no such thing as web 2.0, web 3.0 anymore! Metaverse, which one may even consider a bit like defying God, is a higher version of Web 3.0 which is described as a shift of power to the people, "the people are in charge of their data, identity, and monetization" (Armano, 2021).

There will be a post-Metaverse realm of course. It will pass to a stage where the desired life can be lived as a fictional dream, within the imagination framework, with only brainpower and dexterity of thought, without needing equipment, intermediaries, and instruments! Dreams can be edited and recorded on video, and the dream can be seen repeatedly, thanks to studies conducted at the University of Chicago and Japan. According to MIT News, researchers have come up with a new wearable device, Dormio and a method called Targeted Dream Incubation (TDI) which is a protocol that can be utilized within an app on the wearable sleep-tracking device, Dorimo to record the wearer's dreams. Additionally, it is also possible to guide the dreams towards certain ideas when the wearer is in the process of going to sleep by targeting them with the information around the idea repeatedly (Mashable, 2020).

With the complete penetration of the Metaverse and various virtual universes into our lives, there are various concerns that many risks and problems may occur. These risks and problems that cause a big question mark in people's minds (Pietro&Cresci, 2021; Matthias et al, 2021; Kevins, 2022; Oxford Analitica, 2022).

Therefore, scholars have highlighted several critical concerns, ranging from data privacy and moral hazards to the erosion of religious authenticity. These risks demand rigorous academic inquiry and practical interventions.

Ethical Dilemmas in the Metaverse

Radovanović and Tomić (2022) argue that the metaverse poses grave ethical challenges, particularly in its potential to commodify personal faith and ethical beliefs. This commodification risks trivializing sacred practices and altering how individuals engage with their spirituality. Similarly, the integration of digital identities within the metaverse raises

concerns about data privacy and the potential misuse of sensitive religious data (Arcia et al., 2023). The hyper-connectivity of metaverse platforms exacerbates these issues, requiring robust ethical frameworks to safeguard users' fundamental rights (Bibri & Allam, 2022).

Religious Authenticity and Practice

Fernandez (2024) explores the question of authenticity in religious practice within the metaverse, drawing parallels with earlier virtual environments like *Second Life*. The author cautions against conflating "trending" digital innovations with authentic religious experiences, highlighting the risk of undermining traditional rituals. Similarly, Thomas et al. (2024) emphasize the psychological and spiritual risks associated with virtual worship, such as increased depression among individuals unable to reconcile digital and physical spiritual experiences.

Cultural and Religious Inclusion

Azhar, Ali, and Naz (2024) examine metaverse adoption intentions among Muslim students, noting that ethical and cultural alignment can mitigate perceived risks. Their findings underscore the importance of consulting religious scholars to ensure platforms respect diverse religious values and practices. This aligns with Hindolia et al. (2024), who advocate for a conceptual framework that integrates ethical principles to address the unique needs of religious communities in the metaverse.

Technological Risks and Moral Hazards

The technological infrastructure underpinning the metaverse introduces unique risks, such as algorithmic biases and inadequate cybersecurity measures. Hasanah (2024) highlights the ethical and moral hazards stemming from these vulnerabilities, particularly their potential to erode trust and social cohesion in religious communities. This is echoed by Lahiri et al. (2023), who discuss the implications of privacy violations and the commodification of personal data for virtual worship.

Balancing Opportunity and Risk

While the metaverse offers opportunities for innovative religious engagement, such as virtual pilgrimages and digital worship spaces, it also necessitates a critical examination of its broader societal impacts. Avila (2022) suggests that religious communities must adopt a prophetic stance, advocating for ethical practices and addressing the risks inherent in new technologies. This involves fostering a digital culture that prioritizes transparency, inclusivity, and ethical accountability (Saluzzo, 2023).

Conceptual And Theoretical Framework

The idea of a fictional universe beyond reality undoubtedly arouses many feelings such as curiosity, uneasiness, and excitement in everyone. Yet this feeling is not entirely new. The word "post-truth", designated by the Oxford Dictionary as the word of the year 2016, has been questioning a post-truth social order for years, both in academic circles and in almost every aspect of daily life. Jean Baudrillard's (1996) concepts of "hyper-reality" and "simulacrum", who have long left the scientific community and provided a help kit for explanations in different fields, and Manuel Castells's (1991) concept of "network society", especially in new communication technologies, it maintains its usefulness in interpreting its sociological expansions and in understanding the "virtual". Basic texts that comment on many social transformations, such as Guy Debord's (1988) "Society of the Spectacle" and, albeit indirectly, Ulrich Beck's (1992) "Risk Society" can be added to the list. The concept of artificial intelligence and augmented reality has already spread to basic areas of human life, from health to education, from transportation to commerce. Therefore, the road to this word, which is being heard everywhere, has been paved for a long time (Güven, 2022).

The Internet and social media have removed communication from being confined to the boundaries of time and space. Moreover, human communication in the techno age was not limited to his kind but extended to controlling a network in which physical objects were linked to each other or larger systems. Like in refrigerators that use the Internet of things technology (IoT) and notify that the food inside is finished or automatically order new products. Metaverse is a platform where users can move in a digital and augmented reality virtual

universe, while many technology elements will push the limits of Internet, digital world and IoT. Metaverse providers envisioning of their users working, playing, and staying connected during virtual world trips such as concerts, conferences, business meetings, or with friends (Snider & Molina, 2022).

Metaverse's definition is "A cyber social plane offering a new reality, the world of reflections and collaboration opportunities; providing infrastructure and interaction new opportunities for cultural, intellectual and economic production in which different advanced technologies are used simultaneously and in an integrated manner". In other words, it is presented as an assumptive space where everything can be done, from education to business, from business meetings to concerts, from family and friend gatherings to games, and mystical and metaphysical pursuits. It can be said that Metaverse, is aimed to move all aspects of human daily life to an alternative virtual and digital field. Concepts such as race, gender, and physical disability are expected to weaken in the Universe of Metaverse (Kuş, 2021).

Marc Zuckerberg, on the other hand, described Metaverse as "an embodied Internet where you are not just looking, but experiencing." This definition takes it for granted that the Metaverse cannot be created by a single company. The ability of many virtual worlds to work together is the key to the Metaverse concept. At the same time, it is this interoperability feature that is missing from almost everything that is suddenly called the "Metaverse". It should be noted that the social VR platform Horizon Worlds offered by Meta is not Metaverse in this sense, but merely a virtual garden surrounded by an impenetrable wall, an independent online environment closed to the internet. To enter this garden, you need Meta's Quest headphones, which start at \$300, and your Facebook account. Horizon Worlds is a metadata repository and there is no other "metadatabase" beyond Horizon Worlds. In this sense, it is necessary to see that Horizon Worlds is only a starting point and that it is one of the many fundamental steps that need to be taken to turn the Metaverse into reality in the next 5-10 years. Just like the Internet, Metaverse will not be built by a single company, but Horizon Worlds will be one of the first examples of how people will build the next generation of social spaces together (Kurtuluş, 2022). Mark Zuckerberg estimates that it may take five to ten years for Metaverse's

core features to become widespread. While not accessible to everyone, ultra-fast broadband speeds, virtual reality headsets (VR), and ever-open online worlds are already operational that can also be used for various services such as mentoring, guiding and religious preaching.

The Metaverse is a virtual, interconnected universe that aims to create immersive, interactive experiences for users, enabling them to socialize, work, learn, and engage in various activities. Research in the Metaverse is supported by several theories from different fields, including computer science, psychology, economics, and sociology. Some of these theories are:

- 1. Virtual Reality (VR) and Augmented Reality (AR): These technologies form the foundation of the Metaverse, enabling users to experience and interact with virtual environments. Research in VR and AR focuses on improving the realism, immersion, and accessibility of these experiences (Milgram & Kishino, 1994).
- 2. Network Effects and Platform Economics: The Metaverse is expected to be a large-scale, interconnected network of users, applications, and platforms. The theory of network effects suggests that the value of a network increases as the number of users grows, which can help researchers understand the economic incentives and market dynamics within the Metaverse (Katz & Shapiro, 1985).
- 3. Social Presence and Computer-Mediated Communication: The Metaverse is a space where people can interact and socialize with one another, necessitating research into the dynamics of online communication. Social presence theory posits that the degree of interactivity and connectedness in virtual environments is crucial for fostering meaningful relationships and collaborations (Short, Williams, & Christie, 1976)
- 4. Artificial Intelligence (AI) and Machine Learning (ML): These technologies are essential for creating intelligent virtual characters, personalizing user experiences, and managing complex virtual ecosystems. AI and ML research can help enhance the realism, responsiveness, and adaptability of the Metaverse (Russell & Norvig, 2016)
- 5. Distributed Systems and Decentralization: The Metaverse is expected to be built on a decentralized infrastructure, with no single point of control or ownership. Theories

- around distributed systems and decentralization can guide the development of robust, scalable, and resilient platforms for the Metaverse.
- 6. Gamification and Game Theory: As a space for entertainment and engagement, the Metaverse can benefit from theories of gamification, which focus on applying game design principles to non-game contexts. Game theory, which studies decision-making and strategic interactions among rational agents, can also be applied to understand user behavior within the Metaverse.
- 7. Digital Identity and Privacy: The Metaverse raises questions about digital identity, data ownership, and privacy. Research in this area can help develop secure and user-centric identity management systems, as well as privacy-preserving technologies for personal information.
- 8. Digital Sociology and Cultural Studies: The Metaverse is a complex social and cultural space, necessitating research into online communities, digital inequalities, and the impacts of virtual environments on human behavior and social norms.



Figure: integrating futuristic and technological elements in an immersive and interconnected visual experience. (developed by author using AI)

By incorporating knowledge from these diverse theories, researchers can develop a more comprehensive understanding of the Metaverse and contribute to its ongoing development.

Metaverse Within the Framework of Faith and Jurisprudence

Sheryl Sandberg, Facebook's manager said that the process related to the Metaverse will also be spiritual because it is a natural harmony of beliefs and social media. According to Gary Marchionni, these inclinations vary to physical, psychological, spiritual, and economic characteristics (Marchionni, 2022). Whatever religious content has been published on the Internet so far will be collected at a data point and processed by artificial intelligence and released in the Metaverse world with "fit for purpose" masks. Religious opinion leaders, preachers, imams, priests, and rabbis will be the guides of the world where we can experience a three-dimensional spiritual satisfaction. These guides, who tell us what to do without even having to explain ourselves, will know us better than we do. Our footprints on the Internet will allow our digital idols to know everything about us, and our "virtual paradise" that accepts us as we are and does not impose any responsibility will soon become our reality.



Figure: an imaginary depiction of virtual paradise in Metaverse

It is possible to meet and talk with the artificial religions, gods, prophets, revelation, or saints in the temples in the metaverse universe. Sect and community leaders can have one-on-one meetings with each of their members in this Universe. The virtual world can offer all the miracles, Paradise, and spiritual satisfaction religion provides to its users for a certain fee. As an essential source of income for capitalism, Metaverse preachers and idols will play a pivotal role in this disinformation. Metaverse may be a new world where the life of the world and the hereafter unite.

Religious rituals contain elements such as thoughts, feelings, and actions. Therefore, in the fulfillment of religious behavior, stages start from the intention and continue. Therefore, people of all ages give meaning to religious rituals according to their conditions and capacity for meaning. It seems that artificial intelligence algorithms in the Metaverse will change some traditions in the future, just as televisions in the past and mobile phones have transformed some behavior patterns in our lives today (Ince, 2022).

The real scary thing is that people exposed to propaganda by Metaverse preachers have religion, sectarian, etc., in the virtual world. They will transfer conflicts to the real world. Will the masses, who can be guided by all kinds of political, religious, social, and psychological propaganda, become unable to distinguish between the real and the virtual world? This question sounds scary, but indistinguishable is not far off. Metaverse can open different doors in religious teaching and learning by experiencing worship (primarily worships such as pilgrimage). The aim is to establish a new religion, a new vision of the world, and the hereafter, a new reward-punishment system instead of teaching religion and keeping it alive. Some religious leaders have discovered that they can perform services on the Metaverse as a solution to this. With this step, those who want to worship stay at home and benefit from worship, baptism, and other services offered on the Metaverse (Kılıçarslan, 2022).

Mobile applications that allow shopping without going to the market, banking transactions without visiting the bank, online training beyond the campuses, driverless vehicles, surgical robots, chips that diagnose and track health status, updates that do not sleep and rest artificial limbs, etc. Undoubtedly, all these innovations brought about by digitalization deeply affect both religious life practices and the understanding of religion and religiosity. Considering this area of influence and strength, the issue of digitalization after the Metaverse paradigm is a multifaceted issue that falls under the field of study of many disciplines such as sociology of religion, psychology of religion and religious education, as well as Fiqh. In this text, in which digitalization is discussed in the axis of Fiqh, some considerations will be given about how Islamic law acts in the face of digital transformation (Akpinar, 2022).

The basic principles of religion allowed the religious decree and commentaries to be updated according to needs and conditions. However, it is a well-known fact that law, by its very nature, follows social change from behind. Digital technology companies that have a negative attitude towards legal regulations claim that the law cannot grasp the artificial intelligence algorithms they develop. After these determinations, we can consider the relationship between digitalization and Figh under two headings: First, the digitalization of

Figh practices, and secondly, the legitimacy of digital products and the problems brought by digitalization. The digitization of Figh practices means digitizing the processes related to the functioning of Figh using new technologies. It is possible to express the digitalization process in this category with the concept of " *Figh technology (Figh tech, legal tech)*" inspired by modern literature.

Digital Figh applications have been the subject of criticism. Similarly, internet-based social media applications seem to be the subject of discussions and ultimately financial/legal regulations because telecommunication companies reduce their earnings. The fact that those who issued fatwas that banned the use of social media with religious arguments until a few years ago have turned into a social media phenomenon is a striking example of this. In short, the necessity of investing in Figh technology, which will provide reliability, efficiency, and cost advantage, is inexplicable. The digitalization of religious jurisprudence (Fiqh) practices should be seen as an opportunity, need, or necessity in the digital age. They calculate the possible risks and make the benefit-loss accounting. The second title on the relationship between digitalization and Figh is to determine the compatibility or incompatibility of digital products with Figh rules and to analyze the problems caused by technological developments from a Figh perspective. What will happen when the means of proof for detecting cybercrime and their perpetrators, for example, using fake accounts or information system violations, are insufficient? What kind of way will be followed in the face of crimes and violations of security and privacy committed with digital tools in another country where the current country law is not valid? In case of detection of crimes and criminals, will it be possible to apply international rules this time? For crimes caused by driverless vehicles or surgical robots, will criminal responsibility rest with the software company or the owners of these autonomous assets? Will the implementation of the verbs that Figh will not approve of in real life in the Metaverse will produce the same results? (Akpınar, 2022).

The compliance of each product with the Fiqh rules should be evaluated in a multidimensional way and a judgment should be made after the benefit-harm calculations are done. Since there is a constant change in the virtual medium, the Fiqh provisions should be

updated if needed. For example, the legal status of cryptocurrencies, which is not fully permissible as of today due to many uncertainties, should be reconsidered quickly when these uncertainties are removed. Because, in the modern world, the speed of change and the fact that the issues become more and more complex with globalization make it difficult to distinguish the borders and give general judgments. The paradigm shifts caused by digitalization within the Metaverse should also be considered when making decisions. For example, it is not acceptable to share the private life, which should remain unique to the family, is not a matter to be approved. However, considering the changes in the perception of privacy, it may not be a satisfactory solution to say that an individual who takes photos of various products in his home and makes a living by promoting these products commits a violation of privacy. Another principle is to consider all the consequences of innovations specific to the digital world by looking at a broader perspective while making a legal judgment. For example, it is stated by experts that the use of profiles and avatars in the virtual world leads to the formation of dual-character personalities and de-identification, even if it does not constitute a crime or a sin. Despite its many advantages, online education, which is applied on a global scale during the pandemic process, cannot replace face-to-face education. It is also possible that information is misinterpreted by incompetent people or abused by malicious people. It is inevitable for the jurist to make an account of all these situations. The digital world is the realm where the inadequacy of legal regulations is felt most concretely. For example, the means of proof may be insufficient in detecting cybercrime and its perpetrators from time to time due to reasons arising from the IT infrastructure or international relations. On the other hand, the sanctions foreseen for crimes committed through social media such as reputation assassination and virtual lynching cannot eliminate the grievances since the judicial processes lag far behind the digital data flow rate. Moreover, since the material or images that are instruments of crime are technically not wholly lost even if the court has ordered them to be taken down, it creates a devastating effect such as committing the same crime repeatedly (Akpınar, 2022).

Opportunities Of True Faith Over Superstitions

The idea of the metaverse has been popularized by science fiction novels and movies, such as Snow Crash by Neal Stephenson and The Matrix trilogy, but it is increasingly becoming a reality with the advancement of virtual reality technology (Fernández-Quijada & Wang, 2021). One interesting aspect of the metaverse is its potential to help people distinguish between true faith and superstitions. Superstitions are beliefs that are not based on scientific evidence but rather on cultural, religious, or personal experiences. They can vary greatly across cultures and can be harmful if they lead people to make irrational decisions or harm others (Batra, et al., 2021). True faith, on the other hand, is based on rational belief and evidence-based reasoning (Hassan, et al., 2019). It is grounded in the teachings of established religions and encourages individuals to pursue a moral and ethical lifestyle.

Technological developments in today's world have increased the communication and interaction. Therefore, since we will be able to find the opportunity to reach more people in the age of communication, then let it be superstitious. A metaverse is a place where more communication with the senses takes place, denoting the post-internet stage in the sense of "back universe" or "next universe". Until yesterday, we provide a certain sense of communication with the existing internet. We are connected by sight and sound. What is the difference between Metaverse, and what does it provide? By closing the eyes and ears, it isolates the person from the environment they are in and gives a feeling of being inside the environment they see (Aydemir, 2022). The world is currently experiencing a period when the struggle between right virtue and Falsehood is at its highest tone or tension. In that respect, the tool of "terrorism" is almost a barrier that the wrongdoers want to create against real faith in today's global world since it harms harmony and cohesion of communities. No matter what kind of heresy it is, the one who reaches the truth takes a step towards guidance. So, what should be done against adverse effects of the Metaverse? First, no matter what type or type of technology is if it is a development that increases communication, it is in our favor but what if it plunges people into something unreal and producing noise in getting into reality. A verse warns against this kind of risks: "Those who disbelieved said: "Do not listen to this Qur'an. Make a fuss while it is being read to dominate." (Qoran, Fussilet 41 Surah:26).

Since religiosity or religious identity is embodied with people and society, it experiences changes in every period of history. However, considering that technology accelerates the change, it seems inevitable that the discussions on these issues will gain a much different dimension on the metaverse level with the new media. Of course, religious life will not be lived entirely in the digital universe, religious groups or communities will not operate entirely in this universe, and worship will not be performed only through these environments. But the metaverse universe will bring humanity face to face with new issues in religious matters that it has never been interested in or even felt the need to learn (Dereli, 2022).

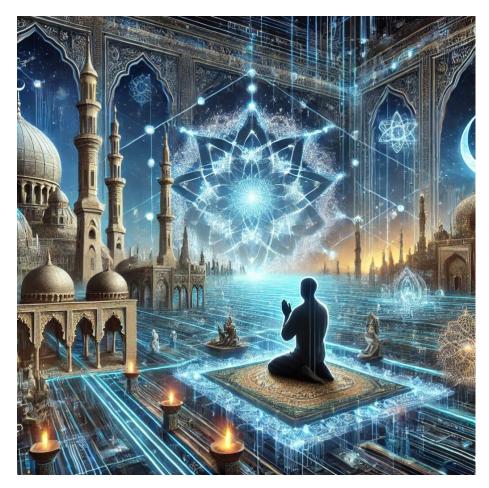


Figure: An imaginary depiction of the harmony of religious values in a virtual environment (developed by author using AI)

It is clearly seen that the uncertainty experienced in the context of religiosity and conservation at the metaverse point causes confusion and concerns. Although Saudi Arabia

has invested in the metaverse and the relationship between religion and metaverse in Turkey has been discussed and a declaration has been published, there are still many elements that are not clear. The biggest reason for this uncertainty is that the definition of worship in virtual environments is not well defined. As can be seen, there are differences of opinion among people on this issue. In addition, the ownership of holy places by certain people and their sale may also pose problems related to property in the future. To prevent attacks of Islamophobia, as well as restrictions or provocations against believers, especially in holy places, respectful measures should be taken. It is also important to be able to find convincing answers to questions about the metaverse in accordance with the essence of Islamic belief. In this respect, it has become important to train clergy who know software, who can take an active role in social media, and who have communication skills to fulfill the requirements of the "digital religion" era. Finally, it will be an important step for official institutions such as Religious Affairs to take an active role in these areas in terms of both supervision and information, interact with the people of the metaverse, and even establish virtual places of worship created by official institutions in these areas (Kuban Torun & Torun, 2022).

With devices such as virtual reality, and augmented reality that makes you feel as if you are talking directly with the three-dimensional states of people in that realm, with devices for contact and sense of smell. In other words, it provides the opportunity to see what we see visually on the screen in Zoom as if they are next to us or in front of us. There is no fault with us. In other words, if we are going to meet in the Metaverse with many friends we chat within the halls, as we are in the same place physically if we are going to talk in a three-dimensional way, that would be fine. We can arrange to talk about the Sunnah of the Prophet, to talk about the book of Allah Almighty, reed commentaries of Qoran like Risale-i Nur in a similar environment internationally. So basically, we do not have a faulty prejudice. As with any vehicle, we think it is related to the correct use of the tool. Instead of putting pressure on a vehicle and allowing it to have a terrible effect, it is necessary to give the right to the measures to prepare for that vehicle, to adjust, to gain a place in that medium quickly, and to make preliminary preparations to use the medium in a good way. For quite some time on the

Internet, we were caught by surprise. We considered the internet a bad medium and left it to the Westerners for a while. However, we realized late that the internet can be used in a good way, albeit with a phase difference. We do not yet know whether this platform will remain singular or multiply with alternatives.

Discussion on the Research Questions

Moral values refer to the principles that guide individual behavior and the collective social order. The virtual environment creates new challenges for these values, including issues of privacy, identity, and behavior. For example, the anonymity afforded by online interactions can encourage individuals to behave in ways they might not consider acceptable in face-to-face interactions (Joinson, 2007). Additionally, social media platforms have been known to manipulate user behavior by utilizing persuasive design techniques, such as notifications and "likes," which can promote addictive behavior (Fogg, 2018). These issues raise questions about the morality of virtual behavior and the responsibility of platforms to protect their users from harm.

Ethical values concern the principles that govern the treatment of others and the wider society. The virtual environment presents unique ethical challenges related to issues such as digital rights, censorship, and the responsibility of platform providers. For example, some argue that platforms like Facebook and Twitter have a responsibility to prevent the spread of misinformation and hate speech on their platforms, while others argue that such actions infringe on free speech (Liu & Cheng, 2019). Additionally, the collection and use of user data raise concerns about privacy and the potential misuse of personal information (Hildebrandt, 2018). These issues raise important ethical questions about the use of technology and the responsibilities of those who control it.

Religious values are grounded in beliefs about the purpose and meaning of life and the relationship between individuals and the divine. In the virtual environment, religious values can manifest in a number of ways, including through online religious communities and the use of technology in religious practices. For example, some churches have begun to use virtual reality technology to create immersive religious experiences, while others have embraced

social media to create virtual communities (Lipka, 2017). Additionally, religious beliefs can influence attitudes towards issues such as online censorship and the regulation of virtual behavior (Hemming & Roudavski, 2017). These issues demonstrate the complex interplay between technology and religion and the potential for technology to both challenge and reinforce religious values.

One of the main arguments for the use of VR in religious practice is that it provides accessibility for individuals who are physically unable to travel or practice their religious obligations. For example, individuals with disabilities or those living in areas without access to religious sites could use VR to perform rituals such as prayer or pilgrimage. This accessibility could potentially increase participation in religious practices and provide a sense of inclusion for individuals who may otherwise be excluded (Hoover, 2016).

However, critics argue that the use of VR to replace traditional religious practices could undermine the authenticity and spiritual significance of these rituals. For example, prayer in a virtual space lacks the tangible and sensory experiences of a physical place of worship, such as the smell of incense or the sound of chanting. Additionally, the use of technology to perform religious practices could detract from the spiritual experience and potentially trivialize religious beliefs (Jawad, 2020).

Another consideration is the potential impact of virtual religious spaces on social dynamics within religious communities. Some scholars have expressed concern that the use of VR could lead to the fragmentation of religious communities and the loss of face-to-face interaction (Jawad, 2020). Furthermore, the anonymity of virtual spaces could lead to a lack of accountability and the potential for abuse or exploitation (Hoover, 2016).

Therefore, the possibility of performing religious obligations such as prayer and pilgrimage in the Metaverse is a topic of debate. While virtual spaces could provide accessibility for individuals who are physically unable to travel or practice their religious obligations, the use of technology to replace traditional religious practices could undermine the authenticity and spiritual significance of these rituals. Additionally, the potential impact

of virtual religious spaces on social dynamics within religious communities and the risk of abuse or exploitation must be considered.

Conclusion

New world development is a process that started with the industrial revolution. With the specified date, we both observe individually and socially that the digital world is being developed rapidly, and, unfortunately, we experience it as the object of this process of paradigm shifts, especially in digital information and communication technologies. The point reached in analyzing the relationship between technological development and society is now expressed with the subtitle of *Society 5.0*, which uses many technologies such as the Internet of Things (IoT), Big Data (Big Data), Artificial Intelligence, Robotics, and Wireless Sensor Network.

Here, we need to be ready for apparent differentiation between those who produce their reality from the real world and those who produce it from the virtual world. For example, suppose the sensory and emotional basis of worship such as prayer, pilgrimage, fasting, and zakat are tried to be overcome with technological applications such as Metaverse. In that case, we are not yet ready for the theological discussion, philosophical accumulation, and technological perception of this - will the intergenerational attitudes be the same? Of course, it will not be the same. Perceptions of religiosity and the meanings attributed to religious practices will not be the same. In particular, the perception of reality can produce a more decisive differentiation in the religious perceptions of the generations. Undoubtedly, for such a universe to attract users' attention, it must include many components from communication to socialization, education to commerce, and even religious phenomena. It becomes possible to see and visit places of worship, churches, and mosques in Metaverse, just like museums.

In this study we have provided some answers to the research questions as follows:

• What about the moral, ethical and religious values in the virtual environment?

The virtual environment presents complex moral, ethical, and religious challenges that require careful consideration. While technology has the potential to create new opportunities and experiences, it is also important to consider the potential harms and the responsibilities of those who control it. By engaging with these issues, we can work towards creating a more just and ethical virtual environment.

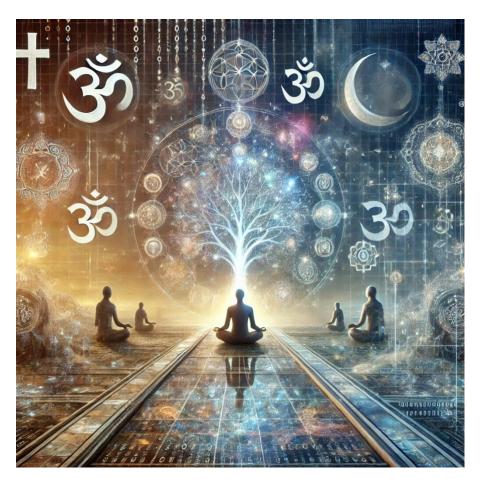


Figure: an imaginary depiction of metaverse meditation and prayer environment

• Is it possible to cover religious obligations such as prayers and pilgrimage in the Metaverse?

The possibility of performing religious obligations such as prayer and pilgrimage in the Metaverse is a topic of debate. While virtual spaces could provide accessibility for individuals who are physically unable to travel or practice their religious obligations, the use of technology to replace traditional religious practices could undermine the authenticity and spiritual significance of these rituals. Additionally, the potential impact of virtual religious spaces on social dynamics within religious communities and the risk of abuse or exploitation must be considered.

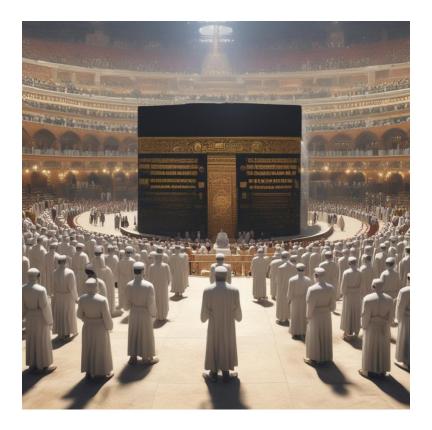


Figure: An imaginary depiction of virtual umra in Metaverse

In conclusion, the metaverse presents several ethical and religious issues that must be carefully considered as the technology continues to develop. Addiction, virtual crimes, religious obligations, and social justice are just a few of the key issues that will need to be addressed to ensure that the metaverse is a safe, inclusive, and ethical space for all individuals. In line with the discussions and answers to the questions, we have developed some general advice on how the Presidency of Religious Affairs of Türkiye could mitigate the risks associated with the metaverse while taking into consideration ethics and religion:

1. *Educate the public about the metaverse*: As the metaverse becomes more mainstream, it's essential to educate people about its benefits and risks. The Presidency of Religious

Affairs of Türkiye can hold seminars, workshops, and conferences to inform the public about the metaverse and its potential implications for society. They can also provide resources such as guidelines and best practices for engaging with the metaverse.

- 2. Promote ethical standards: The metaverse presents a range of ethical issues, including privacy, data ownership, and virtual identity. The Presidency of Religious Affairs of Türkiye can work with other organizations to develop ethical standards for the metaverse and promote them among developers and users. These standards can be based on religious teachings that promote ethical behavior, respect for others, and privacy.
- 3. Foster dialogue between community leaders and metaverse developers: The metaverse is a new space that poses unique challenges and opportunities for religious communities. The Presidency of Religious Affairs of Türkiye can foster dialogue between religious leaders and metaverse developers to promote a better understanding of the needs and concerns of different faith communities. This dialogue can help ensure that the metaverse is inclusive and respects religious beliefs and practices.
- 4. *Monitor the metaverse for religious content*: The metaverse presents a range of opportunities for religious organizations to engage with people in new and innovative ways. However, it also poses risks such as the spread of hate speech, extremist ideology, and fake news. The Presidency of Religious Affairs of Türkiye can monitor the metaverse for religious content that is harmful or violates ethical standards.
- 5. Develop policies and regulations for the metaverse: As the metaverse evolves, it's essential to have policies and regulations that promote ethical behavior and protect the rights of users. The Presidency of Religious Affairs of Türkiye can work with other organizations to develop policies and regulations that promote ethical behavior and protect religious beliefs and practices.

To sum up, the Presidency of Religious Affairs of Türkiye can play a vital role in mitigating the risks associated with the metaverse while taking into consideration ethics and

religion. By educating the public, promoting ethical standards, fostering dialogue, monitoring content, and developing policies and regulations, they can help ensure that the metaverse is a safe and inclusive space for everyone.

References

Akpınar R (2022) "Bağlılık İle Bağımlılık Arasında: Dijital Dünya" İslam Fıkhının Dijital Dünya İmtihanı/İmkânı, Perspektif, https://perspektif.eu/2022/02/01/islam-fikhinin-dijital-dunya-imtihani-imkani/

Arcia, P., Fuentealba, A., Retamal, C., Lara, S., et al. (2023). Ethical issues of digital identity in metaverse. *ICERI2023 Proceedings*.

Armano D. (2021) Web 3.0 And The Metaverse Will Mainstream—That Might Not Be

A Good Thing, Forbes Magazine,

https://www.forbes.com/sites/davidarmano/2021/11/11/web-30-and-the-metaverse-will-mainstream-that-might-not-be-a-good-thing/

Avila, A. (2022). Prophetic churches for the metaverse: Communities who sing the melody of hope. *Indonesian Journal of Theology*.

Aydemir H. (2022) Metaverse, Batıla Karşı İslam İçin Fırsattır, https://www.islamvemedya.com/metaverse-batila-karsi-islam-icin-firsattir/926/

Azhar, M., Ali, R., & Naz, A. (2024). Faith in metaverse: Understanding adoption intentions of metaverse amongst the Muslim students. *Journal of Islamic Marketing*.

Bainbridge, W. S. (2007). The scientific research potential of virtual worlds. Science, 317(5837), 472-476.

Bányai, F., Zsila, Á., Király, O., Maraz, A., Elekes, Z., Griffiths, M. D., & Demetrovics, Z. (2017). Problematic social media use: Results from a large-scale nationally representative adolescent sample. PloS one, 12(1), e0169839.

The Metaverse as a Convergence of Virtual and Real Worlds: A Risk Assessment in the Context of Ethics and Religion

Batra, R., Sinha, J., & Gupta, R. (2021). Impact of Superstitions on Human Life. International Journal of Advanced Research and Publications, 5(5), 389-395.

Bibri, S. E., & Allam, Z. (2022). The metaverse as a virtual form of data-driven smart cities: The ethics of hyper-connectivity, datafication, algorithmization, and platformization of urban society. *Computational Urban Science*.

Bostrom, N., & Sandberg, A. (2009). Cognitive enhancement: methods, ethics, regulatory challenges. Science and engineering ethics, 15(3), 311-341.

CVJ, (2021) A glance into the Metaverse, https://cvj.ch/en/education/basics/a-look-into-the-metaverse/

Dağ A. (2022) Platon'un mağarasına geri dönüyoruz: METAVERSE, Lacivert Dergi, https://www.lacivertdergi.com/dosya/2022/01/26/platonun-magarasina-geri-donuyoruz-metaverse

Dereli, M. D. (2022) Metaverse'te Dindarlık, https://www.islamvemedya.com/metaverse-te-dindarlik/908/

Fernandez, J. (2024). The future of religion is virtual reality: Authenticating religious practice in the coming metaverse through an examination of religion in *Second Life*. *ProQuest*.

Fernández-Quijada, D., & Wang, C. (2021). The metaverse: from science fiction to reality. The Journal of Virtual Worlds Research, 14(1), 1-15.

Fogg, B. J. (2018). Persuasive technology: Using computers to change what we think and do. Ubiquity Press.

Gilbert, K. (2017). Virtual blasphemy: the dangers and delights of taking religion into virtual worlds. Religion and the Arts, 21(1-2), 207-232.

Güven U.Z. (2022) Metaverse, NFT ve Müzikte Dönüşüm, Kentten Sesler, https://www.sanattanyansimalar.com/yazarlar/ugur-zeynep-guven/metaverse-nft-ve-muzikte-donusum/2724/

Haihan Duan, Jiaye Li, Sizheng Fan, Zhonghao Lin, Xiao Wu, and Wei Cai. 2021. Metaverse for Social Good: A University Campus Prototype. Proceedings of the 29th ACM International Conference on Multimedia. Association for Computing Machinery, New York, NY, USA, 153–161. DOI: https://doi.org/10.1145/3474085.3479238

Hasanah, U. (2024). From digital ethics to digital community: An Islamic principle on strengthening safety strategy on information. *Data Analytics in System Engineering*.

Hassan, M. U., Tahir, M., Ahmed, A., & Arshad, S. (2019). True faith in God: a critical review of the contemporary discourse. International Journal of Islamic Thought, 15(2), 55-68.

Hemming, P., & Roudavski, S. (2017). Sacred technologies: Designing for ritual engagement in mixed reality. International Journal of Human-Computer Studies, 105, 22-32.

Hildebrandt, M. (2018). Privacy as protection of the incompleteness of identity: The value of privacy for democratic societies. Theoretical Inquiries in Law, 19(1), 71-93.

Hindolia, A., Arya, J., Pathak, R., & Kazmi, A. (2024). Halal B2B marketing in the metaverse: Crafting a conceptual framework to pinpoint opportunities and challenges. *Journal of Islamic Marketing*.

Hoover, S. M. (2016). Virtual Reality and Religion: Opportunities and Challenges. In J. Hutchings, & E. L. Gunn (Eds.), Religion and the senses in the ancient world (pp. 349-367). Brill.

Iamthemeta, (2022) Mother, 43, has her avatar groped by three male characters in the online Metaverse, http://aboutmetaverse.wiki/tag/avatar/

Ince A. (2022) Suudi Arabistan'ın Metaverse Hamlesi Dini Ritüelleri Nasıl Etkileyecek?, https://haber.sakarya.edu.tr/suudi-arabistanin-metaverse-hamlesi-dini-rituelleri-nasil-etkileyecek-h102324.html

Jawad, H. A. (2020). Virtual Reality and Religion: Opportunities and Challenges. Open Theology, 6(1), 182-194. doi: 10.1515/opth-2020-0013

Joinson, A. N. (2007). Disinhibition and the internet. In The Oxford handbook of internet psychology (pp. 75-85). Oxford University Press.

Katz, M. L., & Shapiro, C. (1985). Network externalities, competition, and compatibility. The American Economic Review, 75(3), 424-440.

Kevins, Jerameel, Metaverse as a New Emerging Technology: An Interrogation of Opportunities and Legal Issues: Some Introspection (March 6, 2022). Available at SSRN: https://ssrn.com/abstract=4050898 or https://ssrn.com/abstract=4050898 or https://dx.doi.org/10.2139/ssrn.4050898

Kharif, O. (2021, August 5). The Metaverse is coming. Is the world ready? Bloomberg. https://www.bloomberg.com/news/articles/2021-08-05/the-metaverse-is-coming-is-the-world-ready.

Kılıçarslan A. (2022) Metaverse'de Dini İbadet Yerlerine İlgi: Hangi Hizmetler Mevcut? https://coin-turk.com/metaversede-dini-ibadet-yerlerine-ilgi-hangi-hizmetler-mevcut

Kiong V. L. (2022) Metaverse Made Easy: A Beginner's Guide to the Metaverse, independently published, ISBN-13: 979-8798340927

Kuban Torun, N., & Torun, T. (2022). Metaverse ve Din Kavramlarının Sosyal Medya Madenciliği Yolu ile İncelenmesi. Alanya Akademik Bakış, 6(2), Sayfa No.2511-2526.

Kurtuluş Ö. (2022) Gerçek Metaverse Bu Değil!, https://t.ly/FLxV

Kuş, O. (2021). Metaverse: 'Dijital Büyük Patlamada' Fırsatlar ve Endişelere Yönelik Algılar. Intermedia International E-journal, 8 (15), 245-266. DOI: https://10.21645/intermedia.2021.109

Lahiri, I., Deka, L., Chakraborty, N., Pattni, K., et al. (2023). Dynamics of dialogue, humanity, and peace in the metaverse: Towards a conceptual debate. *IGI Global*.

Lipka, M. (2017). How US religious groups are embracing (and resisting) virtual reality. Retrieved from https://www.pewresearch.org/fact-tank/2017/07/27/how-u-s-religious-groups-are-embracing-and-resisting-virtual-reality/

Marchionni G. (2022) The Metaverse in 2040, https://www.elon.edu/u/imagining/surveys/xiv-2022/future-of-metaverse-web3-2040/

Mashable (2020) MIT Researchers Develop A Way To Record And Even Alter Dreams, https://in.mashable.com/science/16056/mit-researchers-develop-a-way-to-record-and-even-alter-dreams

Matthias C. Rillig, Kenneth A. Gould, Marcus Maeder, Shing Woong Kim, Juan F. Dueñas, Liliana Pinek, Anika Lehmann, and Milos Bielcik, (2021) Opportunities and Risks of the "Metaverse" For Biodiversity and the Environment, Environmental Science & Technology Article ASAP DOI: https://10.1021/acs.est.2c01562

Milgram, P., & Kishino, F. (1994). A taxonomy of mixed reality visual displays. IEICE Transactions on Information Systems, E77-D(12), 1321-1329.

Oxford Analytica (2022), "Metaverse holds unknowable societal risks", Expert Briefings. https://doi.org/10.1108/OXAN-DB267012

Petersen, G. M., & Lieberman, J. D. (2021). The ethics of virtual and augmented reality. The Oxford Handbook of Ethics of AI, 673-686.

Pietro D.P. & Cresci S. (2021) Metaverse: Security and Privacy Issues, The Third IEEE International Conference on Trust, Privacy and Security in Intelligent Systems, and Applications (IEEE TPS'21)At: Virtual, 10.1109/TPSISA52974.2021.00032

Radovanović, N., & Tomić, B. (2022). Ethical and religious challenges within metaverse. *Religion in Late Modern Society*.

Russell, S., & Norvig, P. (2016). Artificial Intelligence: A Modern Approach (3rd ed.). Pearson.

Saluzzo, D. (2023). Transparency and due diligence obligations for online platforms and safer space online users' fundamental rights, now and in metaverse. *Journal of Law, Market & Innovation*.

The Metaverse as a Convergence of Virtual and Real Worlds: A Risk Assessment in the Context of Ethics and Religion

Short, J., Williams, E., & Christie, B. (1976). The social psychology of telecommunications. John Wiley & Sons.

Snider M. & Molina B. (2021) Everyone wants to own the metaverse including Facebook and Microsoft. But what exactly is it?, https://www.recordonline.com/story/tech/2021/11/10/ metaverse-what-is-it-explained-facebook-microsoft-meta-vr/6337635001/

Thomas, J., Kuhail, M. A., & AlBeyahi, F. (2024). The metaverse, religious practice, and wellbeing: A narrative review. *Cyberpsychology, Behavior, and Social Networking*.

Webtekno, (2022) Tehlike çanları çalıyor. Çocuklar Metaverse'te 'cinsel içerikli kulüplere' kolayca girebilecek!, Yeniçağ Gazetesi, https://www.yenicaggazetesi.com.tr/metaverse-skandali-cocuklar-cinsel-icerikli-yayınlara-girebiliyor-514088h.htm

Yee, N. (2006). The psychology of massively multi-user online role-playing games: Motivations, emotional investment, Relationship Formation, and Problematic Usage.