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Ethical Responsibility and Sustainability (ERS) Development in a Metaverse Business Model

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Abstract: Businesses are starting to use the Metaverse to expand their service network and establish new value co-creation for customers. However, businesses may need to carefully assess the ethical implications of their data collection and utilisation procedures for business sustainability. This paper examines the ethical concerns surrounding the usage of the Metaverse by organisations to obtain a competitive edge. This research was based on an exploratory assessment of business ethics and a Metaverse business model. A structured literature review was selected as the study's design to get a better understanding of the issue. This research provides preliminary insights into the Metaverse and its business ethics, suggesting that any business must have a transparent policy regarding its Metaverse applications to foster a culture of ethics. This research aims to promote a constructive discussion on the issue of ethics in the context of the Metaverse that arises when an organisation conducts a violation or misuses user data. This paper is useful for people in the fields of technology and public policy, such as academics, businesspeople, and policymakers.

Keywords: metaverse; ethics; sustainable development; big data; business model; consequentialist theory

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1. Introduction

Emerging technologies, including the Metaverse, are transforming business processes. Around 71% of the respondents to an Accenture survey anticipated a favourable business impact from a shift to the Metaverse and many expected that it will be a breakthrough in the next few years [1]. The Metaverse offers immersive benefits for individuals and business organisations, such as lowering overhead costs by eliminating the need for furniture and other maintenance. In addition, the Metaverse will be very powerful because the platform can generate massive amounts of data. The presence and utilisation of the Metaverse will enable businesses to collect huge amounts of data in all formats, including text, audio, video, object movement, 3D social media, and so on.

While businesses have historically relied on data and data accuracy to ensure their survival, the Metaverse facilitates business organisations to obtain data from a variety of sources. As a digital platform, the Metaverse is capable of producing both structured and unstructured big data, which assists businesses in acquiring, capturing, and processing both data sources into their databases for effective and efficient data analyses [2]. The Metaverse has become a new place to extract value from vast amounts of data creation. It generates "big data" which is typically defined as enormous data sets with high volume, velocity, variety, variability, and value extracted for analytical purposes [3]. Deploying big data analytics from the Metaverse's platform could enable an organisation to acquire intelligence or produce new prediction models, and most significantly, to remain competitive in the market and surpass its competitors [4,5]. Big data are collected, made, and processed

quickly in the Metaverse to create new value co-creation for businesses that will boost competition, productivity, innovation, and creativity [6,7]. However, there is an ethical consideration regarding data ownership in any digital platform. It does not mean that, just because data are available, especially in the Metaverse which is one of the big data sources, it is permissible for businesses to utilise them to make a profit without proper ethical compliance. Since the Metaverse has become a new area of research, not much attention has been paid to the business ethics implications in the research domain.

Business ethics is essentially the study of social contexts, activities, and decisions in which right and wrong concerns are addressed, the concepts of 'right' and 'wrong' specifically mean morally right and wrong, as opposed to socially right and wrong [8]. Simply expressed, it is learning what is right and wrong in pursuing societal goals. Within the last decade, this topic has grown in popularity among different segments of the community, including public officials, legislators, corporate executives, shareholders, employees, customers, and researchers. Studying business ethics, particularly for organisations in the customer service industry, guides business organisations on how to be good, if they choose to be good [9]. Therefore, business ethics may impact behaviour by making organisations aware of the potential consequences of an activity. The hypothesis of this study is that the responsible ethics of a business that embraces the Metaverse has an effect on strategic and long-term sustainability. On the other hand, the mishandling of user data on the Metaverse platform will affect the business's sustainability due to the loss of users' confidence. The purpose of this study is to analyse the importance of ethical compliance for businesses that embrace the Metaverse as an alternative business platform. This research was conducted with the aim of presenting empirical evidence to researchers, as well as policymakers and business groups, in order to build a framework of ethical compliance in the application of the Metaverse.

The remainder of this study is structured as follows. A literature review related to business ethics and the Metaverse is presented in Section 2. The methodology used in the study is presented in Section 3, while the analytical part is presented in Section 4. Section 5 discusses the insights found in this study. Finally, Section 6 presents the conclusions, including future research directions.

2. Literature Review

The term "metaverse" first emerged in the 1992 science fiction novel *Snow Crash* [10] as a combination of the words "meta" and "universe" [11]. Increasing needs for immersion are frequently associated with the development of virtual reality technology [12–14]. It is a hypothetical version of the Internet as a single, ubiquitous, and immersive virtual environment enabled by virtual reality (VR) and augmented reality (AR) headsets [15,16]. In general, the Metaverse is a network of socially focused 3D virtual environments [17,18]. The Metaverse may bring about a profound shift in the way in which businesses and their customers engage with products and services. Businesses provide by coming up with a new way to communicate and interact with users from anywhere using technologies, such as VR. The usage of the Metaverse as a new digital platform remains in the realm of ensuring the safety, security, and comfort of customers, particularly with respect to the use of their data. Below is a review of the literature pertaining to a Metaverse business model and the concept of business ethics.

2.1. Business Ethics

Ethics is a difficult concept to describe and comprehend. Before examining the critical role that ethics plays in business, it is necessary to define ethics. Ethics is described by Merriam-Webster (2022) [19] as the study of right and wrong, as well as moral duty and obligation. People have diverse perspectives on what constitutes right and wrong or good and bad. This makes it challenging to interpret and adhere to ethical standards [20]. According to Oates and Dalmau (2013) [21], ethics is the body of knowledge concerned with the examination of universal principles that distinguish right from wrong. Racelis

(2010) [22] stated that ethics differs from morality in that morality focuses primarily on the ideas of right and wrong, whereas ethics focuses on the commonly accepted behavioural standards of a large group. Therefore, it is important to recognise that ethical conduct prioritises the well-being of others over one's own. Ethical behaviour is something that most people agree with morally and legally. As such, business ethics is a subfield of applied ethics that looks at all the things that people do in business [23,24]. The ability to understand and use good ethical principles in business is one way to build a strong company culture that is based on ethics.

Different individuals have different interpretations of the concept of business ethics. In general, business ethics is the study of what is morally right and what is morally wrong [25]. It may also be described, more specifically, as the relationship between an organization's aims and objectives and its normative pressures [26]. Weihrich and Koontz [27] argued that business ethics is about setting a standard of fairness and honesty in all parts of a company's activities, both at home and abroad. There are two main schools of thought when it comes to the morality of business decisions: consequentialism and non-consequentialism [28].

Ethical Responsibility and Sustainability (ERS) is the capacity to identify, interpret, and act on diverse principles and values in accordance with the norms of a given field and/or context [29,30]. In general, understanding and acting to link society, business, education, and the environment to respond adequately to the demands and interests of all stakeholders in a society are fundamental to ERS. The significance of ethics within an organisation is based on the fact that ethical conduct reflects the performance of the organisation, increases its values, and reinforces its brand name capital and reputation [31]. Long-term financial benefits are more likely to accrue to a company with a high reputation, which is more likely to be established as an ethical organisation [9]. In contrast, unethical behaviour will result in lost opportunities for the organisation [31]. Therefore, it is essential for organisations to examine ethics so that they can make ethical decisions [9]. There are at least four aspects to the relationship between ethical behaviour and business performance: ethics contributes to (a) employee satisfaction, commitment, and trust; (b) stakeholder or investor loyalty and trust; (c) customer satisfaction, loyalty, and trust; and (d) societal trust, value, and profits (see Figure 1).

Figure 1. Organisational Ethics and Community Trust.

The three aspects of business sustainability are social, economic, and environmental. Adopting ethical practices and ensuring their implementation contribute to business sustainability and good governance. This could attract more customers, increase their loyalty, engage and motivate staff, and generate value for shareholders. Business ethics is an integral aspect of an organization's social sustainability. A business has a moral obligation to the greater community and does not focus only on profit maximisation.

2.2. Metaverse

The Metaverse is basically a collection of virtual live, interactive, 3D environments that enable continuity of identity and allow users to interact with each other, play games, interact with and purchase digital assets, learn in 3D, attend virtual concerts, etc. It is a perpetual and persistent multiuser environment that combines physical reality with digital platforms. It is the post-reality universe. It is built on the convergence of technologies, such as VR and AR, that allow for multimodal interactions with digital objects, virtual environments, and people [32].

Augmented and virtual reality technologies serve as the gateways to the Metaverse. Still, it combines a number of next-generation technologies, such as edge computing [33], cloud computing, Big Data [34], the Internet of Things (IoT), artificial intelligence (AI), blockchain, cryptocurrencies, cybersecurity, VR, AR, extended reality (XR), as well as digital twins. Figure 2 depicts the connections between the actors in a Metaverse ecosystem. Users, service providers, and platform providers are the actors. Similar to the physical world, service providers on the Metaverse platform might be businesses or individuals who provide digital services or digital assets to users. Furthermore, people can purchase digital assets from businesses or other individuals. Users of the Metaverse are not only engage in the framework of digital transactions, but also in the context of virtual life, for example, playing games together, watching digital concerts live, or simply engaging in social interaction and reading the news.

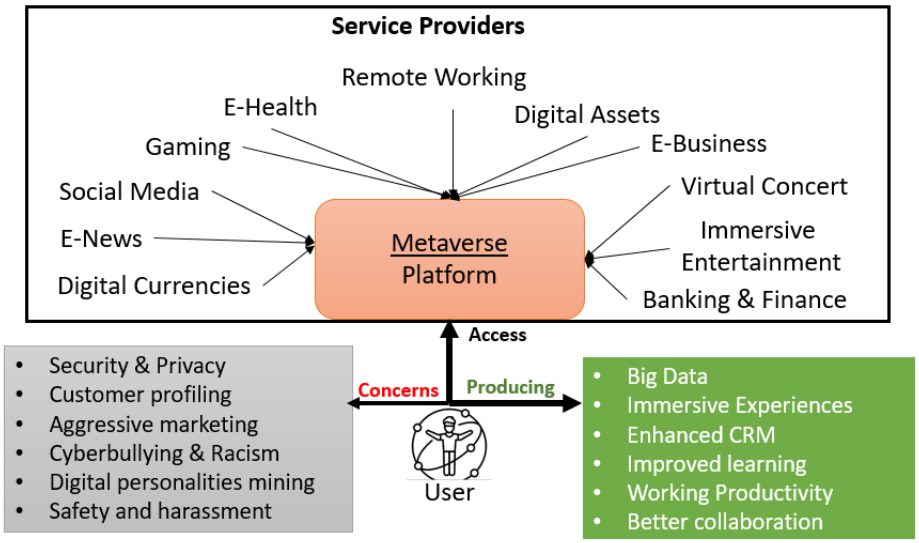

Figure 2. Metaverse Business Process and Scenario.

The only distinction is that the interaction process transforms users from two dimensions to three dimensions in a virtual environment. Therefore, users will enjoy a more immersive experience than the current 2D social media interactions. The Metaverse's 3D virtual environment has many benefits, including the collection of big data, an immersive experience for users, an improvement in customer relationship management (CRM) for businesses, the provision of interactive learning opportunities, the opportunity for virtual work productivity without 2D boundaries, and the enhancement of work collaboration across geographies. However, there are several challenges that must be addressed prior to adopting the Metaverse, including security and privacy concerns, customer profiling, aggressive marketing, cyberbullying, racism, digital personality mining, and digital harassment. Therefore, this study becomes very relevant as it discusses how to ensure that the platform is safe for all actors in the ecosystem.

2.3. Metaverse and Ethical Challenges

The Metaverse is in contrast to today's social media platforms, where all interactions take place in a two-dimensional format. The creation of the Metaverse platform offers numerous advantages, including a more immersive Internet experience in which each user is represented by a three-dimensional avatar [35]. However, one risk of adopting the Metaverse is user profiling based on the vast amounts of data gathered when using the Metaverse platform [36]. Big data analytics is widely used by organisations to evaluate the behaviour of internet users, and it will become more widely employed for mining and behavioural profiling in the near future. Prior to the advent of the Metaverse, numerous companies have utilised data profiling to psychologically influence the purchase or consumption of their products. The user's digital footprint is used to generate the profiling data [37]. On the other hand, more digital footprints will be formed through the use of the Metaverse platform, which will make the possibility of user profiling simpler and more accurate. It is an ethical concern that needs to be anticipated [38].

Facebook is a company that is often used as an example of the ethical issues that can arise when a business utilises its consumers' data in social media. To provide insight, Facebook cooperated with Cornell University researchers to conduct an experiment on Facebook users entitled "Experimental evidence of Massive-scale Emotional Contagion through Social Networks". In this research, Facebook changed users' news feeds with the same information but with varying degrees of negative and positive aspects to determine how it would affect the users' reaction towards the post [39]. For example, if two news stories had the same information, the positive post would show the news in a good light, while the negative post would show the news in a bad light. According to this research, the manipulation of the newsfeed confirmed that data manipulation could change or affect how people felt about a news story, either positively or negatively. This is called "emotional contagion". Both Facebook and Cornell did a lot of data mining, so it was thought that the research had enough data to be called scientific research [39].

When Facebook conveyed the results of the research they did with their users and the general public, they got a lot of negative feedback and their research raised ethical concerns. During the data mining phase of the research, Facebook investigators did not get explicit informed consent from Facebook users about whether or not they wanted to take part in the research. According to Cornell, the board gave the research team permission to continue as they reasoned that the research did not directly involve human research, so no further review procedures were needed [40]. Additionally, Cornell said that Facebook did the research on its own before their research team got involved. Even though Facebook has its own internal review process, it is important to note that it is not a separate entity that can conduct research on its users without following the ethical rules for conducting research [40].

According to Facebook, the company had the right to conduct the research because users agreed to it when they signed up for an account. One of the things users agreed to was "internal operations", which include "troubleshooting, data analysis, testing, research, and service improvement" [40]. Facebook also said that, regardless of the law, once users actually "post" the messages, the recipients will see them in their feed. This is the extent of which an average user agrees to when they agree to the terms of the agreement [41]. However, it is still a worry. For example, if it was personal mail, it would have been a violation of privacy and a federal crime to open someone's mail and count how many positive or negative words there were in the message. In view of the incident, Facebook has introduced a new framework of research which comprises distinct guidelines for researchers, a broad evaluation platform, and training facilities on security and privacy interests.

Therefore, the availability of user data on the Metaverse platform does not necessarily compel business organisations to utilise those data in order to maximise their profits. The literature review reveals that the ongoing debate regarding the Metaverse's business model presents a research gap, particularly when it comes to the ethical compliance of collecting and using data in the Metaverse.

3. Methodology

This research employed bibliographic analysis and conceptual model scenarios (see Figure 3). A bibliographic analysis is the process of analysing articles and other publications using statistical methods and content analysis, particularly in relation to the subject matter of the research. The articles were extracted from various databases after a search based on the search terms. Initially, 2970 articles were retrieved using Metaverse and ethics as the general keywords from 2010 to 2022. All findings from all databases were stored and combined. After duplicate articles were removed, 1860 items were left that could be compared using the first English standards. After that, the articles were recorded in a "results" spreadsheet. To finish the process, a further search was run to make sure that all of the articles were located in the database. Articles about the Metaverse and ethics were searched using combination strings. The first set consisted of a search for Metaverse- and ethics-related articles. The second series of papers covered topics including ethics, sustainability, business models, and the Metaverse. The strings were adjusted in accordance with the various database types. Articles were selected based on their quality and were restricted to those published in peer-reviewed journals and presented at conferences, resulting in a reduction of 181 articles. All articles were reevaluated to verify that they fit the Metaverse and ethics domain. The abstracts of many papers were evaluated to better match this study's topic. After this last filtering, there were only 64 papers left, which were then compared and looked at in depth. While the conceptual model scenario is used to investigate the complexity of the problems that need to be solved to achieve the most desired results, the greatest number of people may be simplified via the use of a systematic method. The conceptual model that is presented in Figure 3 offers an ethical decision-making process that is applicable to the majority of stakeholders. These stakeholders include users, customers, policymakers, business organisations, and others. Collecting data for a case study analysis (e.g., Metaverse's business model) is a necessary initial step towards providing optimal decision-making. Then, the ethical dilemmas are described in terms of how serious they are from an ethical point of view. Each case study has ethical dilemmas or ambiguities. The list of options is then presented by using ethical theories to help stakeholders make better ethical assessments and decisions. Finally, having a list of a potential course of action can help businesses make better decisions.

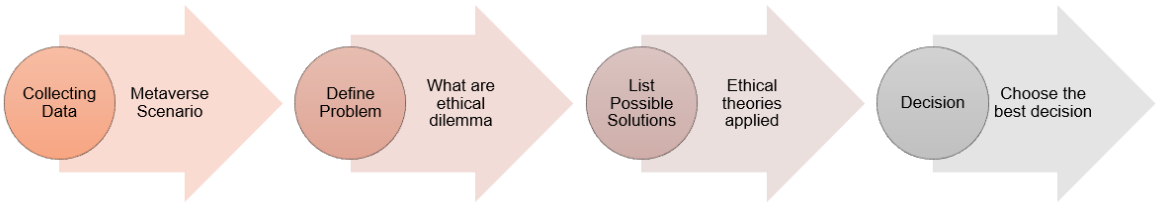

Figure 3. Conceptual Structure of Ethical Business Decision-Making.

4. Analysis

This section contains an overview of the reviewed literature and a discussion of the research questions. The quantity of publications related to the concept of the Metaverse is shown in Figure 4. From 2019 to the present, there has been a growing number of publications on the Metaverse. This is a result of the intense competition for the Metaverse platform, especially those initiatives led by powerful corporations, such as Facebook (Meta business) and Microsoft. It is projected that Metaverse research will continue to increase in tandem with providers' preparedness to use the platform and the eagerness of businesses and individuals to employ it. This report provides the trends in the development of Metaverse research by country, by scientific discipline, and by theme. Metaverse research is in its infancy, which explains why so few nations have conducted this type of study. This demonstrates the digital divide between developed and developing nations. The Sustainable Development Goals (SDGs) of the United Nations should be a push to eliminate the digital gap.

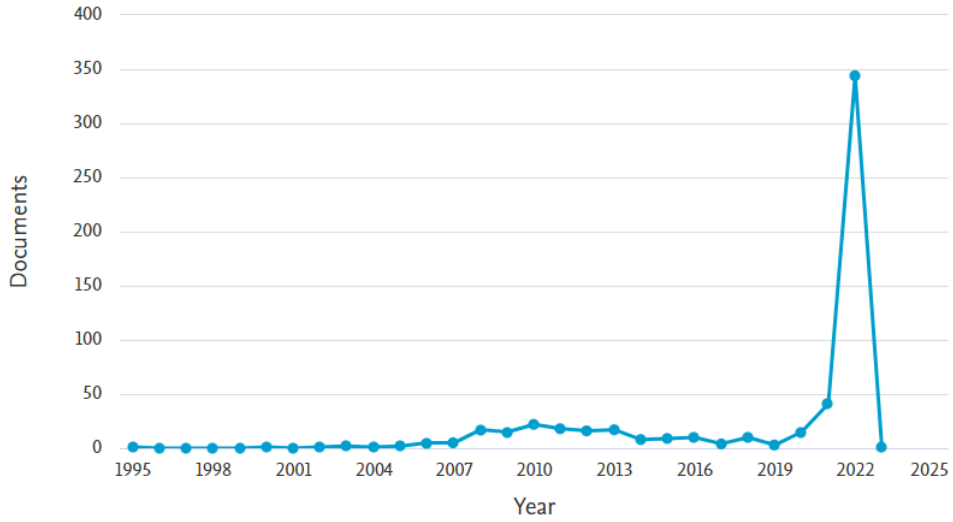

Figure 4. Research Documents on the Metaverse by Year (Source: Scopus, 1995–2022).

In Figure 5, we see a breakdown of how many Metaverse studies have been conducted in each country. It can be seen that the United States, China, South Korea, and the UK are the top four countries in terms of the number of Metaverse research studies. This indicates that Metaverse research is in its infancy. It is evident that there is a research gap between developed and developing countries regarding the growth of Metaverse research.

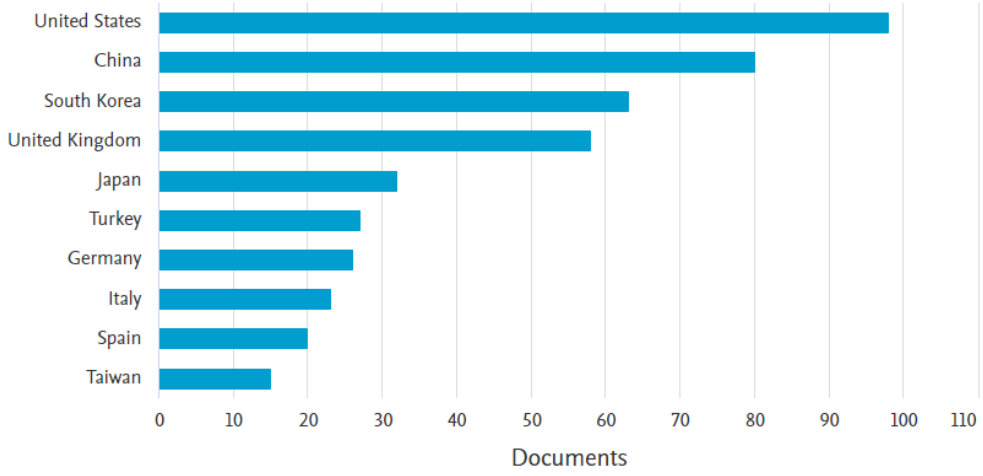

Figure 5. Research Documents on the Metaverse by Country (Source: Scopus, 1995–2022).

Research documents on the Metaverse by subject area are depicted in Figure 6. Due to the fact that the Metaverse is still in its early phases of development, it is not surprising that research on the Metaverse is currently dominated by Computer Science and Engineering, and that the business and social aspects of the Metaverse have not yet been the subject of many studies. On the other hand, due to the fact that Metaverse is the next digital platform for both individuals and corporations, it will produce a significant amount of digital data. It is essential that Metaverse-generated digital data adhere to ethical principles.

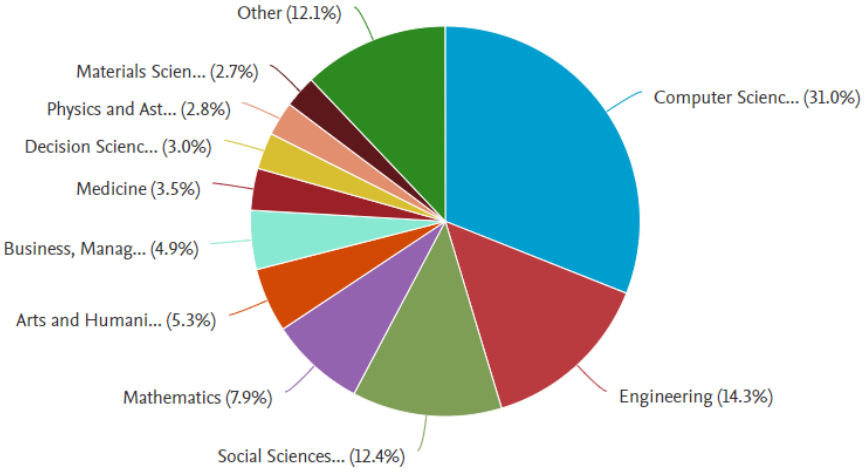

Figure 6. Research Documents on the Metaverse by Subject Area (Source: Scopus, 1995–2022).

Figure 7 depicts a cluster representation of the Metaverse research trend networks. There are currently six primary research clusters on the Metaverse that are designated by different colours. The research trends for the Metaverse for 2020 onwards are red, orange, purple, and yellow. The Metaverse research trends from the prior year are, however, blue, and green. The colour red represents a trend in Metaverse study research that examines the role of the Metaverse in health and medicine, as well as during the COVID-19 pandemic. The colour orange represents a trend in Metaverse study stemming from its technological underpinnings, which include digital twins, augmented reality, blockchain, non-fungible tokens (NFT), and Web 3.0. The colour yellow represents a Metaverse research trend from the viewpoint of human–computer interaction. The colour purple reflects a Metaverse research trend concerning business scenarios. The green colour represents an education-related research trend concerning the Metaverse, including education computers, e-learning, virtual environments, etc. The colour blue represents a trend in Metaverse research that talks about virtual reality, three dimensions, virtual environments, and other similar topics. Few studies have addressed the significance of ethical compliance for the sustainability of organisations that embrace the Metaverse as one of their platform alternatives. By examining the research trends on the Metaverse that will continue to evolve, this research becomes essential.

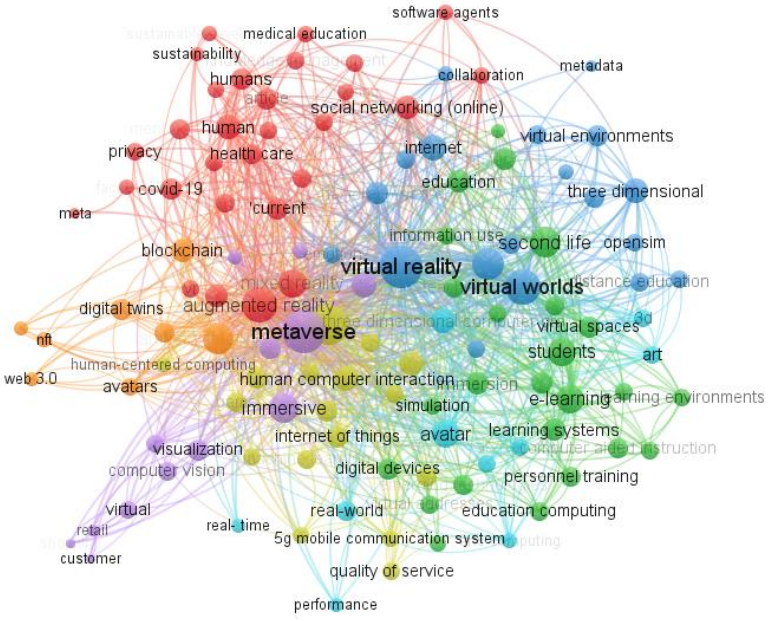

Figure 7. Research Trends on the Metaverse (Source: Scopus, 2012–2022).

The following is an analysis of a business scenario that allows it to be discussed in the context of ethical compliance.

Step 1: Business scenario of ethical concerns on the Metaverse: In accordance with the business scenario depicted in Figure 2 on the Metaverse platform, big data is generated each time a user interacts with the system. In this situation, it is crucial to keep track of who will use or benefit from the massive volumes of data provided by consumers. Who will provide the guarantee that no user profiling or digital personality mining will be undertaken with the objective of knowing the specifics of user behaviour for marketing or promotional purposes? The data that the Metaverse provides are much more useful than the typical 2D social media data collection that is used right now.

Step 2: Ethical dilemma arisen from the Metaverse on the potential of privacy violation: In this circumstance, privacy violation will be the primary concern that must be addressed. Customers' and users' data privacy requires a high level of protection. Despite the platform provider's efforts to ensure the privacy and security of user data, questions may arise as to whether it employs artificial intelligence to monitor users' personalities or to mine users' behaviours without their knowledge, or whether it has the potential for third parties to collect user data without their permission. Even with users' permission, data mining for the goal of maximising profits should not be permitted because users may be ignorant of the procedure and the reason for it. Without a person's consent, it is unethical to violate his or her privacy or interfere with his or her other human rights [42].

Step 3: Possible recommendations and ethical theories applied: In the third step, ethical theories and principles will be utilised to propose alternative suggestions for addressing the challenge on behalf of Metaverse service providers. Some perspectives on two theories of business ethics are provided below. First, in accordance with the Consequentialism theory, an utilitarian theory can be used to comprehend why service providers would choose the Metaverse as an effective alternative for their business activities despite the possibility of unethical risk. On the basis of the utilitarian moral theory, the morality of an action is determined by summing the happiness or well-being the action generates. Adopting the Metaverse is deemed an appropriate activity if it results in greater happiness than suffering and pain. The advantage of utilitarianism is that the consequences of actions are carefully considered, but the drawback is that the focus on aggregate happiness disregards the value of the individual, who, despite belonging to a minority, may deserve assistance. Moreover, according to Arnold and Beauchamp (2020) [43], the utilitarian principle in business is determined by how an ethical business action would benefit the greatest number of individuals. Using the utilitarian principle, it is understandable why many businesses would take the ethical risk of using the Metaverse since the ability to use the Metaverse is good for both the business and the users, who can have immersive 3D experiences when consulting with doctors or buying digital assets from e-businesses. The ethics of obligations, or deontology, is founded on moral principles that emphasize the importance on doing what is right regardless of the implications. In terms of their internal shareholders, the deontological theory of a business's use of the Metaverse posits varied duty ethics. Using this ethical framework to analyse data privacy, there must be corresponding obligations for asserting a right to data privacy. Consequently, in order to guarantee data privacy, obligations must be determined and applied based on the sources of this right. Businesses that see the Metaverse as the future of their business activities have invested significantly in order to capitalise on the opportunities for expanding their services. By maximising profit, the company's exploitation of the Metaverse satisfies its ethical obligation toward its stakeholders. Profit maximisation is not the only ethical concern in the Metaverse; the usage of the Metaverse will preserve the well-being of their own employees since the systems are sustainable and limit the risks of potential loss for organisations. However, as stated earlier, the right way to use the Metaverse is up to its users, which may not always be good for customers.

Step 4: Choosing "correct" ethical decision-making: The fourth phase includes selecting the ethical decision that will yield the best potential outcome for all stakeholders, particularly

users. After evaluating various ethical theories, such as the consequentialist theories in relation to the utilitarian principles and deontologist ethics, businesses must develop a plan of action to address these ethical challenges. To effectively leverage the potential of the Metaverse, the aforementioned ethical concerns must be addressed.

Adopting the Metaverse should incorporate an utilitarian perspective into its decision-making process in order to maintain user confidence and prevent data privacy breaches. However, transparency plays a crucial role in alleviating worries about data privacy. Users are expected to trust the business with their data in order to receive benefits or services. In terms of consent, users should also be provided with adequate and transparent guarantees that their data will not be sold to third parties. Businesses cannot disclose user data, including direct and indirect information such as data mining personality profiles, to other parties for any purpose. To be viewed as ethical, businesses must provide users with control over their personal data, such as by offering an opt-out option for data collection. In addition, if a business has a clear privacy policy that explains how data will be used and gives customers the option to control their data profiles while still keeping their anonymity when their data are shared with third parties, this could help ease privacy concerns. In short, there is no utilitarian method to this scenario's decision-making if businesses using the Metaverse are unwilling to provide customer data. Therefore, if businesses consider the costs of these consequences and do not violate the privacy of their users' data, they may avoid higher losses, such as compensation payments in lawsuits and the loss of customers' confidence and trust.

In contrast, a deontology-based strategy should be considered for managing privacy violation damages. Businesses have a moral obligation to protect the privacy of their customers and ensure that they are comfortable disclosing personal information. There must be a balance between the utilisation of user data and the restriction of data privacy concerns. The protection of data privacy becomes a moral obligation for businesses, regardless of the performance implications of these decisions.

In conclusion, this research examines how an action of deploying the Metaverse should be justified based on the reasons offered by two generally used ethical frameworks. Both utilitarianism and deontology emphasise the factors that determine the morality of a certain action. However, their opinions and perspectives on what constitutes good or bad behaviour differ, resulting in divergent assessments. Nonetheless, these strong ethical theories can shed light on the aforementioned concerns pertaining to the use of the Metaverse by businesses.

5. Discussion

Friedman argued that a business's only social responsibility is to increase the profits for the owners (stockholders) as long as it does not lead to deception or fraud. Where Friedman specifically stated about deception or fraud, he urged that companies have a duty to take care of all of the stakeholders. The duty includes (i) ensuring the rights of all stakeholders are met and (ii) any action and decisions taken must balance the interest of all the stakeholders [44]. Any attempt that violates the privacy of users for the sake of maximising profits is breaching the code of ethics. Although it may lead to an increase in customer satisfaction and growth, the moral controversy should not be ignored. With respect to this situation, businesses often experience pressure on how to solve the problems related to this ethical dilemma. They need to guarantee the users that all their personal data along with safety are secured. The basic moral situation implicates businesses' need to act thoroughly and ensure the decision they make will produce greater utility for everyone. To protect their users' privacy and rights, businesses have an obligation to secure their users' data by making sure their data are not vulnerable to hackers or misused for aggressive marketing campaigns and advertisements. In addition, organisations, especially those involved in CRM, have an obligation to inform and obtain users' consent if they are using customer data. The choice of using users' data without obtaining their consent is considered

morally wrong. In accordance with the universal rules, users should be treated fairly and those rules should be applied to others as well [45,46].

To fully leverage the potential of the Metaverse for business strategies, it is necessary to address the aforementioned ethical concerns. Several considerations have been made in an effort to mitigate the ethical challenges and moral dilemmas that the Metaverse imposes. To prevent data privacy violations and maintain user confidence, businesses should use an utilitarian approach to decision-making [47,48]. Transparency plays a vital role in mitigating data privacy issues in this case. When a user purchases a product or uses a service, they are required to entrust the business with their data; however, it is common that very little information is provided on how the data are collected, how they are used, and who has access to the data [49,50]. Different datasets that have not previously been regarded as having privacy implications could be integrated and disseminated in ways that threaten the privacy of the users. Issues regarding consent may also arise if users are inadequately informed of the future uses of the gathered data and the engagement of unauthorised third parties [51]. To avoid these issues, it is necessary to implement transparency at all levels of data collection and processing. Such timely and accurate disclosure will enhance user awareness. In addition, a privacy and disclosure policy may be required in order to inform users about the collection and planned use of their data and to preserve their private identity.

On the other hand, a deontology-based approach should be considered for resolving the damage caused by privacy violations. A business has a moral obligation to protect the privacy of its users and ensure that they are comfortable providing personal details. There needs to be a balance between how user data are used and how much privacy is compromised.

Human discrimination based on the correlation of data also contributes to ethical issues in the Metaverse. People should not be distinguished based on their ethnicity, language, religion, socioeconomic status, or other factors, so that everyone can express their rights. However, the data do not contribute to this type of discrimination; rather, it is the algorithms that could be programmed by an unethical individual to create prejudice based on erroneous connections. Identifying discrimination in algorithms is a crucial and required effort. Nevertheless, despite their complexity, algorithms must be audited to demonstrate their legality and eradicate any biases. In addition, for the Metaverse to be ethical, it must conform to all relevant acts, such as the Human Rights Act, and be culturally acceptable, which helps build a society in which people's rights and obligations are balanced and protect them from any infractions. Both of the aforementioned frameworks are applicable after this action has been implemented. When there is no longer any discrimination, it is ethical, according to utilitarianism, because the activity gives the most pleasure to society and simplifies a business's subjective motivation to increase profits. From a deontological standpoint, deontologists argue that it is the responsibility of businesses to prevent prejudice and treat everyone equally, and, hence, this activity is morally correct.

Businesses should generally apply the stakeholder theory, which evaluates the interactions between an organisation and the individuals and groups that may have an impact on or be affected by its decisions. According to the stakeholder theory, all stakeholder needs should be given equal attention. To prevent moral failure, this approach should focus on things such as making sure all parties involved in a business engagement are aware of the risks and benefits entailed.

In addition, organisations and businesses should establish and practise good governance since it would provide openness, fairness, accountability, and responsibility for their operations and decision-making processes. Therefore, it is possible to keep a business from going out of business because users do not trust it anymore, which would hurt shareholder value and make it hard for the business to stay competitive and sustainable.

Since the Metaverse offers sustainability for businesses to create new experiences for customers, including new internet experiences that transform online business activities from two dimensions into three dimensions, which appear more real and rich in experience. Sustainability will be achieved when the profits of a business using the Metaverse are,

of course, balanced with the anticipation of the losses that can be suffered by the users, especially regarding the rights of the big data generated in using the platform. Therefore, the ethical framework suggested in this study provides businesses a way to promise sustainability in the long term.

Finally, the Metaverse and its ethics are discussed from the perspective of data leakage. According to previous literature review, the largest case of data leakage in human history is the breach of social media user data. This is the primary reason why the Metaverse, which uses an enhanced version of the Internet, must take precautions to prevent a similar data leak in which the platform provider's negligence is the primary cause. Therefore, providers of Metaverse platforms must ensure the sustainability of their business by acting ethically and refraining from directly or indirectly disclosing the data of their users.

6. Conclusions

As a result of the challenges presented by the Metaverse as a business platform, there is an urgent need to govern information privacy regulations and their underlying principles to meet the demands of the new era. This is because responsible and ethical data usage is one of the conditions for using data successfully and efficiently, and, therefore, the gathered data must be used in the best interests of the customers. Awareness of and control over data gathering and intended usage may also reduce ethical issues and public concerns. In addition, every stakeholder in an organisation is essential to its success since they hold the key to creating a culture of transparency and trust among its employees as well as a commitment to social responsibility. The benefits of using the Metaverse will arise if the issues around its ethical and accountable use are effectively resolved. In this scenario, a Metaverse that is well-managed to comply with ethical standards could open up significantly more potential for businesses to extend the reach of their services in the next generation of the Internet. Nevertheless, data are crucial for all stakeholders in the Metaverse ecosystem, and, consequently, they need to be effectively managed in order to benefit everyone who is involved. The limitations of this study stem from the fact that the use of the Metaverse in business is still in its early stages. Because of this, there have been few previous studies on the subject, and there are little data available, especially for businesses that have just started to use the Metaverse. The managerial implications of this research will serve as a moral guideline for companies expanding their offerings on the Metaverse platform, particularly in the usage of consumer data. Finally, the future research directions of this paper include the acquisition of primary data to test the suggested framework as stated in the discussion and findings.

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Abbreviations

Abbreviation/Acronym	Definition
VR	Virtual reality
AR	Augmented reality
ERS	Ethical Responsibility and Sustainability
IoT	Internet of Things
AI	Artificial intelligence
XR	Extended reality
CRM	Customer relationship management
NFT	Non-fungible tokens

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