

Zuckerberg's Metaverse and the Unready Malaysian Laws: Quo Vadis?

Hafidz Hakimi Haron¹(⊠) and Nadiah Arsat²

¹ Faculty of Law, Multimedia University, Melaka, Malaysia hafidz.haron@mmu.edu.my
² Centre for Foundation and General Studies, Manipal University College Malaysia, Melaka, Malaysia

Abstract. The Metaverse is the post-reality world, where a persistent and perpetual environment converges digital virtuality with physical reality. The seamless user communication in dynamic and real-time interactions with digital artefacts has posed a new regulatory dilemma. With the recent introduction of Facebook's metaverse, the question of the readiness and adequacy of the existing Malaysian laws to address legal challenges may be imposed by Facebook's metaverse starting come into light. Thus, the main objective of this paper is to highlight possible challenges that the metaverse may bring. This research recommends several suggestions to remedy the hazards that might arise from the metaverse in future. Therefore, to achieve the research aim, this research assumes a doctrinal research approach in articulating its findings, primarily through textual analysis of several related legislations and available secondary sources such as academic manuscripts, textbooks, online resources, and other relevant sources.

Keywords: Metaverse · Smart Contract · Social Media Regulation · Cryptocurrency Law

1 Introduction

Since the last decade, virtual interactions have become increasingly important in our part of life. According to Vinesh and Meghna, the increase in easy access to the internet in the early 2000s acted as the catalyst for such growth [1]. In 2020, an unanticipated global pandemic of the Coronavirus (Covid-19) hit the world. The virus spread like wildfire and claims not less than 6.12 million lives as of March 2022. The Covid-19 pandemic forced humanity to adopt the new norms to limit the virus's spread by minimising physical interactions. In some countries, including Malaysia, curfew orders have been imposed for several months to slow down the infection rate. As the new norms aim to minimize direct physical interaction, the traditional physical interaction has much been migrated into virtual interactions. This has accelerated the growth and development of virtual interactions and technologies, from online business dealing and meetings, school, and how we celebrate our holy day celebration such as the Hari Raya. Therefore, despite the pandemic has destructively changed the daily lives that we cherish; however, it may be a blessing in disguise when it comes to communication, technological advancement and development. The force adaptation to the new norms that compel people to utilize communication and virtual reality technologies have compelled the government to accelerate the effort to enhance and provide better communication and information technology facilities. In the meantime, the government has given subsidies and incentives to accelerate internet connectivity and Information and Communication Technology (ICT) among the population. Specific emphasis has been given to selective sectors, particularly education and the e-economy sector, to keep society running optimally. Incentives, such as the National E-Commerce strategy roadmap, have directly or indirectly boosted ICT literacy and its usage [1].

In late 2021, Facebook rebranded itself as Meta [2]. The change of the brand's name reflects the commitment of one of the most valuable social media companies to a new focus; the metaverse. Despite metaverse technology being far from a final construct; however, one thing is sure as of the said technology will significantly decrease the gap between the physical and the virtual world. The immersive experience, as to augment or replace the physical reality with computerized simulations that attempt to be as realistic as possible, may change our lifestyle soon. Even though the convergence of the two universes through technology might be a boon to human society's advancement, the dilemma remains whether our existing laws are ready to regulate the metaverse. In this manuscript, the authors will first try to define and identify the metaverse characteristic.

Further, the authors will discuss foreseeable legal challenges that may arise from the metaverse and discuss several recommendations in the findings. This manuscript will be concluded with the conclusion.

2 What is Metaverse?

At this moment, Metaverse is far from a finished product but is still an evolving idea [3]. Some even likened the discussion of the Metaverse in 2022 to the concept of internet technology in the 1960s [4]. Garon attributed its literary origin to Neal Stephenson's Snow Crash in 1992 or to the prior works of William Gibson and Verner Vinge [3]. The term "Metaverse" was first coined by Neal Stephenson as an abbreviation of the word meta-universe, which refers to the 'fictional universe' [5]. The fictional universe in Snow crash depicted a virtual plenary simulacrum in which people interact with each other and with bots through avatars through a finite linear space owned by a single corporate entity [6]. Chohan further added that the best-selling series The Matrix also added a significant mark on the development of the idea of Metaverse, but the term gained more momentum in terms of popularity recently through more recent works such as Spielberg's *Ready* Player One and Facebook's transformation to the Meta platform [6]. Nevertheless, it can also be argued that metaverse prototypes may be seen more in the video game domain, such as Second Life, and other MMORPG genre games [6], such as the World of Warcraft, Star Wars: The Old Republic and Minecraft. Thus it can conclude that, despite Metaverse is still under intense development, however in terms of idea, it is not a recent technology.

The Metaverse, however, gained further traction as tech giants in recent years have heavily invested in realising the Metaverse as 'the successor to the mobile internet' [7]. The most captivating development would be Facebook's acquisition of Oculus in 2014, where it had shaped the current vision of the contemporary version of Meta's Metaverse. In 2014, Zuckerberg envisioned that Facebook would become a Metaverse conglomerate, where according to him, people could share "not just moments with your friends online, but entire experience and adventures" [8]. Some attributed such rebranding in 2021 from 'Facebook' to "Meta' are much indebted to the significant external pressure and high environmental instability. Despite Facebook's evident success as a leading social media provider, it faced several criticisms that undermined users' trust, generating negative publicity [9]. For example, the company had faced anti-trust investigations, aroused security and privacy concerns, and was infamous for a toxic environment working culture [9]. Thus, the rebranding carries a new objective with a new focus: "to bring the metaverse to life and help people connect, find communities and grow businesses" [9]. The company envisioned that the Metaverse would 'resemble a mix of today's online experiences in a three-dimensional space or projected into the real world'. Through this, the metaverse technology will become a vehicle that significantly influents the communication and connections between the platform and the users; by addressing the auditory, visual, somatosensory and gustatory senses while allowing touch and movement-based interactions [10].

The term Metaverse has become a foundation to describe a convergence between virtual worlds and three dimensional (3D) of which people interact without any physical limitation abled by the physical world [5]. According to Chohan, the notion of the Metaverse refers to a network of 3D virtual realities, focusing on social engagement facilitated through augmented reality and virtual space [6]. Rosenberg defines Metaverse as:

"... a persistent and immersive simulated world that is experienced in the first person by large groups of simultaneous users who shares a strong sense of mutual presence. It can be fully virtual environment (i.e. a Virtual Metaverse) or it can exist as layers of virtual content overlaid on the real world with convincing spatial registration (i.e. an Augmented Metaverse)" [11].

While Xu defined Metaverse as 'an embodied version of the Internet that comprises a seamless integration of interoperable, immersive, and shared virtual ecosystems navigable by user-controlled avatars' [7]. Xu further classifies the architecture of the Metaverse can be divided into two key components: 1) Physical world and virtual world interactions. Through this component, the stakeholders in the physical world, including the user, dictate components that may influence the virtual world, while at the same time, the actions of the stakeholders in the virtual world may have real consequences in the physical world [7]. In the author's opinion, this symbiotic relationship may result in a dilemma regarding legal implications for the stakeholders. While next, 2) The Metaverse engine acquires inputs such as data from stakeholder-controlled machinery. The virtual world is maintained, enhanced, and generated through inputs such as Augmented Reality and Virtual Reality, Tactile Internet, Digital Twin, Artificial Intelligence, and Economic module [7]. Through the second component, the authors are convinced that additional legal-related issues such as privacy, cybersecurity, smart contract, and cryptocurrency may also come into contention in light of the current Malaysian Law.

The characteristics identified by Xu also is in tandem with Matthew Ball's which he also identifies several characteristics of Metaverse, which are the following:

- 1) Persistence: this is since the Metaverse exists regardless of place and time.
- 2) Synchronicity: the ability of the participants to interact in the virtual world just like in the physical world.
- 3) Availability: simultaneous logging in without any limitation to participants
- 4) Economic: There will be economic activities conducted among participants, including businesses.
- 5) Interoperability: the Metaverse will let a participant use their virtual items across different platforms on the Metaverse. Since the Metaverse progresses beyond gaming, thus participating businesses have to move beyond the existing method of shoring up their market positioning, where some data exchange formats, such as verification ID, will need to change.

Thus, through these characteristics, it is foreseeable that there will be new regulatory challenges born out of Metaverse's technology to be identified and address in Malaysia.

3 Foreseeable Legal Challenges on Metaverse Regulation in Malaysia

As mentioned earlier, given the ubiquitous nature of the Metaverse, it is anticipated that several legal challenges to the existing legal regime in Malaysia may be imposed through the new technology. In this respect, the authors outline several possible legal challenges to the Metaverse that has to be considered:

3.1 The Question of the Adequacy of Section 211 and Section 233 of the Communication and Multimedia Act 1998

Section 211 and section 233 of the Communications and Multimedia Act 1998 are Malaysia's two most important provisions that regulate online content. According to Mahyuddin Daud, section 211 governs websites, blogs or portals that offer static content, while section 233 is intended to govern websites that support online interactive content such as news portals with comment sections and social media online forums [12]. Despite the different jurisdictions of both provisions, depending on the medium of communication, both provisions share the same vital elements [13]. According to both provisions, it is illegal to provide online content that is 'obscene, indecent, menacing, false, offensive, or annoy in character' [14]. The wide-ranging elements granted under the said provisions generally encapsulate the Metaverse's entire harming nature. It may as well involve the aspect of misinformation, disinformation, and fake news in the said virtual universe to virtual sexual harassment, pornography, and potential child grooming.

The authors wanted to raise the concern over the current regulatory approach regulating online content and whether it is sufficient to oversee the Metaverse. Unlike most contemporary online content that only limits its effect in the online world, the consequences of harm in Metaverse may be more damaging as the damage will no longer feel virtual. The experience of the harm from the virtual world should be taken in higher regard, as the vision of Metaverse is not only limited to recreation, gaming or socializing but also may be extended to a professional working environment.

One of the primary hazards of the Metaverse, for instance, is virtual sexual harassment. The first reported virtual sexual harassment in the Metaverse happened in a Meta virtual reality social media platform, Horizon world, just about a week after it was launched, where an anonymous Beta tester reported that a stranger avatar had groped her on the Horizon World [15]. Nina Jane Pattel has also launched another complaint, alleging that she had experienced sexual violence in the virtual environment offered by the Metaverse. She had been "gang raped" in virtual reality in her revelation. She later describes her experience as a "surreal nightmare" as the virtual reality is designed to be as authentic as possible, and the violation feels more acute than it would feel on the social media platform [16]. The reliance on information technology may spur a further increase in virtual online sexual harassment in Malaysia, even before the introduction of Metaverse in the country. For instance, in 2020, it was reported that with the increased internet usage due to the Covid-19 pandemic and the Work From Home Policy, as alleged by the All Women's Action Society Malaysia. According to them, sexual harassment cases make up 18.5% of calls that comes through its helpline, and from the number, 41.7% of such reported incidents are online sexual harassment [17]. Therefore, it is foreseeable that virtual or online sexual harassment will rise with the introduction of Metaverse. Worse, to the date this paper is written, there is no codified standardised legislation regulating sexual harassment in Malaysia. Apart from that, related problems in relation to sexual misconduct may be apparent as well, such as child grooming. In addition to that, Syariah Law may be insufficient in regulating amoral conduct such as virtual adultery among Muslims.

The other concerns that may raise through section 211 and 233 of the Communications and Multimedia Act 1998 pertain to disinformation, misinformation, and fake news. This is of cardinal importance as the informational hazard is also part of the online harm that the Metaverse technology can amplify. Rosenberg also emphasised that as Metaverse can be of a profit motive that may involve targeted manipulation of virtual experiences; thus, it may extend beyond the promotion of consumer products; for instance, disinformation and controversial political messaging [11]. Daud and Zulhuda agree on this, whereas Metaverse is a type of social media; therefore, it can be a suitable place to disseminate false information [18]. This, according to them, is due to (1) It imposes a cheaper cost than the traditional media, (2) It provides anonymity that may negate liability and (3) credibility, as such circulation and virality may involve celebrities and politicians. Thus, the adequacy of the two provisions mentioned above to the abovementioned matters may be in question. Online misinformation, disinformation, and fake news are regarded as 'online content'; thus, both abovementioned provisions should be read together with the Communications and Multimedia Content Forum (CMCF)'s 'Content Code'. Article 7.0 of the Content Code deals explicitly with false online content, albeit it is arguably discussed in brief. In this respect, the application of the Content Code is intended for public and industry self-regulatory guidelines; thus, explaining its basic worded structure is designed to ease understanding [18]. Accordingly, the Code defines false content as material "likely to mislead, due to amongst others to incomplete information", where it has as well warn the internet users to steer clear of false and unverified content. The generality of the interpretation of the provision regarding what

constitutes false content invites some criticism. In the authors' opinion, this vague interpretation may fail the great test of legality, as all laws are predominantly expected to be apparent, ascertainable and prospective [13]. In addition, the usage of section 505(b) of the Penal Code to bring the creator or disseminator of false content regarding the Covid-19 has also raised a question on the conclusiveness of the legal test as provided under section 211 and section 233 of the Communication and Multimedia Act 1998. This is because section 505(b) of the Penal Code is intended to criminalise any creation or dissemination of any statement that might disrupt public tranquillity [19] and is not explicitly designed to curb the creation or dissemination of false content. Therefore, a fresh approach to regulating false content in Metaverse is needed. A strike of balance between industrial norms, government oversight, and advanced Artificial Intelligence algorithm might be the answer to regulating false online content in the Metaverse in the future.

3.2 Data Protection Challenges

The function and operation of all current activities are dependent on data or information, which is the essence of the digital age. In Malaysia, personal data regulation is governed under the Personal Data Protection Act 2010. The primary concern over the applicability of the PDPA is that it does not safeguard all types of data flow in the Internet of Things (IoT) environment [20], which includes the Metaverse.

The main essence of the said legislation is underlined under Section 2 of the Act, where its jurisdiction applies to any person who controls or processes personal data for commercial transactions established in Malaysia or used equipment for purposes other than a transition of data through the country [20]. Therefore, in this respect, the Act does have extra-judicial power over foreign data users. In addition to the territorial scope of the Act, its material scope specifically deals with personal data processed in "commercial transactions". In this respect, the limitation provided through the term may lead into a dilemma as reality is increasingly difficult to distinguish between commercial and non-commercial activities [20] arguably in an interoperable and synchronised social media world such as the Metaverse. Sidi Ahmed and Zulhuda also argue that the term "commercial transaction" may also lessen the capability of the PDPA to protect the personal data flow [20]. This may pose a serious concern as the Metaverse may not only be exclusively being used for 'commercial transaction' but may as well covers work, family, social and personal purposes. Thus, it is recommended that the scope of the Act should be extended to both commercial and non-commercial purposes.

Apart from that, severe issues may arise regarding data ownership in a Metaverse. In this regard, since Metaverse is economic driven, thus a new set of regulatory approaches may be required. In the free, continuous flowing data environment, multiple parties may claim ownership over such data, including the owner of Metaverse-enabled devices, manufacturers, users, internet service providers, and third parties, which may include the public authorities [21]. This is where it has been suggested that the approach to data ownership should not be based on the traditional approach based on data generation but rather on the relevance of the data to the individual [21].

3.3 Potential Cryptocurrency Issues

The development of Metaverse paves the way toward the rapid mass usage of cryptocurrency. It is projected that the Metaverse could add a significant value to the global economy, estimated at \$1.5 Trillion by 2030 [22]. As of December 2021, about 40 types of cryptocurrencies in the Metaverse, known as Meta coins, have been traded in the virtual market [23]. The increasing importance of cryptocurrency in the Metaverse world may later pose a regulatory challenge in Malaysia.

As of the day, this paper is written, cryptocurrency is not recognised as a legal tender in Malaysia. This is consistent with the official statement issued by the Bank Negara Malaysia in 2014, where it declared that Bitcoin, the most well-known cryptocurrency, is not considered a legal tender in Malaysia and, therefore, it is not under the purview of its control [24]. Section 63 of the Central Bank of Malaysia Act 2009 only confined currency notes and coins issued by the Bank Negara Malaysia as legal tender. Despite that, the statement is silent regarding the status of legality of cryptocurrency, which may be construed as legal to trade.

The regulatory development over cryptocurrency took a further step in 2018, as the Bank Negara Malaysia issued an official cryptocurrency regulation under the policy paper "Anti-Money Laundering and Counter Financing of Terrorism Policy for Digital Currencies (Sector 6)" [24]. This directive imposes digital currency institutions to be subjected to the Anti-Money Laundering, Anti-Terrorism Financing, and Proceeds of Unlawful Activities Act 2001 [25].

The legal status of cryptocurrency in Malaysia was first tested in 2018 in the case of *Luno Pte Ltd & Anor v Robert Ong Thien Cheng (Civil Appeal No. 12BNCVC-91-10-2018).* In this case, the Session Court held that cryptocurrency transaction is not illegal, although it is not recognised as legal tender. It is also interesting to note that, in this case, the court recognised cryptocurrency to fall within the meaning of Section 73 of the Contract Act 1950, as it falls under the category of 'anything' under the said provision. The decision made by the Session Court is an initial step to recognise cryptocurrency as a type of 'commodity'.

In 2019, the Capital Markets and Services (Prescription of Securities) (Digital Currency and Digital Token) Order 2019 was introduced by the Securities Commission, which puts the regulatory jurisdiction of cryptocurrency under the Commission. Cryptocurrency is now regarded as 'securities' as stated by Regulation 4 of the said Order. The said provision also requires issuers of such cryptocurrencies to apply for a Capital Markets Services License as furnished under Section 58 of the Capital Markets and Services Act 2007 to carry out 'regulated activities' as specified under the said Act.

Judging from the development of cryptocurrency regulation in the country, the authorities in Malaysia has taken a slow and cautious step to recognise cryptocurrency through a 'minimalist' approach. Even though it is understandably done to protect the consumer's interest, with the rise of the cryptocurrency economy in the Metaverse, it may force the government to issue numerous more guidelines to ensure the local Metaverse's users and participants are adequately and legally protected. For instance, the requirement imposed under Regulation 4 of the Order stated earlier may not be a realistic approach to govern issuers of cryptocurrency as some may operate outside the jurisdiction or even

in anonymity. Thus, a more robust and holistic approach should be taken to tackle any potential issues arising from such a dilemma.

3.4 Regulation Over Smart Contracts May Have to Be Smarter

Aside from cryptocurrency, Smart Contracts are also a product of blockchain technology. As activities in the Metaverse, the world is a virtual depiction of the real world; thus, trade and exchanges are widely expected to be executed through the mode of the smart contract [26]. This is consistent with the argument that MetaSocieties in Metaverse, which in theory comprises of MetaCities and MetaEnterprise, should be governed through MetaManagement, which is backboned by smart contracts [27].

Like traditional contracts, smart contracts are a type of contract where two or more parties agrees on something. According to Khan, the main difference is that it holds information, processes inputs, and produces outputs through predefined functions [28]. Therefore, in terms of its execution and operation, it is identical to the traditional contract, but it is implemented through a computer programme that administers the conditions of the agreement [29]. Thus, a smart contract is designed to involve participants in building trust in the system without necessitating the presence of a third party to manage it. In this respect, blockchain technologies play their role as a mechanism for smart contracts to define all the contractual conditions before the transaction execution. They are rules programmed to write to and read from the blockchain database and are implemented on every node in the network [30].

Despite the differences concerning the forms of contracts, however, smart contracts are still bound by the same basic elements of the traditional ones to enforce their legality and validity [31]. These are 1) Offer, 2) Acceptance, 3) Consideration and 4) Intention to create legal relations. These elements are required and enforceable by the primary legislation on contract, which is the Contract Act 1950. In reference to the said legislation, the most cardinal and relevant provisions under the said legislation are as follows [31]:

- a. Section 10 (1): "All agreements are contracts if they are made by the free consent of parties competent to contract, for a lawful consideration and with a lawful object, and are not hereby expressly declared to be void.";
- b. Section 2 (a): "When one person signifies to another his willingness to do or to abstain from doing anything, with a view to obtaining the assent of that other to the act or abstinence, he is said to make a proposal";
- c. Section 2 (b): "When the person to whom the proposal is made signifies his assent thereto, the proposal is said to be accepted: a proposal, when accepted, becomes a promise"; and
- d. Section 5 (1): "A proposal may be revoked before the communication of its acceptance is complete as against the proposer, but not afterwards.".

Apart from that, the operation of Smart Contracts is also supplemented with other legislation, such as the Electronic Commerce Act 2006, which recognises the validity of electronic signatures and contracts.

Although some may argue that the legal framework over Contracts, including Smart Contracts, is already comprehensive [31], some other commentators might hold a different view. For instance, some may question the operation on the legality of the execution of Smart Contracts, which relies on computer programming and codes, which may not express the intention of contractual parties, as the human language may be different to how the software operates [21]. Thus it may be argued that such vagueness of interpretation may cast doubt over contractual interpretation [32]. Suspicion over whether Smart Contracts is applicable to subject matters which are assets were also being raised. Apart from that, as Smart Contracts are computer-generated algorithms by design, they may be inflexible compared to traditional contracts, especially in the case of unforeseen circumstances [33]. Furthermore, there is also suspicion over the possibility of illicit practice of Law by coders [32].

4 Discussion and Findings

In the preceding sections earlier, this paper identifies the nature of Zuckerberg's Metaverse and some foreseeable legal challenges that Malaysian Law may encounter with such revolutionary social network technology. This paper also established that, unlike the previous technologies of Web 1.0 or Web 2.0 earlier, the Metaverse, which operates under Web 3.0 and the blockchain technology, will have a different nature of experience as it incorporates virtual reality and Augmented Reality. Thus, in this respect, there are several shortcomings in terms of the regulatory approach identified in this paper to regulate the Metaverse.

Firstly, the study argues that the safeguards furnished under both Section 211 and Section 233 of the Communications and Multimedia Act 1998 are not adequate to address the two cardinal issues, which are virtual sexual harassment and the safeguard of free speech, disinformation, misinformation, and fake news. This paper found a need for a comprehensive legislation that governs any form of sexual harassment, whether in the real world or virtual reality. Furthermore, a fresh approach to regulation regarding misinformation, disinformation and fake news: is because, according to a study conducted by the Commission on Information Disorder, social media contributes significantly to misinformation and disinformation, which has become a "force multiplier for exacerbating our society's worst problems," dubbed a crisis that exacerbates all other crises [11]. In this respect, to rebuild trust and decrease harm, the Commission suggested improved transparency of social media providers and stronger consumer protections [11]. This echoes the contention by Balkin that regulatory action on social media is required [34]. In this respect, as social media companies are the critical institution of the new digital sphere, trust from its users is most crucial. Nevertheless, Balkin also cautioned about excessive government oversight, as it may damage free speech and other constitutional rights [34]. In this respect, a co-regulatory scheme that foresees digital freedom of speech, including in the Metaverse, such as a Media Council, may be an excellent beginning to ensure the industry behaves according to the acceptable industry norms, as well as to ensure that it to be more resilient towards political machinations and interference [13].

In addition to that, a review of the current regulatory approach to cryptocurrency must be done. With the rapid rise of the usage of cryptocurrency in the Metaverse, it is also foreseeable that hazards that come along with it will increase as well. Unfortunately, the current regulatory approach still fails to encounter several legal issues tangibly, including the question of legal certainty, consumer protection and security issues [35]. The rise of cryptocurrency usage in the Metaverse may also encourage digital mining and unnecessary energy consumption [35]. Apart from the fact that cryptocurrency is not recognised as a legal tender in Malaysia, there is also a concern that cryptocurrency is being used for tax evasion [35].

Further, several issues regarding the legal enforceability of the Smart Contracts should be clarified soon. This includes addressing formalities, statutory obligations, remedies, rights, and obligations of parties to the Smart Contracts. Through Metaverse, it is anticipated that we will see greater adoption in the transactions in the future.

In addressing these dilemmas, perhaps it would be wise for the stakeholders to explore the possibility of technology to regulate technology which would be enabled through Artificial Intelligence or AI, as most human interactions in the Metaverse are done through it. In this respect, it is interesting to highlight the approach of the European Commission, as they published a proposal for an AI regulation [36]. The regulation would restrict some AI activities and compel suppliers and users (among others) to comply with numerous duties regarding high-risk AI systems and a transparency requirement. Moreover, a co-regulation setup between all stakeholders in regulating cyberspace, including Metaverse, should be encouraged, as it is more suited to the Malaysian environment [37]. Any regulatory framework over the Metaverse should include the following components which are; 1) The legal aspect, 2) Technology, and 3) Social factors [37].

5 Conclusion

In short, this paper concludes that the current Malaysian regulatory setup is not suitable and feasible to govern the much-anticipated Metaverse. A serious study should be done on many other issues not covered in this paper, such as tortious liability, intellectual property, identity theft, and other branches of crimes to avoid any potential legal lacunae caused through the Metaverse. Nevertheless, it is also a fact that no one could fully anticipate the nature of legal challenges that the Metaverse may impose in the future. Thus, it is a question for us to answer, do we ready for the Metaverse? If we are not, Quo Vadis?

References

- Raj S., V., & Gohain, M. (2021). Impact of Covid-19 on Malaysian E-Commerce. International Journal on Recent Trends in Business and Tourism, 5(4), 8–10. https://doi.org/10.31674/ijr tbt.2021.v05i04.002
- Damar, M. (2021). Metaverse Shape of Your Life for Future: A bibliometric snapshot. Journal of Metaverse, 1(1), 1–8.
- 3. Garon, J. (2022). Legal Implications of a Ubiquitous Metaverse and a Web3 Future. SSRN Electronic Journal.
- Ara, T. K., Radcliffe, M. F., Fluhr, M., & Imp, K. (2022). Exploring the metaverse : What laws will apply ? DLA Piper. https://www.dlapiper.com/en/us/insights/publications/2022/02/ exploring-the-metaverse/

- 5. Narin, N. G. (2021). A Content Analysis of the Metaverse Articles. Journal of Metaverse, 1(1), 17–24. https://lens.org/132-852-388-772-732
- Chohan, U. W. (2022). Metaverse or Metacurse ? Discussion Paper Series : Notes on the 21st Century. https://ssrn.com/abstract=
- Xu, M., Ng, W. C., Lim, W. Y. B., Kang, J., Xiong, Z., Niyato, D., Yang, Q., Shen, X. S., & Miao, C. (2022). A Full Dive into Realising the Edge-enabled Metaverse: Visions, Enabling Technologies, and Challenges. Arvix.Org, 1–45. http://arxiv.org/abs/2203.05471
- Weber, P. (2021). How Facebook's Metaverse Could Change Your Life. The Week. https:// theweek.com/facebook/1007409/how-facebooks-metaverse-could-change-your-life
- Kraus, S., Kanbach, D., Krysta, P., Steinhoff, M., & Tomini, N. (2022). Facebook and the creation of the metaverse: Radical business model innovation or incremental transformation? International Journal of Entrepreneurial Behaviour and Research, 1–27. https://doi.org/10. 1108/IJEBR-12-2021-0984
- Studen, L., & Tiberius, V. (2020). Social media, quo vadis? Prospective development and implications. Future Internet, 12(9). https://doi.org/10.3390/FI12090146
- Rosenberg, L. (2022). Regulation of the Metaverse : A Roadmap Regulation of the Metaverse : A Roadmap. 6th International Conference on Virtual and Augmented Reality Simulations (ICVARS 2022), March, 25–27. https://www.researchgate.net/profile/Louis-Rosenberg/pub lication/358989449_Regulation_of_the_Metaverse_A_Roadmap/links/624f8e4dd726197 cfd45117c/Regulation-of-the-Metaverse-A-Roadmap.pdf
- 12. Daud, M. (2019). Internet Content Regulation : Contemporary Legal and Regulatory Issues in the Changing Digital Landscape. IIUM Press.
- 13. Haron, H. H. (2020). The Malaysian Press Council: Towards Striking a Balance Between Public Interest and Freedom of Press. International Islamic University Malaysia.
- 14. Haron, H. H., Sufian Shuaib, F., & Arsat, N. (2020). Some Like It Hoax : Lessons in Regulating Fake News in Malaysia. International Conference on Communication and Media.
- Basu, T. (2021). The Metaverse Has a Groping Problem Already. MIT Technology Review. https://www.technologyreview.com/2021/12/16/1042516/the-metaverse-has-agroping-problem
- Oppenheim, M. (2022). 'Repeated Rape Threats': The Scourge of Sexual Violence and Racist Abuse in the Metaverse. The Independent. https://www.independent.co.uk/news/uk/homenews/metaverse-sexual-harasment-assault-racism-b2015741.html
- 17. Wikipedia. (n.d.). Sexual Harassment in Malaysia. Wikipedia. Retrieved May 10, 2022, from https://en.wikipedia.org/wiki/Sexual_harassment_in_Malaysia
- Daud, M., & Zulhuda, S. (2020). Regulating the spread of false content online in Malaysia: Issues, challenges and the way forward. International Journal of Business and Society, 21(S1), 32–48.
- Haron, H. H., & Daud, M. (2021). Pandemik COVID-19 di Malaysia: Mengurus Infodemik melalui Majlis Akhbar. Kanun Jurnal Undang-Undang Malaysia, 33(2), 239–268. https://doi. org/10.37052/kanun.33(2)no3
- Sidi Ahmed, S. M., & Zulhuda, S. (2019). Data Protection Challenges in the Internet of Things Era: an Assessment of Protection Offered By Pdpa 2010. International Journal of Law, Government and Communication, 4(17), 01–12. https://doi.org/10.35631/ijlgc.417001
- Althabhawi, N. M., Zainol, Z. A., & Bagheri, P. (2022). Society 5.0: A New Challenge to Legal Norms. Sriwijaya Law Review, 6(1), 41. https://doi.org/10.28946/slrev.vol6.iss1.1415. pp41-54
- Marr, B. (2022). How The Metaverse Will Change Cryptocurrency. Forbes. https://www. forbes.com/sites/bernardmarr/2022/04/25/how-the-metaverse-will-change-cryptocurrency/? sh=4d54b1204fe4

- Akkus, H. T., Gursoy, S., Dogan, M., & Demir, A. B. (2022). Metaverse and Metaverse Crptocurrencies (Meta Coins): Bubble or Future? Journal of Economics, Finance, and Accounting, 9(1), 22–29. https://doi.org/10.17261/Pressacademia.2022.1542
- Abd Ghani, I. M., & Nawang, N. I. (2020). Cryptocurrency: an Insight Into the Malaysian Regulatory Approach. Hamdard Islamicus, 43(2), 262. https://doi.org/10.17762/pae.v58i2. 2319
- Zulhuda, S., & Sayuti, A. (2017). Whither Policing Cryptocurrency in Malaysia. IIUM Law Journal, 25(2), 179–196.
- 26. Takyar, A. (2022). Metaverse and Smart Contracts. Leewyhartz. https://www.leewayhertz. com/metaverse-and-smart-contracts/
- Wang, F. Y., Qin, R., Wang, X., & Hu, B. (2022). MetaSocieties in Metaverse: MetaEconomics and MetaManagement for MetaEnterprises and MetaCities. IEEE Transactions on Computational Social Systems, 9(1), 2–7. https://doi.org/10.1109/TCSS.2022.3145165
- Khan, S. N., Loukil, F., Ghedira-Guegan, C., Benkhelifa, E., & Bani-Hani, A. (2021). Blockchain smart contracts: Applications, challenges, and future trends. Peer-to-Peer Networking and Applications, 14(5), 2901–2925. https://doi.org/10.1007/s12083-021-01127-0
- Destefanis, G., Marchesi, M., Ortu, M., Tonelli, R., Bracciali, A., & Hierons, R. (2018). Smart contracts vulnerabilities: A call for blockchain software engineering? 2018 IEEE 1st International Workshop on Blockchain Oriented Software Engineering, IWBOSE 2018 -Proceedings, 19–25. https://doi.org/10.1109/IWBOSE.2018.8327567
- Koteska, B., Karafiloski, E., & Mishev, A. (2017). Blockchain implementation quality challenges: A literature review. SQAMIA 2017: 6th Workshop of Software Quality, Analysis, Monitoring, Improvement, and Applications, 11, 2017. https://www.researchgate.net/public ation/320127088_Blockchain_Implementation_Quality_Challenges_A_Literature_Review/link/59cf6b244585150177eb9ee4/download
- Mohd Zain, N. R., Engku Ali, E. R. A., Abideen, A., & Abdul Rahman, H. (2019). Smart Contract in Blockchain: An Exploration of Legal Framework in Malaysia. Intellectual Discourse, 27(2), 595–617. https://journals.iium.edu.my/intdiscourse/index.php/id/article/view/ 1435/873
- Temte, M. (2019). Blockchain Challenges Traditional Contract Law: Just How Smart Are Smart Contracts? Wyoming Law Review, 19(1), 87.
- IH Hsiao, J. (2017). "Smart" Contract on the Blockchain-Paradigm Shift for Contract Law? US-China Law Review, 14(10), 685–694. https://doi.org/10.17265/1548-6605/2017.10.002
- Balkin, J. M. (2021). How to Regulate (and Not Regulate) Social Media. Journal of Free Speech Law, 1(71), 71–96. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3484114
- Zul Kepli, M. Y., & Zulhuda, S. (2019). Cryptocurrencies and Anti-money Laundering Laws
 The Need for an Integrated Approach. In Emerging Issues in Islamic Finance Law and Practice in Malaysia (First Edit, pp. 247–264). Emerald Publishing Limited.
- Norton Rose Fullbright. (2021). The Metaverse: The Evolution of a Universal Digital Platform. Norton Rose Fullbright. https://www.nortonrosefulbright.com/en/knowledge/publicati ons/5cd471a1/the-metaverse-the-evolution-of-a-universal-digital-platform
- Daud, M., & Ida Madieha, A. G. (2021). Digital Disinformation and the Need for Internet Coregulation in Malaysia. Pertanika Journal of Social Sciences and Humanities, 29, 169–183. https://doi.org/10.47836/pjssh.29.S2.12

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