

International Labour Law Perspectives on the Metaverse

Muhammad Reza Syariffudin Zaki

Lecturer, Business Law Department
Faculty of Humanities
Bina Nusantara University, Indonesia
Jakarta, Indonesia 11480
Muhammad.zaki@binus.ac.id

Paulus Aluk Fadjar Dwi Santo

Lecturer, Business Law Department
Faculty of Humanities
Bina Nusantara University, Indonesia
Jakarta, Indonesia 11480
paulus_afds@binus.edu

Hendra

Undergraduate Business Law Department,
Faculty of Humanities
Bina Nusantara University, Indonesia
Jakarta, Indonesia 11480
Hendra012@binus.ac.id

Abstract

The abrupt transition to remote work caused by the COVID-19 pandemic brought with it increased reliance on artificial intelligence as virtually all facets of the employment lifecycle shifted from in-person to remote. The pandemic also opened the door for new AI to gain traction as employers sought ways to enhance the productivity and experience of the virtual workforce. Therefore, a new phenomenon emerged called metaverse. Metaverse is a post-reality universe, an immutable and persistent multiuser environment that combines physical reality with digital virtuality. It is based on the convergence of technologies enabling multisensory interactions with virtual environments, digital objects and people such as virtual reality (VR) and augmented reality (AR). Therefore, Metaverse is an interconnected network of social. Business and employee interactions are also new things that can be developed in the metaverse therefore this research is entitled “International Labour Law Perspectives on the Metaverse”, by using a descriptive juridical research method through a statutory approach and a conceptual framework. The research question is whether private international law already protects the workforce or does working in the metaverse require a whole new rulebook? This research will look at how to regulate the metaverse in international labour law.

Keywords

Metaverse, International Labour Law, COVID-19, Artificial Intelligence, and Avatar.

1. Introduction

The abrupt transition to remote work caused by the COVID-19 pandemic brought with it increased reliance on artificial intelligence (AI) as virtually all facets of the employment lifecycle shifted from in-person to remote. The pandemic also opened the door for new AI to gain traction as employers sought ways to enhance the productivity and experience of the virtual workforce because of that COVID-19 pandemic has created a ripe opportunity for the implementation of these tools as employees are increasingly working remotely (Kim Parker et al. 2020).

Because of AI we can know a new technology such as Extended Reality or Cross Reality (XR) it is an umbrella term that includes a series of immersive technologies; electronic, digital environments where data are represented and projected. XR includes Virtual Reality (VR), Augmented Reality (AR) and Mixed Reality (MR) (Milgram et al. 1994). For instance, while companies continued to use automated technology to screen resumes, analyse video interviews, and track employee productivity, some companies took it a step further and began exploring virtual reality (“VR”) to bridge the gap between in-person work and remote work. Never before have we seen such rapid adoption and development of AI in the labour context.

The increased use of AI, however, comes with attendant risks including the significant risk that automated algorithms, like humans, are not immune from bias. Indeed, algorithms are capable of adopting the inherent biases underlying past employment practices or social conventions embedded in their code, through the data sets they rely upon. Currently, there is an intense race to construct the infrastructure, protocols and standards that will govern the Metaverse (Mystakidis, 2022).

In this regard, reliance on computerised decision-making can unknowingly cause employers to make decisions that implicate laws governing the labour law. Similarly, providing employees with access to VR comes with significant risks. This happens when smart technologies create “a new space” where traditional laws are difficult to apply. For instance, interactions in cyberspace involves many legal jurisdictions, citizens of many countries, complex, and novel conduct (Christopher J. Cifrino, 2014).

Now we are facing another technological revolution with the use of artificial intelligence (AI) in many parts of the economy and the society. This phenomenon might even more rise the question whether there is a disruption and how the private international law should react to this development. The following article will discuss this question regarding the private international law of labour law (Koos, 2021).

In this context, the following paper has as objective to analyse how international law already protects the workforce or does working in the metaverse require a whole new rulebook? This research will look at how to regulate the metaverse in international labour law. This paper is structured in more four sections besides this introduction. The next section presents the literature review, with the main previous works that support this research. Then, the third section explains the method used to achieve the main objective of this research. The fourth section presents the results and the discussions and finally the fifth section the conclusions.

1.1 Objectives

To find out How the development of virtual reality platforms affects the future legal protection of individual personalities in the form of avatars, in the context of the impact on international private and how international labour law can address avatar behaviour and aspects of individual behaviour in virtual environments.

2. Literature Review

Virtual reality and augmented reality have the potential to change the economy and society more than the internet once did. Just recently we find technological developments which may have a real disruptive influence on law, that has up to this point, proved to be flexible in managing legal implications of technological innovation. An example for this is artificial intelligence, which may lead to adaptations with regard to the legal role of behaviour, for example in antitrust law and in contract law (Koos, 2021).

In augmented reality applications, virtual objects are integrated into real environments or are combined with tangible objects. In virtual reality environments, people will move around using avatars and using virtual objects and individualise their virtual spaces with virtual objects or artworks. Augmented reality and virtual reality have a similar potential as artificial intelligence to disrupt legal categories as the legal distinction of tangible and virtual objects and concept of personality may change. One reason for this disruptive potential lies in the use of virtual objects within the metaverse which may result in an alternative comprehension of social surroundings and interaction. Another reason lies in the connection of real objects with virtual objects and of the person with their avatar. Furthermore, the integration of humans into virtual and semi-virtual environments leads to an intensification of legal problems connected with the relationship of the individual to technology, and to powerful platforms. The closer virtual objects are combined with real objects in augmented reality applications, the more these connections gain a semblance of

permanency, the more that virtual spaces develop as an alternative to real spaces and the more social interaction happens in those virtual spaces.

The aim of using metaverse is to create a more interactive and collaborative work experience for remote workers. While this may sound like a good thing, a first concern is that such a combination will add to the stress of being subject to evermore invasive and relentless forms of algorithmic surveillance (Aloisi, 2022), already experienced by remote workers, as well as the sometimes toxic and oppressive dynamics of the office. The potential for augmented psychosocial hazards cannot be overestimated, including because new forms of cyberbullying at work could be enabled by the technologies constituting the metaverse (De Stefano, 2018).

Moreover, if these ‘metaverse offices’ were really to spread, the risk of ‘contractual distancing’ for the workers involved would soar (Hodder, 2020). If businesses are able to have virtual offices which persuasively mimic physical ones and, at the same time, have access to a worldwide workforce of prospective remote workers; their ability to outsource office work towards countries with much lower salaries and weaker labour protection – and to engage in the mass misclassification of employment status will increase enormously (Deakin et al, 2020).

The platform economy will serve as a blueprint. Here, businesses have already lucratively combined heightened surveillance, sham self-employment and ‘crowdsourcing’ of work towards the Global South, taking advantage of abysmal pay rates and zero employment protection. Nor have they ever been stopped by time zones, as crowd workers have long worked unsocial hours for clients everywhere in the world (Berg, 2016).

The metaverse could however make these trends explode in the not-too-distant future. It will not only affect work already done remotely nothing application of labour protection to crowd workers makes these concerns urgent.

3. Research Methods

The study is based on a normative legal approach using international literature, judicative research, and analysis of legislation. It includes law comparison research to find out the similarities and differences of each law studied (Asikin, 2004). It is an evaluative analysis of the impact of the digitalization on contemporary and future private law include international labour law. The study is based on a pluralistic approach to law, integrating social, economic and ethic aspects.

4. Result and Discussion

4.1 What is Metaverse?

There is no single, agreed upon concept of the metaverse (Noel Stephenson, 1992). Etymologically, the term “metaverse” is derived from the words “meta” and “universe.” (Michael Zyda, 2022). The term “metaverse” It was used to describe a utopia to avoid the dystopia in the real life (Ronald leenes, 2007). This concept has expanded to cover real activities in the virtual world equipped with Augmented Reality (AR), Virtual Reality (VR), and Extended Reality (XR) (Philipp A. Rauschnabela et al, 2022), along with 3D technologies, and the internet of things (Nicoló Dozio et al, 2022) It is otherwise known as the Web 3.0, the next iteration of the Internet from the current state Web 2.0 (Allan V. Cook et al, 2020). (Figure 1)

However, the most common concept of the metaverse refers to the virtual world where its users use avatars to act or interact and Extended Reality (XR) technology as a medium to connect them through their avatars (Wen xi Wang, 2022). The difference between the most current concept of the metaverse and the earlier versions, such as that of Second Life, is that it’s the first developed using the social values of generation Z, who see no different between offline and online worlds (Park and Kim, 2022).

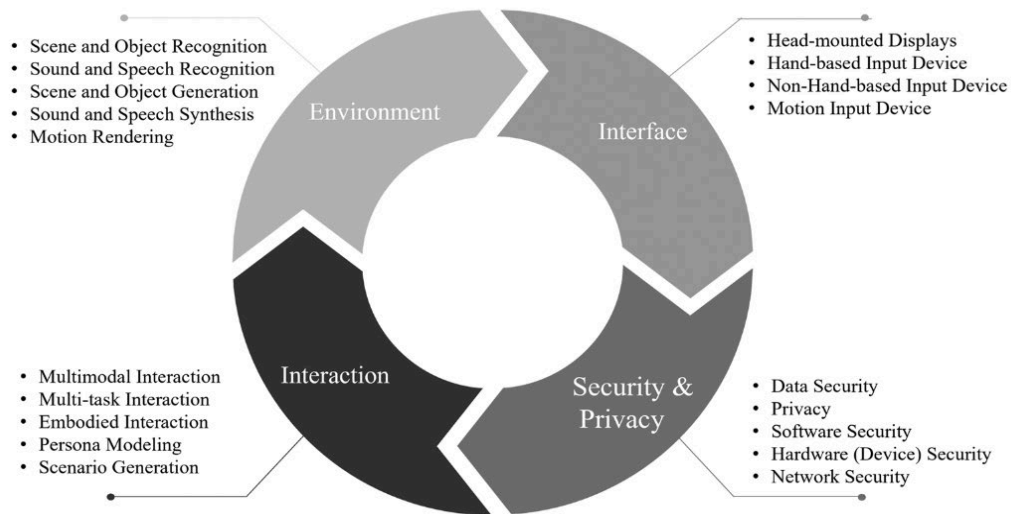


Figure 1. Metaverse with the environment, interface, interaction, security and privacy (Park and Kim, 2022)

4.2 Metaverse on International Private Law

In this era of globalization, the development of the internet is considered disturbing, this was certainly true for the field of economics. However, for the private law, it must be strongly doubted that a 'disruption' had already arisen with this. For law, a disruption only occurs when the technical innovation leads to the existing legal principles systematically underlying the legal system no longer being applicable. Accordingly, the uprise of the internet was not a real disruption in civil law (Koo, 2021). Indeed, it turned out that the internet did not change the existing civil law institutes and instruments. These were still sufficient to cover and solve all occurring legal situations. Regarding labour law, for example, the internet has only changed the medium and speed of legally relevant communication processes. However, the rapid development of the times demands that digitization through the internet is unavoidable, thus starting a process that ends in the loss of state territorial authority, because various processes of social and economic life take place everywhere and can no longer be clearly assigned to the territory of the state. So even though the internet doesn't mean a nuisance to the concepts of private law, it causes distortions regarding the basics of international law and especially conflicts of law, because the applicability of state law is partially reduced. On the other hand, international law has suffered considerable disruption because it is based on the notion of territorial sovereignty and the principle of territoriality, which contradicts the ideal of an internet that can be accessed from anywhere.

At the same time, there has been a shift from purely territorial legal control over certain facts to limiting or expanding the power of states and economic blocs, depending on their economic or political power. Certain states or blocs can extend their laws extraterritorially. The extraterritorial application of national labour laws, particularly antitrust laws, is not a new phenomenon. With the increasing interconnection of labour worldwide in the context of labour globalization, but above all with the diminishing importance of boundaries in the internet age, the territorial principle has become less important, due to territorial allocation.

Thus, the issue of the extraterritoriality of national law and its legitimacy and limitations acquires a new and stronger meaning:

1. State sovereignty is overtaken by the facticity of cyberspace. To the extent that the facts occur virtually, they can indeed affect the territory of a particular country, but national law has only limited options for dealing with this interference, so far as the cause is not on the territory of the country or the technical cause cannot be placed and removed in the territory of the country concerned. To the extent that state courts decide against such interference, their judgment can in principle only relate to their own national territory. However, because offenses are ubiquitous on the Internet and cannot be restricted territorially, an order may be too territorial

and will have extraterritorial effects. At the very least, national laws cannot be enforced effectively because there is no executive power of a country outside its own territory.

2. Some states can extend the effects of their national legal norms beyond their own national territory and enforce them extraterritorially. However, this is not based on a general legitimacy of extraterritorial application of law, but on the de facto consideration of global companies for the law of these states and on the interest of companies to behave in a legally compliant manner in markets which are important for their global business activities. Politically and economically weaker states, on the other hand, have little chance of enforcing their national law at the international level. This is an example of how law loses importance in a technical globalization because the conflict-of-law principle, which has been widely respected up to now, giveaway to a principle of 'enforcement of the strongest'. The principle of law is thus displaced by a political principle. Politically, this aspect of the 'law of the strongest' may be justified with the view point of a 'self-defense' of the sovereign state against the otherwise uncontrollable influence from outside through globally digitalized platforms. The breaking of the principle of avoiding extraterritorial overregulation could be understood as a direct political reaction to the decline of state sovereignty.

The example of augmented reality glasses, which are permanently connected to the internet and generate not only data on the wearer's movements, but also data on unsuspecting people scanned with the glasses, illustrates how future information technology is eliminating the concept of data protection laws individual control over the data. If smart glasses are used more and more in public, this could lead to anyone who moves in public with the potential to become a target for personal surveillance without being able to consent to them or avoid them. This can lead to changes in individual behaviour in society if everyone is aware that they can be the target of observation and profiling (eg by facial recognition) at any time. In addition, the loss of state control over matters relevant to labour law becomes apparent here because the outflow of data to other countries with lower levels of worker protection or an ideologically justified interest in individual global control can only completely prevented. by legal prohibition on the corresponding product. However, such a ban is economically undesirable and impossible to enforce in the long term. Therefore, the legitimate interest of the state to protect the interests of the protection of its workers, which is also recognized under international law, can hardly be fulfilled. It therefore seems legitimate for states in a sort of 'self-defence reaction' -to try to enforce the need for protection of their citizens and their economic territory at least through existing de facto market forces.

The principle of ubiquity thus replaces the principle of territoriality as the principle of order based on the principles of international law, and it can be argued that the principle of the power of the economically strong bloc - the 'right of the strongest' - takes its place. the state seeks to avoid the loss of control described above, especially if a state cannot enforce respect for its legal norms extraterritorially, the alternative is pragmatic legal restructuring. In data labour laws, this can be done by legislators who focus on strengthening ownership of immaterial data for the protection of workers and personal responsibilities of citizens.

The loss of state sovereignty because of the ubiquity of the internet and the factual replacement of the principle of territoriality by the principle of ubiquity also becomes clear in intellectual property rights. Here, a 'crisis of conflict of laws' is particularly evident because of the digital globalization. The scope of national intellectual property rights is historically linked to the reach of state sovereignty and thus limited to the national territory (Lydia Lundstedt, 2016). This follows from the principle of national limitation of the sovereign act of granting.

4.3 The personality in virtual spaces

Wider networking and connecting platforms to virtual spaces and connections with everyday social activities such as professional and business meetings, online commerce, and the like can lead to a much stronger connection of virtual platforms to the real world than has ever been the case in virtual space applications. before, for example, in online games as well as in work. This results in a greater significance of the power of the operators and gatekeepers of the platform for social activities and a greater effect on the interactions of individuals and their legal interests. The possibility of developing virtual workspaces and virtual recreation spaces in a comprehensive global virtual world, can significantly increase the importance of the question of the legal nature and protection of avatars and their role for individual personality expression. Avatars embody the individual in a virtual environment. Their appearance and behaviour can potentially match the wishes and feelings of real people using the avatar. Therefore, it may be necessary to decide to what extent the avatar should be withdrawn from access and possible manipulation by the virtual platform operator.

This is especially true if virtual environments establish themselves in the future as a broad base area for people's lives in the future of the digital society and if they somehow become important facilities for social life. Similar to the antitrust and market regulation debates about limiting the market influence of monopoly networks and platforms, limiting the power of the metaverse may be necessary. Personality rights should extend to the avatar, his appearance and existence. The future legal relationship between platform users and platform operators should be clarified independently from a purely contractual perspective. On the other hand, avatars are not necessarily representative of user behaviour in the real world.

When using avatars, users may behave contrary to their habits in the context of real-world social interactions and they may change their social fingerprint constantly. Avatars can potentially be changed and altered at will, thus impacting the transparency of social behaviour. The legal protection of the avatar must then be reconciled with appropriate legal controls over the potential misuse of the avatar. A common aspect of interest in this context is the ubiquity of virtual platforms that make it difficult, if not impossible, for national legal systems to effectively control and sanction illicit behaviour in virtual social environments. (Koo, 2021). This results in a further increase in the relevance of the question of the adequate allocation of responsibilities on digital platforms to the gatekeepers of virtual spaces.

4.4 Human and Labour Aspects in Metaverse

We live in turbulent times with many potential life changing events happening in a very short time. Examples are the increasing impact of climate change, the consequences of the recent pandemic, and the war in Ukraine with its global impact (Ostrom et al., 2021). This acute event sparked heated discussion every day in all media. Far less life-threatening yet life-changing, and thus less attention and therefore less discussed, is the rapid development of what can be summarized as a platform economy (Field et al., 2021). The platform economy provides a governance structure and a set of standards and protocols that facilitate interactions on a large scale so that network effects can be unleashed and potentially fundamentally change most markets on a global scale. Metaverse development can only be seen as a natural extension of the platform economy with the potential for more life-changing consequences. (Table 1)

It is estimated that 30% of global economic activity can be mediated by digital platforms by 2025. An economic platform allows us to basically relate to people (or companies) around the world and exchange rates of any kind. The exchange of values aims to improve one's well-being and by consensus helps one to live a better life (Vargo et al., 2008). This idea is very important and should be a guiding principle as we transform the platform economy towards realizing the full potential of the metaverse. The metaverse has been defined as “the moment in which our digital lives our online identities, experiences, relationships, and assets become more meaningful to us than our physical lives” . The focus on activity on online platforms to date has been largely on utilitarian value exchanges, for example, creating networks that facilitate the purchase or advertising of products and/or services from peer-to-peer and/or expose companies to audiences around the world.

This is usually done through large platform companies like Airbnb, Amazon, or Facebook. As we transfer more activity towards the metaverse, we tend to see less focus on utilitarian exchanges, and hopefully increase the hedonic aspects that help us as humans (not consumers) and use the metaverse as an extension of ourselves and the experience of being human. This in turn implies a greater focus on the sociological rather than the technological aspects because the metaverse is launched. The promise of the metaverse is limitless, and basically anything we now do in the physical realm can be done in the metaverse, at least in theory. Currently, new worlds and new countries (re) created online settings. The promise is that we can meet anyone from anywhere in the world to work or play in the 3D world. The next potential future is one part of the metaverse reality can allow us to move into the physical realm in the form of holograms, which makes it possible to be present in meetings and in the workspace and long term even to move freely anywhere around our world without moving from our homes (Chayka, 2021). The potential promise of this is that we can meet as we wish to do in the physical world, and that it is a mixture of physical reality and online solution. Long-term use of the metaverse has the potential to create experiences that stimulate all of our senses, albeit synthetically, and may even be substitutes for the real world. This would require a computer brain interface which does not exist today. An interesting philosophical question in this context is: what is the real world and how do we know it and can the metaverse seem more real than real life?

Metaverse is likely to become a reality because its development is so hard to stop. As humans and researchers, we need to go back and focus on how we can use the metaverse to improve our lives and create a better society, rather than focusing on business or the exchange of perspectives. We need to focus on how the metaverse can be used to reinforce aspects of humanity that can only be seen as laudable such as inclusion, happiness, empowerment, or

creativity. Metaverse has potential for improved access and experience of some services in the fields of education, health and culture. It's also one of the potential solutions that allows for better remote work and more immersive context, making it possible to work from anywhere, but still be present in the office or in a meeting. This means that employees can work in any location they want without sacrificing time with family and friends

Labour law issues may arise in connection with the employee's selection of an avatar and the clothing and physical characteristics of the avatar. Anti-harassment and discrimination laws may apply in situations where employees seek to select avatars with racial characteristics that appear distinct from their own, where employees choose avatar clothing that may be deemed inappropriate, or where employees choose to emphasize or omit certain body characteristics. A co-worker's reaction to the selected avatar can lead to HR complaints. Additionally, similar to the risks associated with using AI to analyse video interviews, using AI to develop avatars presents the risk that algorithms may inadvertently exclude certain handicap-related characteristics or traits from VR, giving a false appearance of a homogeneous workforce.

Dependence on VR may also result in the exclusion of, for example, employees with disabilities who have visual impairments that impair the ability to access VR, or whose motor functions prevent them from using the necessary software. Labour should therefore consider the accommodations available to them. VR gatherings, trainings and social events. VR also poses certain risks related to employee behaviour and monitoring. For example, there are avatar accounts that are sexually assaulted and subject to harassing, threatening and/or degrading comments (Kate Beiol, 2022). Existing anti-sexual harassment laws may be interpreted beyond the physical workplace, and as such, may subject employers to liability. for harassing behaviour in the metaverse. Therefore, employers should carefully consider the best way to monitor, regulate and discipline the behaviour of virtual employees, in addition to establishing policies specific to virtual workplaces, while respecting employee privacy rights. Van Esveld said Labour Law does not limit employment relationships where work is carried out under the leadership only, but also includes work carried out by self-employed workers who carry out work on their own responsibility and risk (Zaki, 2022).

Table 1. An overview metaverse as a tool in the office

Domain	Type	Details
Office	Overview	<ol style="list-style-type: none"> 1. The Metaverse office provides a user experience that replaces the real physical space. 2. It provides an immersive service with a sense of space compared with video calls.
	Advantages	<ol style="list-style-type: none"> 1. Avatar moves around the office to complement social experiences with colleagues. 2. A sense of space is provided with sounds (e.g., as footsteps according to distance). 3. The Metaverse provides overlay inventory trends, sales volume with the virtual display. 4. It reduces the effort of accessing an extra system to check the inventory of items. 5. When a problem occurs, there is no need to search for a manual with an error code
	Challenges	<ol style="list-style-type: none"> 1. A lot of the work done in the office has to do with business secrets. 2. That is, security conditions must be satisfied for meetings and documents. 3. Office programs are new markets because they are compatible with the Metaverse

4.5 Is There any Laws Can be Implemented Labour Policies in The Metaverse?

Table 2. Laws That Can Govern Labour Law in the Metaverse

Laws	Information
CEDAW	<p>The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), adopted in 1979 by the UN General Assembly, is often described as an international bill of rights for women. Consisting of a preamble and 30 articles, it defines what constitutes discrimination against women and sets up an agenda for national action to end such discrimination.</p> <p>The Convention defines discrimination against women as "...any distinction, exclusion or restriction made on the basis of sex which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise by women, irrespective of their marital status, on a basis of equality of men and women, of human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field."</p> <p>To date, no jurisdiction appears to have expressly attempted to regulate VR and the metaverse in labours, though some jurisdictions have labour laws that extend beyond the physical workspace, such as anti-harassment laws that include conduct over the internet. Nevertheless, labours should anticipate that VR and the metaverse will be subject to future legislation and regulation.</p> <p>Therefore CEDAW can fill the legal vacuum that occurs if there is violence against women even in the virtual world.</p>
Unfair Dismissal Laws	<p>Avatars are not independent thinkers, so if an employee misbehaves in the metaverse, they cannot blame their actions on their avatar. Many types of misbehaviour will be covered by existing policies and employment laws. For example, colleagues who are abusive to each other in a virtual environment would be subject to normal disciplinary rules and unfair dismissal laws.</p>
Equality ACT	<p>The U.K. Equality Act has a wide definition of sexual harassment that has never included the need for physical touch. The act also prohibits harassment related to any protected characteristic and direct discrimination because of any perceived protected characteristic, regardless of whether the worker has that characteristic themselves. This means that employees whose avatars are subjected to harassment or discrimination seem likely to be able to make claims under existing laws.</p>
Data Protection Law	<p>Privacy concerns may also arise when exploring what criteria an algorithm may consider in rendering its decisions. A complete understanding of the information an algorithm has access to about a candidate or labour is critical to avoiding violations of law aimed at protecting labour privacy.</p>
Monetary and Payment Systems Laws	<p>The main legal sources of monetary and payment systems law come from two major types of laws: (i) currency law; and (ii) central banking law. The first lays the foundation for the use of currency as a legal tender, while the second gives the central bank the power to adopt monetary policies and to regulate and oversee payment systems within their jurisdictions. Most currency laws define their own currencies as the legal tender. Labours must use and accept such currency to fulfil financial</p>

	<p>obligations including satisfying obligations. Some restrict the use of other currencies or assets to perform the obligations, while the others fall in a vacuum in explicitly ruling the use of other currencies or assets. That is why when the use of cryptocurrencies has arisen, and countries have adopted wildly different approaches. Some jurisdictions such as the United States and China have been clear from the beginning to restrict the use of cryptocurrencies within their own jurisdictions. Similarly, Indonesia also bans the use of cryptocurrencies as a means of payment. It is important to protect labours how will they be rewarded if working through the metaverse world.</p>
<p>Intellectual Property Rights</p>	<p>In the era before the development of the internet, the localization of domestic IP law violations on a regular basis was not a problem. Works protected by copyright, for example, are only available in analog or digital form. Brand infringement often occurs by using trademarks on products or print media. On the internet, violations regularly occur completely regardless of national territory. In principle, the interests of rights holders are potentially affected wherever relevant information can be retrieved from the internet.</p>

5. Conclusion

Along with the times that force humans to keep up with unpredictable technological developments, it definitely creates new problems because the development of the times aims to facilitate human work but what if we cannot distinguish ourselves from the determination of machine action. Today there is an area of technology called Metaverse where eliminating human error seems reasonable and ethically unproblematic. On the other hand, the characteristics of digitalization are ubiquitous and avoid legal boundaries from national to international legal systems. Therefore, the refusal to develop suitable technologies would be unrealistic and would also lead to a loss of technical and economic connectivity. In general, regulatory gradations should be made for digitalization technology according to its specific potential harm to society and its ethical relevance. These potential hazards must be analysed, not only when the technology is well established in the market, but is already in the process of being developed. Legislative measures must be pragmatically adapted to the realities of a digital globalized society so that they have the opportunity to be implemented by market players. For the various areas of application of the instrument, it must be decided in each case the extent to which such machine determination can represent ethical or social issues, especially in relation to basic rights.

In the interest of the economy many employers are starting to incorporate AI and VR into more aspects of operations and workplaces to keep up with the times, employers are warned to scrutinize the AI tools they use to ensure compliance with International as well as national laws and to ensure any algorithms used remains free from bias. Employers are also advised to carefully consider revising and/or adopting internal policies and practices with respect to the use of Metaverse, those policies should clearly define how the company plans to use Metaverse, employee behaviour expectations, consequences for violations, and employee rights. and reporting mechanisms. Employers should pay particular attention when considering entering the metaverse, and carefully consider best practices for employee monitoring and discipline, as well as careful oversight of the AI algorithms used to develop avatars to ensure diversity is reflected in both the real and virtual world workplaces. While the efficiency gains and resource savings associated with AI, and the opportunities for “face-to-face” social interaction offered through VR can be attractive, entrepreneurs need time to fully understand the technologies they interact with and the associated risks before implementing them.

From a legal perspective, the metaverse has created conundrums. Theoretical views on the three waves of technological disruption to the authority of the law and the demand for respect for the law suggest that the metaverse falls into the first wave. It has created a space where the law in the real world may be hard to be applied. Hence, the metaverse disrupts “traditional claims” from the legal authority and the demand for respect for the law just because it is the law. However, applying real-world law to the metaverse conducts is the simplest way, although it is not without challenges. The conduct in the metaverse is claimed to be mimicking those of the real world, however, applying the law from the real world to the virtual world has many limitations.

The further difficulties relate to many aspect especially in labour laws: (i) data protection issues as the metaverse stores and manages huge amounts of data including personal data of users, also the cross border data flow issues as the users in the metaverse typically come from hundreds of countries; (ii) applying “traditional” contract law to the metaverse as it mainly uses smart contracts for the sake of practicality, efficiency, and agility; (iii) cyber security issues as more and more cyberattacks occur in the virtual world; (iv) collective efforts of governments around to tax virtual goods, services, and commercial conducts; (v) restrictions by the government on gambling activities in the metaverse has adverse impacts on the development of the metaverse; (vi) applying criminal law to the virtual criminality; and (vii) the metaverse has been accused to be lack of governance and democracy and some of its users lack of ethical conducts.

Stakeholders and governance entities need to discuss how the laws of the future can capture the interrelationships between spaces where people in a real digital society hybrid and the interdependence between real-world personalities and the economic interests of entrepreneurs. Generally, the issue of distribution of responsibilities and obligations between platform creators and users is becoming increasingly challenging for social and trading platforms. This should be examined in the context of comparative law whether and to what extent applicable international labour law can integrate virtual objects or whether sui generis law virtual object will become necessary. Aspects related to tokenization should be included, and the development of private law regarding tokens discussed further.

References

- Aloisi, Antonio and De Stefano, Valerio, Essential Jobs, Remote Work and Digital Surveillance: Addressing the COVID-19 Pandemic Panopticon. *International Labour Review*, vol, 25, no, 1, pp.1-25, 2022.
- Asikin, A. & Zainal. H. *Pengantar Metode Penelitian Hukum*. Jakarta: PT. Rajagrafindo Perada, 2004.
- Beioly, Kate, “Metaverse vs. Employment Law: The Reality of the Virtual Workplace”, available <https://www.ft.com/content/9463ed05-c847-425d-9051-482bd3a1e4b1>, accessed August 8 2022.
- Berg, Janine, Income Security in the On-Demand Economy: Findings and Policy Lessons from a Survey of Crowd workers. *Comparative Labour Law & Policy Journal*, Vol, 37, No, 3, pp. 1-27, 2016.
- Chayka, K. We already live in Facebook’s metaverse The New Yorker, available <https://www.newyorker.com/culture/infinite-scroll/we-already-live-in-facebooks-metaverse>, accessed August 8 2022.
- Christopher, J. Cifrino, “No Virtual Property, Virtual Rights: Why Contract Law, Not Property Law, Must Be the Governing Paradigm in the Law of Virtual Worlds,” *Boston College Law Review*, vol. 55, no. 1, pp. 235-264, 2014.
- Cook, Allan V., Mike Bechtel, Siri Anderson, David R. Novak, Nicole Nodi, and Jay Parekh. “The Spatial Web and Web 3.0: What Business Leaders Should Know about the next Era of Computing,” *Deloitte*, vol, 140, no, 1, pp. 1-20, 2020.
- De Stefano, Valerio, Charalampos Stylogiannis, Mathias Wouters, Ilda Durri, “Upgrading protection against cyberbullying and ICT-enabled violence and harassment in the world of work” *Ilo Working Paper*, vol, 33, no, 2, pp. 1-30, 2018.
- Deakin, Simon, and Tonia Novitz.. “Covid-19, Labour Law, and the Renewal of the Social State”. *Industrial Law Journal*, vol, 49, no, 4, pp. 493–496, 2020.
- Field JM, Fotheringham D, Subramony M, et al, “Service Research Priorities: Designing Sustainable Service Ecosystems”. *Journal of Service Research*, vol, 24, no, 4, pp. 462-479, 2021.
- Hodder, Andy. “New Technology, Work and Employment in the Era of COVID-19: Reflecting on Legacies of Research”. *New Technology, Work and Employment*, vol, 35, no, 3, pp. 262– 275, 2020.
- Kim Parker et al., “How the Coronavirus Outbreak Has – and Hasn’t – Changed the Way Americans Work”, *PEW Research Centre*, vol.2, no.1 pp. 4-31, 2020.
- Koos, S., “Artificial intelligence as disruption factor in the civil law: Impact of the use of artificial intelligence in liability, contracting, competition law and consumer protection with particular reference to the german and indonesian legal situation.” *Yuridika*, vol, 36, no, 1, pp. 235–262, 2021.
- Koos, S., “Machine Acting and Contract Law–The Disruptive Factor of Artificial Intelligence fourth Freedom Concept of the Private Law” *UIR LAW REVIEW*, vol. 5, no.1, pp.1-18, 2021.
- Leenes, Ronald. “Privacy in the Metaverse.” *IFIP International Summer School on the Future of Identity in the Information Society*, vol, 32, no, 1, pp. 95–112, 2007.
- Lundstedt, Lydia, “Territoriality in Intellectual Property Law -Comparative Study of the Interpretation and Operation of the Territorial Principles in the Settlement of Transboundary Intellectual Property Infringement Disputes with

- respect to International Civil Jurisdiction, Applicable Law and Territorial Scope of Application of Substantive Intellectual Property Law in the European Union and the United States”. *Stockholm: Stockholm University*, 2016.
- Michael Zyda, “Let’s Rename Everything ‘the Metaverse!’,” *IEEE Computer Society*, vol, 55, no.,3, pp. 124–29, 2022.
- Milgram, P.; Takemura, H.; Utsumi, A.; Kishino, F. Augmented reality: A class of displays on the reality-virtuality continuum. In *Telemanipulator and Telepresence Technologies, Proceedings of the Photonics for Industrial Applications*, pp. 282–292. Boston, USA, October-November 1994.
- Mystakidis, S., Metaverse. *Encyclopedia*, vol. 2, no.1, pp. 486-497, 2002.
- Nicol’o Dozio, et al. “A Design Methodology for Affective Virtual Reality.” *Computers in Human Behavior*, vol, 133, no, 1, pp. 1-18, 2022
- Ostrom AL, Field JM, Fotheringham D, et al, “Service Research Priorities: Managing and Delivering Service in Turbulent Times”. *Journal of Service Research*, vo, 124, no, 3, pp. 329-353, 2021.
- Park, Sang Min, and Young Gab Kim. “A Metaverse: Taxonomy, Components, Applications, and Open Challenges.” *IEEE Access*, vol, 10, no, 1, PP. 51-420, 2022.
- Philipp A. Rauschnabela, et al. “What Is XR? Towards a Framework for Augmented and Virtual Reality.” *Computers in Human Behavior*, vol, 133, no, 1, pp. 1-18, 2022.
- Stephen L. Vargo, Paul P. Maglio, Melissa Archpru Akaka, “On value and value co-creation: A service systems and service logic perspective”, *European Management Journal*, vol, 26, no, 3, pp.145-152, 2008.
- Stephenson, Noel. *Snow Crash*. London: Penguin Press, 1992.
- Wen-xi Wang, “A Survey of Metaverse Technology.” *Chinese Journal of Engineering*, vol, 44, no, 4, pp. 56-74, 2022.
- Zaki, Muhammad Reza Syariffudin, *Pengantar Ilmu Hukum dan Aspek Hukum dalam Ekonomi*, Jakarta: Penerbit Prenadamedia: Divisi Kencana, 2022.

Acknowledgements

We would like to express our appreciation to the Binus RTTO Department for their support in providing the funds that made this project possible. We also want would like to thank Binus Business Law Faculty for providing facilities so that this research can be completed.

Biographies

Muhammad Reza Syariffudin Zaki is an Assistant Professor in International Law studies. Zaki is a lecturer at the Business Law Department at Bina Nusantara University, the College of Military Law, IBLAM School of Law, and a visiting lecturer at Tunghai University, Taiwan. He graduated from Gadjah Mada University and Padjadjaran University, Indonesia. He is also a researcher at the UGM Center for World Trade Studies. Zaki has written several books such as *Legal Thought, Economics, and International Politics, Sharia Tourism Law in ASEAN, Introduction to Legal Studies and Legal Aspects in Economics, and International Trade Law*.

Paulus Aluk Fajar Dwi Santo is a senior lecturer in the Business Law Department, Faculty of Humanities, Bina Nusantara University, Jakarta, Indonesia. Obtained his Bachelor of Laws (Civil Law) degree from the Faculty of Law, University of Jember (UNEJ), Jember. Then obtained a Master of Law degree from the Faculty of Law, Tarumanagara University (UNTAR), Jakarta. He is currently a student of the Doctor of Law Program at Parahyangan Catholic University (UNPAR), Bandung. Has teaching experience in the Business Law Study Program from 2011 until now with expertise in the fields of Corporate Law, Intellectual Property and Contract Law.

Hendra is a business law student at Bina Nusantara University. He is passionate about discussions in the areas of world trade organizations and international law. Apart from being a law student, he has been involved in several law conferences both on a national and international scale. In addition, he is very active in various organizations, one of which is as the head of studies and publications at the International Law Student Association at Binus University.

