

## LEGAL DEVELOPMENT IN TECHNOLOGY INVESTMENT METAVERSE: CASE IN INDONESIA

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### ABSTRACT

Technology metaverse can help all aspects of lives, but people must be aware, of limited information and literacy have negative impact. So, there is a need for socialization about the metaverse. This research is Systematic Literature Review approach, apart from that this research will analyze how the legal side is to invest in metaverse technology and future legal projections to this metaverse technology sector. The results are regulation for metaverse is low and need developed because the metaverse is abstract. Situation in Indonesia, the development of law towards metaverse is still in parliament and is still in the form of a bill. Second research question, a review of legal projections in the future by parliament to make policy and support for the metaverse technology for provide guarantees. Indonesia must be prepared for this metaverse of technology because in the future the world will change adaptation is needed without compromising.

**Keywords** : Law, Metaverse Technology, Policy, Protection

### A. Introduction

The world is experiencing rapid development with the presence of virtual technology or virtual worlds that are used for communication, economic, social, educational, tourism or other business purposes.<sup>1</sup> The development of virtual technology requires the right explicit software to be used, which is called virtual

reality (VR), while the world that is in it is the metaverse, so called because almost every internal display line has adopted 4 (four) dimensions with standards that have almost the same or resemblance to nature even though it is still in the digital world.<sup>2</sup>

This is also reinforced by the results of Cepi Riyana's research,<sup>3</sup> that the

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1 (Jamil, 2018; Musril et al., 2020; Saurik, Purwanto, & Hadikusuma, 2019)

2 Blake J. Harris and Palmer Luckey, *Future History: Oculus, Facebook, and the Revolution Wiping Out Virtual Reality*, first edition. (Dey St., 2019).

3 Cepi Riyana, "The Influence of the Use of Virtual Reality Media on Students' Analytical Ability in Learning

existence of this metaverse certainly has an impact, if it leads to positive things it will provide benefits for its users, if it is used negatively then only losses can be obtained from using VR, so that not a few VR users will spend their productive time every day just to carry out transaction activities on the world of the metaverse regardless of its social environment. This causes VR users to lose socialization in their environment and do not care about the conditions in their environment.<sup>4</sup>

Juridically, the existence of technology in the form of a metaverse in Indonesia is still minimal and does not yet have a valid legal umbrella to accommodate this, in a seminar held by one of the private tertiary institutions in Indonesia.<sup>5</sup> The essence of this seminar is related to intellectual property in the perspective of Islamic law. The result of the seminar is that the existence of the metaverse world is still unclear, because until now there is no urgency for the existence of the metaverse. In Indonesia, something that is not clear even though it has economic value is forbidden, but more than that is

the importance of prioritizing education and socialization to the Ministry regarding this matter.

On the other hand, currently it is increasing in terms of investment coming into the country, especially in technological developments in the metaverse field, in the current development of investment in technology, according to a website on one of the campuses, quoting from the Site of Temasek, Google and Bain & Co in 2019 which stated that there was at least an increase of up to 49% for the economy, especially in Indonesia with an economic value of USD 130 billion until 2025.<sup>6</sup> Of course, these are the two sides of a coin that will intersect with urgency and also legal protections that are not ready when dealing with the metaverse.<sup>7</sup>

A little explanation that at least the technology base is still the key in the development of a country and colliding with the economy will create a different cultural mechanism to capture this, so that economic actors will be more active in promoting efforts, increasing sales, innovation in repair services, even to lower

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Natural Sciences Class VII of Junior High School," *Edutcehnologia* 2, no. 2 (2018): 36–38; Monita Eva and Rahmah Jassica, "The Impact of Using Technology and Virtual Exhibitions on Local Art Communities During the Pandemic," *Journal of ATRAT* 10, no. 1 (2022): 9–18.

4 N. Vehteva, A. Nazarova, and E. Surkova, "Virtual Reality Negative Impact Analysis and Modeling," in *International Conference on Automation and Energy*, vol. 2096, 2021, 1–8; Raymond Lavoie et al., "Virtual Experiences Real Consequences: Potential Negative Emotional Consequences of Virtual Reality Gameplay," *Virtual Reality* 25, no. 1 (2021): 69–81, <https://doi.org/10.1007/s10055-020-00440-y>; Muhamad Ngafifi, "Technological Progress and Human Life Patterns in a Socio-Cultural Perspective," *Journal of Educational Development: Foundations and Applications* 2, no. 1 (2014): 33–47.

5 Bandung Islamic University

6 UII, "Economic Growth and Digital Investment in Indonesia in a Legal Perspective," Indonesian Islamic University, last modified 2021, accessed 15 August 2022, <https://law.uui.ac.id/blog/2021/07/08/permbuh-digital-economy-and-investment-in-indonesia-in-a-legal-perspective/>.

7 Richard J Gilbert, *Critical Innovation: Competition Policy for a High-Tech Economy* (MIT Press, 2020).

prices. only to attract buyers.<sup>8</sup> However, here the researcher tries to look at it from a regulatory standpoint in Indonesia, which currently for technological developments, in particular, still refers to the ITE Law (*Information and Electronic Transactions*) Number 11 of 2008,<sup>9</sup> which was amended into Law Number 19 of 2016, before clearly discussing the conditions of this metaverse trend, in addition to regulations from the Ministerial Regulation (*Peraturan Menteri*) of the Ministry of Information and Informatics Number 20 of 2016 concerning Protection of Personnel data in electronic systems and Government Regulation Number 82 of 2012 which discusses in general about electronic systems and transactions which until now still have weaknesses in their use, especially from the user side and also data-based decisions which will later be interrelated between users and data security users.<sup>10</sup>

In addition, based on a report prepared to present the government's performance plans for 2018 related to technology, it still discusses the downstream process

and the focus is not on developing advanced technology but still on simple technology.<sup>11</sup> This is of course a challenge in the application of laws related to the existence of this metaverse, at least there is a real socialization action for everyone so that actions that lead to abuse and safety in activities in the metaverse world are still not optimal.<sup>12</sup>

Therefore, given the need for a policy or legal protection for the existence of this metaverse on the grounds that later there will be guarantees and an important role from the government as well as providing guidelines for metaverse users to be more law-abiding when accessing it. Considering that other countries have started investing their finances in metaverse technology, such as in Japan which is a model for countries in the Asian Region, where Japan is already at the 5.0 technology development in 2020, and the focus of its development lies in providing solutions to problems in society with the help of advanced robots for an unlimited time.<sup>13</sup>

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- 8 Hunter Muller, *Major Shifts in IT Leadership: How CIOs Harness the Power of Technology for Strategic Business Growth in a Customer-Centered Economy* (Wiley, 2015).
- 9 Abeba N. Turi, *Technology for Modern Digital Entrepreneurship: Understanding Emerging Technologies at the Edge of the Web 3.0 Economy* (Apress, 2020).
- 10 (Kominfo RI, 2016)
- 11 Coordinating Ministry for Human Development and Culture of the Republic of Indonesia, *Presidential Regulation of the Republic of Indonesia Number 79 of 2017 Concerning the 2018 Government Work Plan (RKP)*, 2018, [https://jdih.kemerkopmk.go.id/sites/default/files/2019-01/Perpres 79 ATTACHMENT TO THE 2018 RKP PRESIDENTIAL REGULATION.pdf](https://jdih.kemerkopmk.go.id/sites/default/files/2019-01/Perpres%2079%20ATTACHMENT%20TO%20THE%202018%20RKP%20PRESIDENTIAL%20REGULATION.pdf).
- 12 Li Jiaxin and Gao Gongjing, "Socializing in the Metaverse: Innovation and Challenges of Interpersonal Communication," in *Proceedings of the 8th International Conference 2022 on Humanities and Social Sciences Research (ICHSSR 2022)*, vol. 664, 2022, 2128–2131.
- 13 Sin Nosuke Suzuki et al., "Virtual Experiments in the Metaverse and Their Application to Collaborative Projects: Frameworks and Their Significance," in *24th International Conference on Information Systems & Knowledge-Based Engineering and Intelligence*, vol. 176, 2020, 2125–2132.

Apart from that, the development of metaverse technology from the technology giant Facebook is also mushrooming. It is known that in 2021 Facebook will invest (USD) 10 million to fund the development of this metaverse and it is hoped that by 2026 there will already be around 30% of organizations in the world that will follow the development of this metaverse.<sup>14</sup>

Meanwhile, Indonesia itself is currently not interested in the development of the metaverse world and currently Indonesian technology is still in the stage of simple technology and the Indonesian government only focuses on problems that appear on the surface and has not touched any of them root of the problem and referring to research from Fajri, Zahira and Rahayu, stated that limited human resources are the reason why Metaverse has not developed widely in Indonesia, so that large investment funds are needed in metaverse, especially in the field of education related to technology and technological development.<sup>15</sup>

Seeing the development of world technology that is very advanced, of course, this is one of the indications towards a world with easy access, especially in advances in the field of technology. Indonesia, of course, has to look at this as a potential in advancing, for example, in the economic, social and other fields. But of course, looking at

the current legal umbrella in Indonesia, it is still very limited in metaverse technology investment. Of course, it is very unfortunate by all parties. Therefore, researchers in this article will discuss further about the condition of the law protection, especially in the development of metaverse technology investment in Indonesia.

Through the research in this article, researchers will focus more on analyzing the legal side related to Indonesia's investment in the metaverse technology, through this analysis, of course, also future legal projections. The development of the digital world, especially in this metaverse, must be a concern for Indonesia, which currently has not shown maximum results. It is therefore important for researchers to raise and study laws related to this metaverse technology.

It aims to provide recommendations and suggestions to stakeholders or future researchers to be able to further develop the metaverse, especially from a legal perspective in Indonesia, which currently has not been properly accommodated regarding the existence of the metaverse. The implementation of this research will also explain the research questions that will be raised in this research. In this article, the research questions are: (1) What is the condition of the legal side of investment in the technology sector of

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14 Louis Rosenberg, "Regulation of the Metaverse : A Roadmap Regulation of the Metaverse : A Roadmap," in 6th International Conference on Virtual Simulation and Augmented Reality (ICVARS 2022) (Brisbane, Australia, 2022), 1-11.

15 Fitri Nur Fajri, Safira Nur Zahira, and Amalia Risti Rahayu, "The Influence of Science and Technology, Length of Education on Achievement of Indonesia's Human Development Index in 2018-2020," *Economic Dynamics* 13, no. 2 (2022): 271-279, [https://ejournal.unisba.ac.id/index.php/dinami\\_onomi/article/view/9634](https://ejournal.unisba.ac.id/index.php/dinami_onomi/article/view/9634).

the metaverse? (2) What are the future legal projections regarding investment in the metaverse sector?

## B. Research Method

Research Method uses a systematic literature review (SLR) approach. The SLR method in this article has 3 steps, including the following,<sup>16</sup> : the *First*, using keywords “law” and “metaverse technology investment” to find some articles that are relevant to answer research question that has been determined.<sup>17</sup> The *second* step is the elimination of articles, for relevant articles to use and can answer research question with rules are as follows: (1) elimination articles if not use English as an internationally recognized language and the United Nations, (2) elimination articles if from book sections, review book, book chapter, or result articles from conference proceedings, (3) elimination articles if use same methods from this article, and (4) the last elimination articles if not published in 2010-2020.<sup>18</sup>

*Third* step, will be the stages of counting articles and grouping them according to the theme and relevance in answering the predetermined research question, and the number or result that is more dominant then he will be the

one who will be appointed to answering the research question because much research has been done. Furthermore, the database that will be used in this study using the Taylor and Francis Group Database (*see figure 1*), which has a good reputation in publishing international scientific journals and recognized by international academics if the journal is indexed in this database. The other reason using this database because only this database can find some article and relevant to answer research question.<sup>19</sup> After that, keywords will be used to limit the articles found and reduce confusion in the later discussion, which is only related to law and the metaverse so, relevant for the analysis.<sup>20</sup>

## C. Discussions

### 1. Scarcity Articles

After doing a search for articles, the following researchers present below in the form of a table regarding the results of the study, as follows:

Table 1. Article Search Result

Database	Step 1	Step 2	Step 3	Results
Taylor and Francis Group	14	10	6	6
Total				6

Source: researcher data

- 16 Jianfeng Wen et al., “Systematic Literature Review of Machine Learning Based Software Development Effort Estimation Models,” *Information and Software Technology* 54 (2012): 41–59.
- 17 David Denyer and David Tranfield, “Producing a Systematic Review,” in *The SAGE Handbook of Organizational Research Methods*, 2009, 671–689.
- 18 Sara Efrat Efron and Ruth Ravid, *Writing the Literature Review : A Practical Guide* (The Guilford Press, 2019).
- 19 Jose L. Galvan and Galvan Melisa, *Writing Literature Reviews: A Guide for Students of the Social and Behavioral Sciences*, 7th ed. (Taylor and Francis, 2017).
- 20 Diana Ridley, *The Literature Review Step-by-Step Guide for Student*, ed. Katie Metzler, 2nd ed. (London: SAGE Publication Ltd, 2012).

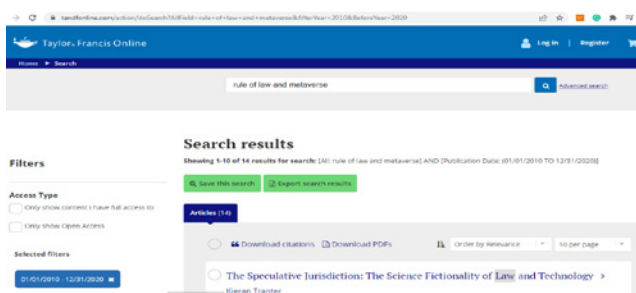


Figure 1: Search article view

Based on the results of the article search above, it can be seen that using the Taylor and Francis Group database has produced at least 6 (six) articles that have been discussed according to keywords and have been filtered by researchers. In the first step with keywords and year limits found only 14 (fourteen) international scientific journal articles. In contrast, in the second step it was found that there were at least 10 articles that were worthy of entering the next stage. The last step only 6 articles that could be used to answer the two-research question, in the next process the researcher not only emphasized the discussion on Those 6 articles alone, then researcher will combine them with other articles that are worthy of being

used as reference material in compiling this article.

## 2. Problematic Implementation of The Metaverse Law

The first research question will discuss the legal review related to investment in technology, especially the metaverse, by using keyword limits and year limits. The following is the discussion below:

Table 2. The first research question

Overview	Short explanation	Author	Results
limited legal implementation in metaverse technology Metaverse.	all activities in the metaverse must immediately carry out guidelines for use and also procedures for operation, therefore the law governing this must be issued immediately.	21, 22, 23, 24.	4
The metaverse world is not bound by the laws that exist in the real world. The laws governing the metaverse will follow the development of the times very briefly so that the law is only one of the complements in the metaverse. 25, 26, 2			

Source : researcher data

Through (table 2) above, it can be analyzed as related to law and the metaverse so far it is still unclear and not many countries in the world are willing to apply favorable laws in the real world to be applied to this metaverse later.

- 21 Kieran Tranter, *The Law and Technology Enterprise: Uncovering the Template to Legal Scholarship on Technology, Law, Innovation and Technology*, vol. 3, 2011.
- 22 Clare Chambers-Jones, "Virtual World Financial Crime: Legally Flawed," *Law and Financial Markets Review* 7, no. 1 (2013): 48-56. jurisdictional and sovereignty issues of the internet and virtual worlds, it becomes even harder to regulate. Undoubtedly financial crime, via the internet (cyber financial crime
- 23 Craig Newbery-Jones, "Ethical Experiments with the D-Pad: Exploring the Potential of Video Games as a Phenomenological Tool for Experiential Legal Education," *Law Teacher* 50, no. 1 (2016): 61-81.
- 24 Kieran Tranter, "The Speculative Jurisdiction: The Science Fictionality of Law and Technology," *Griffith Law Review* 20, no. 4 (2011): 817-850.
- 25 Chip Stewart, "Do Androids Dream of Electric Free Speech? Visions of the Future of Copyright, Privacy and the First Amendment in Science Fiction," *Communication Law and Policy* 19, no. 4 (2014): 433-463.
- 26 Litska Strikwerda, "Should Virtual Cybercrime Be Regulated by Means of Criminal Law? A Philosophical, Legal-Economic, Pragmatic and Constitutional Dimension," *Information and Communications Technology Law* 23, no. 1 (2014): 31-60.

According to Tranter,<sup>27</sup> many benefits will arise from activities in this metaverse world but on the other hand there needs to be clear legal action and strong references because the negative impacts of this metaverse are numerous because the virtual world will have no boundaries that can prevent it.

In Indonesia itself the law that regulates related to this metaverse still uses and refers to Law Number 11 of 2008 that this rule was created as an effort to regulate cyber law or telematics law which internationally can be taken as its essence related to the use of information and communication technology which is widely used without limits for certain purposes and digitized.

Meanwhile, in Indonesia until 2021 digitization refers to the research results of Nurdany and Prajasari,<sup>28</sup> that digital technology in Indonesia is still of an old pattern, namely the shift from conventional to digital which only focuses on one side, namely the economy. So that widespread utilization has not been seen for other sectors, for example for supporters in the world of education, the world of health, integrated management,

public services, telecommunications or even transportation.<sup>29</sup> According to Strikwerda, states that life in the virtual world of the metaverse is only as a new ecosystem combined with technology on the basis of a specific purpose. So, if the utilization of this metaverse can be implemented in total, of course it can increase the global competitiveness of a country against other countries.<sup>30</sup>

In addition, the current use of the metaverse has not been fully utilized to its full potential, the law will be floating and will not be able to fully provide guarantees when something happens in the metaverse, only users can stop their activities when they feel it is enough and no other party can control the activities of these users. Refers to Chambers-Jones,<sup>31</sup> that the law will not work when something happens without evidence and the metaverse applies abstract concepts and in this case, there is a need for the term digital security applied in the metaverse.

In addition, researchers see that Indonesia has great potential because of data in 2016 alone the use of technology in Indonesia has reached 132 million people and is predicted to increase in

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- 27 Tranter, *The Law and Technology Enterprise: Uncovering the Template to Legal Scholarship on Technology*, vol. 3, p. .
- 28 Achmad Nurdany and Anniza Citra Prajasari, "Digitalization in Indonesian Cooperatives: Is It Necessary?," *Journal of Developing Economies* 5, no. 2 (2020): 120–131.
- 29 M. Claudia Tom Dieck and Timothy Jung, *Augmented Reality and Virtual Reality: The Power of AR and VR for Business*, 1st ed. (Springer International Publishing, 2019).
- 30 Strikwerda, "Should Virtual Cybercrime Be Regulated by Means of Criminal Law? A Philosophical, Legal-Economic, Pragmatic and Constitutional Dimension."
- 31 Chambers-Jones, "Virtual World Financial Crime: Legally Flawed." jurisdictional and sovereignty issues of the internet and virtual worlds, it becomes even harder to regulate. Undoubtedly financial crime, via the internet (cyber financial crime

the following years.<sup>32</sup> while the potential for economic growth from these superior activities has reached 27 billion US dollars just for 2018 alone. Thus, making Indonesia one of the developed countries in this sector for the Southeast Asian Region.<sup>33</sup>

On the other hand, through the Draft Omnibus Law (RUU OL) in Indonesia, which is currently still in the discussion stage in parliament, it is hoped that it will become a momentum for sustainability for the level of digitalization of technology, especially the metaverse for technological progress in Indonesia. This was also explained by Ulya and Mulyarri that the momentum of the Omnibus Law can be used as a reconstruction related to convergence based on technology law in Indonesia, which has so far been of an old pattern.<sup>34</sup>

The technological condition in the metaverse is very complex, this is not only technical in the metaverse, which must use the avatar feature to provide a reality of life in it and also users to feel real life

in the virtual world.<sup>35</sup> It is also crucial to pay attention to fellow metaverse users, there is no binding law and transparent information about this metaverse. Of course, it will be very detrimental if it is not handled properly. Refers to Andrea Vanina Arias,<sup>36</sup> that negative actions will often occur in the virtual world and will adapt to conditions, it can be said that if the technology becomes more sophisticated then negative cases such as fraud, illicit trade, and even illegal transactions will also evolve to be able to match the system that has been created.<sup>37</sup> However, if it is felt that the problem of law is very difficult to apply to this metaverse world, research from Newberry-Jones,<sup>38</sup> provide a simulation of the mini concept of the existence of the metaverse, for example from the education sector or learning methods that can certainly accommodate users bound by the standard rules and regulations of formal education in the real world. In addition, the existence of a mini metaverse project in a small scope will also have a big impact if it can be managed properly for its users and other

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32 Berry A. Harahap et al., *Financial Technology Developments Related to Central Bank Digital Currency (CBDC) on Monetary and Macroeconomic Policy Transmission*, Bank Indonesia, vol. 2, 2017.

33 Google and Temasek, *E-Conomy SEA 2018 Southeast Asia's Internet Economy Hit Inflection Point* (Singapore, 2018).

34 Nurul Ula Ulya and Fazal Akmal Musyarri, "Omnibus Law Concerning Information and Communication Technology Regulations for the Reconstruction of Technology-Legal Convergence," *Rechts Vinding Journal: National Law Development Media* 9, no. 1 (2020): 53.

35 Avatar Adi Da Samraj, *The Aletheon: The Divine Avataric Self-Revelation of His Divine Presence* (BookBaby, 2021).

36 Andrea Vanina Arias, "Life, Liberty and the Pursuit of Swords and Armor: Regulating the Theft of Virtual Goods," *Criminal Law e-Journal* 57, no. 1301 (2008).

37 Angela Adrian, "Beyond Griefing: Virtual Crime," *Computer Law and Security Review* 26, no. 6 (2010): 640-648, <http://dx.doi.org/10.1016/j.clsr.2010.09.003>.

38 Newberry-Jones, "Ethical Experiments with the D-Pad: Exploring the Potential of Video Games as a Phenomenological Tool for Experiential Legal Education."



interested parties.<sup>39</sup>

Many factors have caused the delay in the implementation of laws related to metaverse technology investment in Indonesia, one of which is the overlapping of existing laws in Indonesia where there are around 7,621 ministerial regulations, then there are around 765 presidential regulations and 452 government regulations. only for the 2014-2018 period, which of course will result in disharmony of legal products.<sup>40</sup> So that with the existence of the rules from the Omnibus Law which are currently still in the draft stage in the parliament, of course it will provide convenience for all who are the subject of the law.

The presence of the Omnibus Law is also very useful in this metaverse technology including user data protection, law for violators who abuse this technology, access domains in the metaverse world, effective for law revisions related to Information and Communication Technology, policy directions in implementing public policies, integration law and ease in implementing licensing for the use of the metaverse concept.<sup>41</sup>

Indonesia, the discussion on the first research question does not yet have laws governing investment in this metaverse technology sector, while the laws that

are highly relevant to these conditions are still at the stage of drafting a law in Parliament. The importance of the law governing this metaverse greatly affects its users who have been using digital technology without adequate supervision and regulation so that the impact will be analyzed according to existing rules without looking into and looking deeper into the causes and effects that have occurred.

### 3. Policy for Metaverse in Future

The second research question will discuss legal projections related to investment in the field of law, especially the metaverse in the future, based on the results of the search for scientific journal articles using the database, there are at least some projections that must be signed in implementing the metaverse, although currently the metaverse has not shown any indications. There is a threat to internal social life in society. Here's the presentation in the form of a table below:

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- 39 Marko Orel, *Collaboration Potential in Virtual Reality (VR) Office Space: Transforming the Workplace of Tomorrow* (Springer, 2022).
- 40 Supriyadi Supriyadi and Andi Intan Purnamasari, "The Idea of Using the Omnibus Law Method in Forming Regional Regulations," *Scientific Journal of Legal Policy* 15, no. 2 (2021): 257.
- 41 Ulya and Musyarri, "Omnibus Law Concerning Information and Communication Technology Regulations for the Reconstruction of Technology Law Convergence."

Table 3. The second research question

Projection	Short explanation	Author	Results
Opportunity to create policies regarding the metaverse.	The existence of technology must be an opportunity for all countries in the future, cooperation with other agencies as well as making laws with the legislative council must be followed up immediately so that the law becomes one of the umbrellas in the implementation.	42, 43, 44, 45	4
Internet security law	Security by institutions connected to real-world security, working together to ward off crime.	46, 47	2

Source : researcher data

Based on (table 3) above, it can be seen that the metaverse is an opportunity that can be used as part of the agenda in planning a policy. The policy in question is the rules that must be given to users when playing in the metaverse.<sup>42</sup> According to several academics, policy making will not be optimal if it is only based on assumptions, therefore action is also needed in the form of a road map in the course of making policies related to the metaverse.<sup>43</sup> Based on research results from Rosenberg in 2022, there are at least a number of requirements put forward to provide safety and comfort in

using the metaverse.<sup>44</sup>

Another research from Gadalla in 2013 that cyberspace will offer all extraordinary conveniences. Thus, the public will voluntarily participate and join this virtual world, however, even though there will be coercive policies, there will be gaps for people to get into it.<sup>45</sup> Although the existence of the metaverse is for some people one of the abstract worlds. But slowly and surely, in the future there will be certain parties who take advantage of the metaverse for the progress of a nation, speed and wide access regardless of certain limitations will make people in the future able to adapt well to this advanced technology.

Then, government actors as one of the parties that can provide a sense of security to the public must be able to capture and must be able to create public trust in the security of the system in the form of policies that indirectly have a significant impact on this metaverse world later. According to Tranter in 2011,<sup>46</sup> it is also specifically stated that the law must regulate all aspects of life including abstract life, namely the metaverse, certain policies that are made must be relevant to the conditions of a technologically literate society and if it has not reached that stage it is necessary

42 Ben Chester Cheong, "Avatars in the Metaverse: Potential Problems and Legal Fixes," *A Review of International Cybersecurity Law* (2022): 1-28.

43 Rosenberg, "Metaverse Rules : Roadmap Metaverse Rules : Roadmap."

44 Tranter, *Law and Technology Firms: Revealing Templates for Law Scholarships on Technology*, vol. 3, p. .

45 Eman Gadalla, Kathy Keeling, and Ibrahim Abosag, "Metaverse-Retail Service Quality: A Future Framework for Retail Service Quality in the 3D Internet," *Journal of Marketing Management* 29, no. 13-14 (2013): 37-41.

46 Chambers-Jones, "Virtual World Financial Crime: Legally Flawed."

to socialize good technological activities and their utilization which makes a positive contribution, for example in the Education sector which provides convenience in the new learning era so that adaptation to the world 4.0 which is able to collaborate between Education and the world of digitalization will be very useful in the process of supporting learning.<sup>47</sup>

So those future projections related to policies that lead to technology investment law in the metaverse field must be able to provide security and a sense of comfort for users of this metaverse, the features of metaverse conditions must be able to make users adapt quickly. In Indonesia, the policy projection is still in the draft law (RUU) stage. Policies in Indonesia regarding the metaverse are still very limited, for example at the licensing stage which already uses one single submission, of course it needs improvement so that the existing database must be in one place for the safety of its users.<sup>48</sup>

The urgency of this metaverse policy is also related to the security side of its

users, several opinions, one of which is from LIPI (Indonesian Institute of Sciences) explains that society in general will try to go against the law and not be bound by the law because there is still a culture that is usually contrary to state law, there is still weak supervision of perpetrators of violations and also acts against the law. given by law enforcement officials is still not optimal and does not provide a deterrent effect to violators.<sup>49</sup>

Then from the prevention side of cybercrime, money laundering cases, human trafficking, virtual attacks that threaten the safety of its users, all of which have not been a priority in Indonesia until now.<sup>50</sup> Therefore, the use of the metaverse must be limited and users must be properly selected for filtering purposes before joining this metaverse world.<sup>51</sup> Conducting emotional analysis on metaverse users requires emotional intelligence from users of this sophisticated technology so that if there are problems using the metaverse, they can take quick and appropriate decision-making actions.<sup>52</sup> Restrictions on available products in the metaverse

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47 Ikhwan Akbar Endarto and Martadi, "Analysis of Potential Implementation of Metaverse in Interactive Educational Media," *Barik Journal* 4, no. 1 (2022): 37–51, <https://ejournal.unesa.ac.id/index.php/JDKV/>.

48 Suryati Suryati, Ramanata Disurya, and Layang Sardana, "Legal Review of the Omnibus Law on the Job Creation Law," *Simbur Cahaya* 28, no. 2 (2021): 97–111, <http://journal.fh.unsri.ac.id/index.php/simburcahaya/article/view/902>.

49 LIPI.

50 Safari Kasiyanto and Mustafa R. Kilinc, "Legal Conundrums of the Metaverse," *Journal of Central Banking Law and Institutions* 1, no. 2 (2022): 299–322.

51 Eman Gadalla, Kathy Keeling, and Ibrahim Abosag, "Metaverse-Retail Service Quality: A Future Framework for Retail Service Quality in the 3D Internet," *Journal of Marketing Management* 29, no. 13–14 (2013): 37–41.

52 Carlos Bermejo Fernandez and Pan Hui, *Life, the Metaverse and Everything: An Overview of Privacy, Ethics and Governance in the Metaverse*, 2022.

world. Of course, the products offered in the metaverse world will be very large, of course, restrictions and supervision are needed. Personal use needs to be limited, the use of an account as a substitute for the metaverse must be the user concerned and is not allowed for other people who use it, because it is feared that negative actions may occur.<sup>53</sup>

Some of the points presented above are the procedures for using the metaverse which currently can still be revised considering the current condition of the policies governing the metaverse are not yet available, at least when there are policies in the form of laws and government regulations related to this it is necessary to pay attention to some of the points that have been conveyed and analyzed above. In addition, the conditions in Indonesia which are currently developing rapidly must immediately receive follow-up from the government, in this case the Ministry of Information and Communication (*Kominfo Republik Indonesia*) tasked with preventing any negative impacts that could occur with the presence of this metaverse.

Given that the existence of the metaverse occurs in the digital world without any boundaries and space in its arrangements and this is where the role of the government is, in line with the mandate of the 1945 Constitution which obliges the government to protect

its citizens from any threats including the context of this article is the virtual world that must prioritize progress in the field of technology, so that in the future Indonesia's policy direction can adapt to the times that are currently developing rapidly from time to time.

#### **D. Closing**

This section, after searching articles through databases and scientific analysis in the form of journals which are carried out systematically, there are at least 2 points that can be given in line with the existing research question. The first research question, regarding legal studies related to technology investment related to the metaverse, especially in Indonesia is currently still in the discussion stage in parliament, where in the stage of the Draft Law which is called the Omnibus Law which is expected to be able to guide all laws which are in discussion there are several problems including overlapping laws in Indonesia and later this bill can be an option for legal improvements and of course future projections regarding the metaverse can be accommodated properly. The next results of the analysis state that legal studies related to this metaverse technology are still in the draft stage in parliament, but researchers are also making guidelines that can be used as a reference when dealing with this metaverse. Given that this metaverse is

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53 Stewart, "Is Android Dreaming of E-Free Speech? Visions of the Future of Copyright, Privacy and the First Amendment in Science Fiction."

a virtual world, there will be no limitations in terms of space and time and its users are very free to carry out all activities in it, so it is important to have direct guidelines that must be obeyed. The hope of future researchers is that the limitations in research are only simple research

methods but still pay attention to and refer to established SLR methods, besides that the legal context of the metaverse in Indonesia is still limited and previous research has not shown effective results.

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Peraturan Presiden Republik Indonesia  
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Elektronik

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