

The Business Prospect in Metaverse and NFT Era (User, Accountant, and Gaming Community Perspectives)

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Abstract— Non-Fungible Token (NFT) has been growing extraordinarily in recent years. The concept of NFT is essentially a digital asset that operates based on smart contracts on a blockchain that were traded with cryptocurrencies such as Ethereum, Tezos, Solana, etc. Public attention toward NFTs has exploded in 2021. Despite its popularity and skyrocketing trading prices, little is known about the economics, people's perceptions, and experiences with NFTs. Therefore, This study aims to provide diverse understandings of NFT, the benefits & drawbacks of NFT, and the potential of NFT and metaverse according to them. In this paper, researchers perform a qualitative study which consists of 18 respondents, including users, accountants, and gaming community. This research uses a semi-structured interview and descriptive analysis method. The conclusion drawn from this study is that this research recommends readers for utilizing NFT and we expect readers to find this research useful.

Keywords— Non-Fungible Token, Blockchain, Metaverse, Innovation, Business Prospect.

I. INTRODUCTION

1. 1 Research Background

Blockchain growth is currently growing rapidly compared to 2008 where it was first introduced by Satoshi Nakamoto through a cryptocurrency called Bitcoin (Hassani et al., 2018). In 2014, second generation of blockchain such as Ethereum and Cryptocurrency was introduced, it has new software called smart contract, which allow any user to create and deploy program on a shared global infrastructure, that later on create a new concepts design to simplify human interaction and collaboration on a large scale (Regner and Schweizer 2019). One example of this development is the Non-Fungible Token (NFT). Wang et al. (2021) stated that NFT is a type of cryptocurrency that is derived by the smart contracts of Ethereum. Wang et al. (2021) clarify that NFT was first proposed in the Ethereum Improvement Proposal (EIP)-721 and further developed in EIP-1155. According to Kong and Lin (2021) the interest in NFT has been extraordinary, especially after the sale of Beeple's artwork "Everydays: the First 5000 Days" for 69 million on March 12, 2021. It was reported that the liquidity of NFT-related solutions has accounted for 1.3% of the entire cryptocurrency market in five month periods (Wang et al., 2021).

According to Schaar and Kampakis (2021), the highest average prices of NFT can be observed in the metaverse. Damar (2021) stated that the metaverse refers to a shared 3D virtual world in which all activities can take place using

augmented and virtual reality equipment. Metaverse has become a buzzword since Mark Zuckerberg announced that the parent company (Facebook) changed its name into Meta and the company's goals going forward (The Verge 2021). Other than that, according to The Wall Street Journal (2022), PwC in Hong Kong purchased virtual real estate in the Sandbox metaverse that resulted in investors' optimism and cautiousness. In contrast, Wang et al. (2021) also mentioned that NFT and metaverse still have a long way to go since they're still in early development. It has been reported by Bloomberg (2022) that Frosties NFT creators (Ethan Nguyen and Andrew Llacuna) were charged for defrauding investors of more than \$1 million by creating a series of NFTs and abandoning the project after selling out of the tokens. Also, according to Kotaku (2022), hackers stole \$1.7 million worth of NFTs from OpenSea users by using phishing techniques.

Based on these factors, researchers had interest in identifying why users, gaming community and accountants think on NFT, also identifying some opportunities and challenges of NFT and metaverse according to them, and what they think about NFTs and metaverse in the future. Researchers provide a detailed analysis of their perspectives and the business prospects of NFT and metaverse.

1. 2 Problem Identification

The problem identifications are as follows:

- What do NFT users, gaming community, and accountants think about NFTs or metaverse?
- What are the opportunities and challenges users, gaming community, and accountants encounter on NFT and metaverse?
- What are the potentials in NFT and metaverse in the future according to users, gaming community, and accountants

1. 3 Research Purpose

The purpose of this research comes from the overwhelming interest of NFT and metaverse in recent years. It aims to describe and analyze the positive and negative aspects of NFT and metaverse according to the user, accountants, and gaming community perspectives. In addition, researchers are also curious about the potential that would happen in five year ahead in NFT and metaverse according to them.

II. LITERATURE REVIEW

2. 1 Definition of NFT and Metaverse

2. 1. 1 NFT

According to Nadini et al. (2021), NFT is a unit of data stored on a blockchain that certifies a digital asset to be unique and therefore not interchangeable. The data consisted of images, audio files, art, gaming and sports collectibles, etc. and were traded with cryptocurrency such as USDT and ETH (Sharma et al., 2022). Wang et al. (2021) added that NFTs can be easily proven their existence and ownership of the digital asset were from the smart contract that comes from a blockchain. They added that the creator of NFT can also earn royalties each time a successful trade on any NFT market or by peer-to-peer exchanging. The NFT system is the same as blockchain-based applications. Whenever NFT is minted or sold, a new transaction is required to invoke the smart contract. After the transaction is confirmed, the NFT data and ownership details were added to a new block, ensuring that the history of the NFT remains unchanged and the ownership is preserved (Wang et al., 2022). According to Schaar et al. (2022), the NFT market is driven by many reasons such as heterogeneous asset, high market transparency, verifiable, availability of the market is 24/7, low liquidity, relatively high transaction cost, higher elasticity of supply than the physical art market, psychological factors of owning NFT are different from owning traditional assets and price evaluation is not objective.

2. 1. 2 Metaverse

According to Lee et al., (2021), metaverse comes from the word “meta” (transcending/beyond) and “universe” which implies a computer-generated world blending physical and digital which users interact through digital avatars by internet. They also added that in the metaverse, all individual users own their respective avatars as a representation to experience an alternate life in virtuality. Other than that, users can do plenty of activities in the metaverse such as playing games, displaying arts, trading assets and virtual properties (virtual land, virtual clothes, etc). According to Damar (2021), the South Korean government and large enterprises including Samsung, Hyundai Motors, SK Telecom, and KT are interested in building metaverse.

2. 2 Innovation

According to Rogers (2003), An innovation is an idea, practice or object that is perceived as new by an individual or other unit of adoption. He emphasized that the “Newness” of an innovation may be expressed in terms of knowledge, persuasion or a decision to adopt. There were five attributes that characterize an innovation such as relative advantage, compatibility, complexity, trialability and observability (Rogers., 2003). In this paper, the usage of innovation theory can be applied to this research, specifically how NFT and metaverse can be affected by users, gaming community, and accountants.

2. 3 Prospect Theory

Business prospect or prospect theory says that people tend to value gains more than losses to averse risks in decision making according to Kahneman and Tversky (1992). In addition, people underweight outcomes that are merely probable in comparison with outcomes that are

obtained with certainty. There are two phases in prospect theory which are framing and valuation. In the framing phase, the decision maker identifies the outcomes of the decision. On the other hand, in the valuation phase, the decision maker assesses the value of each prospect/possibility. In this paper, the theory of business prospects is used to explain the NFT and metaverse opportunities and challenges in the future considering they're still in development.

2. 4 Research Question

The research question comes from the growth of digital technology in this current era, NFT and metaverse has become one of many influences that made a huge impact in society. Schaar & Kampakis (2022) mentioned that the growth in the NFT market can be seen as a new opportunity by many investors, but the economics of NFTs are not well yet understood, due to the novelty of the field. According to Francisco et al. (2022), NFT games are very popular among Filipinos due to investment promises and economic difficulties in the Philippines. However, based on the Game Developers Conference Survey (2022), the majority of the developers said that they were not interested at all in NFTs because the implementation is still limited, potential for frauds, and environmental issues. Yatsyk (2018) mentioned that the current accounting and reporting framework does not dwell with cryptocurrencies, lack of standardized taxonomy and due to diversity and place of innovation that is associated with making it difficult to prepare general accounting treatment, which may had an impact on NFT and metaverse. Based on several studies above, researchers were able to carry out several research questions regarding NFT and metaverse based on user, gaming community and accountant's perspectives.

III. RESEARCH METHODOLOGY

The research approach used in this research is qualitative method using experience question descriptive approach that focused on analyzing the influence of NFT and metaverse according to Users, Gaming Community and Accountant (Sugiyono, 2013). The researcher used primary data directly from an online interview that has been done with the respondent through online media (Zoom and Discord) and secondary data from reliable sources such as journals, books, and websites that would support the research question. The researcher used a semi-structured interview where the interviews were conducted to discuss the specified topics and respondents were able to answer based on their experience (Sugiyono, 2013). To handle bias, researchers use a moderator when the interview occurs and do not interrupt the respondents while they're answering. The data will be analyzed by using descriptive analysis (Bush, 2020), where the researcher will summarize the data on the recordings to find patterns, filter out less meaningful data, and determine whether the results of the interview are in accordance with the research objectives, namely what users, gaming community and accountant think of NFT and Metaverse, the opportunities and challenges in NFT and Metaverse that they encounter, and their opinion about NFT and Metaverse in the future. For users, researchers' criteria are people who understand NFT & metaverse and own/create NFT. Then, researchers' criteria for the gaming community are people who play

video games regularly whether they play NFT games or not. Last but not least, researchers' criteria for an accountant are people who have worked professionally as an accountant and understand NFT & metaverse

IV. RESULT AND DISCUSSION

In this study, the researcher will elaborate on the data gathered from the respondent of the interview that had been examined, the data was gathered through directly recorded with the respondents with online media (Zoom and Discord), the research question was spread to different respondents based on 3 perspectives. The research question gained 18 respondents which consist of 15 male respondents and 3 female respondents, within the age range around 20-30 and some of them more than 30 years old. The majority of respondents domiciled from Jakarta and others came from other domiciles. Most of the respondents already have working experience and 8 respondents are college students.

4. 1 Users' Perspective

According to our respondents, NFT is a digital asset which can be linked to digital (GIF, JPEG, video, etc) and physical objects (physical painting, land, consumer goods, etc) as a proof of ownership.

"NFT is a proof of ownership of digital or physical assets which can be sold and collected. Back then it was difficult to detect Leonardo Da Vinci's fake paintings, but now we have the solution for that with NFT to prove its originality. Besides, you'll get rewards as a NFT holder to be a part of the community." - Respondent 5

NFTs are saved by using a digital wallet. NFTs can be bought through online marketplaces such as OpenSea, Rarible, SuperRare, Mintable, etc. All of them had at least 1 NFT from a marketplace called OpenSea and considered themselves as a collector although we also found two creators of NFT that were currently working on a project.

"I'm a creator and currently working on a project. I think NFT is the future in the art world. As a creator you'll get royalties each time your creation gets sold." - Respondent 3

Art appreciation, curiosity, and investment are the most common reasons why they were interested in NFT. Other than that, all of them believed in the future of NFT as an inevitable technological development despite their concerns including art theft, rug pull scam, money laundering, hacking, etc.

"I think NFT is the future, it's inevitable. We are still in a very early phase to invest in NFT. I don't deny the existence of money laundering, art theft, and hacking but they also happen everywhere. You can solve the art theft problem by reporting the stolen NFTs in the marketplace. I think a lot of artists don't have a good personal branding to create a community around them so the artists can ask the community to mass report the NFT if their work is stolen. I think people are exaggerating the negative aspects of NFT. There are risks in everything and that's normal." - Respondent 7

According to Respondent 7, NFT prices are very subjective but buyers or investors can value the project by finding out who are the people behind the project & whether the execution is in accordance with the roadmap that has been promised.

All of our respondents are interested in diving into the metaverse in the future but they thought it was still very early in development and they were eager to wait years later.

"I haven't tried any metaverse but I'm very interested. In the future, the metaverse will be like the Oasis in Ready Player One movie. I think it will drastically change human behavior and it will have its own micro economy and governance." - Respondent 2

4. 2 Gaming Community's Perspective

According to our interview with the respondents, they mostly spent their time playing games in general between 2-4 hours a day, the majority said that they were interested in NFT games but still uncertain because they were unsure about the system in the game and they had bad press that caused them to be more cautious. However, some of respondents had already played a NFT game called Axie Infinity.

"I was interested in playing NFT games but I still don't really understand the system of the game, so I haven't played it now." - Respondent 11

"I was interested in playing these NFT games, but because they got negative press lately such as rug pulls which makes me a little cautious about playing these types of games." - Respondent 12

Based on the interview, the majority knew about these NFT games through friends, family members, and social media. Most of the respondents said that these types of games were played for profit or investment. Based on our interview, some of the respondents thought that NFT games were more oriented towards a pay-to-play business model than a pay-to-win business model. However, one of the respondents said that some NFT games have both business models combined.

"In my case, these games have both features combined and the reason is because most of these NFT games require some assets to play and you need to buy these assets first and the income is more likely to be different based on how much the player spends." - Respondent 13

According to the respondent, researcher found a new finding where there was some opportunities and challenges that these NFT games had, the opportunities that researcher found is that if people can't afford to play & want to try this NFT game, there is community that can provide you their ID to play their game, resulting that you can get a profit split with the ID owner based on the agreement to overcome the barrier entry problem.

"There is one interesting experience when I learned about NFT which comes from a game called Axie Infinity where I did some scholarly work. I play other people's ID to get the income from the game that I earn and it will be shared with the people that shared their ID to me" - Respondent 10

The challenge that the majority of respondents said about these NFT games came from the lack of interest, while the other said that the pay-to-play business model pushed them back. Furthermore, one of the respondents said that the declining market which happened in Axie Infinity caused people to lose interest in these games, and lastly because there are many bad impressions that happen in these types of games, such as rug pull scam.

"In my opinion, the pay-to-play business model is a barrier, it means that only certain people who can afford it can play these types of games and maybe the bad impressions that happened in these games make newcomers don't want to play this type of games." - Respondent 12

"For the challenge, in Axie Infinity there is a currency that they used its called SLP which player can farm these so called SLP, because player only focused in farming and not doing the "burn" system, it can causing diminishing market capability"- Respondent 6

Aside from NFT, the respondents were also interested in diving into metaverse. However due its early stage, some of the respondents were still cautious whether or not they want to dive into these metaverse.

"For now, I'm not interested, because I'm technology illiterate and the concept of metaverse is still unknown, even though if the game comes out and becoming a trend, I still have many considerations for buying these technology" - Respondent 13,

In the end, according to most of the gaming community perspective, NFT and metaverse are still in a negative state, because most of them believe if the game developer does not improve their game, players will lose their reason to play these types of games and the game would die. However, one of the respondents argues that in the future these types of NFTs and metaverse games will be accepted in society.

4.3 Accountants' Perspective

According to our respondents, NFT is an intangible digital asset as a proof of ownership related to art such as paintings, music, and videos that implements smart contract mechanism on a blockchain between the buyer and the seller, and the transaction history is visible to the public because it's written on a block chain.

"Literally NFT is Non-Fungible Token which means we can digitize anything into NFTs, whether it's in a form of art or tweet like the first tweet of the founder of Twitter (Jack Dorsey) that was sold as a NFT. NFT can be sold and the public can know who is the creator & the last NFT holder." - Respondent 16

All of our respondents mentioned that they didn't have professional experiences in the NFT world. Most of our respondents said that they rarely talked about it with their peers in the company. On the other hand, one respondent reported that he was working on an NFT project in his company. His company was a subsidiary company that specialized in NFT. They learned about NFT themselves through the internet by using Google and social media. Some respondents had been through some seminars in terms of learning these NFTs, but one of the respondents was not interested in learning NFT. Two of our respondents were interested in NFT and had NFT, our two respondents weren't interested in NFT and didn't have NFT, and our last respondent was interested but didn't have NFT yet.

"In my case, I learned about NFT after participating in crypto seminars back in 2017, after the seminar, I was self-taught in NFT through Google because I was interested in NFT and already holding many projects of NFTs." - Respondent 10

"I'm interested in buying NFT only when I get a whitelist. Whitelist is similar to IPO (Initial Public Offering) in selling stocks where you get a retail price before going into the secondary market (stock exchange). NFT is way cheaper when you get a whitelist." - Respondent 16

"I'm not interested in buying NFT because I don't have enough knowledge about it, the concept is too abstract for me, and my risk appetite in investing is low considering how high risk NFT is." - Respondent 15

According to the majority of our respondents, the way to value digital assets such as NFT is by using the whitelist NFT price as a fair value and then adjusting the NFT value based on the secondary market price.

"The fair value of NFT can be known when it was minted or published or sold for the first time, it's known as whitelist. After that, we can adjust to the current value by using the secondary market price." - Respondent 15

Researchers asked the respondents what if a client needed advice regarding NFT in accounting but you don't have knowledge about it. Majority of them mentioned that there's a phase called "gaining understanding" so as an accountant doesn't give false information to the client, and one of the respondents mentioned that their company should take initiative in these matters.

"As an accountant, there's a phase called gaining understanding. It means we learn the fundamentals of NFT. Usually, the company will provide us with internal training because it's important to give reliable information to the client. If we think that the knowledge provided by the company isn't enough, we have to find it ourselves." - Respondent 15

When it comes to opportunities and challenges in NFTs, respondents have concerns regarding NFT such as money laundering, cybercrime (hacking), and the speculative nature of it even though they're still optimistic with the future NFT. They thought it was inevitable. One respondent mentioned that intangible assets will be bigger than physical assets because the entertainment industry will continue to evolve. In addition, NFT would open new opportunities for accountants, auditors, and tax consultants and regarding its regulation, they believed that there would be specific regulations about NFT based on the countries concerning how they treat NFT.

"In NFTs, there is a potential for money laundering. However, in my opinion I'm more welcoming to NFT because it can create new job opportunities for auditors, accounting or even tax consultants." - Respondent 14

In the end, according to the respondents, NFT and metaverse will continue to grow and many companies in Indonesia will even though the literature in NFT and metaverse are still lacking they believed these new technologies will continue to grow to the point where public will adapt to this technology and its regulations, their perspectives are in line with the Innovation theory because of the "Newness" of an innovation may be expressed in terms of knowledge, persuasion or a decision to adopt. In addition, their perspectives are in line with the Prospect theory because they value the positive aspects higher than the negative aspects of NFT and metaverse. They also added that as humans, we must continue to learn and be prepared for the changes.

Based on the result of our research, researchers can see that NFT and metaverse will have a huge impact in the future. The interest of NFT and metaverse has increased since the phenomena of Ghozali which happened in Indonesia. Other than that, there were also several factors that caused someone to buy or make NFT's such as art appreciation, curiosity, and investment. Therefore, researcher has summarized the finding in this research as follows:



Fig. 1. Interview Result Diagram (Source: Gathered data of Research)

Researchers found out that the reason for users using NFT comes from different aspects, it can be also used to build connection within the community other than art appreciation reason from collector's aspect. From trader aspect, they have an opportunity to make profits by selling these NFTs, and last but not least, from creators' aspect these NFT can open opportunities for them to get profits and royalties every time a trade happens. However, there were some challenges when the users encountered these NFT. In their case, they saw people were doing rug pull scam, hacking, and even selling people's ID cards on NFT marketplace. Researcher suggested to do some research background on the person behind the project, understanding the roadmap of the project and the backup company that supported the project to avoid any fraud or scams. In addition, the role of accountant is needed to validate their assets and to analyze the establishment of an artwork to prevent frauds.

When it comes to the gaming community, researchers found out that NFT and metaverse games were still viewed negatively because they are still new and their mechanics has no difference compared to conventional games in general. The only difference is that the NFT games have blockchain technology that supports them. Besides, Other than that, it's been influenced by bad publicity which made many people avoid playing this type of game such as hacking. Furthermore, the lack of awareness from NFT game developers in updating their game which makes their game just a momentary boom. Not to mention, players need to pay to be able to play these types of the game already has become a drawback. Researchers suggests that game developers pay attention in making interesting mechanics, updates, and seasonal events in their games to entice players and keep the community alive. In addition, gaming developers can make some platform that can connect with players so they can take suggestions and opinions from players, and the role of accountant is needed to assess and act as consultant on intangible asset ownership.

Researchers found that accountants saw NFT & metaverse positively as new technologies that would be massively adopted in the future. The opportunities of NFT & metaverse from their point of view are accountant would have a speciality in valuating NFT, accounting company service would have a new service regarding NFT & metaverse, tax consultants have a new speciality in taxation of NFT & metaverse. On the other hand, they have challenges of NFT & metaverse in mind such as rug pull scam and money laundering. It's important for accountants to equip themselves with knowledge of NFT & metaverse to face them as they're more common in the future. Researchers suggest accounting company service to have internal trainings for accountants to gain understandings about NFT & metaverse.

In the future, NFT & metaverse are unavoidable. Users of NFT can display their works and collection in the metaverse. People can also invest in digital arts and Metaverse will be a place where everyone can hang out in the digital world without physical interaction and even it has a possibility to replicate real world. It will have its own economy in metaverse because companies will invest in NFT & metaverse. Other than hanging out, people can also play games in metaverse, NFT also can be involved with the games so gaming community has a new way to play their games other than the conventional games. Accountants can appraise NFT and verify the transaction to prevent fraud.

V. CONCLUSION

NFT & metaverse are innovations coming from blockchain that was recently becoming very popular in the world during the pandemic & created new opportunities in a wide variety of areas. This research is done to identify NFT and metaverse from different perspectives regarding its pros and cons and its potential. Based on this research, researchers found that NFT and metaverse are still early in development & there are a lot of opinions coming from different perspectives. Some respondents mentioned that NFT and metaverse are inevitable & can create new opportunities to users, gaming community, and accountants such as digital artists, developers, technical consultants, etc. On the other hand, NFT is still not well regulated and has considerable risks such as money laundering, rug pull scam, wallet stealing/hacking, etc. that make our respondents cautious about it. In addition, one of our respondents stated that NFT was very speculative and he would rather invest in more secure financial instruments such as stocks, obligations, and mutual funds.

Researchers had limitations. Firstly, our sample size is relatively small (18 respondents) because the time that the researcher had was limited and it was difficult to find respondents who understood the fundamental knowledge of NFT & metaverse and respondents who were willing to speak up about their opinion in these new findings. Secondly, this research only focuses on three perspectives (users, gaming community, and accountants) who understand NFT. The NFT ecosystem has other stakeholders (e.g., investors) who might have different opinions (Sharma et al., 2022). Furthermore, findings found by researchers were only based on the interview,

which possibly can be biased. But researchers reduce the risk of bias by using the question that had been in the previous research, creating predetermined questions, determining the scope before conducting the interview. In the future, researchers hope that the next research can be complemented by observational studies. Last but not least, the majority of our respondents (15 out of 18) are male. It's hoped that the next research will have more female respondents to expand the perspective. Despite its limitations, it's hoped that the next research will have broader perspectives.

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