



Metaverse Virtual Workplace Market Penetration Possibility in Indonesia for IT Services Provider

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ABSTRACT: Digitalization has revolutionized sociability, and enterprises have recognized the virtual universe as a solution for post-pandemic work-from-home. Metaverse virtual workplace, a novel networking technology, provides Indonesia a new economic potential. Indonesia, a booming market with rising financial growth, has experienced a huge change in technology usage, including Metaverse virtual workplace. Many big IT service providers see this as a chance to enter the Metaverse virtual workplace market. The analysis for the strategic decision is constructed using external analysis coming from secondary data along with discussions with SMEs and discussions with customers. The external analysis includes a macro environmental study utilizing PESTEL, Porter's five forces, and customer analysis. Both SMEs and Customers' discussions are qualitative assessments including subject matter expert interviews the decision maker from the IT service provider and present clientele. In the business-to-business market, the qualitative technique is utilized to understand sellers and customers. Using external studies, conversations, and sources, the author can determine if the market is viable. The first mover in the metaverse virtual workplace will gain the most benefit. Hence, the market penetrator must go to aim to be one, especially considering the low entry barrier of the market. These led the author to infer that Metaverse virtual workplace is a viable option and highly profitable market that can be entered as a new opportunity for IT Services Providers in Indonesia.

KEYWORDS: Information Technology, IT Services, Metaverse virtual workplace, Market Penetration, Strategy.

I. INTRODUCTION

An unprecedented epidemic, COVID-19, rocked the world in 2019. This contagious illness changed socializing and compelled all businesses to adopt digitalization. Lockdown and Work from Home (WFH) have shown that a virtual cosmos that can support projected consciousness without physical presence is a dream that must be pursued more urgently. Virtual world Metaverse ties imagination to reality. Multiple technologies offer an enlarged realm where users may do new things with their virtual persona. This idea supports Metaverse's virtual workplace implementation [1].

A. *Pandemics and Workplace Paradigm*

COVID-19 has disturbed workplaces worldwide. In the first half of 2020, 93% of workers lived in countries with workplace closure regulations, according to the ILO. The second part of the year is likewise looking bleak [2]. Many companies have used "Work from Home" (WFH) to overcome these issues. This sudden transition may not be novel for IT professionals, but for others it is a new adventure. Studies reveal that the sort of work that can be done from home varies on the task and country heterogeneity. Hospitality and tourism-related jobs adapt poorly to WFH, while software development, banking, and financial industries adapt well [3].

WFH practices have increased in Indonesia, especially in Jakarta, Bandung, and Surabaya, as they have worldwide. Many Java Island firms and employees have reported increased productivity when working from home [4]. Less commute, less coworker interruptions, and tailored work settings improve focus and job completion. Greater scheduling management ensures flexibility and work-life balance. Balancing work and life may boost job satisfaction and well-being. Working from home can save office space and utility expenditures for the organization. However, more than the typical state that has evolved today, WFH format is here to stay and will still bring greater employee pleasure, and Metaverse appears like a likely possibility.

B. *Metaverse and Its Adoption Possibility in Java*

Java Island, Indonesia's economic and technical hub, boasts reliable internet and powerful communication technologies. Metaverse adoption is possible since the region needs a fresh solution. WFH may become the standard soon since it is necessary and practicable to accomplish successful team cooperation, opening new implementation opportunities.



An Indonesian IT services business that wants to stay ahead of the competition and offer cutting-edge solutions must explore the Metaverse's market penetration potential. enterprises may become trusted consultants and strategic partners to Indonesian enterprises looking to harness the Metaverse by understanding the elements that drive its acceptance and utilization [5]. However, entering the Indonesian Metaverse market is difficult.

Companies must overcome these challenges and create market-specific strategies to enter Indonesia's Metaverse market. Thus, a thorough Metaverse market penetration analysis in Indonesia is necessary. This study will assess the Metaverse market globally and in Indonesia, identify the factors influencing virtual workplace adoption, evaluate potential use cases across industries, and examine market entry barriers. This study will help IT service providers, specifically Company X, develop strategies and recommendations for market penetration in Indonesia to capitalize on the Metaverse's growing opportunities.

II. BUSINESS ISSUES

A. Metaverse and Its Functionality

The Metaverse is a digital realm where avatars engage in political, economic, social, and cultural endeavors. It is frequently employed to depict a digital environment where the actual and unreal realms interact. The word "metaverse" was used by Neil Stevenson in his 1992 science fiction novel "Snow Crash" to describe a future where virtual and real worlds intersect and create value through various social activities [6]. Given the vast and continuously growing extent of the Metaverse, there are several definitions and associated ideas [7]. The fast expansion of the Metaverse is evident from Zepeto's 200 million subscribers and Animal Crossing's virtual election campaign. Roblox has a staggering 150 million monthly active users (MAU) and is utilized by around two-thirds of 9- to 12-year-olds in the United States. Among this demographic, one-third of the users are under the age of 16 [8]. The initial exploration of the metaverse took place in 2006, using Second Life as the primary subject of inquiry [9]. Conversely, the existing Metaverse is built upon the social values of Generation Z, whose emphasis on social activities and content varies from the previous Metaverse. This calls for a new description of the present Metaverse.

The present iteration of the Metaverse distinguishes itself from its forerunner by allowing program authorship and establishing a stronger link between virtual currency and the physical realm. The Metaverse undergoes significant growth, including several social ramifications such as fashion, events, activities, education, and the workplace [10]. The Metaverse distinguishes itself as a platform that offers enduring content and social importance by strengthening social relevance. The Metaverse, which is a component of Extended Reality technology, is designed to be practical and functional for virtual workplaces. The utilization of this technology in the metaverse enables users to immerse themselves in an alternate reality while still experiencing relevant bodily sensations.

B. Metaverse Enthusiasm in Indonesia

Indonesia has considered using Metaverse in technological development. According to Indonesia's current Minister of Communication and Information Technology, Johnny G. Plate, Indonesia has the ability to build Metaverse due to its noble principles and local expertise. Metaverse was also a social media craze in Indonesia. Zakiah Fadhlila's found that Indonesia has a developing Metaverse interest [11]. Based on **Figure 1**. The Dynamics of Metaverse's Discussions on Twitter for A Month. shows that society still talks about Metaverse. Metaverse peaked in December 2021 and then faded until January 2022. Indonesians are talking about Metaverse again owing of COVID-19 and how the concept was launched internationally.

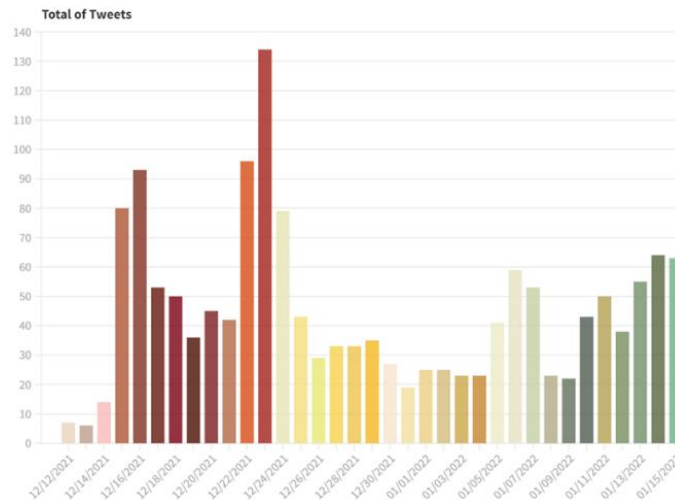


Figure 1. The Dynamics of Metaverse's Discussions on Twitter for A Month [11].

Fearing the unknown, entering a new market is difficult. Internal and environmental factors may cause problems [12]. However, Metaverse adoption and penetration in Indonesia face several challenges. These obstacles are:

- Infrastructure: The Metaverse needs a strong and reliable internet connection, which may not be available in all areas of Indonesia. This may limit the market reach of new IT services companies.
- Cultural difficulties: Indonesians may face cultural barriers in embracing the Metaverse technology due to unfamiliarity with the notion. Indonesians may favor in-person relationships over internet ones.
- The regulatory climate in Indonesia may hinder the expansion of the Metaverse business. IT services firms may be limited by Metaverse content limitations.
- Competition: IT services providers may struggle to stand out in the extremely competitive Metaverse industry. To stand out, they may need to spend considerably on marketing and branding.

Moreover, there is another important matter needs to be addressed which is the primary market condition. Market expansion and preparedness for new offers are essential for penetration success. This scenario requires studying how the principal user accepts Metaverse technology. Metaverse is positively received worldwide despite being a new technology [13]. However, the secondary market—the business section serving its employees—may or may not which give the opportunity to focus only on the primary market, to business segment. Those issues will be the main objective to decide the market penetration conclusion.

III. METHODOLOGY

A. Research Design

Market penetration begins with market research as the major issue. Companies will penetrate established markets to boost sales of their present products and services due to market demand for Metaverse's specialist offering. In this research, the current capabilities of any IT service providers are not to be analyzed. Focusing only on the external factors, it includes macroenvironmental, entry barrier, and the customer point of view. External macroenvironmental factors determine innovation spread by influencing market acceptance. The porter's five forces will analyze the barrier of entry for the IT Services Providers. Technology adoption hypothesis concerning innovation stages will be derived from the discussion with the customers themselves, Understanding the concern, drivers, and risks will help to define the Metaverse market. The market entry possibility may be made by combining all the external analysis conducted based on the data collected.

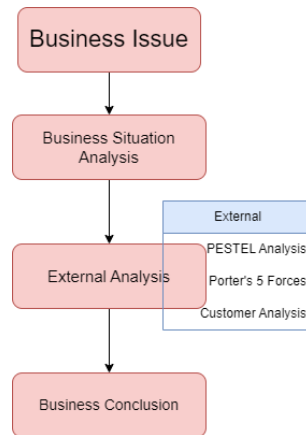


Figure 2. Metaverse Market Penetration Research Design

Figure 2. Metaverse Market Penetration Research Design shows problem identification to conclusion and advice. The study begins with Business Issue Identification, where the researcher researches the Metaverse market, business scope, corporate value proposition, business-value relationship, and business issue stakeholders. After assessing the business condition, researchers analyze external and internal factors to identify business difficulties. Internal Analysis uses STP and the present organization model to see if they fit the projected market. External Analysis determines Company X's market bargaining strength using PESTEL and Porter's five forces. After receiving both results, the SME discusses entering the market with internal representatives of the company strategy and external representatives of the B2B segment. Porter's five factors characterize the market and determine go/no-go after the interview. Finally, analyzing the decision's outcome will be followed by the Porter's essential test for diversification in the company perspective.

B. Data Collection Method

The principal user established Metaverse as a new service. The qualitative technique will be used to study Company X's principal user and decision maker. The principal user will answer the first and second Research Questions as a SME. However, Company X's decision maker will answer the third and fourth questions as the SME. The SME will be interviewed face-to-face or via mobile platform. Since Metaverse use is rare or nonexistent, researchers will classify the interview as classified since it may damage firm X or the potential user's strategy. A comparable interview topic will be the SME for three researcher tests. The attractiveness test evaluates the new market based on SME expertise. Entry Test costs address market penetration barriers. Last, the better off test will evaluate Company X's situation if they enter the new market. SMEs will be the key source for this research. Discussion with the Customers and SMEs will be based on the discussion materials shown by Table 1 Questions for the Discussion with Customers and Table 2 Questions for Discussion with SMEs

Table 1 Questions for the Discussion with Customers

No	Questions for Customer
1	Can you provide an overview of your expertise and experience in evaluating the primary driving factors of technology adoption in Metaverse related to virtual workplace?
2	In your view, what are the primary potential benefits that corporate offices can derive from adopting Metaverse virtual workplace technologies, and how do these benefits compare to the associated costs or risks?
3	Can you elaborate on the current internal readiness related to resources, legality, corporate functions,

Table 2 Questions for Discussion with SMEs

No	Questions for SME in market sector
1	Could you please provide an overview of your background and experience in the field of the Metaverse in Indonesia?
2	In your opinion, how would you define the current state of Metaverse market penetration in Indonesia, specifically to virtual workplace? Can you highlight any recent trends or developments?
3	What are the key drivers behind the adoption and growth of the Metaverse virtual workplace in Indonesia? Are there any particular sectors or industries leading the way?



	corporate cultures, and way of working to adopt Metaverse virtual workplace?	4	What challenges or barriers do businesses in Indonesia face when trying to integrate Metaverse virtual workplace technologies into their operations?
4	How can the Metaverse influence internal morale for the employee related to their daily costs of travel, conferences, and commute?	5	From your perspective, what are the potential opportunities and benefits for Indonesian businesses to invest in the Metaverse virtual workplace? When is the best timing to invest in the Metaverse?
5	How can Metaverse adoption insinuate the digital transformation within the company? How long is the expected and ideal process of transformation must take for it to be considered effective?	6	How is the process of technology development related to Metaverse in Indonesia? Does the current potential providers have the necessary technology expertise to bring Metaverse virtual workplace?
6	What is the Key Success Factor of the Most Viable Product to be considered as acceptable for the company to adopt?	7	How complex is the Metaverse technology adoption for the current big league in Indonesia? Should the massive digital transformation be required, are those potential customers internally ready for such massive changes?
7	What are the most important implementation and integration challenges for Metaverse virtual workplace to be adopted for the new users (employees)?	8	When is the best timing to insinuate the change? Related to five stages of technology adoption, which state should most IT providers aim for?
8	What is the IT governance risks from the company points of view?	9	What are the main factors to ensure success in penetrating Metaverse virtual workplace market?
9	Considering all points and factors, is Metaverse virtual workplace worth considering related to the long-term solution for the changing culture of workplace communication and integration?		

IV. FINDINGS AND DISCUSSION

A. Macroenvironmental Factor using PESTEL Analysis

PESTEL analysis is a strategic framework used to assess a company's business environment. In recent years, the framework has expanded to encompass Environmental and Legal aspects, as well as Political, Economic, Social, and Technological elements. Management teams and boards utilize the framework for strategic and enterprise risk management planning. Management consultants use PESTEL research to assist their customers develop creative product and market efforts, while financial analysts use it to impact model assumptions and funding decisions [14].

- Political Factor:

This includes examining government stability, rules, and policies that potentially impact Indonesia's metaverse virtual workplace development and acceptance. Government support for virtual technology and remote work may affect metaverse virtual workplace growth. The 2020–2021 Work from Home surge after COVID-19 is the most relevant example for Metaverse virtual workplace drivers based on the article *Indonesia Highlights Indonesia Coronavirus: 75% Work-from-Home Policy in Red Zones / Jokowi Set 7.5 million Jakartan Inoculation Goal Late August / Bicycle Price Drops to 3* [15], the Indonesian government ordered Jakarta employees to work from home to decrease COVID-19 transmission. The political choice hurt the firm and changed how we operate now. Despite becoming common, some organizations allow employees to work from home.

“Starting from tomorrow, PPKM Mikro has been extended to June 28.

During the 10th stage of PPKM Mikro, 75 percent of employees in the red zones or high-risk rate of transmission are required to work from home (WFH). Only 25 percent of employees are allowed to work from their offices. The work schedule for the WFH and work from office policies must be done on a rotating basis.

Meanwhile, office buildings in the yellow zones (low risk) and orange zones (medium risk) are allowed to have 50 percent of their employees work in the office.



In the education sector, learning activities must follow the rules from the Ministry of Education, Culture, Research, and Technology. However, schools located in the red zones are required to conduct online classes. For the next two weeks, restaurants and malls can only operate until 9:00 pm with a maximum visitor capacity of 50 percent. Health protocols must also be strictly enforced.

Also, devotees who live in the red zones must perform prayers from home.” said Coordinating Minister of Economic Affairs Airlangga Hartarto, who also heads the National Covid-19 Handling and Economic Recovery Committee (KPC-PEN) in the Presidential Palace on Monday, June 14.

- Economic Factors:

GDP growth, inflation, and currency stability affect virtual workplace technology investment and adoption. Indonesian metaverse virtual workplace adoption would depend on economic reasons. Higher GDP per firm means more enterprises in that nation will adopt new technologies, especially ones that can boost business. The company's GDP affects market strength. The Indonesian economy has grown significantly. **Figure 3** shows that Indonesia is rising rapidly with increasingly high GDP per capita. A half-decade of consistent growth was also predicted.

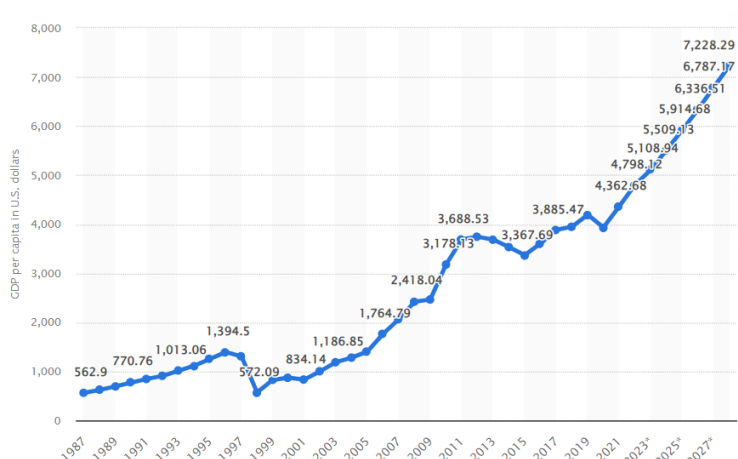


Figure 3 Indonesia: Gross domestic product (GDP) per capita in current prices from 1987 to 2028 [16]

- Social Factors:

Important to understand societal trends, cultural views, and demography. This covers remote work acceptability, digital literacy, and Indonesian workforce readiness for virtual work. **Figure 4** shows that Indonesians are conversant with modern technology, particularly information technology. Indonesians are familiar with all communication technology adoptions despite not being the top number in all main areas. It is common enough to comprehend that Indonesians may gently spread technology. With so many Indonesians having excellent digital literacy, technologies like Metaverse may spread quickly. The SME also said that Java Islanders are generally tech-literate. Metaverse gaming and e-commerce have grown dramatically in recent years. If social urge is great enough, individuals can relocate to Metaverse virtual workplace.



	INTERNET USERS	MOBILE CONNECTIONS	ACTIVE MOBILE SOCIAL USERS	FIXED BROADBAND SUBSCRIPTIONS (per 100 people)
LAO PDR	35% 2.8 million	91% 6.3 million	32% 2.2 million	0.40
BRUNEI DARUSSALAM	95% 670,000	124% 300,000	81% 200,000	9.61
VIET NAM	67% 64.8 million	153% 146.5 million	52% 50.0 million	11.80
CAMBODIA	50% 7.0 million	181% 23.2 million	39% 4.3 million	0.81
SINGAPORE	84% 4.8 million	150% 8.4 million	75% 4.3 million	25.76
PHILIPPINES	63% 67.0 million	115% 121.4 million	59% 63.0 million	3.24
INDONESIA	50% 120.2 million	157% 160.2 million	45% 120.2 million	2.29
MALAYSIA	79% 25.1 million	133% 42.1 million	69% 22.0 million	8.50
MYANMAR	34% 18.0 million	101% 54.0 million	30% 16.0 million	0.76
THAILAND	83% 52.0 million	135% 83.0 million	67% 40.0 million	11.89

Figure 4 Digital Literacy of South-East Asia

• Technological Factors:

Indonesia's technology infrastructure, innovation, and digital preparedness must be assessed. This comprises internet connectivity, virtual reality technology, and the technical infrastructure that enables metaverse virtual workplaces. The Indonesian Metaverse Workplace market is estimated to reach US\$40.1m by 2023, according to **Figure 5**. This suggests considerable market growth in the country. The market is expected to expand 31.25% annually (CAGR 2023-2030) to US\$269.2m by 2030. The increased digital knowledge and future expansion of most Indonesian organizations make the Metaverse Workplace market more important [17].



Figure 5 Metaverse Workplace Indonesia

• Environmental Factors:

While less important to virtual workplaces, sustainability and energy efficiency may become more significant as virtual technologies improve. The virtual workplace is intended to increase the chance of employees working from home during the COVID-19 pandemic. Since Covid-19, people are working from home instead of the workplace. As worldwide, Indonesia has to adjust. Last year, the Indonesian government lifted the lockout, allowing the firm to resume normal operations. Post-Covid-19, work-from-home starts to work. On a scale of 0-5, **Figure 6** Descriptive Quantitative Assessment on Ways of Working [18] indicates strong WFH preparedness. Current conditions in Indonesia promote the migration to WFH. The high convenience level proves WFH can be as comfortable as regular employment. Productivity, defined by the SME and impacted by lack of engagement, is the main assignment. Metaverse virtual workplace can offer equal convenience and increased interaction as real interaction.



Category	Readiness Level of WFH	Convenience Level during WFH	Productivity during WFH	Productivity during WFO
Mean	4.462	3.692	3.5	4.462
Median	5	5	4	5
Mode	5	5	5	5
Standard Deviation	0.948	1.828	1.727	0.647
Sample Variance	0.898	3.342	2.98	0.418
Minimum	1	0	0	3
Maximum	5	5	5	5
Sum	116	96	91	116
Count	26	26	26	26

Figure 6 Descriptive Quantitative Assessment on Ways of Working

- Legal Factors: This requires examining Indonesian data privacy laws, intellectual property rights, and virtual work environment restrictions. Indonesia has great potential, as shown by 2016 data showing 132 million people using ICT. Projections show continued growth in the next years. The Indonesian parliament's Draft Omnibus Law (RUU OL) debate offers a chance to promote technology's digitization, particularly in the metaverse, in Indonesia. Due of the metaverse's absence of restrictions and transparency, users must be considerate. Virtually, negative habits adapt to current conditions. Fraud, illicit business, and illegal transactions may evolve to fit the system as technology advances.

The Omnibus Law brings several benefits to metaverse technology. These include protecting user data, enforcing laws against exploiters, regulating access to metaverse domains, facilitating efficient revisions to Information and Communication Technology laws, guiding policy directions for public policy implementation, promoting legal framework integration, and simplifying metaverse licenses [19].

B. Porter's 5 Forces for decision-making.

Firms must understand new markets to penetrate. Porter's five forces analyzes industry entrance barriers. The investigation examined potential market entry obstacles for one firm. In particular, Porter's five forces were used to define Metaverse virtual workplace's barriers, based on industry competition, potential threat from new entrants, supplier power, customer power, and substitute product threat that may jeopardize entering a new market [20].

- Competition in the industry: Rivalry analyzes rivalry among established businesses in an industry. The number of competitors, industry growth, and product variety are important. Competition may increase price conflicts and lower profits. The main IT services provider competes in Indonesia. The actors are corporations like Company X, Delta, Tango, India, and others that are most likely to enter the Metaverse market.
 - Growing Demand: Indonesia's virtual workplace market offers affordable and flexible virtual office solutions.
 - The government's attention on online control and small businesses is shown by Indonesian internet companies like WIR Group (PT WIR Asia, Tbk) building virtual office prototypes and competing with worldwide services.
 - Rapid Technology Advancement: Technology changes company competition. Indonesian business rivalry and the economy have suffered from COVID-19.

In conclusion, Indonesia's virtual workplace business is competitive due to rising demand, local and foreign entrants, and rapid technological progress. This suggests a dynamic and growing ecosystem with many potentials for firms and organizations seeking to enter Indonesia's virtual workplace sector. **This barrier can be considered as Low.**

- Potential of new entrants into the industry This force assesses startup ease. Brand loyalty, economies of scale, and financial constraints make the market less attractive to new rivals. However, low-barrier markets attract entrants. The well-known service provider and unknown enterprises may enter the Indonesian metaverse market. Many factors may be used to estimate the threat of new metaverse virtual workplace entrants in Indonesia:
 - High entry restrictions impede Indonesian IT services industry access. There are fundamental service provider quality and implementation support criteria. No company can easily provide it. This suggests that high initial and



sunk costs and the feasibility of competing with established enterprises with brand awareness, quality, and size of service may make it harder for new entrants to enter the market.

2. Market Concentration: Government must limit market concentration. Government rules may impact the ease of entrance for new digital market participants, including metaverse virtual workplace enterprises.
3. Industry Dynamics: Rapid technology improvements and COVID-19 may affect newcomers. These traits may impact Indonesian metaverse virtual workplace entrants' competitiveness.

Finally, market concentration and dynamics will attract new digital market entrants, threatening Indonesia's metaverse virtual workplace industry. New entrants are rare in the growing Metaverse virtual workspace market due to the high entry barrier and domination of several large companies. Hence, this barrier can be considered as Low.

- Power of suppliers

Number of suppliers, products, services, and switching prices determine supplier power. Powerful suppliers can dictate conditions to industry participants. The company's supply chain may differ per service; therefore, suppliers may be outside Indonesia. Cloud technologies, server infrastructure, database administration, internet providers, and physical devices may affect Metaverse virtual workplace adoption. Many variables affect Indonesian metaverse virtual workplace suppliers' negotiation power:

1. Supplier leverage: To bargain with competition, suppliers may raise prices or lower quality. Google Cloud, Amazon Web Services, Alibaba Cloud, Cisco or IBM Cloud Video, IT Development Producer for databases, and others will see this as an opportunity. They can join Metaverse virtual workplace. Thus, dominant suppliers may limit profitability in organizations that cannot raise prices to counter rising expenses. Buyers can lower prices, demand higher quality, and compete with suppliers, reducing industry profits.
2. Different sectors are competitive depending on supplier bargaining strength. Industry rivalry is affected by supplier power. Different suppliers and providers signify numerous major market suppliers. With several alternatives, integrators and service providers can solve problems quickly.

Because suppliers are interchangeable with numerous industrial services, Metaverse virtual workspace supplier power is minimal. Service providers (integrators) can lower costs with numerous solutioning options, while suppliers may use the event to raise prices and push the market. Hence, the power of supplier can be considered as Low.

- Power of customers

Buyer power depends on consumer numbers, product significance, and alternatives. Prices and profits might fall with high purchasing power. The conversation revealed several reasons potential Metaverse customers want additional services. The factors that will certainly dominates are:

1. New technology adoption benefits: Metaverse is assessed as offering possibilities but not certainty, based on user feedback. Metaverse is seen as a paper-thin service by customers. To get the benefits, you must excel in the trial.
2. Cost of new technology adoption: customer conversation indicates insufficient business resources for Metaverse transition. Current workers lack numerous skills. There are additional infrastructure requirements for adopting the new technology.

Customers have more authority in the Metaverse virtual workplace since they're new. No baseline means no consumer expectations. Customers expect output to support remote work and improve the experience by replacing all other commodities. Due to the service's novelty, purchasers may be hesitant to adopt, therefore digital transformation is necessary. Hence, it can be stated that the threat is High.

- Threat of substitute products

This force assesses if alternative products or services can meet industrial demand. The existence of alternative products or services increases industry risks. Substitute items from existing products or solutions may slow technological spread. Several factors can analyze Indonesia's metaverse virtual workplace industry's replacement threat:

1. Replacement products pose a moderate threat to Indonesia's metaverse virtual workplace company. Microsoft Teams, Zoom, Google Suite, and other online conference systems are adapting to connectivity needs. It lacks the Metaverse virtual workplace's physical contact. Despite differences, online meeting tools are better.



2. Alternative remote work solutions like Silo Hubs or Hybrid setups may cause replacements. These technologies allow workers to work on-site without transportation constraints, which may hinder Indonesian virtual workplace adoption.

The presence of alternative products and practical remote work solutions affect the danger of substitutes in the metaverse virtual workplace market in Indonesia. These variables increase alternative product/service threat and can be considered as High.

Table 3 Summary of the Porters' Five Forces

Factor	Value Consideration
Competition in the industry	Low
Potential new entrants	Low
Power of the suppliers	Low
Power of the customers	High
Threat of the substitute products	High

Based on the

Table 3 Summary of the Porters' Five *Forces* Customers' power and replacement product risk must be handled. These two issues make the sector difficult to enter since clients lack experience and are wary of new ideas. Because the existing technique satisfies remote work demands without a physical link, replacing it may be difficult. High potential, minimal rivalry, limited supplier power, and few new entrant prospects make this firm a high-profit opportunity. Despite the small B2B client base, SME discussion enhanced the market picture owing to the service's high value.

C. Customers Analysis

Customer research helps a company understand its target market's needs, preferences, activities, and traits. customer research collects and analyzes data to understand customer motivations and expectations. This lets companies tailor their products, services, and marketing to client needs. For customer needs identification, direct consumers are interviewed with the experienced as described in

Table 4 Customer List for Interview (Classified)

Table 4 Customer List for Interview (Classified)

Customer	Business Sector	Interviewee Position
Client A	One of the top five state-owned-bank in Indonesia	Department Head of the Digital Business Division of the Company
Client B	Leading telecommunication company in Indonesia	Sr Manager of the Digital Business
Client C	Another one of the top five state-owned-bank in Indonesia	Sr Manager working as the Product Owner of the Digital Business

The interview conducted based on the discussion's material shown by **Table 1** Questions for the Discussion with Customers yield.

- **Driving Factors, Benefits, and Readiness of Metaverse adoption**

- (1) Client A said it's about the changed work style. Companies locked down and adjusted to new communication methods during the pandemic. Remote control is a major challenge. Knowing zoom or Microsoft Teams has improved communication, but not interaction. Based on the worldwide phenomena, Metaverse should answer the problem. The non-tech firm is willing to explore it, although it is unknown.



- (2) Client B said remote work is the future. World population growth will necessitate creative change in working methods. Our communication with the present coworker has also altered. Metaverse may improve post-pandemic internet platform use. Metaverse is familiar to this customer since one of its subsidiaries is researching it. Client B said it's too early to utilize their own, but they're prepared to learn from organizations in that industry.
- (3) Client C said the pandemic was the key motivator, like Client A. Financial services companies struggled to adapt to internet culture since their data is classified and not allowed outside the workplace. The lockdown drove them to use technology more and made them realize they need more technology in the future. They started using internet platforms and seeking for a solution to improve physical connections, hence Metaverse. They prefer to provide merchants the improvement since they don't want to enter that domain and it's fast.

- **Digital Transformation and Influences of the Metaverse adoption.**

- (1) Client A believes Metaverse will not drive digital transformation since they have already made technology improvements to serve their primary business. However, reducing daily commute time while maintaining work-from-office efficiency can enhance employee productivity. However, they estimate it will take 2 years to adjust and continual learning.
- (2) Client B want to accelerate their digital transformation, and Metaverse is a potential tool for worldwide implementation. So, Client B urgently tries to accomplish it from their subsidiary. Despite investing, Client B is willing to learn slowly (2 years) from more skilled suppliers and transition digitally and adapt their existing method of work to improve productivity.
- (3) Client C is eager to digitize since they believe they lag behind their competition. Metaverse is possible cause, but not the only one. Since they are unsure of their talents but want to learn, adoption will need a three-year collaboration. While data security is important, Client C's second objective is staff productivity to improve communication during pandemics.

- **Key Success Factor, Challenges, and Risks of the Metaverse adoption.**

- (1) Client A wants simply the winner. Client A stated, "It is never worth considering seeing failure prototype at all". To execute a ready product, cultural transformation is essential. Knowing the Metaverse is used for gaming may help. It must connect to their system. Since they don't know this Metaverse, they need a clear criterion to classify their customer data's online operating mechanism.
- (2) Client B stressed the need of a good MVP prototype. They like to compare it to the one their subsidiary must see to improve their system. Post-pandemic changes in employment patterns have become less of a concern. Lack of regulations will make Metaverse integration difficult.
- (3) Client C likes to see successful products and ideas before adopting them. Their technology is behind, but Metaverse isn't a suitable solution. Since their client data is classified, they need explicit data sharing and remote working restrictions, which they think are lacking and are satisfied with. The issue is their top priority.

V. CONCLUSION

Based on the analysis, the findings, and the discussions with both SMEs and Customers, it can be concluded that Company X may enter metaverse virtual workplaces. Indonesia has already shown signs of adopting Metaverse as a remote office solution, according to surveys. Technology use and Indonesia's growing economy are drivers. Technology may also hinder adoption in current businesses. The evolving culture's requirement for enterprises to give employee alternatives that increase happiness and productivity makes Metaverse a viable alternative. Moreover, Metaverse virtual workplace can be integrated with any non-production business such as financial services, management for resources, telecommunication, product selling, etc.

Customer, technology, and replacement threats may hinder Metaverse virtual workplace installations. Customers may resist new technologies. Customers must go through evaluation, proof of concept, choice, implementation & integration, and confirmation



without neglecting IT regulations. Since it's new, the technology may also cause problems. User and post-service dissemination is needed for new service uptake. Finally, the alternative product or market solution may be the hardest. Market acceptance of the existing product is confirmed. Entering such a market is difficult yet possible? 4. Company X must enter the Metaverse virtual workplace to be the first to do so, despite the challenges. New services require implementation standards and other considerations for long-term success. All talents and prospects are at Company X. With a good plan, becoming a first mover and entering the market fast is best.

VI. LIMITATIONS

This Indonesian research focused on business X's Metaverse market entry approach. The report analyzes the B2B market by client potential. Since the service is a virtual workplace, the researcher will interview Subject Matter Experts (SMEs) with business experience and exposure, virtual workplace adoption feasibility, and potential customers. The interview determines the possibility of adopting the services without considering Metaverse technology user/employee acceptability. However, the interview is classified and not to be revealed since it would damage corporate strategy. Thus, most data and detailed talks cannot be released.

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