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POTENTIAL AND CHALLENGES FOR PRIVATE SECTOR TO LEAD WARUNG DIGITALIZATION IN INDONESIA

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Abstract. *The purpose of this study is to understand the potential and challenges for the private sector to lead the process of warung digitalization to improve their business. MSMEs such as warung in Indonesia have been a tool for income generation for many people. Though, the number of warung that has leveled up is still minimum—most of their business are stagnant. This has resulted to the no change of their welfare situation. The approach used in this study is qualitative with the method of literature review. This study finds that there are potential for the private sector to be the trailblazer for the digitalization process because of their characteristics and traits, the other actors' situation, and the profit to be gained. Though, there are some challenges to be addressed such as the lack of supporting infrastructure, minimal regulatory framework, and also the need for training the warung owner.*

Keywords: Digitalization; warung; private sector; potential; challenges; empowerment

Abstrak. Tujuan dari studi ini adalah untuk memahami potensi dan tantangan bagi sektor swasta untuk memelopori proses dari digitalisasi warung untuk meningkatkan bisnis mereka. UMKM seperti warung di Indonesia telah menjadi alat untuk menghasilkan pendapatan bagi banyak orang. Pun demikian, jumlah warung yang bisa berkembang jumlahnya masih minimal—kebanyakan bisnis mereka stagnan. Hal ini menyebabkan tidak terjadi perubahan terhadap tingkat kesejahteraan mereka. Pendekatan yang dilakukan dalam studi ini adalah secara kualitatif dengan metode kajian literatur. Studi ini menemukan bahwa ada beberapa potensi bagi sektor swasta untuk menjadi pemrakarsa untuk proses digitalisasi yang disebabkan oleh karakteristik dan sifatnya, situasi dari pihak-pihak lainnya, dan keuntungan yang dapat diraih oleh sektor swasta. Walaupun begitu, ada beberapa tantangan yang perlu diselesaikan seperti kurangnya infrastruktur pendukung, kerangka kerja peraturan yang masih minimal, serta kebutuhan untuk melatih para pemilik warung terlebih dahulu.

Kata kunci: Digitalisasi; warung; sektor swasta; potensi; tantangan; pemberdayaan.



INTRODUCTION

Medium, Small and Micro Enterprises (MSMEs) has been a major backbone for the Indonesian economy (Ali et al., 2018; Bouwman et al., 2019; Kumarasinghe & Haleem, 2020). According to Indonesian Central Bureau of Statistics (BPS) (in Jayani, 2020), the number of MSMEs in Indonesia in 2020 had reached 64,2 million. These MSMEs had contributed to creation of 97% of jobs and made up 99% of the total business sector in Indonesia (Weda, 2019). Many Indonesians are devoting their livelihood through MSMEs and their welfare are depending on the income from the MSME's venture. If the MSMEs in Indonesia are growing well, then the welfare of the people would also be increasing. Vice versa, if the MSMEs could not compete within the market, it would be hard for the people to increase their standard of living and welfare.

On another note, there is one form of MSMEs that is quite popular in Indonesia which is '*warung*' or a retail kiosk. According to the Ministry of Cooperation and Micro and Small Enterprises, Teten Masduki, the number of *warung* in Indonesia had reached 3,5 million in 2020 (Humas Kementerian Koperasi dan UKM Republik Indonesia, 2020). Based on the data from Nielsen in 2018, 72% of the total Indonesian people are transacting and buying their daily needs through *warung* (Burhan, 2019). Not only that people depend on their income from *warung*, but also to fulfill their needs. Hence, *warung* has a major place in Indonesian people's life, especially so for the middle-to-lower income people.

Along with the advancement of technology, there has been a shift in people's buying patterns and methods of exchanging goods from doing it directly face-to-face into doing it through the internet (Bollweg et al., 2020). This is also the case in Indonesia, where people are adopting this method of transacting through online channels more so than ever. All the goods that could be purchased at *warung* before, are now available online even with a much better assortments and variations. *Warung* market share is in decline because of this shift (Handarkho et al., 2017). Because of this, *warung* could not use the same method as before. Some changes have to be done in order for *warung* to survive within this business climate. *Warung* should and could use the technology to enhance their business strategy so that they are not left behind and able to compete within other businesses that has entered the digital world (Eller et al., 2020; Handarkho et al., 2017; Kumarasinghe & Haleem, 2020).

By using technology, *warung* could change their business scheme into something more relevant

and adaptable to today's situation (Bouwman et al., 2019). *Warung* could use the advance technology that is available today to connect, communicate, collaborate to create a platform that can bring together all the relevant stakeholder within the market to gain a bigger access and share via the digital network (Eller et al., 2020; Hervé et al., 2020; Kumarasinghe & Haleem, 2020). The market share of *warung* within the market will then increase because of the rise in visibility towards their consumer.

Though, even with the existence of technology, it will not suddenly make all *warung* adopt it immediately. The reason why that is happening is because not all *warung* owners came from the same background, ability, and capability to implement and adopt those new technologies. It is all the more so for the owner who came from low to middle income family in which their familiarity with advance technology might be very low. Not only that, but also because most of *warung* could not afford to invest their earnings for new technology adoption (Bollweg et al., 2020; Isensee et al., 2020). Most of the time, they use their earnings to fulfill their daily needs. Moreover, the margin that came from selling goods in *warung* is modest. This will make it difficult for *warung* to invest in technology on their own. Even so, *warung* owners already know the importance and the benefit that comes from integrating technology towards their business (Bollweg et al., 2020), though it is proven to be very difficult for them to do just that.

Seeing that situation, many private companies and big businesses saw that there are many opportunities arising from that situation, that not only could help *warung* solve their problem, but also be profitable for them. There are several companies that try to tackle these issues in Indonesia, such as *Bukalapak*, *Tokopedia*, *Warung Pintar*, *Grab*, etc. Broadly speaking, what this company do to help improving the capacity of *warung* to compete with other business in market is by shorting the long supply chain or distribution process through the method of digitally procure goods (Adiwibowo et al., 2019; Burhan, 2019; Septina et al., 2019, p. 171; Suliswanto & Rofik, 2019, p. 39; Wiliandri, 2020, p. 73). In general, they are trying to digitalize *warung* (Adiwibowo et al., 2019).

In general, the digitalization will help connect *warung* to the producer or principal so they can buy the goods directly (Bukalapak, 2019); cutting the supply chain process to be much simpler. By cutting the supply chain process, it will make the price of goods cheaper. It will then help *warung* to compete with other big or more modern retailers that has the advantage of cheap price. With this, it will level the

competition between *warung* and those other big or modern retailers. Through this program, it is one of the examples of how the private sector could empower the people—in this case *warung*. The *warung* owner will have more capacity and power to compete with the other actors in the market (Soegoto et al., 2020, p. 5). They will no longer be a subject to the harsh market competition. This digitalization will level the competition. By the end, the outcome that is hoped to occur through this program is the increase in *warung* owner income because of the increase in sales (Eller et al., 2020). When their income is increased, they could fulfill their other needs that has not been realized. This in turn will increase their welfare and standard of living.

This study is necessary because this could be used as a case of how the private sector could help within the development process. Those companies that had been stated before are a profit-oriented business, and yet they are also trying to help *warung* through digitalization. If they do accomplish its digitalization pursuit, it could be a success story that might be implemented somewhere else and maybe also for some other development project. This study could then contribute to the advancement of community development theory. Jim Ife (2012), one of the prominent scholars in welfare study, defined empowerment as a social work designed to help the powerless people to have more power and more control over their life. In the past, the common practice for the role of community empowerment laid rest on the government or the civil society organization. Ife (2012, p. 92-93) argued that private sector might bear some responsibility in the realization of human rights—in this context is to have more power over their life—but not in its entirety. This digitalization process is similar to what Ife (2012) argued. Though the private sector does not entirely have the obligation to empower the people, but because of the progression of society, they might inadvertently take the role of empowering community and people.

METHOD

The design of this study is using qualitative approach. The purpose of this study is not to test a hypothesis or to find a causation. Rather, this study would like to gather information regarding the process of digitalization through the help of private sector. Through this study, hopefully, there could be an understanding about the potential of private sector in leading the digitalization process for *warung* in Indonesia.

The method that will be used in this study is literature review. According to Baumeister & Leary (1997, p.311), literature review could be used to

bridge the scattered information regarding one concept or theory and to compile them to form a knowledge or understanding. By using this method, this study would like to collect all the relevant information and try to understand about the potential of digitalization by private sector for *warung* in Indonesia. Baumeister & Leary (1997, p.312) also stated that one of the goals of literature review is to derive some conclusions based on the existing conceptualizations. In line to that, this study also set its goal towards the same direction of getting a conclusion about the private sector's potential in digitalization.

This study is using all relevant documents such as article, textbook, journal and report that has an information and knowledge regarding the process of digitalization of *warung* in Indonesia. After collecting the data needed, this study is using the 'between-study literature analysis' framework that is coined by Onwuegbuzie et al. (2012, p.5). This framework of analysis is done by involving comparison and finding contrast from two or more sources. This is done by comparing the multiple components from one work to the multiple components from other works (Onwuegbuzie et al., 2012).

RESULT AND DISCUSSION

The discussion and analysis in this study will focus on the potential, challenges, and also the strategy for the private sector to lead the digitalization process. However, the debate of private sector participation on technological advancement has been long examined (Batley et al., 2015; Cankar, 2013; Gatautis, 2008; Ward, 2006; West & Lu, 2009). Thus, the object of focus in this study is the context in Indonesia's technological climate and situation. It would be erroneous to assume that the discourse of private sector participation in technological advancement could be directly applied to Indonesia's context. Therefore, in the next part, there will be a discussion about the findings on the potential, challenges and also the strategy for the private sector in digitalizing *warung* in the context of Indonesia circumstances.

Potential

There are several factors that can lead the private sector's potential to lead the process of *warung* digitalization in Indonesia, which are: (1) the characteristics and traits of the private sector; (2) other actors' position and condition; and (3) profit to be gained from *warung* digitalization.

Private sector characteristic and trait

There had been many saying that the private sector characteristic and trait is more suitable for the pursuit of growth. Compared to the public sector, the private sector has been dubbed to be more entrepreneurial and innovative (West & Lu, 2009, p. 1). This trait is related to the situation in which private sector is inside wherein they are pressured to stay competitive by continuously incorporating new technology to improve productivity and efficiency (Bonina & Cordella, 2010, p. 12; West & Lu, 2009, p. 1). Besides, in order to make sure that the profit is obtained, private sector often used methods such as cost reduction, checking on return of investment and managerial goal investment through accountability and transparency (Bonina & Cordella, 2010, p. 15). To boost productivity, the private sector often employs technology innovation. On many aspects of technology innovation, the private sector outperformed the public sector (West & Lu, 2009, p. 18).

In terms of efficiency, there has been no one size fits all solution in which model of ownership (private, public, or mixed) that could give the most efficiency (Batley et al., 2015, p. 4). Though there are differences in efficiency for particular services and specific context (Batley et al., 2015, p. 4). Batley et al. (2015) argue that efficiency of service delivery depends on factors such as competition, regulation, autonomy in staffing, remuneration and financial and legal institutional. When we talk about technology, the private sector often precedes the government side. The competition is sterner in the market, passing the regulation about technology has been lengthy (Marchant, 2011), the remuneration in private sector is much loftier and thus lead to better recruits (Boyne et al., 1999, p. 413), and many private sector's institutional framework are designed to be more agile for new development and big shifts in operation (Mergel et al., 2018, p. 2).

On another note, the private sector also has been proven to be making an impact in many sectors of development such as economic growth, job creation, poverty reduction and inclusive growth, and service delivery (International Finance Corporation, 2011, p. 7). In terms of economic growth, the private sector helps boosting this through its capabilities to increase higher productivity and knowledge transfer International Finance Corporation (2011). By boosting productivity, it will improve the number of output and will in turn rotate the economic gear faster. Making the economy grow faster. As it has been explained before, in terms of knowledge, the private

sector maintains a cutting-edge technology to keep productivity rising. Regarding job creation, the private sector contribute a major portion for jobs—which in Indonesia contributing up to 97% of all jobs (Kementerian Ketenagakerjaan RI, 2021). Through the jobs that are created by private sector, in turn it will lead to the decreasing number of poverty since people's income is raised (International Finance Corporation, 2011, p.10). Another important role of private sector in development is their capability in delivering services that is also essential for people, when the government cannot (International Finance Corporation, 2011, p.11).

If we bring this situation to the context of digitalization of *warung* in Indonesia, the circumstances are similar. The private sector is leading in digital technology acquisition in Indonesia. The private company has a share in Research & Development (R&D) expenditures in Indonesia reaching to the number total of 26 percent (Asian Development Bank, 2020, p. xxi). Though it might seem that R&D expenditures in Indonesia are led by the public sector, but the public's adoption rate nationwide is very low (Asian Development Bank, 2020, p. xxi). Within the private sector, the number of company that adopt advanced technology and digitally enabled tools is only 6 percent, 30 percent of them adopt an intermediate level of technology, and the rest (64 percent) are still using basic tools for their operation (Asian Development Bank, 2020, p. xxiii). The number depicted is caused by the knowledge transfer from the government—through their R&D expenditure—is not spread evenly to all the regions in Indonesia. Only a handful of company had already used the advanced technology. Because of that, those handful company have become the front-runner of technology adoption in Indonesia and it is all the more so in the case of *warung* digitalization.

Other actors' position and condition

The potential for the private sector is exacerbated by other actor's position and condition within the innovation area—especially in the process *warung* digitalization—which are less favorable compared to them. There are several actors that could be engaged to realize *warung* digitalization. Those actors include the government or the public sector and also the civil society organization.

Government

Government care about creating public value more than cutting cost (Bonina & Cordella, 2010, p. 16). More often than not, the government sees term

based on its cost-effectiveness analysis rather than cost-benefit analysis (Bonina & Cordella, 2010, p. 16). As long as it reaches the goal, sometimes the government pay a much heftier price. Meanwhile, the private sector has been basing its operation on the purpose of cutting-cost for more profit while also trying to achieve its goal. There is less pressure on the government to cut cost. So, in terms of efficiency, the private sector might lead in this aspect.

One of the other major constraint that is hindering the process of innovation and technology adoption in Indonesia is the politics of social policy (Dickens, 2016, p. 155). Politicians take a major part in the process of policy formulation. Social policy is by and large influenced by the political decisions whether the policy is accepted and budgeted or not (Dickens, 2016). The reason that is happening is because the politicians are representing the people that vote for them, and the people have their own needs to be met. Those politicians have an obligation to fulfill their needs—also so they could be voted again later. If the political situation does not favor technological progress, then technological process would not be carried out by the current administration. But if it were favorable with the current public, then the politician will swing their decision into making technological progress as their agenda for development.

Also, another reason as to why the adoption rate within the public sector is slower compared to the private sector is because of the staffing and also the remuneration for the human resources that will handle the technology. The government is hindered by their policy to absorb as many workers as possible with the current budget to reduce the number of unemployment—at least that is the case in Indonesia (Allen, 2016, p. 30; Dariyanto, 2017). Thus, lead to the problem of skillful human resources in the public sector (Cribb et al., 2017, p. 12). The majority of people that has a degree related to technology are opting out to pick the private sector as their working place, because most often than not, they offer wages multiple times what the public sector can offer. This situation has caused more and more skillful human resources away from the public sector (Cribb et al., 2017). Moreover, Choi et al. (2020) find that a better employment could cause a higher innovative performance in a company—especially in a technological start-up company. Consequently, this is one of the reasons as to why technological company outperformed the public sector counterparts.

Civil Society Organization (CSO)

CSO could be one of the front-runners for the process of *warung* digitalization. Alas, they should have several of requirement needed such as

motivation, funding, and skills. In terms of motivation, CSO motivation has always been to give social impact to the people. The process of *warung* digitalization could be in line with their goals, because it helps the *warung* to adapt with the current situation and to grow. So, there is no problem in terms of their motivation to do the *warung* digitalization.

Next, in terms of funding for the digitalization, there might be some issue in this aspect (Nugroho, 2007, p. 129). The source of funding for CSO often dictate their program and objective. Ideally, the CSO could match their own objective with the funding available, or better yet, to fund their own operation through fund-raising (Nugroho, 2007). But, those CSO who could not afford their own operation are tied down by the donor or funder goal. So, the independency of the CSO is hindered (Nugroho, 2007, p. 126). Moreover, the current trends of what the donor and funder objective nowadays are very similar. They are mostly giving their funds to handle the issues of global warming and climate change (Huebner & Milne, 2012, p. 174). Therefore, there will be very limited funding to tackle the issue of *warung* digitalization.

Though, the CSO has one strength that is beneficial for the process of *warung* digitalization, which is experience. Many CSO are focusing their operation for capacity building or community development (Nugroho, 2007, p. 132). So, CSO are relatively more experienced in dealing with training and empowering the people to be more skillful. But the problem arises when the subject for the training needs a specific or certain competences such as technology adoption and digitalization. This training would require an extensive knowledge of advanced technology. Except, many CSO are not equipped with technological expertise. Most of the CSOs are more of an expert on social issues.

If we look again, the potential for the CSO to lead the digitalization process might be a challenge. The trends for donor right now are focusing on the climate change issues, so securing funding for this goal might be tough. Also, the amount of CSOs that has the set of skill for doing digitalization of *warung* is very limited. Because of those reasons, it would be very hard for this task to be done by the CSO.

Profit to be gained

Overall, if Indonesia were to fully embrace digitalization, it could reap an estimated amount USD 150 billion or 10 percent of the total GDP by 2025 (Das et al., 2016). Through the digitalization, it would increase participation that would lead to increasing productivity across sectors (Das et al., 2016, p. 4). As it was mentioned before, *warung* has been using the

conventional method. By integrating *warung* with digital tools, it would boost their productivity. For so long, *warung* has been a source of income for many people in Indonesia, but they could not grow and their size is rarely leveling up (Ascarya & Rahmawati, 2018; Maksum et al., 2020)

Warung's existence in Indonesia is ubiquitous. It could even reach to the deepest part of the region in Indonesia. Whereas this has been a challenge for modern retailer to do. There is an untapped market for digitalization that could benefit not only the *warung* owner, but also the digitalizator. There are 2 (two) services that the private sector could provide in order to help *warung* but also getting a profit while doing it. Those are by cutting the middlemen in the supply-chain process and the second is by selling virtual product that is not available in the deepest part of the region.

The current business model of supply-chain process in *warung* is similar to the figure 1. below.

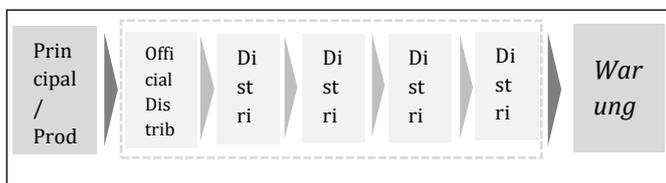


Figure 1: Conventional Supply Chain Process for *Warung*

Source: Kodong et al. (2015), edited.

But, with the help of digitalization, it could cut the supply-chain to be shorter so that *warung* could be directly connected to the principal. The process is



illustrated similar to the figure 2.

Figure 2: Conventional Supply Chain Process for *Warung*

Source: Kodong et al. (2015), edited.

With the help of private company as the digitalizator, *warung* could get their goods directly from the principal. While they could also gain profit by participating as the only mediator between the principal and *warung*. Before, *warung* would get the goods from the distributor, in which it might had been the fourth hand that the goods have been exchanged. This will in turn make the goods more expensive, because every middleman also try to get the profit by making some margin. But with the help of digitalization, *warung* could get a better deal and cheaper price. Moreover, if the private company could strike a deal with the principal, they could even lower the prices so that they could sell at the same

prices as the principal. It is possible because the untapped opportunity from networks of *warung* all around Indonesia is plenty. So, through this method, the private company could reap benefit while also helping *warung* grow. The growth of *warung* could also be beneficial for the private company because the more they grow the more businesses that the *warung* would bring to the private company. Hence, it would become a spiral of growth, where both parties could gain benefit.

Lastly, the private company could also gain profit by selling virtual product and digital financial product. The market for virtual and digital financial product in some regions in Indonesia are still vacant. There are a lot of opportunities from this market because of the market is still vacant. One of the problems in Indonesia is that the number of unbanked people reached 51.1 percent and mostly live-in rural areas (World Bank, 2017 in Batunanggar, 2019; Wiradji, 2021). This led those people have yet to become part of the financial inclusion (Wiradji, 2021). One of the reasons as to why those people are unbanked is because the bank building or infrastructure is not supported to reach the deepest part of the rural. So that people might have to go to the city to access the bank. But with the network of *warung* that has been built, it could reach the unbanked people. To access the financial services, the unbanked people do not have to register. They could just go to the nearest *warung*. By selling those services and products, the private company could also gain profit from it.

Those are the 3 (three) potential for the private sector to lead in the process of *warung* digitalization, which are: (1) private sector advantageous characteristics and trait; (2) the problem with other actors' condition especially regarding the technological adoption; and (3) profit to be gained from doing the digitalization. Though, there is potential for this. There are also several problems that might need to be addressed. So that the digitalization effort could run well.

Challenges

Though there are several challenges that private company has to tackle in order to succeed the *warung* digitalization process. Those challenges include: (1) the supporting infrastructure (Eller et al., 2020; Fauzi & Sheng, 2020); (2) regulation and policy ; (3) training the *warung* owner (Eller et al., 2020; Fauzi & Sheng, 2020); (4) weak financing mechanism(Fauzi & Sheng, 2020); and (5) motivation to keep making social impact.

The supporting infrastructure

In order to begin the digitalization process, several technologies are expected. The first one being the platform to connect the *warung* with the digital world (Bukalapak, 2019). After that, *warung* will need a tool for them to go to the platform (Bukalapak, 2019). The last is the internet connection for *warung* to access the digital platform (Bukalapak, 2019). It would be impossible for the private company to provide all of them altogether. The first one might be plausible to provide. But the second and the third will require an extensive amount of investment. That is why, it might need the market to mature enough before penetrating them with the digitalization process.

Seeing the condition right now, it might seem already mature enough. Most people are already had an access to internet, and most already own a smartphone. According to DataReportal (2021, in Kemp, 2021), the number of internet users in Indonesia in January 2021 had reached 202,6 million users or 73,7 percent of the total population. From those 202,6 million users, 98,2 percent are using smartphones to connect to the internet (DataReportal, 2021 in Kemp, 2021). Meaning, almost 30 percent of the population does not have access to the internet nor access to smartphones. Though, in the rural and village area this might not be the case (Capri, 2017). Further intervention is needed on those special cases. Could be through government partnership to provide the infrastructure needed, or by partnering with financial institution so that the *warung* owner could loan some capital for technological investment.

Regulatory Environment

One of the challenges for the realization of digital ecosystem in MSMEs—especially *warung*—is the lack of information on the relevant rule within the regulatory and legal framework that deal with digital technology (Capri, 2017, p. 20). Several regulation needed to ensure a conducive environment for digital economy that are still progressing to be passed include consumer protection, data privacy, cybersecurity, and e-payments (Aprilianti & Dina, 2021). The current legal framework could not accommodate the need of today's digital situation.

In case of privacy, data breaches has been a common practices in Indonesia which the law has not been fully regulated yet (Aprilianti & Dina, 2021). Consumer protection in case of scam or fraud is also underregulated. There have been many cases of scam, and they are still pervasive in Indonesia digital environment because of the lack of measures to prevent their operation nor to punish the offender

accordingly. Although, the financial regulation for e-payment has seen a better light in which the legal framework has been clearly established and regulated (Aprilianti & Dina, 2021).

Training the *warung* owner

Not only that the success of *warung* digitalization needs the technological resources as its foundation, it also requires the human capital that will operate the technology (Eller et al., 2020). Without the human that operate the machine, the digitalization process would not sustain in the longer term. That is why, after the technology is available for use, the human capital needs to be also prepared (Eller et al., 2020). That way, when the tools are ready, the process could begin without having to be assisted continuously.

There are many *warung* owners who have limited knowledge about finance, strategy, or any business acumen that is essential for being an entrepreneur (Maksum et al., 2020, p. 6). The Financial Services Authority (OJK) reported that only 30 percent of the total population in Indonesia are financially literate (Batunanggar, 2019, p. 4). Thus, most of them are running their business with instinct. Moreover, they might not have many experiences in handling technology. Because of that most of the *warung* owners would require assistance and training during the digitalization process (Batunanggar, 2019, p. 2). This might require the private company that would invest in this sector to be committed. Meaning, the private company will need to prepare the trainer and also the means to support the training process. This part is one of the keys towards successful digital integration.

CONCLUSION

Based on the discussion, it could be concluded that in the case of *warung* digitalization, the private sector is leading in terms of its potential to be the front-runner. Its characteristics and traits fit really well with the condition of the digital technology ecosystem in Indonesia. The other actor does not have the same capacity and capability to succeed this process as much as the private sector. Moreover, not only that, but there is an opportunity and profit to be gained from being the front-runner of the digitalization process. Though there are several challenges from the road ahead, such as the lack of supporting infrastructure especially in rural and villages areas, minimum regulatory framework, and also the need to train *warung* owners. But, to tackle all of those issues, the private sector could team up with other actors such as the government or the CSO, who have some capacity to help the process.

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