

Strategies for SME Digital Ecosystem in Indonesian Metal Industry

Bernardinus R. Yudianto, Teddy Trilaksono, Isti Budhi Setiawati,
Sri Widya Wijanarti, Eko Suhartanto

School of Business and Economics, Universitas Prasetya Mulya, Jl. R. A. Kartini (TB Simatupang), Cilandak Barat, DKI Jakarta 12430, Indonesia

ARTICLE INFO	ABSTRACT
<p><i>Keywords:</i> Digital Ecosystem, Entrepreneurship Ecosystem, Small and Medium Enterprises, Business Strategy, Case Study</p> <p><i>Kata Kunci:</i> Ekosistem Digital, Ekosistem Kewirausahaan, UKM, Strategi Bisnis, Studi Kasus</p>	<p>SMEs can achieve the paradigm shift they need for development by creating a business ecosystem that will improve their skills and technicalities through digital media. This study aims to identify several strategies that can influence changes in the digital ecosystem development for SMEs in Indonesia to help them survive and be sustainable. This research focuses on a single case study approach. Citeureup metal industry centre was chosen by involving 70 SMEs spread across the Citeureup area. This study found that four strategies can be applied to develop a digital ecosystem. The first is helping SMEs to level up, and the second is connecting with the surrounding stakeholders. The third is to help SMEs expand their market, and the last is to help them build regeneration strategies.</p>
<p>Corresponding author: bernardinus.yudianto@pmbs.ac.id</p> <p>Copyright © 2021 by Authors, Published by IRJBS. This is an open access article under the CC BY-SA License</p> 	<p>SARI P A T I</p> <p><i>UKM dapat mencapai perubahan paradigma yang mereka butuhkan untuk pengembangan, dengan menciptakan ekosistem bisnis yang akan meningkatkan keterampilan dan kemampuan teknis mereka melalui media digital. Penelitian ini bertujuan untuk mengidentifikasi beberapa strategi yang dapat mempengaruhi perubahan dalam pengembangan ekosistem digital bagi UKM di Indonesia, untuk membantu mereka bertahan dan berkelanjutan dalam bisnis. Penelitian ini berfokus pada pendekatan studi kasus tunggal. Sentra industri logam Citeureup dipilih dengan melibatkan 70 UKM yang tersebar di wilayah Citeureup. Studi ini menemukan bahwa empat strategi dapat diterapkan untuk mengembangkan ekosistem digital. Yang pertama, membantu UKM untuk menaikkan level bisnis mereka; kedua, menghubungkan mereka dengan pemangku kepentingan di sekitarnya; yang ketiga, membantu UKM memperluas pasarnya, dan yang terakhir membantu mereka membangun strategi regenerasi.</i></p>

INTRODUCTION

The Ministry of Industry (Kementerian Perindustrian) Republik Indonesia launched the E-smart SMEs program in 2017. This program comprises a database system presented under firms' industrial profiles (Sentra dan Produk), integrated into the existing e-marketplace. This program intended to introduce small and medium enterprises (SMEs) to the use of technology to develop their business, specifically in technology usage in marketing, payment methods, educational media, and supply chain management.

2020 was expected to be when the E-smart SMEs program can become a tool to build an ecosystem specifically for SMEs. The initial stage began in 2017. The program opened access to the e-marketplace and the necessary education for SMEs to operate effectively inside ecosystems, and this stage lasted until 2018. In 2019, the program widened its scope and included e-payment and logistic providers. Finally, in 2020, the E-smart SMEs program is expected to serve as a digital ecosystem that provides information that can help identify potential SMEs to be coached. It is one of the SME digital ecosystems that was successfully developed by the Ministry of Industry in collaboration with the Dharma Bhakti Astra Foundation (YDBA) from 2017 to 2019. Therefore, the researchers chose a digital ecosystem within the centre, with the UKM Citeureup serving as a case to be investigated. The SME E-Smart program in Citeureup presents a best practice from the successful and sustainable development of the SME digital ecosystem in Indonesia, which occurs due to the collaboration of many stakeholders, namely local governments, ministries, large industries, and SMEs.

Findings from Wang (2020) suggested that digital and entrepreneurial knowledge owned by SMEs could be an asset in facing the competition. Furthermore, Ghobakhloo and Iranmanesh (2021) identified valuable factors for a business when they are in the phase of digital transformation. Olsson and Bernhard (2020) argued that human

resources in the industry are needed to be prepared by the entrepreneur and their employees. Digital transformation is currently happening in the SME ecosystem globally, not only in Indonesia, but very little literature that discusses how this entrepreneurial ecosystem is formed, especially regarding the digital ecosystem in Indonesia. Very few also discuss how the strategy is needed to build this digital ecosystem. This recent research will look closer into Citeureup metal industries on how the framework required for SME smooth climb into the digital business world. With this study, we hope to contribute to the stakeholders involved in preparing SMEs to enter the digital ecosystem.

LITERATURE STUDY

SMEs Ecosystem

Tambunan (2008) argued the need for a change in the paradigm to develop SMEs in Indonesia. The focus now is to provide the support needed to SMEs to gain skills and receive technical upgrades. These aspects were believed to bring in better capital, help SMEs increase their competitiveness, and enable them to reach their potential to become bigger businesses. Furthermore, he argued that SMEs should aim to support more significant business (through business-to-business sales) and expand their sales into different countries through exporting.

Cavusgil, Knight, and Riesenberger (2014) argued that establishing cooperation with an existing company, particularly a champion in the market, will benefit the company. For emerging markets like Indonesia, this champion can be a family conglomerate. The benefits they offer include a solid knowledge of management, finance, operations, and marketing. Furthermore, this conglomerate has usually established a good connection with the government and is a crucial player in the business. Those knowledgeable and existing networks would present more opportunities and benefits to both parties. Tambunan (2008) stated that SMEs' capacity to engage in research and development (R&D) can increase via a corporation between them and universities. The government

can encourage these initiatives to provide facilities to ensure an established network between SMEs and universities. The facilities could take the form of R&D funds, tax benefits, and special awards to acknowledge those inventors.

Market development strategy (Johnson, Scholes, & Whittington, 2009) offers a newly established market for existing products. This strategy can be implemented in three forms: (1) new segments, (2) new users of the same product, and (3) new service areas. For example, first, a language course that usually serves college students could target adult-employee groups in the education service. Second, if a firm previously sold cheese to households, it could try offering it to food trucks selling sandwiches. Third, a firm could expand to serve different provinces/suburbs. Johnson, Scholes, and Whittington (2009) suggested that it is essential for companies to offer products that this new market perceived as valuable. Reynolds (1997) stated that economic growth could also be achieved through a clustered industry. At least this policy would benefit the economic growth in specific regions. He added that such an industrial district must have 1) populated business activities in an area, 2) focus on a specific industry area, 3) set a division of production phases among small businesses in the area, 4) establish cooperation between businesses in the area, and 5) support industrial local culture and values.

SMEs Digital Ecosystem

Hertanti (2017) argued that Indonesian government policies that benefit the economy are on the right track. Those policies include down-streaming industry, infrastructure development, and empowerment of rural economies. The policy of down-streaming industries also covered industries that produce machines, textile, health equipment, transportation, footwear, and electronics. Hertanti (2017) asserted that such policies would create more jobs, increase income, and eventually improve people's purchasing power to help economic progress.

Wang (2020) argued that small firms with solid digital capabilities (plus good entrepreneurial orientation) could perform as well as their medium counterparts. Bouwman, Reuver, and Nikou (2017) stated that social media and big data in business model innovation (BMI) substantially impact business performance. They found that the decision to utilise social media and big data comes from the internal motives of the business (managers and top-level executives). It is argued that a firm's website presence and quality positively impact business competitiveness (Lányi, Hornyák, & Kruzsliz, 2021; Westerlund, 2020). They also stated that a website could be categorised as a competitive marketing tool (rather than an information technology tool). Ghobakhloo and Iranmanesh (2021) outlined eleven determinants of SME digital transformation (these include external support, resource availability, management competency for digital transformation, business partner digital maturity, digitalisation readiness, change management competency, information and digital tech expertise, manufacturing digitalisation strategic roadmap, cyber security maturity, information and digital readiness, and operation tech readiness. To keep pace with digitalisation, female entrepreneurs must have the mentality of learning by doing (especially in utilising social media), informal understanding, step-by-step self-development of entrepreneurial behaviour, and recruitment of digitally skilled employees (Olsson & Bernhard, 2020).

Business Strategy

Porter (1985) believed that a business strategy emerged due to external and internal forces that affected the company. That eventually gave the company a competitive edge and will bring benefits to its investment. Barney (1991) added that a firm's strategy is a unique resource and knowledge combined from a resource-based view of the firm. Including e-business, knowledge is seen as a valuable asset and an advantage in winning the competition (Bharadwaj, 2000). Therefore, the Internet is suggested (Porter, 2001) as an opportunity to utilise it as a competitive force and strategic decision.

Johnson, Scholes, and Whittington (2009) stated that one of the characteristics of a strategic decision is acknowledging relationships and networks built with the organisations. According to Indarti and Langenberg (2004), those relationships were marketing, technology, and capital access. They believed that they were crucial in success, especially for an SME business. Marketing variables include creating new products, maintaining a significant portion of loyal customers, and providing customers with superior value products. In technology, they believe that this variable will provide SMEs with a competitive edge in finding effective and efficient means of the business process. Hence, adapting to technological change will benefit the business. Raymond and Bergeron (2008) argued that the change would include the decision on technology being used, any challenges arising from such implementation, training consequences, and any updates that the technology required. One way of evaluating it is through comparing the cost and the benefit of using an e-business (Cutler & Sterne, 2001).

Waladt and Drumond (2002) observed that the adoption of e-business in SMEs is slow. Some SMEs even showed hesitation in using electronic information standards and internet technology. While in more prominent companies, this intranet and internet utilisation has become that daily inseparable operation. Loforte Robeiro and Love (2003) suggested that e-business is a condition where economic value creation meets IT (information technology) and brings connectivity for the entire organisation. Therefore an e-business policy is a strategic advantage one company must pursue (Hackbarth & Kettinger, 2000; Chang et al., 2003; Azumah et al., 2007). Furthermore, the combination of e-business and business strategy is found to be the basis of better business performance (Chan & Reich, 2007).

METHODS

Case Selection

Our qualitative research is embedded in the

Mapping Study of Citeureup Metal Centers for the Development of E-smart SMEs 2019 project, which lasts more than three months. This mapping project is part of the development of the E-smart IKM program, which was initiated in 2017 by the Indonesian Ministry of Industry in collaboration with the Business Venture Development Institute (BVDI) Universitas Prasetiya Mulya, which acts as a consultant to evaluate the IKM E-smart program at the Citeureup Center for development of this program in 2019. This mapping project's objective is to identify problems that exist in SMEs so that the guidance provided is right on target and can be valuable and sustainable. Focusing on one metal industry centre, this project involves 70 SMEs spread across the Citeureup area. These particular groups were chosen to provide insights into development in the Citeureup metal industries. Business owners originating from the area can provide direct, sensitive, and constructive information about business in the area (Creswell, 2013). The informants were chosen because they handled the business by themselves from the beginning. Therefore, possessing a good knowledge on business development and its history. Plus, they were selected based on their availability, willingness to be interviewed, and the variety of metal products produced. This single case study was chosen because, although case studies can indeed be used for exploratory purposes (Snyder, 2012; Yin, 2014), this approach can also be used for descriptive purposes and to test the explanations for why certain events have occurred and are used to make causal inferences (Yin, 1981; Ragin, 2001). By identifying strategies that are useful for developing a digital ecosystem for SMEs, the researchers can also provide the basis necessary for the E-Smart SME program to be successful and help more SMEs join this program.

Data Collection

In the case of study research, many consider selecting topics based on a set of particular standards to be a vital step (Siggelkow, 2007; Veldman et al., 2011). Therefore, the criteria for selecting the companies to be studied are based

on mapping the locations in the Citeureup metal centre, which consists of 70 SMEs, as previously mentioned.

The Citeureup Center is in the Citeureup sub-district, one of the industrial districts in Bogor Regency, West Java Province, Indonesia. In addition to metal centres, this area houses several hundreds of factories, both small and large, making this location very strategic. Moreover, it is only 41.3 Km (or 47 minutes) from the capital city of Jakarta, with easy access to the Greater Jakarta area via the Jagorawi highway, as seen in Figure 1, making this centre more strategic. The small- and medium-sized metal industries in this area are scattered over several villages, such as Tarikolot Village, Gunungsari Village, and Sukahati Village. Since 1980, the residents in the three villages have become metal craftsmen, totalling approximately

165 artisans. In 2016, Citeureup was designated by the local government as a metal centre village.

The project revealed that, from all 12 villages located in the sub-district of Citeureup, the 70 SMEs are concentrated in 3 villages: Tarikolot village, Gunungsari village, and Sukahati village, with details outlined in Table 1.

Other than being classified based on their production, SMEs are also classified based on their production capacity, as shown in Table 2. The production capacity is classified into three categories: (1) Small enterprises, which are businesses with a production capacity lower than 10,000 pieces; (2) Medium enterprises, which have a production capacity between 10,000 and 100,000 pieces; and (3) large enterprises whose businesses have a production capacity larger than 100,000 pieces.

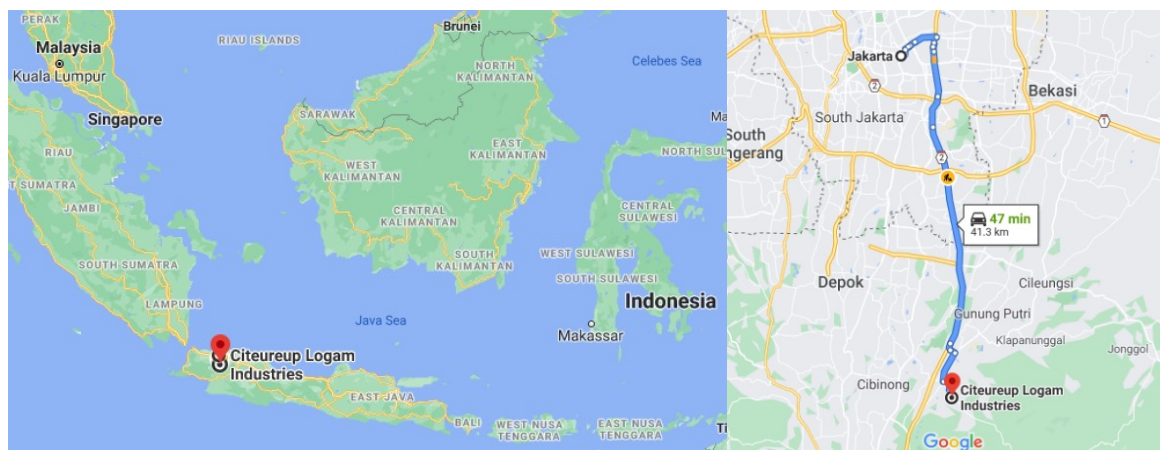


Figure 1. . Location of Citeureup. Sources Citeurep Google Map (2021)

Table 1. SMEs Product

Product	Tarikolot Village	Gunungsari Village	Sukahati Village
Household appliance	18	2	6
Medical devices	7	9	2
Automotive Components	5	1	1
Metal Furniture	3	2	0
Agricultural Tools	1	0	0
Products of other metals	6	6	1
Total SMEs	40	20	10

Table 2. Production Capacity

Production Capacity	Tarikolot Village	Gunungsari Village	Sukahati Village
Large enterprice	2	1	1
Medium enterprice	19	1	0
Small enterprice	19	18	9
Total SMEs	40	20	10

In addition to taking data from 70 SMEs in the three villages through direct observation and in-depth interviews, the researchers also conducted observation and in-depth interviews with actors involved in fostering SMEs in the Citeureup centre area, namely the Dharma Bhakti Astra Foundation (YDBA), through their organisation called LPB (Business Development Institute). YDBA is a foundation created by William Soeryadjaya in 1980 with the philosophy of «Give a hook, not a fish». Throughout its 38-year journey, YDBA has fostered 10,894 MSMEs across Indonesia. YDBA has also created 68,030 jobs through the MSMEs it facilitates. In addition, through the LPB (Business Development Institute), a non-financial organisation formed by YDBA to carry out incentive-based training for SMEs, metal centres in the Citeureup area began to develop.

Due to the diversity of sources both through observation and in-depth interviews, data collection must be guided by several types of protocols. Such a protocol identifies the topic to be studied and reminds researchers of the types of evidence that may be relevant (Denzin & Lincoln, 2000; Silverman, 2013). Therefore, interviews were conducted using the semi-structured interview method, in which key questions were prepared (Tellis, 1997; Adams, 2015), and observations were made using the systematic observation method (Nisbett & Wilson, 1977). This observation is carried out with full planning and preparation in advance, during which process the researcher will load statements containing the formulation of the problem of the activity to be studied (Anguera, 2003; Portell et al., 2015). The following are essential questions that will be discussed during the data collection process:

1. What is the strategy for SMEs to be able to move up in class?
2. How is the collaboration level between SMEs and YDBA?
3. What is the strategy for SMEs to expand the market?
4. What is the SME strategy for business regeneration?

Data Analysis

The results of in-depth interviews were digitally recorded, and then transcripts were created and distributed evenly to researchers (Krueger, 1998). Then the researcher began processing interview and observation data and identified the topics and themes that appear in the transcription, which were then mapped with an effective data coding system (Gibson & Brown, 2009). To facilitate data management and analysis, the researchers used the NVIVO computer program. After the case study narrative was generated, the researcher asked the respondents to review the substantial part of the case study. This is a minimal procedure to validate the data collection process and is part of data triangulation (Schatzman & Strauss, 1973; Cobb & Hagemaster, 1987; Patton, 1999; Denzin, 2018). For example, although the respondents might disagree with the interpretation in a case study, they should not find that basic facts have been misinterpreted (Snyder, 2012).

RESULTS AND DISCUSSION

Using a qualitative method approach, new information is obtained about what happened to SMEs in the Citeureup Metal Industry Center. The findings are shown below and compiled to

illustrate what has happened at the centre regarding establishing the SME Digitalization Ecosystem.

Scale-Up Strategy

Classification of SME is based on production capacity, divided into three categories: large, medium, and small enterprises, as shown in Table 2. For SMEs to step up to a higher business level, they need to apply these four strategies. First, they need to concentrate on the production of certain goods. This will enable them to benefit from the economies of scale. Several SMEs have gone in this direction. For example, one business owner stated:

“We specialise in making bread-loaf pan, and not accepting other orders. If we did, we would need to learn a new production process” (Participant #1)

“We made them (the products) by order and stock the top 5 most selling products (bed, bed cabinet, hospital-infusion pole) in the market, Yaden is considered a better value based on its quality and price. There are MAK (competitor from Jogja) and Paramount (Japanese technology), but they are more expensive. Yaden’s target is quality products among the cheapest” (Participant #2).

This finding is in accordance with McMahon (2001), who found that enterprise size is significantly linked to better business performance. Larger enterprises were found to have a higher level of success.

Second, SMEs must establish a solid legal base, especially regarding business-to-business (B2B) and export needs. Some SMEs have realised this requirement. One business owner said:

“Seeing other businesses that are not a legal company is like watching a stationery business. They are not growing into a home industry. Meanwhile, if they are legalised, they can directly sell their product” (Participant #3).

Similar to this idea, another business owner added:

“About 2 or 3 years ago, I began to consider that the business needs to be managed professionally, having separate family and company money, clear payroll, stock options, and paying dividend. . in the long run, export is the main goal” (Participant #4).

Third, SMEs must have quality certification (from appointed bodies) and waste management certification. One business owner expressed the following sentiment:

“Training from Kemenperin is expected, for example, training on how to weld. Then, this certification can be posted on the business’s website” (Participant #5).

Fourth, SMEs need to expedite sales orientation from business to consumer (B2C) to business to business (B2B). For example, one business Afdan Production, became Yamaha Indonesia motorcycle supplier (motorcycle type: N-MAX), as illustrated in Table 3.

Compliances with existing rules and regulations are believed to be an important condition that needs to be present for ensuring a successful business (Mazzarol & Choo, 2003). However, in Indonesia, the story is somewhat different.

Table 3. Afdan Production Capacity

Name	Production type	Production Capacity	Company Type	Number of Workers
Afdan Production	Serpo N-Max	4800	Individual	12
	Bracket number plat.	9600		
	Seat N-Max	4800		

Indarti and Langenberg (2004) and Duh (2003) believed that legal requirements tend to obstruct business growth. Due to the fact that such compliances require particular financial resources. Therefore, they suggested that legal requirements simplification and further deregulation can propel business growth.

Collaboration with YDBA

Yayasan Dharma Bhakti Astra (YDBA) selected Tarikolot as their 16th featured area to develop, especially in the metal products sector. Given their existing programs in developing the industry, it is suggested that this SME complement this development with supporting programs shown in Table 4. For instance, they could help to map the talents available in the area and offer consultation and guidance in management and innovation to the SMEs (that are not performed by YDBA).

Findings based on interviews with one business owner support developing a business based on the owner’s talent. For example, a business owner has excellent knowledge in production techniques. However, his expertise in marketing is not as strong. As another business owner claimed:

“The experience in direct product selling is lacking, I am not familiar with Jakarta’s market. Plus, if I want to sell online, I simply cannot tell the ‘story” (Participant #6).

Therefore, a business needs an action plan synced with the owners’ talent. The action plan should include five steps. First, identify SMEs that joined the YDBA program. Second, create a map of their abilities. Third, perform an analysis of their talent potential. Fourth, propose training that suits their

talent and will help them develop. One respondent said:

“Create training that is useful, for instance understanding about machineries (machine operation), about marketing. The training duration should be sufficient, not like flash training. Plus, post-training assistance should be present” (Participant #7)

Fifth, implement the acquired management and innovation knowledge in their business.

Reviewing the collaboration with YDBA, we can see that maintaining good relationships with organisations are crucial in creating a successful strategy (Johnson, Scholes, & Whittington, 2009). YDBA’s presence in supporting metal industries in Citeureup needs to be strengthened. This can be done by adding training not offered by the foundation. Collaboration with large companies in the same industry, where the YDBA program is a CSR part of large companies, allows SMEs to enter new markets more efficiently and develop and maintain business opportunities (Ketchen Jr. et al., 2007). Large companies have substantial market power and are supported by complete resources that can help SMEs lacking in market power and limited knowledge to create a competitive advantage (Quintana-Garcia & Benavides-Velasco, 2004). In addition, the participation of SMEs in the business network built by YDBA allows them to find innovative ways to create products or services that are better than other SMEs that move on their own (Nasution et al., 2011).

Market Expansion

In expanding the market, an SME can accomplish

Table 4. Leading Sector Development Stages conducted by YDBA

Phase	1st proposed leading sectors	2nd looking for adoptive father	3rd training for Pilot SMEs	4th Adding members	5th Formation of cooperatives	6th Self-help cooperative
Durations	3 months	3 months	6 months	9 months	6 months	6 months

the task in three ways. First, it can target a new segment (this may require a product adjustment). For example, one business owner said this:

“Business initially selling cooking utensils to households now is targeting hotels, restaurants, and caterers. I am already doing it, I serve bread factories, resellers, and clients from my parent” (Participant #8).

Second, SMEs can look for new spending opportunities from an existing customer. For example, a firm that was once known only for producing cooking tools now also offers other household equipment. One business owner practised this:

“I have been focused on producing bread-loaf pan, and two years ago, I started producing custom goods” (Participant #9).

Third, SMEs could serve customers in a new area. This can be done by serving neighbouring areas within the production area. Two business owners have expanded their target area, as they said:

“This baking sheet has been exported to Malaysia and Singapore” (Participant #10).

“I have ordered from Java until Sumatra” (Participant #11).

A market expansion strategy can be used to reach a successful business. This finding is in accordance with Indarti and Langenberg (2004) research. They suggested that focusing on grabbing opportunities in the market area, creating valuable new products, and safeguarding repeating customers will bring business growth. In Indonesia, most SMEs operate along traditional lines in marketing. Stiffer competition in the market should be responded to proactively by SMEs by doing market development. Access to the market was a problem faced by SMEs (Mead & Liedholm, 1998; Swierczek & Ha, 2003). Market development is, therefore, crucial for preserving high growth in the business. In their study in the UK, Smallbone, Leig, and North (1995) found that the vast majority of the high growth SMEs had identified and responded to new market opportunities.

In completing the expansion, as Anderson and Narus (1998) suggested, a business must understand their customers, particularly knowing the five factors that customers consider when they navigate the decision process. First is the business reputation; a good reputation can be built through these two methods:

(a) By offering a new product line. This move shows that a business is serious about continuing to meet evolving consumer needs. One business owner already did this, saying:

“We also served buyers who came to us with their product design” (Participant #12).

(b) By setting up an E-commerce store. By doing so, the store shows that it is also present in the online world. Therefore, opening an e-commerce store and maintaining it effectively is a good move, as mentioned by one of the business owners based on his experience:

“I want to try to sell through the online platform. We have a store in Bukalapak. I have tried using Facebook and Instagram” (Participant #13).

The second factor is after-sales service. It is generally known that businesses must stay connected with their consumers' after-sales transactions. Given the opportunity available from recent technology, the connection can now be made online through social media (Bouwman et al., 2017). Therefore, creating a position and training a media admin is an important task. This is because consumers can have a direct and personalised channel to reach and interact with the business. Many SME owners have a good understanding of this concept. One business owner claimed:

“Ensuring customer service (convenient) when the transaction is completed. Other than that, relationship and hospitality to buyers must kept excellent all the times” (Participant #14).

Other business owner added:

“We do it through a discussion forum, and village group community... the service can be

done directly through direct communication with me. People will come again to consult future needs. Especially regular customers who frequently came” (Participant #15).

The remaining three factors are delivery, facility, and knowledge. A good, reliable delivery to customers is crucial for a business value offering. This can be done by building a physical store strategically near customers. Alternatively, SMEs can also outsource delivery to a third-party fleet, just as one business owner did:

“We distribute the products to the market, online, and end customers” (Participant #16).

Increasing consumer demand requires continuous improvement from the production side. One way to improve it is to obtain better machinery and a proper production facility (Ter Wengel & Rodriguez, 2006; Dasanayaka, Kankanamge, & Sardana, 2011). This is mentioned by a business owner:

“Sometimes I had to decline orders due to machine limitations” (Participant #17).

Another business owner mentioned his hope:

“I want to open a store in the market, because I want to focus on the metal industry and sell raw materials” (Participant #18).

Having a better production machine requires updated production knowledge and skills. Therefore, employees' technical skill and knowledge must be upgraded to enable them to operate and produce better output. One business owner showed this:

“We seriously work on our products until they are complete, and only use good materials. We pioneered in creating cake molds with safe design (not sharp edges). But I also want training related to SNI, brand, marketing, and engineering” (Participant #19).

Other SMEs agreed on the technical upgrade:

“I hope there is also training for human resources from the ministry to help reduce

the defect rate (10%) in production at the moment”: (Participant #20).

“Training on waste management, chemical engineering, accounting, computer training, and product development would be useful” (Participant #21).

“Accounting training, mechanical engineering, and any business-related engineering training will be beneficial” (Participant #22).

At the same time, Indarti and Langenberg (2004) suggested utilisation of technology in their business process, for example, social media usage in marketing communication and computer software application in assisting daily operation will certainly bring better use of the business' resources. This finding supports a previous study that has revealed that lack of equipment and outdated technology are among hindrances of SME development (Swierczek & Ha, 2003). In their study in the US, Gundry, Kickul, Welsch, and Posig (2003) disclosed that technological change innovations had a significant relationship with market growth.

Business Regeneration

Strong regeneration is essential in a business, especially in the case of metalworking SMEs in Citeureup. It is believed that it will provide a sustainable base for the business. This insight from one local business owner included the concern that regeneration is essential for their business sustainability.

“I hope the business can be continued by my son, who is still attending school. And might be better developed. ..The existing social media account was created by my son. My father wish is not something fancy, he just wanted the family to be happy, the business runs smoothly, and the workshop gets better” (Participant #23).

The findings of this study add to our understanding of a succession process in an SME. The previous study conducted by Michel and Kammerlander

(2015) states that for regeneration to be successful (outweigh the cost of doing it), then a good relation between the existing business owner, the successor and the advisors/mentors should be present. Therefore the writer believed that Regeneration could be realised through a mentoring program. Such a program serves as guidance and assistance from mentor(s) to mentees during a specified period. Mentors can be drawn from someone inside the business or from outside the business. An internal mentor ideally is a senior family member (who historically built the business). He or she knows exactly the values and wisdom, traditions, and business goals that the founder created. The external mentor can complement such wisdom by guiding the business knowledge and experience that they have had. Eventually, the business can bring long-term benefits to the owner, employees, surrounding societies, and local government.

This study validates the findings that Bouwman, Reuver, and Nikou (2018) have suggested. The motives to utilise social media in the business, stemmed from the business owner. It believed that having social skills will bring better future business performance. This study extends the concept of family business succession for SMEs in Indonesia whose literature studies are still very limited. The need to increase our understanding of succession planning is critical, in which only 30% of family businesses survive past the first generation (Beckhard and Dyer, 1983; Dyer, 1986), and only 10% to 15% survive into the third generation (Applegate & Feldman, 1994). Therefore, to understand succession in the family business, we need to approach the process rather than events (Handler, 1994). In addition to the scientific contribution, this research can be used as a framework for the preparation of the SMEs Digitalization Ecosystem program in Indonesia and practical recommendations for stakeholders involved in empowering SMEs.

MANAGERIAL IMPLICATIONS

From the findings, researchers suggest several

managerial implications for the organisations or companies in addressing this challenge on how to prepare small medium enterprises to enter the digital ecosystem. First, digital business requires clear organisation management to bring the business to a higher level of organisation. This condition can be realised by achieving economic scale production, an excellent legal base and possessing industry quality certification, and aiming toward business-to-business sales. Secondly, preserving good relationships with existing stakeholders, especially the ones that can provide valuable knowledge. Thirdly, expanding the current market with a solid managerial foundation. The foundation can be realised through five conditions: (a) offering a new product line, (b) setting up an e-commerce store. (c) ensure product delivery to the customer, (d) upgrade production facility and show it to the customer through the business' website and social media, (e) continuously upgrade employees' knowledge and skills through relevant training. Finally, mentorship from experts (inside and outside the business) would help mould a better successor.

CONCLUSION

To support the success of the SME E-smart program, the following four strategies can be implemented for the metal SMEs in Citeureup. The first would be the level-up scheme, in which businesses are encouraged to refocus their production and achieve economies of scale. Second, to complement this, companies should obtain the necessary permits and legalities in order to target the business-to-business market.

The second strategy would be to collaborate with the Dharma Bhakti Astra Foundation (YDBA). To prevent the same repeated roles, a clear division of parts is needed. The Ministry of Industry Indonesia, with help from BVDI Universitas Prasetya Mulya, can conduct talent mapping for SME managers and provide consultation and assistance for business management and innovation. This includes determining the training needed for SMEs to match their talents and needs to grow.

To help with scaling up, the third strategy would be the expansion of the market. This means that the company should expand its market reach to other customer bases, such as organisations, customers from different industries, or even customers from other areas. Furthermore, the provision of after-sales service would be pivotal in increasing the customer retention rate through guaranteed shipping and regular maintenance. Additionally, the company can improve its product quality and increase the efficiency and effectiveness of its production process.

The fourth strategy would be a regeneration strategy. A successor is necessary to ensure the profitability and sustainability of a company. Unfortunately, there exists a significant lack of successors in the metal SMEs entities in Citeureup. The suggested solution would be to create a mentoring program for successors by founders and external professionals. The expected outcome would be the transfer of values from the founder of the business to the successor and additional proper management knowledge.

This study has limitations in sample as the researcher only took one case study from an SME center in the Citeureup sub-district that specialises in the metal industry. Further research should look into other types of SME centers and the variety of stakeholders involved to develop a more holistic picture of the SME development process. Such research will clarify the role of each stakeholder in supporting market expansion, regeneration, advancement to a grade level, and collaboration with supporting partners. This study cannot answer the follow-up research, due to the scope of work and limitations of data collection and because of the Non-Disclosure Agreement (NDA) between the project owner (Ministry of Industry Indonesia) and the researcher.

Conflict of interest

There is no conflict of interest between the researcher and the Ministry of Industry Indonesia and also Business Venture Development Institute (BVDI) Universitas Prasetya Mulya regarding the method or outcome of this research. ■

Acknowledgement

We would like to thank the Research Office and Business Venture Development Institute (BVDI) Universitas Prasetya for providing operational support for us from the start of the project until we completed this research paper. Special thanks to Vanessa Aurelia, who served as a research assistant and assisted us in the manuscript of this research. The author also thanks the SMEs E-smart Program Division of the Ministry of Industry Indonesia for his permission to publish our findings and his generous support in completing this research.

REFERENCES

- Adams, W. C. (2015). Conducting Semi-Structured Interviews, in *Handbook of Practical Program Evaluation*. Fourth, pp. 492–505.
- Anderson, J. C., & Narus, J. A. (1998). Business marketing: understand what customers value. *Harvard Business Review*, 76, 53-67.
- Anguera, M. T. (2003). Observational methods (General) in *Encyclopedia of Psychological Assessment*, 2, ed. R. Fernández Ballesteros (London: Sage), 632–637.
- Applegate, J., & Feldman, J. (1994). Keep your firm in the family. *Money*, 23(1), 88-91.
- Azumah, G., Koh, L., & Maguire, S. (2007). SMEs e-strategies within the logistics and Tourism Industries. *International Journal of Management and Enterprise Development*, 4(5), 520. <https://doi.org/10.1504/ijmed.2007.013456>
- Barney, J. (1991). Firm Resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Beckhard, R., & Gibb Dyer, W. (1983). Managing continuity in the family-owned business. *Organizational Dynamics*, 12(1), 5–12. [https://doi.org/10.1016/0090-2616\(83\)90022-0](https://doi.org/10.1016/0090-2616(83)90022-0)
- Bernhard, I., & Olsson, A. K. (2020). Network collaboration for local and regional development - the case of Swedish women entrepreneurs. *International Journal of Entrepreneurship and Small Business*, 41(4), 539. <https://doi.org/10.1504/ijesb.2020.111578>
- Bouwman, H., Nikou, S., Molina-Castillo, F. J., & de Reuver, M. (2018). The impact of digitalisation on business models. *Digital Policy, Regulation and Governance*, 20(2), 105–124. <https://doi.org/10.1108/dprg-07-2017-0039>
- Bharadwaj, A. S. (2000). A resource-based perspective on information technology capability and firm performance: An empirical investigation. *MIS Quarterly*, 24(1), 169. <https://doi.org/10.2307/3250983>
- Cavusgil, S. T., Knight, G., & Riesenberger, J. (2014). International business: The new realities. Global ed.
- Chan, Y. E., & Reich, B. H. (2007). It alignment: What have we learned? *Journal of Information Technology*, 22(4), 297–315. <https://doi.org/10.1057/palgrave.jit.2000109>
- Chang, K., Jackson, J., & Grover, V. (2003). E-commerce and corporate strategy: An executive perspective. *Information & Management*, 40(7), 663–675. [https://doi.org/10.1016/s0378-7206\(02\)00095-2](https://doi.org/10.1016/s0378-7206(02)00095-2)
- Cobb, A. K., & Hagemaster, J. N. (1987). Ten criteria for evaluating qualitative research proposals. *Journal of Nursing Education*, 26(4), 138–143. <https://doi.org/10.3928/0148-4834-19870401-04>
- Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches*. 3rd edn. London: Sage Publications.
- Cutler, M & Sterne, J. (2001). E-Metrics: Business Metrics for the New Economy. NetGenesis Corp. www.netgen.com/emetrics
- Dasanayaka, S. W. S. B., Kankanamge, R., & Sardana, G. D. (2011). Identification of Barriers for Development of The Sri Lankan Small and Medium Scale Furniture and Wooden Products Manufacturing Enterprises, A Case Study Based on The Moratuwa Area. *Euro Asia Journal of Management*, 21(40).
- Denzin, N. K. (2018). *The qualitative manifesto: A call to arms*. New York, NY: Routledge.
- Denzin, N.K. & Lincoln, Y. S. (2000). Handbook of Qualitative Research. London: SAGE Publications.
- Duh, M. (2003). Family enterprises as an important factor of the economic development: the case of Slovenia. *Journal of Enterprising Culture*, 11(2), 111-130.
- Dyer, W. G. (1986). *Cultural change in family firms: Anticipating and managing business and family transitions*. San Francisco: Jossey-Bass.
- Ghobakhloo, M., & Iranmanesh, M. (2021). Digital transformation success under Industry 4.0: a strategic guideline for manufacturing SMEs. *Journal of Manufacturing Technology Management*.
- Gibson, W., & Brown, A. (2009). Working with Qualitative Data. <https://doi.org/10.4135/9780857029041>
- Gundry, L., Kickul, J., Welsch, H. P., & Posig, M. (2003). Technological innovation in women-owned firms. *The International Journal of Entrepreneurship and Innovation*, 4(4), 265–274. <https://doi.org/10.5367/000000003129574324>
- Hackbarth, G., & Kettinger, W. J. (2000). Building an E-business strategy. *Information Systems Management*, 17(3), 78–93. <https://doi.org/10.1201/1078/43192.17.3.20000601/31243.10>
- Handler, W. C. (1994). Succession in family business: A review of the research. *Family Business Review*, 7(2), 133-157.
- Hertanti, R. (June, 2017). Kebijakan Perdagangan dan Investasi Indonesia dalam Tren Proteksionisme Global. Presented in The Eurodad Conference, Den Hague, June 2017. Retrieved from https://igj.or.id/wp-content/uploads/2017/07/Rachmi_Eurodad_210617.pdf

- Indarti, N & Langenberg, M. (2004). *Factors affecting business success among SMEs: Empirical evidence from Indonesia*. Proceeding of second Biannual European summer University. University of Twente, Enschede, The Netherlands
- Johnson, G., Scholes, K., & Whittington, R. (2009). *Exploring corporate strategy (7a. Ed.)*. Pearson Educación.
- Ketchen, D. J., Ireland, R. D., & Snow, C. C. (2007). Strategic Entrepreneurship, Collaborative Innovation, and Wealth Creation. *Strategic Entrepreneurship Journal*, 1(3-4), 371–385. <https://doi.org/10.1002/sej.20>
- Krueger, R. A. 1998. *Analysing and Reporting Focus Group Results*. California: SAGE Publications.
- Lányi, B., Hornyák, M., & Kruzsliz, F. (2021). The effect of online activity on SMEs' competitiveness. *Competitiveness Review: An International Business Journal*.
- Loforte Robeiro, F., & Love, P. E. D. (2003). Value creation through an e-business strategy: Implication for smes in Construction. *Construction Innovation*, 3(1), 3–14. <https://doi.org/10.1108/14714170310814819>
- Mazzarol, T., & Choo, S. (2003). A study of the factors influencing the operating location decisions of small firms. *Property Management*, 21(2), 190-208.
- McMahon, R. G. P. (2001). Growth and performance of manufacturing SMEs: The influence of financial management characteristics. *International Small Business Journal*, 19(3), 10-28.
- Mead, D. C., & Liedholm, C. (1998). The dynamics of micro and small enterprises in developing countries. *World Development*, 26(1), 61–74. [https://doi.org/10.1016/s0305-750x\(97\)10010-9](https://doi.org/10.1016/s0305-750x(97)10010-9)
- Michel, A., & Kammerlander, N. (2015). Trusted advisors in a family business's succession-planning process—an agency perspective. *Journal of Family Business Strategy*, 6(1), 45–57. <https://doi.org/10.1016/j.jfbs.2014.10.005>
- Nasution, H. N., Mavondo, F. T., Matanda, M. J., & Ndubisi, N. O. (2011). Entrepreneurship: Its relationship with market orientation and learning orientation and as antecedents to innovation and customer value. *Industrial Marketing Management*, 40(3), 336–345. <https://doi.org/10.1016/j.indmarman.2010.08.002>
- Nisbett, R. & Wilson, T. (1977). Telling more than we know: Verbal reports as data. *Psychological Review*, 84, 231-259.
- Patton, M. Q. (1999). *Enhancing the quality and credibility of qualitative analysis*. *Health Services Research*, 34(5 pt.2), 1189–1208. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10591279> <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=PMC1089059>
- Portell, M., Anguera, M. T., Chacón-Moscoso, S., & Sanduvete-Chaves, S. (2015). Guidelines for reporting evaluations based on observational methodology. *Psicothema*, 27, 283–289. doi: 10.7334/psicothema2014.276
- Porter, M. E. (1985). *Competitive strategy: Techniques for analysing industries and competitors*. New York: Free Press.
- Porter, M. E. (2001, March 1). *Strategy and the Internet*. Harvard Business Review. Retrieved October 2, 2021, from <https://hbr.org/2001/03/strategy-and-the-internet>
- Quintana-García, C., & Benavides-Velasco, C. A. (2004). Cooperation, competition, and innovative capability: A panel data of European dedicated biotechnology firms. *Technovation*, 24(12), 927–938. [https://doi.org/10.1016/s0166-4972\(03\)00060-9](https://doi.org/10.1016/s0166-4972(03)00060-9)
- Ragin, C. C. (2001). Case-oriented Research. *International Encyclopedia of the Social & Behavioral Sciences*, 1519–1525. <https://doi.org/10.1016/b0-08-043076-7/00762-2>
- Raymond, L., & Bergeron, F. (2008). Enabling the business strategy of smes through e-business capabilities. *Industrial Management & Data Systems*, 108(5), 577–595. <https://doi.org/10.1108/02635570810876723>
- Reynolds, P. D. (1997). Who starts new firms?—Preliminary explorations of firms-in-gestation. *Small Business Economics*, 9(5), 449-462.
- Schatzman L. & Strauss A.L. (1973) *Field Research: Strategies for a Natural Sociology*. Prentice Hall, Englewood Cliffs, New Jersey.
- Siggelkow, N. (2007). Persuasion With Case Studies. *Academy of Management Journal*, 50(1), 20–24. <https://doi.org/10.5465/amj.2007.24160882>
- Silverman, D. (2013). *Doing qualitative research (4th eds.)*. London: SAGE Publications.
- Smallbone, D., Leig, R., & North, D. (1995). The characteristics and strategies of high growth smes. *International Journal of Entrepreneurial Behavior & Research*, 1(3), 44–62. <https://doi.org/10.1108/13552559510100657>
- Snyder, C. (2015). A case study of a case study: Analysis of a robust qualitative research methodology. *The Qualitative Report*, 17(13), 1–21. <https://doi.org/10.46743/2160-3715/2012.1791>
- Swierczek, F. W., & Ha, T. T. (2003). Entrepreneurial orientation, uncertainty avoidance and firm performance. *The International Journal of Entrepreneurship and Innovation*, 4(1), 46–58. <https://doi.org/10.5367/000000003101299393>
- Tambunan, T. (2008). SME Development in Indonesia: Do Economic Growth and Government Supports Matter? *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1218922>
- Tellis, W. (1997). Application of a Case Study Methodology. *The Qualitative Report*. <https://doi.org/10.46743/2160-3715/1997.2015>
- Ter Wengel, J., & Rodriguez, E. (2006). SME export performance in Indonesia after the crisis. *Small Business Economics*, 26(1), 25-37.

- Veldman, J., Klingenberg, W., & Wortmann, H. (2011). Managing condition-based maintenance technology: A multiple case study in the process industry. *Journal of Quality in Maintenance Engineering*, 17(1), 40–62. <https://doi.org/10.1108/13552511111116240>
- Wang, F. (2020). Digital marketing capabilities in international firms: a relational perspective. *International Marketing Review*.
- Waldt, D and Drumond, R. (2002), ebXML, The Global Standard for Electronic Business, www.ebxml.org.
- Westerlund, M. (2020). Digitalisation, internationalisation and scaling of online SMEs. *Technology Innovation Management Review*, 10(4).
- YDBA (2020). Dharma Bhakti Astra Foundation (YDBA) Information, retrived from <https://www.astra.co.id/CSR/Foundation/Dharma-Bhakti-Astra-Foundation-YDBA>
- Yin, R. K. (1981). The case study as a serious research strategy. *Knowledge*, 3(1), 97-114.
- Yin, R. K. (2014) *Case Study Research Design and Methods*. 5th edn. California: Sage.