



Improving MSMEs with digital business-based community empowerment model in Pangandaran region, Indonesia: A system dynamics perspective

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ABSTRACT

The creative economy has become Indonesia's new potential after being included in the national development strategic plan. In 2007, creative economy program was started by the Indonesian Agency for Creative Economy and has now merged into the program of Ministry of Tourism and Creative Economy (Kemenparekraf). This study aims to build a digital business-based community empowerment model to improve MSMEs' resilience in the midst of pandemic. A qualitative approach and system dynamics model were used to investigate the handicraft sector in Pangandaran Regency. This study found that MSMEs in Pangandaran Regency still relied on government support. Also, the handicrafts creation was still below the standard and the quantity was not sufficient. Moreover, the business actors still lacked the capital. This condition was exacerbated by the lack of use of digital marketing by craftsmen. Efforts made by the government were intensive assistance. Although it was still quite far from what was expected, the programs implemented by the relevant agencies were quite significant. Even though the penta-helix synergy has been performed to develop MSMEs in Pangandaran Regency, there were some stakeholders that had not optimally implemented their functions.

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INTRODUCTION

The creative economy is all kinds of industrial sectors that are generated through ideas and have economic value. Human creativity will always change and adapt to the social environment, so the creative economy sector will experience rapid changes. Howkins John in his book entitled *The Creative Economy: How People Make Money* explained that "the transactions of creative products that have an economic good or service that results from creativity and has economic value" (John, 2013). Creative economy as all types of industries is related to ideas

and money. The Creative Economy Bill explained that the creative economy is the embodiment of added value from an intellectual property right born of human creativity, science, cultural heritage and technology (Creative Economy Outlook Kemenparekraf, 2019). The creative economy in Indonesia was first started in 2007 during the Indonesian Cultural Products Week event. In 2009, the government issued Presidential Instruction No. 6 of 2009 concerning Creative Economy Development. Through this regulation, various creative economy communities and institutions were formed, and later

they merged under the Ministry of Tourism and Creative Economy. Indonesia categorizes the creative economy into 16 sub-sectors which include game development, architecture, interior design, music, fine arts, product design, fashion, culinary, film, photography, visual communication design, television and radio, crafts, advertising, performing arts, publishing and software application (Strategic Plan Kemenparekraf, 2020). The creative economy has great potential nationally that in 2016 it contributed 7.44% to the national economy, while the value of national GDP exceeded 1,000 trillion in 2017, and increased in 2018 to 1,202 trillion. This figure is supported by the increasing human resources in the creative economy sector. In 2016, there were 16.91 million people working in the sector. This figure increased rapidly by 5.95% compared to the number of workers in 2015 (Creative Economy Outlook Kemenparekraf, 2019).

One area where tourism and creative economy become the leading economic sector of the region is Pangandaran Regency. Pangandaran Regency is an expansion of Ciamis Regency which was established in 2012. With its high natural resources potential, this area places tourism as a leading sector, and the creative economy becomes a supporter of tourism. In the 2011 Government Regulation Number 50 concerning the National Tourism Development Master Plan 2010-2025, Pangandaran Regency is one of the National Tourism Strategic Areas/Kawasan Strategis Pariwisata Nasional (KSPN), supported by tourism, agriculture, creative industries, and trade. Handicraft is the main product of creative economy in Pangandaran Regency. In 2020, there were around 95,000 Micro, Small, and Medium Enterprises (MSMEs) in Pangandaran Regency. This number has massively increased from the previous 5 years, when there were only around 1880 MSMEs existed. The superior potential of handicraft products in Pangandaran Regency includes machetes, angklung, bamboo baskets, and hata plate crafts, among others.

According to Goodwin & Santili (2009), the success of community empowerment is viewed in terms of the benefits obtained by the actors after carrying out the scheduled activities. The implementation of community empowerment programs will not succeed if there is no support from the government, especially businesses that are still developing. The government's presence can be represented through training and intensive assistance. It can also be supported by

ratification of regulations such as strategic development plans, allocation of regional budgets and several other policies. The government has access to expand partners through cooperation either between local governments or with the private sector. Thus, if there are efforts from the government and the community, the acceleration of creative economic growth will be easier.

In Pangandaran Regency, there are still many creative economy actors who have not been able to market their handicrafts through online marketplace. In the digital era, the use of social media and marketplaces supports branding and product marketing. If there is training for creative actors in maximizing the function of social media and marketplace, it will greatly support the acceleration of creative economy growth since its potential in Pangandaran Regency is very high. In 2017, Pangandaran's merchants were able to sell their handicrafts in the amount of 1000 pieces/month, but the sales locations were only in certain areas such as Ciamis, Bekasi and Jakarta. Thus, if they are supported by digital marketing, the target market will be much wider.

According to the condition of the creative economy in Pangandaran Regency, the use of digital marketing is necessary to expand marketing networks. In addition, the use of digital marketing is much more effective and efficient, because it uses digital communication tools. According to research conducted by Pane (2014), only 70% of SMEs use social media to market products, while according to Purwiantoro (2016), SME sales increases by 10-60% after using social media as a branding and marketing tool (Kominfo, 2019). This should be the focus of both local and central governments. The use of digital media, especially social media, is also related to the condition of the internet network. When the internet network is not evenly covered throughout the region, the digital marketing process carried out by creative economy actors is also constrained.

Globalisation and COVID-19 Pandemic changes in economic conditions can intensify competitive behaviour among businesses especially in Pangandaran. While increased business competitiveness may have minimal effects on the business performance of large-sized firms, it can create challenges for MSMEs (Kijkasiwat et al., 2021). One of the things that can be done is to increase production and sales through the Digital Business. This

study aims to describe, explain, and analyze the development of community empowerment in the handicraft sector as well as describe and explain a model of developing digital business empowerment business in the handicraft sector in Pangandaran Regency. It is expected that handicrafts can be a superior sector in Pangandaran Regenc.

RESEARCH METHOD

The study selected Pangandaran Regency as it is known to have several leading economic sectors, one of which is the handicraft products, which still needs more serious handling. This study adopted a qualitative approach with the system dynamics model. System dynamics modeling is an action research approach to studying complex systems, such as families, organizations, and communities (Hirsch et al., 2007). Historically, system dynamics has focused on comparatively tangible processes that have discrete boundaries such as sales and the production of goods, where it is used as a tool in decision making. It has been used to explore problems such as highway congestion (Goodman, 1974; Sterman, 2000), the dynamics of urban growth and decline (Alfeld & Graham, 1976; Forrester, 1969), implementation of innovations (Repenning, 2002), community health status (Homer & Milstein, 2002), human service delivery (Miller et al., 2006), and SMEs growth (Saryazdi & Poursarrajian, 2021; Vojtko et. al., 2019; Winch & Arthur, 2002; Bianchi, 2002).

In this sense, system dynamics has become a broadly applicable school of systems science that emphasizes both a system's behavior and the feedback mechanisms that are assumed to underlie a system's behavioral patterns. By policy actions, system dynamics model refers to the operational policies and actions that individuals and groups use to attain goals. Finally, derived insights into the consequences of various policy actions initiates real-world change efforts. This seemingly simple effort reflects a highly refined set of methodological procedures and very different way of thinking about model building than most psychologists are trained to do (Hirsch et al., 2007). This modeling is used as a tool in making a decision (Figure 1).

Figure 1 shows that the steps of dynamic system modeling begin with identifying and defining problem boundaries. Furthermore, an understanding of the system to be modeled is outlined in a concept. At this stage, the researcher begins by identifying all the important components that will be included in the modeling and setting the model boundaries. The third stage is model formulation, where the researcher formulates the true meaning of each relationship in the conceptual model. After the formulation phase is complete, the designed model must be simulated, usually displayed in the form of a table and the variables of each variable. Then the model is analyzed to determine the level of validity or accuracy. When the results are valid, the model can be implemented. Data collection techniques used are observation, interviews, and documentation.

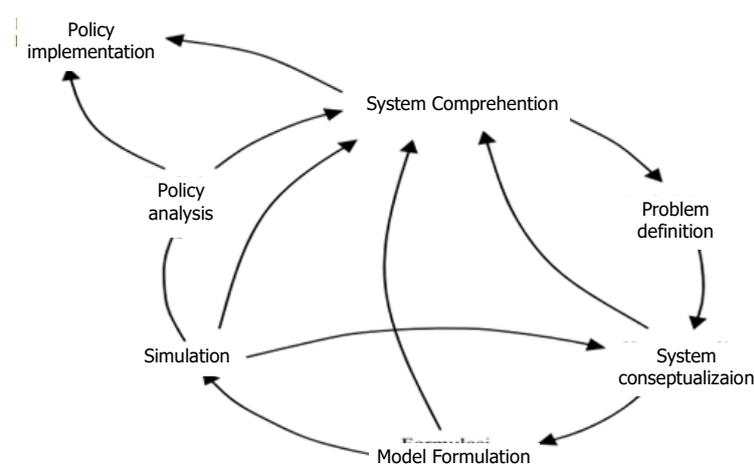


Figure 1. Dynamic system modeling (Richardson & Pugh, 1981)

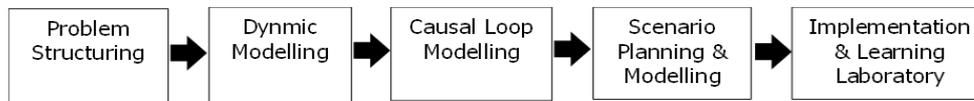


Figure 2. System dynamic model work (Soesilo, 2019)

Interviews were used as data collection technique to increase information originating from responses. In this study, researchers conducted direct interviews in the field to observe how was the empowerment of the Pasa community sector in the Pangandaran Regency. The interviewees were handler, hand craftsmen, and local government in Pangandaran Regency. Data analysis and problem solving in this study used the workings of the dynamic system model according to Soesilo (2019).

The model in Figure 2 was interpreted into how the dynamic system works starting with problem structuring which consists of identifying problems in Pangandaran Regency and collecting data. After the structuring problem was finished, the researchers began to do dynamic modelling. At this stage the researchers made a system mapping, defined the type of variables and made a stock flow diagram, simulated the model, recreated the model behaviour reference, validated, conducted sensitivity analysis, designed and analyzed policies, and made strategies and trials. After all of those steps were done, researcher made a causal loop modelling.

Causal loop modelling consists of identifying the main variables, preparing behavior over time (BOT) diagrams, making causal loop diagrams (CLD), analyzing loop behaviour over time, identifying systems, identifying coefficients to leverage, and making strategies through intervention. The fourth step was scenario planning and modelling. Researchers planned general scenarios, identified key variables and uncertainties, built learning scenarios, simulated scenarios with models, and evaluated policies and strategies. The last step in the analysis technique using this dynamic system was implementation and organization learning. At this stage, researchers prepared reports and presentations to stakeholders, built a learning lab based on simulations, and used the learning lab to find out mental models and facilitate learning in organizations.

RESULT AND DISCUSSION

Existing Condition of Handicraft Economy

Handicrafts in Pangandaran district have the potential to be developed into a creative economy, although the existing potential for handicrafts has not become a leading sector because Pangandaran district is a new autonomous region as a result of regional expansion. Making handicrafts a leading sector takes longer than nine years. At least a local regulation is needed to manage handicrafts in Pangandaran district.

In 2020 there was 95,000 micro, small and medium handicrafts enterprises in Pangandaran. This number is a massive increase from a total of 1880 micro, small and medium enterprises (MSMEs) in 2015. It shows that people in Pangandaran district are interested in opening MSMEs for handicrafts, due to the abundance of materials that can be processed into handicrafts. At least the most potential handicrafts in each sub-district are machetes, angklung, bamboo baskets, hata plates, and broomsticks. The different handicraft products are caused by the interests and expertise of each craftsman.

Efforts to develop handicrafts have been carried out by the Regional Office of Trade and MSME/ Cooperatives (Disdagkop). The development steps take the form of planning for the next five years, coaching for Small and Medium Enterprises, and cooperation with other sectors. Disdagkop aims that for the next five years there should be at least 50 leading MSMEs. The target is based on the goal to make handicrafts the leading sector in Pangandaran district.

The cooperation was carried out by the Disdagkop by issuing circular to hotels, inns, and restaurants in Pangandaran, in which they were invited to help market or promote handicraft products by displaying handicraft products from MSMEs. However, the craftsmen felt that the efforts of Disdagkop were not optimal. Mr. Asep, a representative of craftsmen in Pangandaran district explained that, "the

implementation still has a lot of obstacles. Such as display racks, counter guards who have not clearly recorded who is in charge." Mr. Asep hoped that the circular can be properly disseminated. Instead of circulars that are often just an appeal, the craftsmen hoped that there would be local regulations underlying the marketing and promotion efforts.

In addition to planning and cooperation, Disdagkop has conducted training and coaching for MSMEs. Data from Disdagkop shows that the number of MSMEs participating in training and coaching from 2016-2020 tended to increase (Table 1). In 2016 there were only four business owners who participated in training and coaching. That number rose to 10 in 2020. The coaching and training carried out showed an interesting record. Rinda from Disdagkop explained that the coaching and training treatment must be adjusted based on generation. The boomer and millennial generations can participate in coaching and training, while generation Z only needs assistance. Generation Z already understands marketing through social media, operating social media more fluent than the boomer and millennial generation.

Pangandaran MSMEs only need to take care of the Business Identification Number (NIB) as the identity of the business owner. The ease of the permit is based on Government Regulation number 7 of 2021 concerning the Ease, Protection, and Empowerment of Cooperatives and MSMEs. The NIB requirements are expected to make it easier for business owners to obtain business permits. Although licensing requirements tend to be easy, the 2020 data shows that only ten MSMEs have operational permits. This number tends to be small when compared to the total number of MSMEs in Pangandaran.

The development of handicraft potential cannot be separated from capital. There are two main sources of capital for MSMEs. The first source comes from the Regional Revenue and Expenditure Budget (APBD) and the Special Allocation Fund (DAK). The second source comes from bank loans. The local government through the Disdagkop has begun to increase capital for MSMEs. The source of capital from bank loans is in the form of cooperation between MSMEs and the bank. The loan cooperation is considered to be able to help with capital problems. Checks are carried out to see the ability of MSMEs and see the fulfillment of the requirements to get a loan. It is not uncommon for banks to come to offer loans when they see that the MSME applicants have potential.

Business-bank relations are likely to be pivotal to success (Refait-Alexandre & Serve, 2020). Strong relationships between banks and SMEs can reduce a firm's credit constraints and provide intermediation services to support business activities (Mancusi et al., 2018). Detragiache et al. (2000) argued that having relationships with multiple banks (rather than building a relationship with one bank) can reduce liquidity risks and ensure more stable credits.

MSMEs can also diversify service options when they are in contact with different lenders. MSMEs can leverage the different interest rates offered by a number of banks for refinancing to achieve maximum advantage. As an alternative to having more than one bank, which increases costs, sharing information about banks' charges and services between MSMEs enhances each MSME's negotiations with their bank. Many MSMEs leverage additional advantages from business cooperation in terms of bargaining and negotiation power (Kijkasiwat et al., 2021).

Table 1. Performance for Leading MSME Handicrafts in Pangandaran Regency, 2016-2020

Data item	Unit	2016	2017	2018	2019	2020
The number of human resources/Actors of handicraft MSMEs participating in training and coaching related to the development of MSME Handicrafts	people	4	5	5	9	10
The average number of HR/Employees in the handicraft MSME unit in Pangandaran Regency	people	9	7	9	8	8
Number of Handicraft MSMEs in Pangandaran Regency that have obtained operational permits	unit	4	5	5	9	10
Percentage of the Pangandaran Regency MSMEs Office Budget allocated for the development of Handicrafts.	%	n/a	n/a	n/a	4.19	0.22 ^a
The number of hand-worked MSMEs that have marketed their products through the marketplace	unit	4	5	5	8	9
The number of handicraft MSMEs that have implemented digital branding	unit	4	5	5	8	9

^aDue to COVID-19, some planned activities had to be cancelled and caused by budget refocusing
Source: Regional Office of Trade and Cooperatives of MSMEs in Pangandaran Regency

The focus of the local government on increasing the amount of capital to MSMEs aims to increase production. In addition, the increase in capital is expected to provide convenience for handicraft business actors. The table shows that the percentage of the budget from Disdagkop in 2019 was 4.19%. That number decreased significantly in 2020 with a percentage of 0.22%. The decline in the percentage was due to budget refocusing to adjust to the COVID-19 pandemic. Several activities that had been planned for MSMEs development were cancelled.

In addition to capital in the form of money, handicraft business owners also need the help of tools, places (production houses), and equipment related to appropriate technology. Appropriate technology was expected by craftsmen to be able to increase the amount of production and solve the problem of lack of human resources even just a little. This problem led to the irregular production schedule of handicraft products. Problems on the production side were experienced by almost all MSMEs in Pangandaran. Businesses only produced based on order, causing the unpreparedness of the product whenever there were orders in large quantities.

One of the handicrafts is the Hata fern craft. The raw material for making Hata bags comes from Pangandaran district. Hata craft began to develop after a training was held in Lombok in 2017. The training was carried out for two weeks. From the training, craftsmen in Pangandaran can make their own Hata bags and tissues. Previously, Pangandaran district only sent raw materials to Lombok.

Good and targeted marketing can increase income and development for handicraft business actors. The COVID-19 pandemic has affected the sales of handicrafts in Pangandaran. Before the pandemic, the marketing of handicraft products was only done in tourist spots. Sales depended upon visitors. However, basing sales only on tourists is also a problem because handicrafts in Pangandaran district do not yet have a characteristic. The craftsman explained that, "Products in Pangandaran do not yet have a characteristic, so MSME owners are like spectators in their own land because they have not been able to meet the needs of tourists to provide typical Pangandaran souvenirs." Handicraft products development can be used by stakeholders as a focus so that Pangandaran district has its own product

identity. Lack of handicraft characteristics was due to various factors, from capital problems to the limited number of craftsmen.

The current digital era is important and business owners should understand that marketing can not only be done offline. Marketing can be widely done online, including via social media. Business actors in Pangandaran have started marketing digitally although from a marketing perspective, the results were not significant. MSMEs that have marketed through the marketplace tend to increase from 2016-2020.

Branding and Marketing Strategy

The development of digital transformation-based creative economy in Pangandaran Regency is carried out with the pentahelix concept. This concept is an amalgamation of all five related elements in unraveling and solving a problem (Chamidah et al., 2020). The elements are related stakeholders which in the context of increasing the capacity of MSMEs in Pangandaran Regency include the government as the holder of political power and formulator of regulations and policies; communities that have social power as the target of programs and development; academics with their knowledge power; investors who care about the socio-economic conditions of the community as capital power, and the role of the media.

In addition, the approach used in describing the development of a digital transformation-based creative economy in Pangandaran Regency uses dynamic system. This approach is part of systems thinking, i.e. a holistic and non-linear perspective on systemic problems (Wheeler & Checkland, 2000). In relation to the development of the creative economy in Pangandaran Regency, it is necessary to map the problems faced by MSMEs as illustrated in the following CLD problem model.

The development of the creative economy for MSMEs in Pangandaran Regency is focused on increasing the capacity of MSMEs. The capacity of MSMEs is always influenced by the problems faced by MSMEs themselves that it is necessary to solve and map the problems to determine the goals and directions of developing MSMEs that are superior and become iconic in Pangandaran Regency.

Another positive thing that has been done by the Regional Office of Trade and Cooperatives was to divide the handling and assistance clusters according to the generation of birth (Baby Boomer, X, Millennial and Z) of each registered MSME owner. Although this action did not directly have a significant impact on increasing the capacity of MSMEs in Pangandaran Regency, it is expected to be a supporting factor (leverage) that is useful in achieving development goals and increasing the capacity of MSMEs that are superior, iconic and digital-based in Pangandaran Regency.

The Regional Office of Trade and Cooperatives plays a major role in bringing together investors with potential MSME communities. The Regional Office also functions as a filter and guide for investors who want to invest in MSMEs in Pangandaran Regency. This directive is more about protecting the two stakeholders who work together between the MSME communities as potential development targets and investors that have capital power.

The direct entry of investors into the MSME communities also increases (same directions) capital assistance, which is still small and limited. In addition, it can also reduce the dependency on KUR and BPUM only. The positive benefits of cooperation among the Regional Office of Trade and Cooperatives, the MSME Communities and the investors are also providing knowledge in branding and digital promotion, with training in creating digital content on the YouTube platform. Although, again, this is not done for all MSMEs, but only on selected MSMEs and registered operationally at the Regional Office of Trade and Cooperatives.

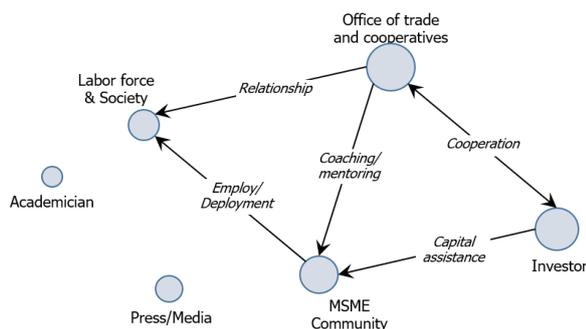


Figure 4. Sociogram map of stakeholder roles (Adapted from Granovetter, 2018)

In general, the problem model that has been described has represented the current condition of the synergy among stakeholders related to the development of superior and iconic MSMEs in Pangandaran Regency. Synergy among stakeholders is described through relationships that occur dynamically according to the penta-helix concept used. However, from the description, there are several networks of stakeholder actors who have not been directly or indirectly involved as described in the following sociogram.

The visualization of the sociogram (Figure 4) explains the penta-helix synergy among stakeholders related to the development of MSMEs in Pangandaran Regency. By using a network analysis of actors and a degree out point of view (Granovetter, 2018), it is known that there were 6 stakeholders in the penta-helix concept of MSMEs development in Pangandaran Regency, which consisted of: (i) Regional Office of Commerce; (ii) Investors; (iii) MSME Communities; (iv) Society or labor force; (v) Academician, and; (vi) Media. Of the six actors, the relationship to each actor was mostly owned by the Regional Office of Trade and Cooperatives with 4 relationships. Then there were the MSME communities and investors with 3 relationships each. Lastly, there was Society with 2 relations. The other 2 actors, media and academia, did not have any relationship with the four interrelated actors above.

The results of the network analysis described above show that the penta-helix synergy used in Pangandaran Regency to develop MSMEs has been running. However, there were some stakeholders who still did not optimally implement their functions. The academia as the actor of knowledge power had not functioned. They should have a large share in economic development in an area, especially in the context of empowerment and capacity building for MSMEs (Margolang, 2018). The last one is the media. In the context of developing MSMEs in Pangandaran Regency, media seemed to not have any involvement at all, even though it is a means of leads businesses to be more interactive in marketing communications and to find innovative applications to make products and brands more affordable through online marketing efforts via social media communication channels. These practices, which express social media marketing activities, include actions that encourage consumers to choose products and brands and that target marketing messages to other consumers online (Bilgin, 2018).

The effect of social media on consumer's behavior includes a wide spectrum of activities ranging from informing, sharing ideas and attitudes to acquire awareness and understanding, and visualize post-purchase behavior without purchasing (Tatar & Erdoğmuş, 2016). This leads businesses to be more interactive in marketing communications and to find innovative applications to make products and brands more affordable through online marketing efforts via social media communication channels. These practices, which express social media marketing activities, include actions that encourage consumers to choose products and brands and that target marketing messages to other consumers online. Research has shown that social media influences the intention of trust and purchasing and facilitates sharing of knowledge and experience among consumers (Lu & Hsiao, 2010; Hajli, 2014). Many businesses use online interactions among their users by encouraging their customers to share their purchases (So et al., 2018) with simple clicks using their chosen social media channel.

CONCLUSION AND SUGGESTION

This study contributes to the literature on strategic digital business-based community empowerment models to improve the performance and production of handicraft MSMEs in Pangandaran Regency by drawing a system dynamics perspective that can be built in the area. This is motivated by the creative potential of the said product, which has not received much attention. For this reason, supports from various stakeholders such as government, community, academia, businessmen, and media are very much needed.

Most of the MSMEs in Pangandaran Regency have problems with shortage of labor and unpreparedness in producing handicrafts in a large scale. The government has conducted training for business owners as an effort to increase human resources and digitize products. Other problems related to increasing the capacity of MSMEs in Pangandaran Regency is the lacking business capital which makes production possible only by order and the lack of characteristics possessed by the said handicrafts.

Pangandaran Regency Government is aware of this so they put out such efforts as empowerment programs in the form of production training. However, people of Pangandaran Regency do not just need

training in creating products, but also in making them appealing for the consumers and in marketing them nationally and even abroad.

Also, the Pangandaran Regency Cooperative and MSME Development Service is expected to establish cooperation with e-commerce such as Tokopedia, BliBli, and so on. Currently, MSMEs in Pangandaran Regency have entered the digital market, although it is still not significant. The results of the study showed that from 2016 to 2020, the number of superior handicraft MSMEs that have implemented digital brands has increased. Despite experiencing a significant increase in digital branding, it is still necessary to increase the marketing of handicraft MSMEs in Pangandaran Regency.

In term of the development and empowerment of Handicraft SMEs in Pangandaran Regency, several things can be done. First, there has to be special attention to standard regulations such as the Regent's Regulation which aims to promote and market handicrafts in Pangandaran Regency in places that are often visited such as hotels, restaurants, and several strategic tourist spots. Secondly, there needs to be strict provisions for every stakeholder in marketing the products of MSME handicrafts, as well as socialization, training, and assistance to handicraft MSME owners in the use of technology that can improve digital marketing.

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