Education for MSMEs Through Design Thinking
(SMEs Model Plasma in Digital Era)

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Abstract. Small and medium enterprises (SMEs) as the sector at the forefront of the economy in Indonesia, The MSME group, as a part of the Bandung Superior Mandiri Cooperative (SIMAUNG) are currently facing major challenges since the situation during the COVID-19. This study aims to map and provide problem resolution linked to the problems faced by MSME actors under the auspices of the cooperative in the midst of its existence in the digital era and during COVID19. The method of this research is design thinking method, this method is known as a comprehensive thinking process that focuses on creating solutions based on human-centered that begin with a process of empathy for a specific need that is a sustainable innovation. The results indicate that by using the design thinking method, MSME's actors can remap their problems to create innovations in their products and make their products sustainable in the market.

Keywords: Design thinking · Digital Era · Small and Medium Enterprises (SMEs)

1 Introduction

Innovation is one of the most important factors in life. The business world is one of the industries that must constantly innovate in order to maintain its competence. Due to the various changes in lifestyle, especially in terms of business, innovation is required across the board. The number of technological innovations that facilitate business activities sometimes makes the business sector desist due to a lack of understanding on how to implement business innovation, or because they are resistant to current advancements. As a result, entrepreneurs must be able to adapt and start their businesses by utilizing digitalization innovation to accommodate existing technological changes in order to ensure a long-term business.

For business actors, including MSMEs, digitization is required in the era of society 5.0. This is due to the fact that digitalization would make it easier to distribute products. Entering the mass personalization industry in the era of society 5.0, where data and analytics capabilities are used to understand and predict what the market needs. Thus, businesspeople, particularly MSMEs, must keep up with global industrial advances by generating the latest technologies or breakthroughs in the hopes of meeting market

demand and making it simpler to gain market share. This innovation can be achieved in a variety of ways, one of which is through the application of design thinking to the concept development process.

Micro and medium enterprises (MSMEs) are vital part of Indonesia's economy. Its existence cannot be simply dismissed, despite rapid technological advancements, in addition to being important in the economic sector, MSMEs also serve as income distributors for Indonesia's middle class by encouraging creativity that is in line with the arts, culture, and traditions of the country so that a profitable business can be established, and jobs can be created. According to the Ministry of Cooperatives and Small and Medium Enterprises of the Republic of Indonesia's most recent data, the number of Indonesian MSMEs is 64,194,057, with 116,978,631 people employed in this sector (KEMENKOPUKM, 2022). MSMEs are often referred to as the backbone of the economy and economic support in the regions since they may reduce the unemployment rate in each region when viewed from the perspective of absorbing a large number of people on a broad scale [1].

However, MSMEs are currently facing major challenges since the situation during the COVID-19. MSMEs, on the other hand, play a critical part in Indonesia's economy. However, because MSMEs have limited potential to develop, they require an innovative solution that is designed for specific demands. To develop an innovation or idea, we need a popular method used to spread business and economic struggles, and it is a design thinking method. Design thinking may also be applied to social innovation (social invention) to aid in the communication of discovery-based solutions to people utilizing conventional stages to create a prototype product that is required to effectively resolve social conflicts. The effectiveness of a competent design thinking process will have a significant impact on a company's performance [2].

As a developer, you'll go through three key phases while employing design thinking: inspiration, ideation, and implementation. These three processes will be completed in order for empathy to emerge. Developers will find it easier to create and Figureure out how to transform what they've learnt into chances to design new solutions for the future if they have deep empathy for both individuals and society as a whole. As a result, business actors, particularly SMEs, must comprehend every step of the design thinking process when developing their business concepts. After the latest ideas or innovations are established, business actors will be able to create a marketing mix that will increase benefit in their company.

The Micro, Small, and Medium Enterprises (MSME) Concept are defined as follows in Chapter I, Article 1 of Law No. 20 of 2008 addressing MSMEs: 1) Micro Enterprises are productive enterprises owned by people and/or individual business entities that meet the standards set out in this Law for Micro Enterprises. 2) A Small Business is a productive economic business that operates independently, and is operated by individuals or business entities that are not subsidiaries or branches of companies that are owned, controlled, or become part of Medium Enterprises or Large Businesses, either directly or indirectly, that meet Small Business criteria as defined in this Law. 3) Medium Enterprises are self-contained, productive economic businesses run by persons or businesses that are not subsidiaries or branches of companies that are owned, controlled, or affiliated with Small Businesses or Large Businesses with total assets, either directly or indirectly.

Net or annual sales results as governed in this Law Journal of Public Administration (JAP), Vol. 1, No. 6, p. 1286–1295 | 1288.

According to the definition, Micro, Small, and Medium Enterprises (MSMEs) are a type of productive economic business that operates independently and is run by individuals or individual business entities that meet the criteria and are classified into categories based on the amount of net assets determined. Furthermore, when referring to wealth and sales proceeds, according to Law Number 20 of 2008 article 6, the criteria for micro, small and medium enterprises are as follows.

1. Micro Business Criteria are as follows:
   a Have a net worth of at most Rp.50,000,000.00 (fifty million rupiahs) excluding land and buildings for business premises; or
   b Have annual sales of a maximum of Rp.300,000,000.00 (three hundred million rupiah).
2. Small Business Criteria are as follows:
   a Have a net worth of more than IDR 50,000,000 (fifty million rupiah) up to a maximum of IDR 500,000,000 (five hundred million rupiah) excluding land and building for business; or
   b Have annual sales of more than Rp.300,000,000.00 (three hundred million rupiah) up to a maximum of Rp.2,500,000,000.00 (two billion five hundred million rupiah).
3. The criteria for Medium Enterprises are as follows:
   a Have a net worth of more than Rp.500,000,000.00 (five hundred million rupiah) up to a maximum of Rp. 10,000,000.00 (ten billion rupiah) excluding land and building for business; or
   b Have annual sales of more than IDR 2,500,000,000.00 (two billion five hundred million rupiah) up to a maximum of IDR 50,000,000,000.00 (fifty billion rupiah).

2 Research Methodology

The study methodologies are quantitative and qualitative, the participants being asked questions to acquire particular data, then the data being analyzed inductively, and the meaning of the findings being interpreted. The study's findings are adaptable [3].

Meanwhile, according to M. Jazuli, data for the qualitative technique will be gathered through in-depth observations and interviews, as well as assessing the object of research based on understanding and observations based on thoughts and perceptions of the phenomena that occur. The marketing strategy is implemented using a literature study approach, which entails gathering information from scientific journals, publications, and reference books that are related to the research goals. Descriptive quantitative research entails gathering data on existing phenomena, setting explicit objectives, and strategizing how to proceed [4].

Meanwhile, the "design thinking" approach is utilized in designing. Design thinking is a complete thought process that focuses on producing solutions that begin with a process of empathy for a specific need that is human-centered and leads to long-term innovation based on user demands. It was also explained that there were three stages at first: inspiration, which is defined as the need or problem that motivates the search for a solution or innovation, ideation, which is the process of generating, developing,

and testing ideas, and finally implementation, which is the process of completing the implementation to users. The three steps evolved into five stages, which are essentially the same but for the emphasis on some areas in order to produce more precise procedures (Fig. 1).

The first stage is Emphatize (Empathy), which is considered the heart of the human-centered design process. This method involves conducting observations, interviews, and combining observations and interviews with the first step to better understand the user in the context of the product being designed. Initially, a scenario is presented. The second stage is Define, which is the act of studying and comprehending diverse insights gained through empathy in order to determine the problem statement as a point of view or primary research concern. The third stage is Ideate (Idea), which is a transition phase from problem formulation to problem solving. During this stage, the focus will be on producing ideas or concepts as a foundation for prototyping designs.

Fourth, a prototype (prototype) is the first design of a product that will be manu-factured, with the goal of detecting mistakes early and obtaining new possibilities. The original design will be evaluated for users in order to collect appropriate responses and comments in order to improve the design. The final stage is the testing stage, in which varied user feedback is collected from various final designs that have been produced over the preceding prototype phase. This is the final stage, although it is part of a life cycle, it can loop back to the previous design stage if there are errors [5, 6].

The researcher attempts to explain it inside the framework of the technique flow in order to generate design findings that can address the research's major issues [6] (Fig. 2).
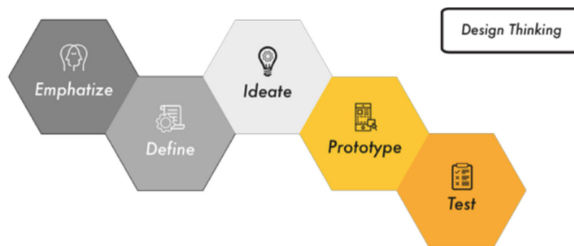
**Fig. 1.** Stage diagrams in the design thinking method (Plattner, 2013)
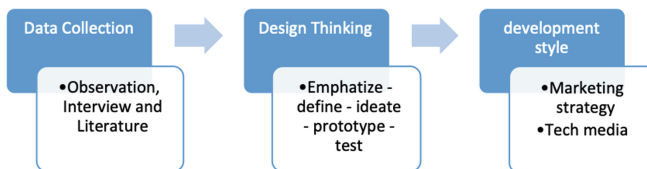
Fig. 2. Methodology Outline Diagram (Research Team, 2020)

3 Result and Discussion

According to the findings of a survey performed at the Maung Bandung Cooperative, 33 people from MSME actors who were members of the Bandung Superior Mandiri Cooperative (SIMAUNG) responded that 90.9% of MSME drivers are female and 9.1% are male. This signifies that women make up the majority of the cooperative's members (Fig. 3).

Meanwhile, the age group 41–50 years old accounted for 45.5% of the total, with MSME actors aged 31–40 and 51–60 accounting for 24.2% apiece. This suggests that the MSME entrepreneurs in Maung Bandung are mostly between the ages of 41 and 50. 19 of the products created are fashion and craft items, while the other 14 are food items.
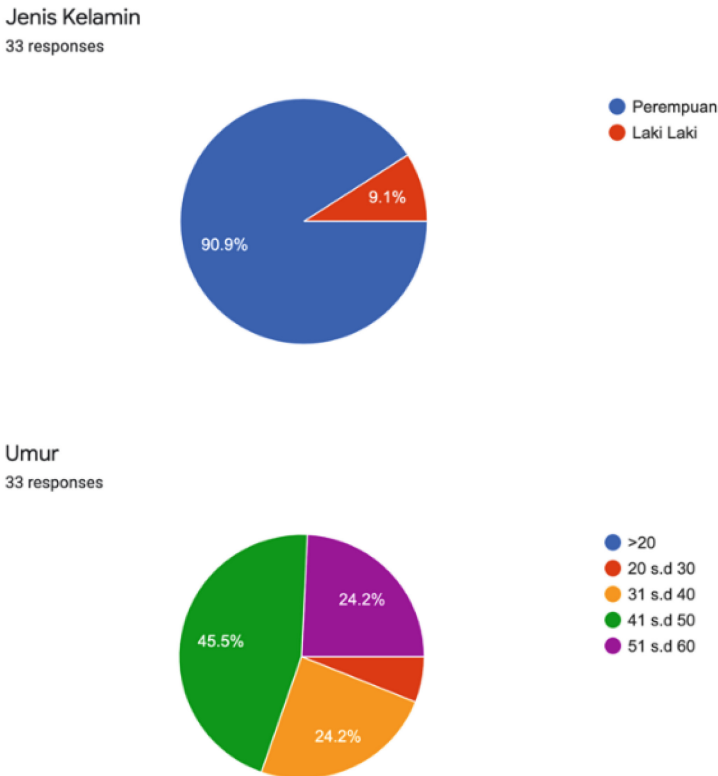
Fig. 3. Gender and Age Questionnaire Results (Research Team, 2021)

3.1 Digital Literacy for SMEs

54.5% of users of cellular network providers and 45.5% of users of wifi networks use networks, according to the sample data section, which explains the digital literacy understanding of MSME players who are members of SIMAUNG. 60.6% of respondents use the internet for more than 6 h each day, with 54.5% using it for talking, 18.2% for selling, and 15.2% for online shopping. This implies that MSME actors are used to utilizing the internet and have little trouble accessing internet network services. Account owners register 72.7% of respondents' accounts, while the remaining 27.3% are supported in registering their accounts. Almost every respondent has made an online sale; only one person has not made an online sale. All respondents think that the online transaction process is considered safe, but 15.2% of respondents have experienced online fraud. As many as 87.9% of respondents are aware of online file storage features such as cloud, dropbox and drive. 80% of respondents save their data and files on Google Drive, 13.3% on the cloud and 6.7% on Dropbox. Respondents utilize the same login and password across all of their digital platforms, with 54.4% using the same password. This suggests that the majority of SIMAUNG MSME actors are aware of how to utilize accounts to sell online, how to use online data storage services, and how to understand the process and hazards associated with online transactions.

3.2 Productivity and Promotion of SMEs

SIMAUNG 66.7% of MSME actors have physical stores, while 33.3% solely sell online. Each perpetrator owns between one and three physical stores. The biggest and lowest incomes from MSME actors are Rp. 20,000,000.00 and Rp. 1,000,000.00, respectively. E-commerce and social media are viewed as very useful by 97% of respondents in the process of selling the goods and services they offer. The highest online sales media income for MSME actors is IDR 45,000,000.00. Lazada, Tokopedia, Shopee, and Bukalapak are among the online e-commerce platforms utilized by respondents, while social media platforms such as Instagram, Twitter, Tiktok, and Facebook include resellers (business actors who resell from suppliers without stock of goods with commissions charged) in as many as 69.7% of cases have been decided upon by themselves or by the supplier). 84.8% rated resellers as having a positive influence and an increase in sales. As many as 78.8% of respondents do not have their own website, only using e-commerce and social media. This means that not all SIMAUNG SMEs are used to selling online and not all of them are able to maximize the use of social media as a digital promotional media.

Almost all of the respondents from SIMAUNG MSME actors have a trademark, with only one MSME actor lacking a brand. However, 27.3% of business actors that possess a trademark do not have it registered. 69.7% of business respondents already have a logo for their company. Business actors also issue guarantees/guarantees in the form of returns or services for up to 87.9% of expedition faults when selling their goods or services. 72.7% of respondents said they determined the price based on the market pricing. This suggests that practically all SMEs in Simaung are aware of their brand and have a visual identity, such as logos, but do not see the need to register them with the director general of intellectual property rights (Fig. 4).
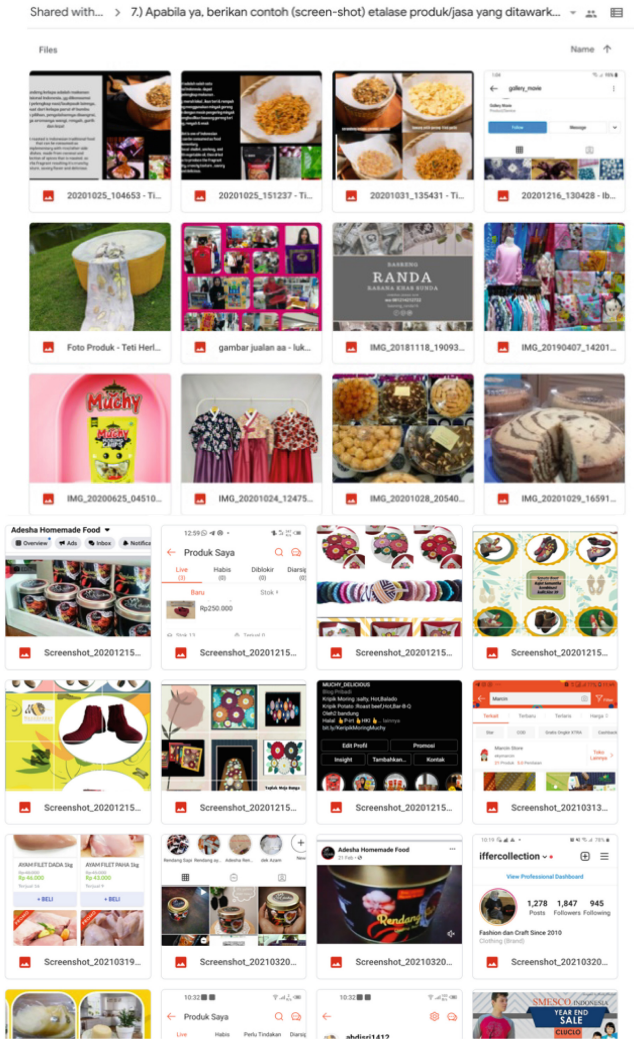
Fig. 4. Examples of SIMAUNG MSME products (Personal Documentation, 2021)

3.3 Emphatize

The Emphatize stage of the Design Thinking approach is the first stage. At this point, the researcher attempts to empathize with and position himself in the shoes of the user in order to gain insight into who the real user is, what he or she does, says, thinks, and feels. MSME players who are members of the Bandung Superior Mandiri Cooperative (SIMAUNG) are, of course, the users in this study. At this stage, researchers conduct interviews, distribute research questionnaires, and facilitate the procurement of FGD (Focus Group Discussion) activities while observing the users themselves in an attempt to sympathize with MSME actors. The FGD (Focus Group Discussion) activity which

was held by researchers to participants this time was more aimed at empathizing, listening to opinions from SIMAUNG MSME actors as well as to validate the data obtained previously through the questionnaire results. Based on the FGD, it was found that the MSME actors who were members of SIMAUNG each experienced different case problems according to their products when facing the pandemic. Other MSME actors have also faced comparable challenges, such as needing to close the stores and transition to selling online, as well as the difficulties of finding the correct target market while selling online. Several conclusions can be reached based on observations of the various incoming data, including:

a) The sudden pandemic situation caused MSME players to face numerous challenges, as some actors who were used to selling offline were forced to close their stores due to rules or went bankrupt.
b) The changing priority of consumer needs requires MSME actors to make changes to the products they produce in order to be able to survive in accordance with consumer needs.

3.4   Define

The researchers will carry out a reframing and analyze procedure to clarify the key problem and develop a point of view statement based on the numerous data acquired in the previous Emphatize stage. At this point the researchers try to define what SIMAUNG MSME actors really need. The following are the results of a point of view statement that can be defined based on various data obtained when carrying out the empathy process for the previous SIMAUNG MSME actors:

a) MSME actors must adapt their products by modifying or developing the products they have as a result of the pandemic's impact on consumer needs.
b) MSME actors need promotional strategies through social media, as the pandemic condition encourages consumers to engage more in online and digital activities.

3.5   Ideate

Ideate/ideation is the process of generating broad ideas on certain topics. In the design thinking method, the process of producing an idea is "How Might We Statement" based on the problems that have been identified in the previous Define, until we get a statement How Might We (what if) statement is as follows:

a) What if we organize a Design Thinking training for MSME actors (member of SIMAUNG) so that they could innovate their own products.
b) What if we organize content writing training for MSME actors (member of SIMAUNG) so that they can implement social media promotional strategies that are on target in digital media.

Based on this concept, the researchers conducted design thinking training activities in the form of a one-day workshop which the MSME actors (SIMAUNG members) were given practical material. Design Thinking is a process that is widely utilized nowadays and that can be applied by anyone who wants to create an innovative product Through a Human-Centered Approach. Thus, the design thinking method is not only applied to

Fig. 5. Design Thinking Training Process for SMEs actors (Personal Documentation, 2021)

this research, but this method also needs to be shared and taught to SIMAUNG MSME actors.

It is hoped that through this training, MSME actors who have different basic problems, are able to remap the problems of each of their respective products and are able to produce an innovation for their products. This understanding to produce innovation will certainly useful for SIMAUNG MSME actors, especially in terms of today's disruptive situation, which requires them to continue to expand and adapt to change at all times (Fig. 5).

To support the digitization of MSMEs, in addition to holding design thinking training that requires them to innovate, SIMAUNG MSME actors are also given content writing training to be applied to digital media such as social media, marketplaces, or websites. The reason for choosing this training option is that "content writing" is more suited to digital media; additionally, content writing is informative and persuasive toward specific brands/products, which will, of course, match up to SIMAUNG SMEs' products; and its long-term condition, as compared to copywriting, which is generally limited to short-term promotion and is intended to build relationships with consumers.

3.6 Prototype

Visual Identity Concept

In order to support digitization efforts for MSME actors, visual identity is one thing that needs to be considered. Most of the SIMAUNG MSME actors already have a visual identity in the form of their respective logos that represent the brand of the products they produce. However, some logos seem not to have been carefully considered so that they can be maximally used in digital media. Starting from most logos with font types that are difficult to read when uploaded in certain sizes on social media, sizes that are not appropriate and inflexible to be applied to digital media or color combinations which actually make it difficult for potential consumers to recognize the product. For example, the following old "Adesha" MSME logo appears to be unproblematic and good at first glance, but a logo that employs the "Caligraphy" font will, of course, become difficult to read if it is submitted as a profile image on Rumah Gadang's social network site. As a "logomark" on the logo, it is possible that the object will be misinterpreted and misidentified. Therefore, the researcher tries to improve it with concepts like Fig. 6 listed below.
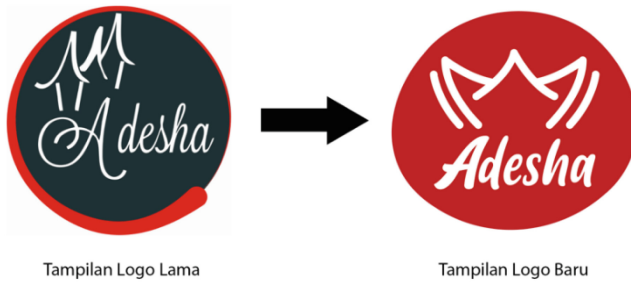
Fig. 6. Visual Identity Design Recommendations (Research Documentation, 2021)

The new brand identity is red, employs a "Sans Serif" typeface that is easy to read, and explains the logo mark in the shape of a simplified roof of a Rumah Gadang item so that this logo can be placed everywhere, whether it is for promotional advertising needs. The placement can be digital or on the object itself.

a. Innovation Concept

In the case of the UMKM product "Adesha" *Rendang Suir*, the suggested innovation concept is to innovate packaging focused on the target consumer. As the product's owner admits, changing from a large can to a sachet package improved sales.

This happens because after defining the problem it was found that consumers who consume Rendang Suir prefer single-meal packing that is more practical to carry anywhere, the problem can be transformed into an idea by redesigning the packaging to make it more attractive and in line with market demands. Therefore, the researchers tried to refine the packaging concept as shown in Fig. 7 and also Fig. 8 [8].

b. Promotional Concept

The usage of "Content Writing" as a caption or editorial writing on SIMAUNG SMEs' digital media is recommended as a promotional concept to be implemented. In the following recommendation example, the researcher makes an editorial example of using content writing for Instagram social media that is suitable for Adesha's Rendang Suir product, as shown in Fig. 7.

Fig. 7. Recommendations for Packaging Innovation from Cans to Sachets (Research Documentation, 2021).

Fig. 8. Sachet Packaging Redesign Recommendations (Research Documentation, 2021)

Through the example of content writing, the product will be able to build relationships with consumers who feel relevant to what is stated and told in the caption not to forget that in the writing there is also a solution offered to potential customers by providing links and hashtags that make it easier to search. According to the editor, visual support in the form of photo illustrations will also add to the strength of the story being told. Aside from providing relevant content, the researcher strongly advises SIMAUNG MSME actors to use paid adverts (paid promoters) that are given by the social media platform. The existence of paid advertising will be able to reach target consumers according to the criteria and desires of product owners from age segmentation, region or other patterns, so that promotional content delivered through social media will immediately meet the target and have no trouble finding the target again (Fig. 9).

The variety of difficulties by each SIMAUNG MSME product, as well as the applicability of the situation of each challenge, will yield various results. SIMAUNG MSME actors were put to the test to see how innovative they could be with their products. It's important to note that the design thinking technique creates a life cycle, or has the notion
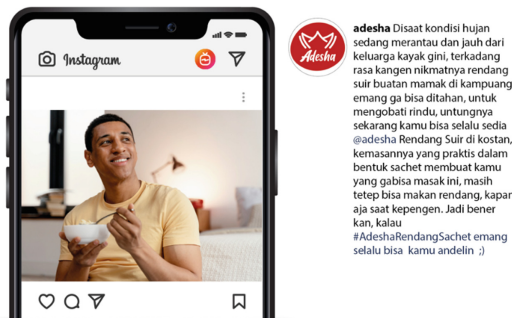

Fig. 9. Recommendations for writing Creative Content on Social Media (Research Documentation, 2021)

of an iterative cycle, which implies that at specific points in the process, you can go back to the previous design stage. This is possible, considering that the design can be reconsidered based on the results of feedback from potential users during the testing phase. Re-designing to perfect the results obtained, may be done after carrying out these testing stages [9].

4 Conclusion

Some conclusions from this research:

1. Steps to carry out the digitization process for MSME actors who are members of the Bandung Superior Mandiri Cooperative (SIMAUNG) of course require a gradual process. In practice, there are still many various problems that often surround the actors in this business sector in the midst of their existence in the digital era and the current prolonged pandemic situation.
2. The changing priority of consumer needs requires MSME actors to make changes to their products in order to be able to survive in accordance with consumer needs.
3. The design thinking method is used to remap the basic problems experienced by MSME actors under the auspices of SIMAUNG. The results of this study are various data obtained in the field as well as design recommendations that can be readjusted by every MSME actor.
4. The use of social media has not been maximized, so MSME actors have not met their target consumers. The researcher recommends SIMAUNG MSME actors to install a paid promote provided by the relevant social media platform. Using a paid promotion will reach the target consumer based on their criteria and needs both in terms of age, region or other patterns, ensuring that promotional content sent via social media meets the target consumer's needs.
5. MSME actors are encouraged to develop business innovations that can be accomplished through the stages of the design thinking technique with the goal that the product can be sold on a wide scale.

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