

The Resilience of Some Types of Micro, Small and Medium Enterprises to the Covid-19 Pandemic: Case in Malang Regency

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ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) as economic backbone in the previous crisis were not seen in the Coronavirus Disease of 2019 (Covid-19) pandemic and were even among the most affected sectors. This indicates that the resilience of MSMEs is weak against external factors. Many studies have been carried out to reveal the impact of Covid-19 on MSMEs but are still very limited in investigating the resilience of MSMEs by type of business. Various financial and non-financial programs have been provided by the government to MSMEs to restore their economic condition. Government programs for MSMEs will be more effective and efficient if adjusted to the resilience of each type of business. This study fills this gap by analyzing the resilience of MSMEs by type of business. Data were collected from 393 MSMEs in Malang Regency using an online questionnaire. There are five types of businesses studied, namely food and beverage, craft, agriculture, fashion, and batik. One-Way ANOVA statistic and Post Hoc Multiple Comparison and Least Square Difference (LSD) was used to analyze data. The results of the study show that there are differences in the resilience of the types of MSMEs studied. The resilience of the MSME type of agriculture proved to be the strongest compared to the other four types of businesses. There is no difference between the four types of MSMEs, but if ranked according to the level of resilience, the type of food and beverage MSMEs is the weakest. This needs attention from various related parties due to this type of MSME is the dominant one in Indonesia.

Keywords: resilience; MSME; Covid-19; Malang; Types of business

1. Introduction

The role of MSMEs as backbone of the national economy in the 1998 crisis was not seen in the COVID-19 pandemic, even including the sectors most affected due to the less-contact economy and a change in economic activity from offline to online. Kementerian Koperasi dan UKM (2020) show that 50 percent of MSMEs closed their businesses and the remaining half had to operate with a drastic decline in turnover in March and April 2020, 88 percent had no cash and savings during the pandemic, limited access to formal financing, and more than 60 percent cut workers. This indicates that the resilience of MSMEs is weak against shocks from external factors. The resilience of a company is the ability to avoid, absorb, respond to, and recover from situations that can threaten its existence (Chrisman et al., 2011). Covid-19 is a sort of threat from natural disasters. With the increased disruptions faced in businesses due to the increasing occurrence of disasters, the resilience agenda has become a key priority for the public and private sectors (Bikrie, 2016).

Many previous studies in Indonesia have put more emphasis on the impact of the Covid-19 pandemic on MSMEs (i.g. Thaha, 2020; Amri, 2020; Nalini, 2021) and are still limited on the resilience of MSMEs. Research on the resilience of MSMEs to the Covid-19 pandemic reveals MSMEs in general (e.g. Afriza, 2021; Sanjaya & Sari, 2021). In contrast, other research studied one type of business e.g. Putri & Puspaningtyas (2021) on templek-mamaka snacks in Banyuwangi, Saputri & Rachmawatie (2020) on fish farming in buckets; and strategy to survive (e.g. Alfrian & Pitaloka, 2020 ; Awali & Rohmah, 2020). Very limited research analyzes the resilience of MSMEs based on the type of business such as food and beverages, craft, fashion, batik, and others. Dua et al. (2020) emphasize that understanding which small businesses are most threatened can help us respond to the crisis.

The government has launched various financial and non-financial stimulus programs aimed at restoring the condition of MSMEs affected by the Covid-19 pandemic. Studies on the extent to which the effectiveness of government programs increase the resilience of MSMEs based on the type of business against economic turbulence such as the Covid-19 pandemic are very limited. Melania et al. (2021) found that the economic safety net program from the impact of Covid-19 for micro-enterprises of processed food and beverages in the city of Salatiga was effective and feasible to continue. Islami et al. (2021) found that the government's program for handling Covid-19 is generally perceived positively by SMEs, but there are still things that need attention. For example, in the policy of relaxation/delaying loan payments (installments and interest) there is 12.8 percent of 130 respondents stating that it was very insignificant to provide benefits, and the policy of business capital assistance during the Covid-19 pandemic, as many as 11.8 percent of respondents stated that the program was very insignificant.

This research was conducted to fill in the gaps of previous studies, by investigating the resilience of MSMEs based on the type of MSME business fields such as food and beverages, craft, batik, and others. Scientific information about this difference in resilience will be very useful for the government and related parties in an effort to strengthen the resilience of MSMEs effectively and efficiently.

2. Literature Review

2.1 SME Resilience

The impact of MSMEs due to the Covid-19 pandemic indicates the weak resilience of MSMEs to external factors. Many definitions of SME resilience as presented in Table 1 show the complexity of resilience and its challenges for SMEs. One of the results of such a differentiation is built upon the fact that the literature surrounding resilience within the context of SMEs is quite recent and not as well developed (Conz et al., 2017).

Table 1. SME Resilience Definitions
Source: Bak et al. (2020)

Gunesakaran et al. (2011)	“SMEs face common problems and challenges in the global market and operations. [Therefore, in the context of SME resilience] resilience could be viewed as adaptability, responsiveness, sustainability and competitiveness in evolving markets.” [p. 5491]
Kumar and Sosnoski, (2011)	“Resilience is an important characteristic of SMEs competing in today’s business environment” [p. 5432]
Wendawatta et al. (2016)	“...resilience was seen as a collective effect of vulnerability, coping strategies and coping capacities of SMEs...” [p.248]
Ballestores and Domingo (2015)	“... resilience is associated with business continuity, i.e. the preparedness of the business sector to emergencies whereby disruption in business operation is at minimum and resumption of normal operation of business is done in the shortest time. Building SME resilience thus has to be understood in the context of the business and policy environment in which they operate. SMEs operate within the domestic and global supply chain linked with organizations that make up the value chain and logistics.” [p.7]
Monsson (2017)	SME resilience is related to vulnerability and adaptive capacity... vulnerability and adaptive capacity (or short adaptability) can be interpreted as the two specific abilities of being able to resist and to recover from shocks
Herbane (2018)	SME resilience is an important precursor to wider local, regional and national economic resilience
Ozar et al. (2008)	Comparing the performance of small-scale industry before and after the Asian financial crisis shows that the evidence on SME resilience is mixed: some were hurt by the crisis whereas others were able to develop new business opportunities.
Li et al. (2015)	SME resilience emerged from the ability to configure firm resources in novel ways to address the exigencies of the [affecting] event

Bak et al. (2020) define resilience in the context of SMEs as (1) the essential characteristics of SMEs competing in today's business environment that combines adaptability, responsiveness, sustainability, and competitiveness, and (2) the ability to renew themselves over time, to maintain status-quo or moving to a new desired state after (or) previously being disrupted, affected by external and internal events the network of organizations forming the supply chain, local and global.

Some international agencies (ILO, 2020; UNTFSSSE, 2020; European Commission, 2016; Eurofound, 2020) use the following indicators to measure the resilience of SMEs: work from home arrangements, deductions from workers' salaries, creating new jobs, shortening supply chains, shifting/ changing production, and building an online platform.

2.1 Resilience of Various SME Businesses

A survey conducted by National Development Planning Agency/(Bappenas, 2020) on 2,375 MSMEs throughout Indonesia with five business types: (1) agriculture, fisheries, plantations, (2) processing industry, (3) wholesale and retail trade, repair and maintenance of cars and bicycles motorbikes, (4) providing accommodation and providing food and drink, and (5) transportation, warehousing and other services, only revealing the impact of the pandemic on business without investigating the resilience of MSMEs in terms of the type of business.

The survey was conducted by Dua et al. (2020) in the United States to find out which small businesses are most vulnerable to Covid-19. Using financial risk as an indicator of resilience and the degree affected by COVID-19, it was found that the most affected and highest risk was accommodation and food services followed by wholesale trade, art, entertainment and recreation, and transportation and warehousing. Meanwhile, small businesses that are most affected but low in financial risk are healthcare and social assistance, followed by retail trade, manufacturing, and construction. It was also found that small businesses that are less affected and lower financial risk are financial and insurance, and professional services.

A study by Wieczorek-Kosmala et al. (2021) on COVID-19 Interruptions and SMEs Heterogeneity in Poland provide strong evidence that COVID-19's impact was perceived as more interruptive by micro and very young firms, as well as by the firms that perform as sole proprietorships. The study also found evidence that family firms do not differ from non-family ones in the perceptions of COVID-19 impacts.

Based on previous studies, the hypothesis of this research is “The resilience of SMEs to the impact of Covid-19 is different between types of businesses”.

3. Research Methodology

The research was conducted on MSMEs in Malang Regency. The criteria for MSMEs are based on Law Number 20 of 2008. Data on the population of MSMEs in Malang Regency are not available but they can be accessed through the Communication Forum for Micro, Small and Medium Enterprises (FKPU UMKM) Malang Regency.

Based on the research objectives, the variables studied are the resilience of MSMEs to the Covid-19 pandemic and the types of MSMEs. This study adopts indicators of MSME resilience according to some references (ILO, 2020; UNTFSSSE, 2020; European Commission, 2016; Eurofound, 2020), namely: working from home arrangements, deductions from workers' salaries, creating new jobs, shortening supply chains, shifting or changing production and build an online platform. These indicators were measured by a Likert scale with 5 gradations from 1 (strongly disagree) to 5 (strongly agree). The types of MSMEs in Malang Regency are Food and Beverage, Craft, Agriculture, Fashion, and Batik.

Data were collected using an online questionnaire distributed through the FKPU MSME management in the third week of September 2021 and up to October 10, 2021. The number of questionnaires that have been filled out and returned was 393. This number was considered adequate for analysis and the results can be generalized. According to Memon et al. (2020) a sample of 100 can be considered large in research and very large samples for more than 400 (Zikmund et.al., 2013). For research with subgroups, the sample is between 20 to 50 for each sub-group. Respondents are MSME owners and managers who are considered to know the most about business resilience during the Covid-19 pandemic.

Data were analyzed using SPSS software version 25.0. One-way ANOVA was used to test differences in the resilience of SMEs to the Covid-19 pandemic. To find out the difference between the types of MSMEs, Post Hoc Multiple Comparison with Least Square Difference/LSD was used (Hair Jr et al., 2010).

4. Results

4.1 Characteristics of Respondent

Characteristics of respondents among others are age, gender, education level, and work experience in the current business. Most respondents are 34-44 years old and there is no significant correlation between age and type of business (sig. of contingency coefficient is $0.73 > 0.05$), although there is an influence of age on the type of business but it is weak (sig. $0.073 < 0.10$) (Table 2). Respondents' age and type of business in Table 2 appear to follow a normal distribution. Several studies have shown that those aged less than 34 are the easiest to innovate than those aged over 55 (Meyer, 2015; Noviyanti et al., 2020).

Table 2. The age of respondent
Age Range (year)

Types of MSME	Age Range (year)					Total
	15 – 24	25 – 34	35 – 44	45 – 54	55 – 65	
Food and Beverage	14	57	95	90	15	271
Craft	0	10	15	9	1	35
Agriculture	5	6	5	3	2	21
Fashion	1	7	6	5	1	20
Batik	2	5	13	13	3	36
Others	1	4	5	0	0	10
Total	23	89	139	120	22	393

Contingency Coefficient = 0.266; sig.= 0.73; Chi-Square = 29.809; sig. = 0.073

A total of 304 respondents (77.45 percent) were women and the rest were men (Table 3) and showed a significant relationship and difference (sig. $0.000 < 0.01$). The involvement of women in MSMEs is greater than that of men because of the characteristics of women such as diligent, thorough, tenacious, patient, honest, tough, high sense of responsibility, strong will, high spirit and discipline (Noviyanti et al., 2020). Other than that, women entrepreneurs are more willing to take risks and love the challenges above than men (Sherlywati et al., 2017).

Table 3. Gender of Respondent

Types of MSME	Sex		Total
	Male	Female	
Food and Beverage	57	214	271
Craft	5	30	35
Agriculture	13	8	21
Fashion	4	16	20
Batik	5	31	36
Others	5	5	10
Total	89	304	393

Contingency Coefficient = 0.250; sig.= 0.000; Chi-Square = 26.202; sig. = 0.000

Most of the respondents' education levels (209 people or 53.18 percent) are high school graduates (Table 4). Slightly more respondents graduated from college than junior high school, but there was no correlation and the effect of education level on the type of business (sig. $0.965 > 0.05$).

Table 4. Level of Education of the Respondent

Types of MSME	Level of Education: graduated from ...			Total
	Junior High School	Senior High School	Higher Education	
Food and Beverage	57	144	70	271
Craft	7	17	11	35
Agriculture	5	11	5	21
Fashion	5	11	4	20
Batik	10	19	7	36
Others	1	7	2	10
Total	85	209	99	393

Contingency Coefficient = 0.095; sig. = 0.965; Chi-Square = 3.574; sig. = 0.965

Most of the respondents (282 people or 71.76 percent) have less than 5 years of experience in the current business (Table 5). There is no significant relationship between work experience and the type of MSME business (sig. 0.476 > 0.05). Detailed data shows that more than 50 percent have less than 3 years of experience when dealing with the Covid-19 pandemic. Other research proves that there is a significant effect of work experience on the ability to manage a business (Kotur & Anbazhagan, 2014; Rider et al., 2019).

Table 5. Working Experience of the Respondent

Types of MSME	Working Experience				Total
	< 5 years	6-10 years	11-15 years	>15 years	
Food and Beverage	190	60	12	9	271
Craft	23	8	2	2	35
Agriculture	16	4	1	0	21
Fashion	13	5	0	2	20
Batik	33	3	0	0	36
Others	7	2	1	0	10
Total	282	82	16	13	393

Contingency Coefficient = 0.190; sig. = 0.476; Chi-Square = 14.669; sig. = 0.476

4.2 The Difference in Resilience between Types of MSME Types of Business

Table 6 shows that there are significant differences in resilience between types of MSME businesses (sig. 0.000 < 0.01). Thus, the research hypothesis is accepted. The difference in resilience between types of MSME businesses is shown in Table 7.

Table 6. The ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15.830	5	3.166	5.342	.000
Within Groups	229.357	387	.593		
Total	245.187	392			

There are four types of businesses analyzed and those that differ significantly are food and beverage with agriculture, craft and agriculture, fashion and agriculture, batik and agriculture (sig. < 0.05) while between food and beverage and craft, fashion and batik was not significantly

different (sig. value > 0.05). Thus, what differs in resilience is the type of agricultural MSMEs, while other types of business are not statistically different.

Table 7. Post Hoc Test: the LSD

(I) Types_MSME	(J) Types_MSME	Mean Difference (I-J)	Std. Error	Sig.
Food and Beverage	Craft	-.11585	.13827	.403
	Agriculture	-.76029*	.17438	.000
	Fashion	-.24680	.17838	.167
	Batik	-.05328	.13656	.697
	Others	.55320*	.24790	.026
Craft	Food and Beverage	.11585	.13827	.403
	Agriculture	-.64444*	.21250	.003
	Fashion	-.13095	.21579	.544
	Batik	.06257	.18274	.732
	Others	.66905*	.27604	.016
Agriculture	Food and Beverage	.76029*	.17438	.000
	Craft	.64444*	.21250	.003
	Fashion	.51349*	.24053	.033
	Batik	.70701*	.21139	.001
	Others	1.31349*	.29578	.000
Fashion	Food and Beverage	.24680	.17838	.167
	Craft	.13095	.21579	.544
	Agriculture	-.51349*	.24053	.033
	Batik	.19352	.21470	.368
	Others	.80000*	.29816	.008
Batik	Food and Beverage	.05328	.13656	.697
	Craft	-.06257	.18274	.732
	Agriculture	-.70701*	.21139	.001
	Fashion	-.19352	.21470	.368
	Others	.60648*	.27519	.028
Others	Food and Beverage	-.55320*	.24790	.026
	Craft	-.66905*	.27604	.016
	Agriculture	-1.31349*	.29578	.000
	Fashion	-.80000*	.29816	.008
	Batik	-.60648*	.27519	.028

*The mean difference is significant at the 0.05 level

Based on the mean in Table 8, it can be concluded that the highest resilience is the GENERAL type of agriculture. The resilience of other types of MSMEs is no different.

Table 8. Descriptive of the Resilience of the Types of MSMEs

Types of MSMEs	N	Mean	Minimum	Maximum
Food and Beverage	271	3.4699	1.00	5.00
Craft	35	3.5857	1.50	5.00
Agriculture	21	4.2302	2.00	5.00
Fashion	20	3.7167	2.83	4.83
Batik	36	3.5231	1.83	5.00
Others	10	2.9167	2.33	4.33

5. Discussion

Statistical analysis proves that the resilience of agricultural MSMEs is the strongest compared to other types of businesses. The agricultural businesses carried out by the respondents are producing organic fertilizers, crispy mushrooms, oyster mushrooms, various flowers, and ornamental plants, organic vegetable production, and ornamental fish seeds. These products are able to last for a relatively long time and have a small risk of damage and do not require large capital. This agricultural business started as a hobby, filling free time, reducing feelings of boredom and even stress during the Covid-19 pandemic. As many as 16 of the 21 (76 percent) business actors in Table 5 just started their business during the Covid-19 pandemic.

Nasution et al. (2021) reported that since the Covid-19 pandemic the trend of ornamental plants has continued to soar, several ornamental plants in Bengkulu City have even very high prices. After the Covid-19 pandemic has been running for one year, business actors have developed ornamental plants that were originally only looking for fun activities, hobbies, being able to beautify the environment, finally bringing in quite a large income.

The new hobby of farming that was popular during the Covid-19 pandemic was paying attention to the planting media. A good planting medium is to give a dose of organic fertilizer in the medium so that there are business opportunities for organic fertilizer production. Ola (2021) reported that the manufacture of organic fertilizer by utilizing household waste can help recycle organic waste in Wajo, South Sulawesi, providing great benefits for businesses and households.

Types of agricultural MSMEs that started as hobbies generally use local resources or around their homes have low financial risk due to small capital, some even start with IDR 300,000 (BRILIAN, 2020) not using a lot of labor. It is therefore very flexible and adaptive so that it has strong resilience to indicators of resilience: working from home arrangements, deductions from workers' salaries, creating new jobs, shortening supply chains, shifting or changing production, and building online platforms.

On the other hand, food SMEs have the lowest resilience among the five types of businesses studied. The OJK-BCG Joint Research (2020) with 3,136 respondents revealed that food and beverage MSMEs experienced the largest decline in turnover (86 percent) compared to six other types of MSMEs, namely transportation and warehousing (85 percent), construction (82 percent), trade (81 percent), manufacturing (79 percent), services (79 percent), and the lowest are agriculture, fisheries, forestry, and animal husbandry. The findings of this study strengthen the OJK-BCG joint research survey and Dua et al. (2020) in the United States. Food and beverage MSMEs were identified by the Ministry of Industry (2019) as the main sector that is ready for the implementation of the Industrial Revolution 4.0 technology because it has a broad impact on society and business that is easy to enter.

According to Supari (2020), the vulnerability profile of MSMEs determines the appropriate type of social assistance for MSMEs. According to him, the MSME group is divided into four categories according to their level of vulnerability. *First*, the vulnerable, where MSME actors do not have savings and do not have loans from formal financial institutions. They are also not reachable by formal financial institutions. They should have received assistance from a third party in the form of social assistance or productive assistance for micro-enterprises. *Second*, survival, where MSME actors in this group do not have savings, but have loans. In this

situation, they have used their working capital to fulfill their living needs. They need additional working capital so that the right program is relief such as restructuring, interest subsidies, and soft loans for additional subsidized working capital with a guaranteed pattern. *Third*, striving, where MSME actors have savings and loans, they also have resilience in a period of approximately 6 months. Their main need is restructuring and additional working capital with a soft scheme, especially during the recovery period. *Fourth*, upgraders, namely MSME actors who have savings, but do not have loans. This group can certainly survive for a longer time than MSE actors belonging to other categories. Therefore, they need to be assisted with additional working capital with low-interest loans and guarantees.

6. Conclusion

Many studies in Indonesia and other countries have revealed the impact of the Covid-19 pandemic on MSMEs. However, there is still very limited research on the level of resilience of SMEs specifically based on the type of business. This study proves that the resilience of agricultural SMEs is the strongest compared to fashion, craft, batik, and the weakest is food and beverages. Various governments' financial and non-financial programs are aimed at the economic recovery of the MSME sector. These programs will be effective for MSMEs if they are in accordance with their level of resilience. Considering that food and beverage MSMEs are the dominant type in Indonesia, around 60 percent of the total MSMEs, it is necessary to get attention from various related parties. Further research is needed for food and beverage MSMEs, for example related to the capability of managers in optimizing their resources in the face of economic turbulence.

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