

## Identification of Human Resources in the Application of SME Technology

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### ABSTRACT

Small and Medium Enterprises (SMEs) are required to keep up with technological developments. However, in its implementation there are still many obstacles that occur. The purpose of this study is to identify the obstacles that occur for SMEs in implementing technology. This research uses a case study approach by conducting a more in-depth investigation. A total of 396 SMEs identified the obstacles in the application of technology. The results showed that the obstacles found were in the form of factors from owners who did not understand or follow technological developments, age factors, education levels, online promotions were not maximized, few customers, few types of goods, competition, and relatively short age of goods. Technological developments are applied more to the sales system that is carried out online. The main obstacle is the human resource factor owned by business actors, so it must really be overcome to increase the competence of its human resources.

Keywords: Small and Micro Enterprises, Human Resources, Technology Development, Online Sales



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## INTRODUCTION

Small and medium enterprises (SMEs) are increasingly required to develop and seek market growth outside the national market (Westerlund, 2020). Developing a business is something that must be done by business actors, including SMEs. SMEs in Indonesia in adopting technological developments are influenced by several factors, including perceived benefits, technological readiness, owner innovation, experience and ability in the use of information technology. The most important factor in adopting technology is actually the individual factor (Rahayu & Day, 2015). SMEs are often considered not to have sufficient resources to apply technology and keep abreast of developments internally (Handoko, Vitasari, Hidayat, & Tjahjadi, 2019). The use of technology is the most needed thing in developing these SMEs (Sani, Subiyakto, & Rahman, 2018). The use of

information technology can increase the competitive advantage and performance of SMEs in Indonesia (Widyanti & Mahfudz, 2020). Studies on the constraints of SMEs in following technological developments in recent years have become the focus of researchers in several areas, including in Bandung (Aldianto, Anggadwita, & Arham, 2019; Utama, Aryanto, & Mulyani, 2020), Cilacap (Hendrawan, Sucahyowati, & Cahyandi, 2018), Solo (Cahyaningrum, Untoro, Setiawan, & Wahyudi, 2022), Surabaya (Utami, Astuti, Ramadhan, Trialih, & Aprilian, 2019), Lumajang (Sulistyan, Lukiana, & Ato'illah, 2022; Yatminiwati, Setyobakti, Sulistyan, & Ermawati, 2021), and other cities in Indonesia.

However, based on the recommendations of previous studies, deeper identification is still needed regarding the obstacles to using technology in Lumajang Regency (Yatminiwati et al., 2021). There is still a limited capacity of human resources, namely SMEs. Whereas based on data obtained from the Office of Cooperatives and Micro Enterprises in Lumajang Regency, the number of micro businesses in 2017 to 2021 spread across 21 sub-districts continues to increase. The details of each sub-district are as follows:

Table 1. Lumajang Regency Micro Business Data in 2021

No	Districts	2017	2018	2019	2020	2021
1	Tempursari	1,675	1,626	1,635	1,670	398
2	Pronojiwo	1,107	1,107	1,112	1,112	262
3	Candipuro	1,319	1,319	1,319	1,319	1,359
4	Pasirian	1,386	1,386	1,386	1,386	2,462
5	Tempeh	1,935	1,935	1,935	1,935	2,951
6	Sumbersuko	1,132	1,132	1,153	1,227	2,085
7	Lumajang	2,936	2,936	2,986	2,986	6,964
8	Tekung	450	524	573	573	1,764
9	Kunir	1,281	1,281	1,281	1,281	1,963
10	Yosowilangun	2,195	2,195	2,195	2,195	2,526
11	Rowokangkung	649	649	655	655	1,686
12	Jatiroto	1,613	1,613	1,613	1,708	1,364
13	Randuagung	489	489	494	566	1,877
14	Ranuyoso	201	251	274	274	757
15	Klakah	805	805	805	805	1,535
16	Kedungjajang	309	334	357	357	1,465
17	Sukodono	1,365	1,365	1,365	1,372	2,876
18	Padang	152	202	226	226	903
19	Gucialit	367	367	372	372	280
20	Senduro	2,635	2,635	2,635	2,635	830
21	Pasrujambe	1,240	1,240	1,240	1,240	1,195
<b>Jumlah</b>		<b>25,241</b>	<b>25,391</b>	<b>25,611</b>	<b>25,894</b>	<b>37,502</b>

Source: Dinas Koperasi dan Usaha Mikro in Lumajang Regency, 2021  
 (<https://dinkopum.lumajangkab.go.id/data/detail/1575>)

Table 1 shows that of the 21 sub-districts, as many as 6 sub-districts experienced a decrease in the number of SMEs. One of the causes of the decline in the number of SMEs is the lack of readiness in applying technology to their businesses. In addition, there is also the covid 19 pandemic (Setiyo, Paramita, & Sulistyan, 2021) which has caused business actors to experience a decrease in sales volume. It is important that business actors in Lumajang Regency always follow technological developments to be applied to their businesses (Muttaqien & Sulistyan, 2022).

The results of a survey conducted during 2021 show that not all business actors are able to keep up with technological developments into their businesses. If the development of this technology still has no solution in its application, there will be several negative impacts. The impact is a decrease in sales volume and even bankruptcy. The right solution to do is to identify the overall causes of SMEs being unable to implement and follow technological developments.

SMEs need expertise in managing their business (Kurschus, Šarapovas, & Pilinkienė, 2017). However, in managing their business, there are many limitations of their human resources, so that technology cannot be applied properly (Farsi & Toghraee, 2014). Likewise, SMEs in Lumajang Regency have not applied technology much. This study uses the Technology Acceptance Model (TAM) Theory approach (Lestari & Sularso, 2020). This theory is used to explain the identification of business actors in applying technology (Bangun & Handra, 2021). The resulting identification will be useful for SMEs and as a basis for developing businesses by applying technology that is always developing.

Based on several descriptions of the problem, there is a phenomenon of problems related to the application of technology for SMEs in Lumajang Regency, East Java, Indonesia. In addition, there are inconsistencies in the results of previous studies related to the constraints of SMEs in applying technology to their businesses. The purpose of this study is to identify the factors that hinder SMEs in implementing technological developments. This research focuses on human resources, namely SME actors.

## METHOD

This research is a case study research by conducting a more in-depth investigation of a particular subject (Sudaryono, 2018). This study uses a survey method that aims to obtain data and describe the data population found. The population is 37,502 types of SMEs in Lumajang Regency, East Java. Sampling using the slovin formula as many as 396 SMEs. The sampling technique used was convenience sampling, where we took samples of SMEs based on what we could find in the field. The data we collect is in the form of qualitative data from questionnaires and interviews. The questionnaire is in the form of closed and open questions. Support for the answers to the results of the questionnaire distribution is the result of more in-depth interviews with SMEs. Data analysis was carried out continuously and grouped by type and interpretation of the results of the data analysis.

## RESULTS AND DISCUSSION

This study involved 396 actors on small and micro business (SMEs) in Lumajang Regency, East Java, Indonesia. The aim is to identify the constraints of SMEs in following the development and use of technology. The details are described as follows:

Table. 1 Results of Identification of SME Actors in Lumajang Regency

No	Description	Amount	Percentage (%)
1	Type of business		
	Sales of food and soft drinks	108	27.27
	Restaurant business	84	21.21
	Sale of goods	72	18.18
	Goods production	20	5.05
	Drug sales	18	4.55
	Meubel	12	3.03
	Laundry service	12	3.03

	Workshop services	9	2.27
	Printing	8	2.02
	Agriculture	8	2.02
	Farm	7	1.77
	Design services	6	1.52
	Wedding organizer	6	1.52
	Other business	26	6.57
2	Business Ownership		
	Individually owned	342	86.36
	Owned together	54	13.64
3	Obstacles in keeping up with the development/use of technology		
	Yes, there are obstacles	254	64.14
	Sometimes trouble	61	15.66
	There are no obstacles	80	20.20

Source: Data processed, 2022

Based on the data presented in table 1, it shows that the most types of business are in the field of selling food and soft drinks (27.27%), followed by restaurant businesses (21.21%), selling goods (18.18%), goods production (5.05%), selling drugs (4.55%), furniture (3.03%), laundry services (3.03%), workshop services (2.27%), printing (2.02%), agriculture (2.02%), livestock (1.77%), design services (1.52%), wedding organizer (1.52%), and other businesses (6.57%).

Business ownership data shows that the number of privately or individually owned businesses reaches 86.36%, while jointly-owned businesses are 13.64%. Most SMEs experience obstacles in following the development/use of technology reaching 64.14%. As many as 15.66% of SMEs sometimes experience obstacles in following the development/use of technology, and only 20.20% of SMEs that do not have problems.

Various obstacles identified by SMEs in Lumajang Regency in following the development or use of technology are as follows:

1. Owners or employees do not understand or follow technological developments  
The number of owners or employees who lack technology updates is a serious obstacle in developing their business. Many competitors have updated technology and their sales volume has increased.
2. Age factor of business owners and employees  
Age also affects SMEs to keep up with technological developments. Many are over 40 years of age with diminishing productivity. Employees over the age of 40 are also less productive and less able to keep up with technological developments. The negative impact
3. Education level of owner or employee  
The level of education has a major impact on managing a (Paramita, Rizal, Sulistyan, Fauziyah, & Dimiyati, 2021). Many SMEs with low levels of education are less able to market their products using technology (online marketing).
4. Limited knowledge of online sales systems  
So far, many SME players are still limited in their ability to recognize online sales systems. Many online sales systems use platforms (Yatminiwati et al., 2021) Shopee, Tokopedia, Lazada, Facebook, and others. However, many of them only know a few, so sales cannot be maximized.
5. Promotion is still online not maximized  
Many business actors have abandoned the manual promotion system (Tabuena et al., 2022). It is undeniable that social media is very helpful for business actors to promote their business (Fraccastoro, Gabriellsson, & Pullins, 2021). So far, SMEs in Lumajang Regency are still

- promoting through WhatsApp, some are through Facebook. Now it has developed through the Tik Tok application, but there are also many who don't know the system to use it.
6. Few customers  
The problem with SMEs not keeping up with technological developments is that they have a small number of customers. If a more in-depth review is carried out, customers will be able to simultaneously attract other customers by following the implementation of an online sales system or using a trusted market place.
  7. Types of production goods are still few  
This factor is also an obstacle for business actors not to apply technological developments. There are still many SME actors in Lumajang Regency who only produce a few, so they don't feel the need to implement a sales system using a market place. The application of technology cannot work because business actors do not really need it to increase the types of goods produced.
  8. Competition  
Competition between business actors has become a serious problem. Many competitors are modern and use technology both in the production of goods and in their sales system. However, for SMEs whose ability to apply technology is still limited, it becomes a serious obstacle in managing their business.
  9. The goods sold are relatively short-lived  
The obstacle for business actors, especially in the field of selling food and soft drinks, is that the age of the food and drink cannot last long. Some are only able to last a few hours, such as cakes or juice drinks. In this case, the technology applied is in the form of an online sales system that only serves the surrounding area.

Based on some of the obstacles found, many of the tendencies of SME actors in applying technology are more to the online sales system. The application of technology for SMEs in Lumajang Regency is mostly in the form of online sales, not in the form of production technology. Although there are only a few who need technology for goods.

## CONCLUSION

Identification of obstacles for SMEs in implementing technology, namely the factor of owners who do not understand or follow technological developments. Factors of age, education level, online promotion has not been maximized, few customers, few types of goods, competition, and relatively short age of goods are also obstacles for SMEs in implementing technology. The development of technology that is widely used is in the form of online sales using a buying and selling platform. The main obstacle lies in the factor of human resources owned. The competence of business actors is still relatively low to be able to apply technology.

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