

SEMINAR NASIONAL INSTITUT STIAMI

THE IMPLEMENTATION OF ARTIFICIAL INTELLIGENCE (AI) TRAINING AND ASSISTANCE FOR MICRO SMALL AND MEDIUM ENTERPRISE DEVELOPMENT

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Submitted : 08/08/2023

Revised : 24/8/2023

Published : 31/10/2023

ABSTRAK

Micro Small and Medium Enterprises (MSME) have an important role in the Indonesian economy. In addition, the advantage of this business group is that it has been proven to be resistant to various kinds of economic shocks. So it is imperative to strengthen MSME groups that involve many groups. One of the main advantages of the MSME sector is the ease in adopting and implementing new technology and innovation in business, one of which is Artificial Intelligence (AI). However, until now AI-related training is still relatively rare, both by the government and by the private sector, so there are still many MSMEs who think that AI is only used for industry or large-scale businesses. This research is a qualitative study with a phenomenological approach. Data collection was carried out through in-depth interviews with MSME managers in East Java, Central Java, West Sumatra, South Kalimantan, Bali, NTB, NTT, Maluku and Papua. The aim is to obtain data and information regarding how to implement the AI training and assistance for MSMEs, what are the obstacles encountered in the implementation of the training and assistance, and what solutions can be taken to overcome these obstacles. The results of this study indicate that from the results of data analysis, researchers can conclude that AI training is very important to be given to MSME managers, so that MSMEs can develop well in Indonesia. So far, the government has provided training to MSMEs. E-commerce platforms, namely Lazada, Blibli, Tokopedia, Bukalapak and Shopee also do the same. However, the training will be more effective if it is carried out in collaboration between the government and the E-commerce platform.

Keywords: *Training and Assistance, Artificial Intelligence, MSMEs*

INTRODUCTION

One important factor for advancing the country's economy is the Micro, Small and Medium Enterprises (MSMEs) sector (Hansen and Mowen, 2018). MSMEs make a major contribution to GDP (Gross Domestic Product). In addition, MSMEs can also provide opportunities for community empowerment and open job opportunities for anyone who wants to advance. Around 114.7 million people have been successfully employed by MSMEs in Indonesia. That means 56% of Indonesian workers have been successfully absorbed. This also means that MSMEs have contributed more than 60% to the country's GDP (MSME Empowerment Report, 2022:5).

Before the Covid 19 pandemic, the contribution of MSMEs continued to increase, but during the pandemic, there was a decrease of 37.3% (MSME Empowerment Report, 2022:13). At present, after the pandemic is over, we can see MSMEs starting to rise again with their

promotions in various media. The digital era is one of the drivers for MSMEs to follow existing trends, namely by marketing or promoting their products through digital platforms, both in the form of images and videos. Data compiled from the MSME Empowerment Report (2022) shows that around 40% of MSMEs use social media to promote the products they sell, 38% use instant messaging, use e-commerce 13%, and ride hailing 5%," (MSME Empowerment Report, 2022). The data proves that some Indonesian MSMEs have started to adapt to change and technology. But some other MSMEs still encounter obstacles in developing their business digitally.

In developing their business digitally, MSMEs will encounter a lot of technology known as Artificial Intelligence (AI). Along with developments, technology, AI continues to experience significant progress. However, the current situation in Indonesia shows that there are still many MSMEs that have not utilized the potential of AI optimally, and there are still many MSMEs in villages that have not been touched by technology. This happens because there are still many people who think that AI technology is only for certain businesses or industries. This is not true.

AI technology can be applied to various MSMEs, including the type of business, because AI can help MSMEs in many ways, from promotion to improving service systems and efficiency, which will have a big impact on income. Thus, what is needed is the foresight of every MSME manager in seeing the need for their business to grow quickly by utilizing AI technology (Fatihah and Saidah, 2021).

Until now, there are still many MSMEs who think that AI is only for large-scale businesses. This perspective makes many MSMEs hesitate to use AI technology. What occurred to them is that using technology means that it requires large costs and competent human resources. This actually makes MSMEs feel afraid and choose not to participate in activities related to AI programs, such as training or seminars (Fatihah and Saidah, 2021).

Unfortunately, until now training related to Artificial Intelligence (AI) for MSMEs is still very rarely held. Even if there are, they are usually only reserved for MSMEs built by young people and located in big cities. Millennial who build MSME businesses generally have mastered digital technology. At least they already understand how the promotion strategy by utilizing technology. However, MSMEs located in small towns or in villages, they rarely hear any information or training related to Artificial Intelligence (AI). Several MSME actors have attended training organized by the government, but the training was held very briefly, with very many participants, so many of the participants did not understand the material. It can be said that the trainings that have been held by the government such as Kominfo, Menparekraf, or the Ministry of Cooperatives and SMEs have so far been less effective.

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(Menparekraf), or the Ministry of Cooperatives and MSMEs (Kemenkop UKM) have so far been less effective.

LITERATURE REVIEW

Definition of Artificial Intelligence

Currently, people all over the world ranging from children, teenagers to professionals are busy talking about Artificial Intelligence, an innovation in the field of science that has great benefits for human life. John McCarthy (2007) is a science and technique in creating intelligent machines, especially in creating intelligent computer programs or applications. AI is a step to create computers, robots, or applications or programs that work intelligently, like humans (McCarthy, et.al., 2008). The purpose of creating AI itself is to: (a). Creating an expert system, which is a system that can perform intelligent behavior, learn, demonstrate, explain, and suggest users. (b). To implement intelligence from humans into machines, creating a system that can understand, think, learn, and behave like humans.

According to Kusumadewi (2003) AI technology is part of computer science, created by scientists with the aim that machines or computers can think or work as well as humans do. Artificial Intelligence is a part of computer science that designs an intelligent system, which is made with human-like thinking characteristics (Avron Barr and Edward E. Feigenbaum, 1982), even better than humans (Rich and Knight, 1991).

Based on the definition above, artificial intelligence offers media and theoretical tests about intelligence. These theories can later be expressed in programming languages and their execution can be proven on real computers. Just like humans have brains, computers can also have software that works as a brain. Humans can solve various problems not only because humans have brains that are capable of reasoning and analysis, but humans also have databases, knowledge, collections of information, all of which are obtained from experience and learning.

Definition of Micro Small and Medium Enterprise (MSME)

MSME is a business that only has a small market scope, a small workforce, and is managed solely by the business owner (Simmons, Armstrong & Durkin, 2008). According to the World Bank, MSME is a business that meets two of the three criteria, namely employee strength, asset size or annual sales (Das, 2017). In Indonesia itself, MSMEs have been regulated in the Law of the Republic of Indonesia Number 20 of 2008 concerning Micro, Small and Medium Enterprises which divides MSMEs into several criteria as follows:

Table 1
MSME Criteria According to Law No. 20/2008

No	Description	Asset	Turnover
1.	Micro Enterprise	Max. IDR 50 Million	Max. IDR 300 Million
2.	Small Enterprise	> IDR 50 Million – IDR 500 Million	> IDR 300 Million – IDR 2,5 Billion
3.	Medium Enterprise	> IDR 500 Million – IDR 10 Billion	> IDR 2,5 Billion - IDR 50 Billion

The definition of MSMEs varies on an international or world scale because this is adapted to the characteristics of each country. However, in general, the definition of MSMEs abroad is based on aspects of the number of workers, total assets and income. The criteria for MSMEs according to the World Bank are as described in the following table:

Table 2
MSME Criteria According to the World Bank

Description	Total Employees	Asset	Turnover
Micro Enterprise	< 10 people	≤ \$100 thousand	≤ \$100 thousand / year
Small Enterprise	< 30 people	≤ \$ 3 million	≤ \$ 3 million/ year
Medium Enterprise	≤ 300 people	≤ \$ 15 million	≤ \$15 million/year

Characteristics of MSMEs

The capital aspect is the main factor that distinguishes UMKM from large-scale businesses. Capital for building Micro, Small and Medium Enterprises is generally relatively small compared to large-scale businesses. Therefore, MSMEs are more active in the informal sector, due to limited resources, especially capital problems. In addition, the aspect of human resources is also another important factor that greatly influences the success of MSMEs.

The most important characteristic of MSMEs is that raw materials are easy to obtain, so if someone wants to build an MSMEs, he doesn't need to worry about the problem of raw materials because they can be purchased easily. In addition, the second characteristic is related to the use of technology. In MSMEs, the technology applied is simple technology, so anyone can do it, without having to have a special educational background. In terms of basic skills, they are generally passed down from generation to generation. Another characteristic of MSMEs is that they are labor-intensive or absorb a large number of workers. MSMEs on average can open job opportunities for local people without the need to be burdened with educational background criteria. The market opportunity is quite wide, most of the products are absorbed in the local/domestic market and some of them have the potential to be exported, what's even interesting is that certain commodities have characteristics related to local regional cultural artworks. MSMEs can also help economically weak communities so they can improve their welfare.

Definition of Training

Every company needs to conduct training for its employees. This is intended to improve the quality of human resources, not only in terms of hard skills but also soft skills. Hard skills relate to certain areas of expertise possessed by a person, and soft skills are matters related to attitude, behavior, personality, communication, and matters related to ethics and morals (Rachmawati, 2008: 110). So training is actually a process that aims to change HR behavior so that organizational goals can be achieved (Rivai and Sagala, 2011: 212). The main objectives of the training program according to Carrel in Salinding (2011:15) are: (a). So that HR performance can increase, (b). HR skills can increase, (c) So that the company's HR can always keep abreast of developments in the world of work, (d) So that HR is able to analyze problems encountered and find solutions, (e). Training is also intended as an orientation for new employees regarding company policies and targets as well as HR career development, (f). Promotion preparation and managerial success, (g). In order to increase HR job satisfaction.

If the company is going to hold training for its employees, it is very important to provide an explanation in advance what is the purpose of holding the activity, so that all employees who take part in the activity understand the importance of being serious while participating in the training because it will have an impact on their future careers. Widodo (2015: 84) suggests that the purpose of training conducted by companies is to increase productivity, improve quality, support HR planning, increase member morale, provide indirect compensation, improve occupational

health and safety, prevent expiration of personnel skills and knowledge, improve development of personnel capabilities and expertise.

Meanwhile Rivai and Sagala (2011: 217) stated the benefits of training for employees, which he said could: (a). Increasing a more positive attitude towards profit orientation, (b). Increase expertise at all levels of the company, (c). Improving the quality of human resources, (d). Providing understanding to employees regarding company goals, (e). Providing understanding to HR in order to create a better company image, (f). Supporting authenticity, openness and trust, (g). So that the relationship between the leadership and staff is getting better, (h). Quality human resources will accelerate the company's development, (i). Through training, participants can share experiences and learn from other participants, (j). Preparing human resources to be able to implement company policies, (k). Through training, employees will understand the company's needs in the future, (l). Reliable human resources will be able to do problem solving more effectively, (m). Assist the development of promotion from within, (n). Improving the quality of human resources through training in leadership, motivation, personality, attitude and behavior, (o). Increase efficiency, effectiveness, productivity and quality of work, (p). Can reduce costs in various fields, (q). Training can also increase HR's sense of responsibility for competence and knowledge, (r). Can create a good working relationship between management and staff,(s). Training can also reduce external consultant costs, (t). Minimizing harmful HR behaviors, (u). Creating a good climate for growth, (v). Train human resources to adapt to change, (w). Train human resources to be able to handle conflict so as to avoid stress and work pressure.

Talking about good training requirements, Hasibuan (2016:74) explains that the aspect of instructor competency is the main one. The training instructor is different from a school teacher or lecturer on campus, because the participants he trains are adults who already have work experience as well. Therefore the training instructor should consider the following factors:

a. Teaching Skills

A trainer must have the skills to educate or teach, guide, provide instructions, and transfer knowledge to development participants.

b. Communication Skills

A trainer must have the ability to communicate, both verbally and in writing effectively.

c. Personality Authority

A trainer must have authority over development participants.

d. Social Skills

A trainer must have expertise in the social field so that the trust and loyalty of the development participants is guaranteed.

e. Technical Competent

A trainer must have technical ability, theoretical skills, and be agile in making a decision.

f. Emotional Stability

A trainer may not be prejudiced against his students, may not be quick-tempered, has a fatherly nature, is open, does not hold grudges and provides objective values.

Meanwhile Sofyandi in Noviantoro (2009:39), sees an effective training program from different dimensions which are measured through: a. Training materials. Is the content of the training program relevant to the needs of employees. b. Training Methods. Are the training methods applied according to the participants and the participants' learning styles. c. Instructor Behavior and Skills. Does the instructor have an attitude that can motivate trainees. d. Training duration. Is the training time too long or too short. e. Training Facility. Can the place where the training is held be controlled by the instructor and is it relevant to the type of training.

RESEARCH METHODOLOGY

This is a qualitative research with a phenomenological approach. According to Polkinghorne (Creswell, 1998) phenomenological studies describe the meaning of a life experience for some people about a concept or phenomenon. People who are involved in dealing with a phenomenon explore the structure of consciousness of human life experience. Phenomenology comes from the word 'phenomenon' which means the appearance of an object, event or condition in the perception of an individual. Phenomenology uses direct experience as a way of understanding the world.

Littlejohn (2003) suggests that phenomenology is the study of knowledge based on human consciousness. In phenomenology, one can learn how to understand an event, symptom or object by consciously experiencing it. While Creswell (2014) phenomenological approach is used to develop understanding or explain the meaning of an event experienced by a person or group. In line with Creswell's opinion, phenomenology is also used to reveal a meaning from individual events or experiences. The meaning contained in it depends on the individual's relationship with the events experienced (Edgar and Sedwick, in Hasbiansyah, 2008). Researchers use a phenomenological approach, because in this study, researchers will explore the experiences of the informants in running their SMEs, and how their experiences were when they attended training or socialization related to the application of Artificial Intelligence (AI) in their business.

Stake explained that researchers must be in accordance with the path of research questions in order to find appropriate instruments to find answers to research questions (Stake, 1995, p. 68). In this study, the data collection technique used by researchers was in-depth interviews. Stake (1995, p. 65) explains that in-depth interviews are not to get 'yes' or 'no' answers, but rather descriptions, relationships, and explanations. Therefore, the researcher prepared a number of questions but these questions were not rigid in nature. In conducting interviews researchers need to listen more while noting important points.

In the interview process, the researcher needs to keep a recording of the interview (Stake, 1995, p. 66). Researchers conducted interviews with 20 MSME managers who had been running businesses in various fields such as culinary, fashion, cosmetics, kitchen utensils, hobbies, health products etc. The 20 MSMEs interviewed consisted of MSMEs from East Java, Central Java, West Sumatra, South Kalimantan, Bali, NTB, NTT, Maluku, Papua, to explore their experiences in participating in Artificial Intelligence (AI) training both held by the government and marketplaces. E-commerce, such as Shopee, Lazada, Bukalapak, Tokopedia, or Blibli. In addition, the researchers also conducted interviews with representatives from the marketplace aimed at obtaining information whether the Artificial Intelligence (AI) training provided had been able to reach MSMEs in villages, and whether assistance was provided after the training.

Meanwhile, data analysis was carried out using the theory of Miles and Huberman (1992) which states that data analysis consists of the following stages:

1. Data collection

In this case the researcher collected research data in the form of interviews, observations and documentation in the field objectively.

2. Data reduction

Reducing data means summarizing, choosing the main things, focusing on the important things, looking for themes and patterns (Sugiyono, 2008: 247). Data reduction takes place continuously during the qualitative project until the report is compiled (Miles and Huberman, 1992:16).

3. Data Presentation

The next most important flow of data analysis is data presentation. Presentation of data is a set of structured information that provides the possibility of drawing conclusions and taking action (Miles and Hubberman, 1992:18).

4. Drawing conclusions or verification

As for what is meant by data verification is an attempt to find, test, re-check or understand the meaning or significance, regularity, patterns, explanations, flow, causation, or prepositions. While conclusions can be in the form of a description or description of an object that was previously dim or dark so that after being examined it becomes clear, it can be in the form of causal or interactive relationships, hypotheses or theories (Sugiyono, 2008: 253)

RESULT AND DISCUSSION

From interviews by researchers with MSME managers, information was obtained that training activities related to Artificial Intelligence (AI) or Marketing Digitalization had already been carried out by the government, namely the Ministry of Information and Informatics, the Ministry of Tourism and Creative Economy, the Ministry of Cooperatives and SMEs. However, at that time the training was considered ineffective, so the results of the training that had been attended could not be seen.

"The training held by the government is not optimal. The instructors who provide the material are ASNs who work at the Ministry of Communication and Informatics, and are not professional trainers, so they are not able to present the material clearly, and the methods are not very attractive. Even at that time I didn't understand what learning Artificial Intelligence (AI) was for. After the training was finished, there was no mentoring program for the participants, so there was no follow-up from this program." (RU- Culinary MSME Manager-Kediri)

"I have attended training held by the government twice. But I still don't understand what technology is, what it's for, what it has to do with my business. During the training, the instructor only gave lectures, there was no opportunity to discuss with fellow MSME managers. In addition, instructors who provide material are not able to motivate participants, and the facilities are also limited, there are no teaching aids or successful visits to MSMEs, so that they can become a role model for MSME managers who are just starting out." (EN- Culinary UMKM Manager – South Kalimantan)

This is in line with the opinion of Hasibuan (2016: 74) and Sofyandi in Noviantoro (2009: 39) that effective training can be measured from the Training Material (Training Content), namely, whether the content of the training program is relevant and in line with training needs is up to date, whether the training method is suitable for the participants, what is the attitude of the instructor/trainer, how are the training facilities, and how long is the training time. However, after the government collaborated with several large marketplaces in Indonesia, the quality of AI training has become much better.

"I have attended training related to AI twice. The first is held by the government, namely Kominfo, and the second by Blibli. It turns out that the training is very much different. The training held directly by Blibli is more interesting, and clearer because it is delivered directly by professional trainers and not only in-class training but there are visits to MSME as pilots. There are Group Discussions that allow participants to share experiences. Blibli has also prepared MSME Assistance Teams in various regions. In addition, for training participants, Blibli also provides facilities in the form of free

packaging design and printing, there are many other facilities. Blibli has also opened online training from Blibli University for sellers, so they can learn from every existing agenda." (AR – MSME Fashion Manager, NTB)

This is in line with what was said by Rivai and Sagala (2011: 217), that some of the objectives of the training are to help participants adapt to change, create a good climate for growth and from the training it is also hoped that participants can learn from each other or share experiences. Meanwhile the results of interviews with researchers with representatives from the marketplace can be seen in the following table.

**Table 1
AI Training Model from Marketplace for MSMEs**

No	Marketplace	Training Model
1.	Lazada	Digital Marketing Training through the MSME Foster Sister Program (KAU). Foster Sister must adopt at least 3 MSMEs to continue to be fostered until they enter the platform and continue to be accompanied in terms of sales and marketing. Lazada also prepares Digital Marketing Assistants.
2.	Blibli	Blibli provides training and capital facilities through the Blibli Big Star event to advance local MSMEs, through the Foster Brother Program (KAU). In Central Java, training has been carried out 50 times with 1,500 MSMEs, supported by the City Government, Regency Government, Associations, and others. Type of training provided: a. Marketing Digitalization b. Financial Governance
3.	Tokopedia	Tokopedia has a number of assistance programs for business activists in order to help them continue to grow and become hosts in their own country. Not only that, Tokopedia also collaborates with various related parties so that more MSME players undergo digital transformation. Tokopedia empowers MSMEs with digital training. Classes that have been held offline are in the Yogyakarta, Semarang, Palembang and Manado areas and online classes are open for the Greater Jakarta area, West Java, Lampung and East Java.
4.	Bukalapak	Bukalapak and Microsoft are collaborating to increase digital literacy and increase the capability of using technology among MSME players through a digital training program entitled "Digital Learning with Bukalapak and Microsoft". The digital training provided covers topics from using a computer, communicating online, to creating digital content, collaborating with managing content digitally, and using technology safely and responsibly.
5.	Shopee	Shopee established the Shopee UMKM Campus to provide facilities for MSME actors in developing their business by starting to sell online. Currently there are 10 Shopee UMKM Campuses located in Solo, Bandung, Semarang, Jakarta, Yogyakarta, Medan, Malang, Makassar, Samarinda, Bali. Shopee Campus Services: 1. Education for MSMEs

		<p>The main services provided by the Shopee UMKM Campus with a curriculum include: Module 1: Shop Creation and Setup on Shopee</p> <ol style="list-style-type: none"> 1. Module 2: Shipping Arrangements and How Orders are Processed 2. Module 3: Promotional Feature Settings 3. Module 4: Penalty Points 4. Module 5: Shopee Export Program and Promotional Features to Increase Sales (Flash Sale, Discount Packages, and Other Features) 5. Module 6: Understanding Seller Center and Optimizing Further Store Management 6. Module 7: Increasing Store Traffic with Shopee Ads 7. Module 8: Maximizing Traffic through Shopee Live and Shopee Video 8. Module 9: Preparation for Export <p>2. Business Adviser for MSMEs The Shopee Campus presents business adviser, namely Shopee Trainers and Customer Service Teams to support and provide education and advice for MSME players so they can continue to improve their business performance. MSME players who have joined will get direct business assistance from the Customer Service Team to Shopee Trainers who provide online selling knowledge and training. Get facilities to support sales, such as photo/livestream studios. Expanding connections with other MSME actors.</p>
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When viewed from the 5 existing E-commerce platforms, Shopee is the E-Commerce that is most ready to contribute to educating the public by establishing a Shopee Vocational campus. Shopee is also an E-commerce marketplace that uses the most complete AI technology compared to other platforms. Currently AI training has not reached all regions in Indonesia, for this reason the government is expected to continue to work together by embracing the E-commerce platform so that the training held is of higher quality and can reach all levels of society.

CONCLUSION

From the results of data analysis, the researcher can conclude that AI training is very important to be given to MSME managers, so that MSMEs can develop in Indonesia. The government has carried out AI training for MSMEs but the results have not been optimal. This is due to the training method which is only in the form of one-way lectures, the lack of facilities such as visual aids, the absence of Group Discussions (FGD), and trainers who are unable to create a dynamic and interactive class atmosphere.

This is very different from the trainings held by e-commerce platforms, namely Lazada, Tokopedia, Bukalapak, Bibli and Shopee which are much more interesting and effective. Apart from being delivered by professional trainers, complete training facilities and a variety of interactive methods keep participants from getting bored and keep the class atmosphere dynamic. Of the 5 E-commerce platforms that have provided AI training to MSMEs, only Shopee has set

up training centers in the form of Shopee Campuses which currently exist in 10 major cities in Indonesia, namely Makassar, Solo, Bandung, Semarang, Jakarta, Yogyakarta, Medan, Malang, Samarinda, and Bali. However, another E-commerce platform, namely Blibli, has also created Blibli University, which contains information and online discussion forums between sellers. This shows that the E-commerce platform in Indonesia has concern for the progress of MSMEs. Collaboration between government and E-commerce platforms will result in quality training. For further research, the researcher suggests conducting research related to AI training for MSMEs in Central and Eastern Indonesia with a different approach.

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