

MSME Human Capital to Build Sustainable MSMEs in the Industry Era 5.0 (Case Study of MSMEs in Klojen Market)

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ABSTRACT

Objective: As the Industry 5.0 era develops, MSMEs must concentrate on developing human resources as the primary driver of company in addition to using technology. In order to support MSMEs' aspirations in the era of Industry 5.0, this study will examine the human capital model of MSME actors in Klojen Market, Malang City. **Method:** The study employs a qualitative descriptive methodology, gathering data through documentation, interviews, and observation. MSME actors, market managers, and academics who were purposefully chosen served as research informants. The stages of data reduction, data presentation, and conclusion drawing were used in the data analysis process, together with source and technique triangulation for data validity assessment. **Results:** The study findings show that the four main indicators of human capital of MSMEs in Klojen Market are experience, expertise, behavior, and skills. Building MSME flexibility and resilience to market shifts and crises begins with business experience. Improving transaction efficiency and company competitiveness is influenced by expertise and skills, especially digital skills such as the use of social media and QRIS. Maintaining social connections with clients and acting in a friendly and communicative manner are examples of human-centricity, which is consistent with the characteristics of Industry 5.0. Furthermore, human capital drives sustainability and resilience through business hygiene, environmental awareness, and adaptability. **Novelty:** According to the study findings, the sustainability of MSMEs in the Industry 5.0 era is highly dependent on the quality of their human capital.

INTRODUCTION

The industrial revolution has changed significantly over time. Industry 4.0 initially focused on the integration of digital technologies and automation. But as technology develops, the idea of Industry 4.0 has changed to Industry 5.0, which includes the integration of digital technology with the real and human environment [1]. Today, technology not only enables the automation of human work, but also allows humans and machines to work together more closely. Examples of technologies that collaborate to build more adaptive, responsive, and human-supporting systems include cloud computing, artificial intelligence (AI), and the Internet of Things (IoT) [2]. The growth of Industry 5.0 also affects MSMEs. Due to the fierce competition, MSMEs must run their companies as effectively and efficiently as possible, creating goods and services that meet consumer demands and higher quality standards than their competitors, including relevant to the current stage of Industry 5.0 [3]



Figure 1. Number of MSMEs in Indonesia 2024

According to data from the Ministry of Micro, Small, and Medium Enterprises (MSMEs), there are around 30 million MSME units registered in Indonesia until December 2024. However, this figure does not include MSMEs from the government, services, agriculture, and other commercial sectors [4]. Given the large number of MSMEs in Indonesia, it is clear that MSMEs are very important for the country's economy. MSMEs have a major impact on employment, GDP, exports, and the formation of fixed capital, or investment [5]. However, integrating digital technology into their operations is still a challenge for many small and medium enterprises (MSMEs). Maintaining a balance with today's consumers, who are still considered inadequate, is one of the difficulties faced by MSMEs in Indonesia today [6]. One of the reasons is that MSMEs in the Industry 5.0 era are considered to have insufficient human capital. However, to develop production capacity and ultimately gain a competitive advantage, MSMEs must optimize and increase the use of their knowledge [7]. *Human Capital* MSMEs include managerial, social, and technical skills. It is also important to increase competitiveness and productivity [8].

One of the intangible assets that will determine the long-term sustainability of MSMEs is human capital. Investing in people generates human capital. The name comes from the direct correlation between the assets invested in the person and the return on investment in the *Human Capital* [9]. In the framework of Industry 5.0, human resources are needed who are able to keep up with technological developments and understand the importance of company sustainability from a social, economic, and environmental perspective.

In a local context, such as the MSME community in Klojen Market, Malang City, this behavior can be experienced directly. Because of the variety of interesting and contemporary foods, Klojen Market, a traditional market with strong economic activity, attracts young people to culinary tourism. In contrast to the regular market which mostly sells raw goods, there are more vendors here offering cooked dishes and popular snacks [10]. To meet the needs of modernization and sustainability in the Industry 5.0 era, MSMEs in this market must adapt to complex challenges. Technological capabilities,

social responsibility, resource efficiency, and environmental awareness are some of these challenges. Shifting consumer generations, business digitalization, and changing customer tastes are the main forces behind this shift. According to the researchers' initial findings, a number of MSMEs in Klojen Market have begun to adjust to the latest advances by using the platform *online* for transactions or *Basic Digital Marketing*. To prepare for the Industry 5.0 era, it is important to learn more about how MSMEs in this region develop, use, and shape the human resources of MSME actors.

Human Capital has an impact on the performance of MSMEs, according to previous studies on the subject. By using *Software SPSS* as a data analysis tool, this study uses a quantitative methodology. MSMEs in South Sumatra province provide data. The human capital hypothesis, which states that investment in humans generates human capital, was applied in this study. It is so named because it is impossible to separate the assets invested in the human being from the results of the investment in the *Human Capital* [9]. Additional research uses quantitative methods such as PLS for data analysis to investigate the impact of the *Human Capital* to the performance of MSMEs. The findings of the study show that the performance of MSMEs is positively influenced by *Human Capital* [11]. Another study also used quantitative methods, but focused on handicraft MSMEs in Purworejo Regency and used proportional stratified random sampling. The findings show that the performance of MSMEs is positively influenced by human capital [12]. Finally, studies on the function of human capital in MSMEs are available. MSMEs in Bali were used as a sample for this study, which used a qualitative method. The results of the study show that the success of MSMEs in Bali is positively correlated with human capital [13].

Research Questions

1. What is the *human capital model* of MSME actors in the Klojen Market in Malang in the Industrial 5.0 era?
2. How does the role of *MSME human capital* in the Klojen Market in Malang help the sustainability of MSMEs in the Industry 5.0 era?

SDG'S Categories

Based on the existing introduction and problem formulation, this study is focused on *the sustainable development goals* of the economic development pillar which includes point 8, namely decent work and economic growth.

Literature Review

Human Capital

Two fundamental terms "*Stuart*" and "*Capital*" Forming a Term "*Human Capital*." The factors of production that are used to create a commodity or service without being used throughout the manufacturing process are called capital. Therefore, human beings are human capital just as technology and equipment are types of capital. Humans are involved in every aspect of economic activity, including production, consumption, and transactions[14]. Theory *Human Capital* or also known as "*Human Capital*", emphasizing how education can improve employee efficiency and productivity through increasing the cognitive share of the productive economy of human ability. Investment in humans is resulting in this increase [15]. A person's knowledge, ability, inventiveness, and ability to

complete certain tasks combine to form *Human Capital*, which can be used to achieve goals. The added value created by *Human Capital* while carrying out tasks and work will help the profitability of the organization in the future.

Human Capital in MSMEs

Like any other important asset, *Human Capital*, which is considered the main asset of an organization or business, needs to be developed.[16]. Early abilities, both natural and acquired, and skills learned through formal education or on-the-job training are the two main components *Human Capital* which have significantly complementary [17]. Currently, the progress of MSMEs is influenced by *Human Capital*. This is because *Human Capital* can assist MSMEs in making strategic business decisions by offering knowledge on various topics, including markets and technology [18]. There are four indicators *Human Capital* used in this study are [12] :

1. Experience
2. Expertise
3. behavior
4. Skills

MSMEs in the Industrial Era 5.0

The three main indicators of Industry 5.0 are resilience, sustainability, and human-centered [19], These three indicators can be adjusted in the MSME process as follows:

1) *Human-Centricity*

In this context, *human-centricity* refers to placing humans at the center of a company's operations. The goal of technology is to support small and medium-sized enterprises (MSMEs), not to replace social contact or innovation. The use of QRIS in payment transactions, which is intended to facilitate transactions for MSMEs, is one example. Nevertheless, MSME store owners still welcome customers, ask for menus, and guarantee direct transactions.

2) *Sustainability*

Sustainability in MSMEs is characterized by consideration of social and environmental impacts in addition to the search for profit. MSMEs prioritize waste control, environmentally friendly materials, and sustainable production methods. In addition to preserving the environment, it is very important to improve the reputation and competitiveness of the business in the eyes of customers who are increasingly aware of environmental issues [20]. Culinary MSMEs, for example, package their products in packaging that can be degraded naturally.

3) *Resilience*

The ability of MSMEs to adapt in dealing with disasters is known as *Resilience* or durability [21]. Usage *E-commerce* In the post-pandemic era is one example, as many customers now place orders online instead of in person.

RESEARCH METHOD

A descriptive qualitative method was used in the collection and analysis of data in this study. Descriptive qualitative research uses hands-on interviews to explain previous findings [22]. Qualitative descriptive research focuses on answering research questions about who, what, where, and how an event occurred until it is studied extensively to find developing patterns [23].

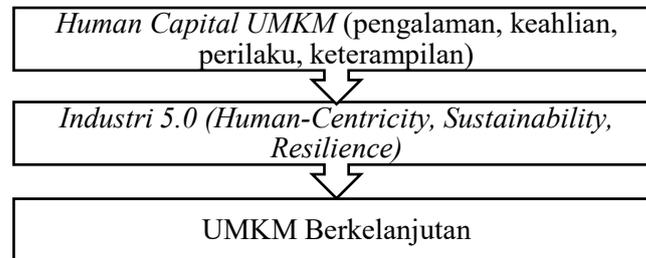


Figure 1. Research Flow Diagram

The conceptual basis for this research will be discussed next. The relationship between ideas or variables that are considered relevant to the study is represented visually or narratively in a conceptual framework [24]. It serves as a guide that directs the focus and direction of the research. The correlation between the variables in this study is illustrated in the image above, which will direct the researcher in that direction.

In this study, data will be taken on MSMEs in Klojen Market in Malang. Klojen Market itself is one of the traditional markets in the city of Malang, precisely located at Jl. Cokroaminoto, Kel. Klojen, Kec. This market was built in 1934 and renovated by the Malang city government in 2018. Klojen Market itself has around 317 traders with various types of businesses. In this market, it is assumed that technology has begun to be used to support sustainable MSMEs in Industry 5.0 such as the use of Qris, E-Commerce and so on.

Observations, interviews, and documentation of relevant data sources by researchers provide most of the research data. Data collected directly from primary sources is referred to as primary data [25]. The researchers interviewed relevant informants, who were considered primary sources, to collect research data. In addition, based on the informant's answers, the researcher can change the topic or direction of the discussion during the interview. This allows researchers to collect more specific and in-depth data [26]. To determine the exact location of the research and obtain information outside of the interview, the researchers also made observations. To understand the context, observation has three distinct objectives: interpretation based on field data, interactive interpretation, and objective [27]. Documentation is third. Each research procedure is recorded as evidence of its reliability. To complement the primary data, secondary data is also collected. Secondary data for this study were collected from leading books and journals published in the last ten years.

Accurate data collection is essential for research. A data validity test is required to demonstrate the accuracy of this data. Confidence in the accuracy of research findings

from the perspective of the researcher, participant, or reader is the basis for validity. The triangulation technique is used for validation tests in qualitative research. The researchers used two different forms of triangulation in the study:

1. Triangulation Source

The technique of using multiple data sources to assess the correctness of data is known as source triangulation. One way to test the validity of the data in this study is through interviews. Researchers will consult additional sources in the hope that their perspectives can shed light on the main questions of this study.

2. Triangulation Technique

In contrast to source triangulation, technical triangulation analyzes and verifies data from the same source using several techniques to determine the authenticity of the data. To obtain results in this regard, the researcher can combine observation, interview, and documentation techniques [28].

From data collection to drawing conclusions and generating information, data analysis techniques are a multi-phase data processing process. Data analysis during data collection, according to Miles and Huberman, encourages researchers to consider existing data and develop a plan to collect additional data. The three lines of data analysis according to Miles and Hubner are [29] :

- 1) Data reduction

The main purpose of this selection process is to simplify, abstract, and transform the raw data from the written field record. Coding, categorization, theme tracking, and summarizing are some of the methods to reduce data.

- 2) Data presentation

It is the process of compiling a data set to draw conclusions and take appropriate action. Qualitative data can be presented using narrative language in addition to grids, graphs, networks, and charts.

- 3) Conclusion or verification

During the fieldwork, the researcher conducted this research continuously. This research includes the search for significance from the beginning of data collection, noting the regularity of the pattern (in the theoretical record), explanations, possible configurations, and causal processes.

RESULTS AND DISCUSSION

Research Results

Seven informants consisting of four MSMEs in Klojen Market, Malang City, one market manager, and one academic were used in the findings of this study. Based on personal experience and working independently, the four informants are MSMEs with micro business characteristics in the food industry. The speakers were deliberately selected based on their direct participation in business operations and their relevance to the research emphasis on MSME human capital in promoting business sustainability in the Industry 5.0 era.

Experience

The results of interviews with MSME actors show that business experience has an important role in dealing with market dynamics such as business competition, changes in consumer tastes, and sales fluctuations. This experience was gained through a direct learning process while running a business where the speakers had sales experience of about 4 months to 3 years, including about managing production, adjusting prices, and determining sales strategies. This can be seen from the example of an answer from one of the speakers *"The biggest challenge is to keep the texture of cireng crispy but not hard, and adjust the price to the purchasing power of market buyers"* [30].

The manager of the Klojen Market supports this view by stating that the MSME actors in the market have expertise in dealing with change, especially in terms of consumers. *"If the change is clearly very felt, yes, the current consumers prioritize practicality, let alone payment. We see that this change must be an opportunity for traders to develop, not a threat."* [31] From these answers, it can be seen that consumer changes, especially in terms of how payment choices are seen by merchants as one of the factors for MSMEs to develop.

Meanwhile, academics emphasized that experience is one of the main components of human capital that contributes significantly to business sustainability. *"An experience of MSMEs, right? It has a huge impact. Moreover, he works on one of the same activities in the next. For example, I became a weaver, yes, then I moved to a welder. Now experience is very important. Unless the weaver continues to move to a welder, he will have no experience. However, there are two kinds of experiences. There is skill experience, there is organizational experience. That skill is based on that, the organizer is managing people. Later he will have been a group leader or head of any group, anyway his head, then that experience can be channeled in future work. That was the organizational side, organizational skills that are very important."* [32]. From the answer, it is understood that experience not only includes technical aspects, but also organizational experience in managing businesses and making decisions. Thus, the results of the triangulation show that there is a compatibility of views between sources that business experience plays an important role in shaping the resilience and sustainability of MSMEs in the Industry 5.0 era.

Expertise

Based on the results of the interviews, MSME actors said that they had participated in various business trainings. As expressed by one of the speakers, *"Ever, but not routinely. It has been training from the market"* However, MSME actors also admit that their expertise still needs to be improved. *"If now the most needed expertise is business management, look at market changes."*

The market management confirmed that the training program for MSMEs has indeed been carried out in collaboration with related agencies, although its implementation has not been routine and sustainable. *"There is, usually we collaborate with the relevant agencies. which was once business management training and the introduction of digital payments"* training that is not routinely obtained by MSMEs can cause an uneven increase in MSME skills across traders.

From the perspective of academics, expertise is seen as a form of human capital investment that functions to increase competitiveness. One of them was obtained from training. However, academics said that even though training was held for all MSMEs, the output they received was not necessarily the same.

"But there are also people who participate in the training just to participate, so the results of the training are not so. But logically, the training improves, yes, improves his skills. Well, we should be able to see the evidence of the training after he has been trained, at his workplace, has he improved? If I train a computerist, oh I train computers. But after I get home, I don't use the computer, I can't. So the training is immediately used, meaning be ready to show improvement, oh I can't now, it's just that you can't have software. Training to enter data on one platform, this is not yet possible, trained can, to reach the company, because you are all financially in the platform. Well, if he really has the desire to increase his potential, he must be able to do it immediately, so he needs that training."

From these answers, it can be seen that the seriousness of MSME actors in participating in training is also a factor in whether training is important to improve skills and have a role for MSMEs.

Therefore, the results of the triangulation show the alignment between field findings and academic perspectives that expertise has a role in improving MSMEs, one of which is through training. However, with a special note that the individual desires of MSME actors in participating in training must also be a concern.

Behavior

From the results of the interviews that have been conducted, MSME actors prioritize business behavior that reflects friendly and communicative service to customers. As stated by one of the speakers *"friendly, quickly and also explaining our products to customers who come"* This behavior is considered to be able to build trust and encourage repurchases. There is also an aspect that merchants maintain in order to take care of their customers, namely giving some kind of bonus and also maintaining quality *"I keep the taste the same and often give additional chili sauce as a bonus"*. In addition, social relations between traders are also maintained through mutual help and maintaining the market environment as stated by one of the speakers *"If we go to other traders, we keep each other clean of trading locations and just give each other information"*.

This view is in line with the statement of the market manager who emphasized that trading ethics, discipline, and social interaction are important aspects in creating an orderly and comfortable market atmosphere for consumers. *"There are usually related to politeness, not forcing buyers, and maintaining the cleanliness of the stalls. We always remind that good service also produces good results."*

From the academic side, they view service as one of the human capital that contributes directly to business sustainability. Positive behavior in service and social relations is considered to be able to create customer loyalty and has a good role for MSMEs, of course *"Yes, the service is this, the service has 2 yes, there is a service of the nature that is that there is no need to meet the person, the service meets the person. There are 2 of those. Now buying something, it's meeting the person, so there must be contact. Now I need service, I*

need rice, get rice, well that's okay. So what kind of service is needed, that is, the service that the person needs attention from us, attention from us, which can improve social relations with them. And the social relationship is so that he is contacted, talked to, finally he can repeat the order."

With this, triangulation shows the consistency of views between sources that this business behavior is an important element in the sustainability of MSMEs.

Skills

The results of the interviews show that most MSME actors have utilized digital technology, such as QRIS and simple social media for promotion. As can be seen from one of the speakers *"Yes, I use WhatsApp and Instagram for promotion" "if I can do QRIS"* However, the use of this technology is still not fully optimal, as evidenced by one of the speakers who is less active in introducing his products in this case is through social media. *"It is not very active. I only use WhatsApp to receive orders from regular customers"*

Market administrators state that the use of digital payments has been actively encouraged and most merchants have adopted it, despite differences in the level of mastery of technology between merchants. *"Yes, we encourage the use of digital technology. Currently, almost all traders have used QRIS because it facilitates transactions" "The capabilities are diverse. Younger traders usually adapt quickly, while senior traders must have assistance. But in general, the development is quite good, I think."*

Academics also emphasized that digital skills are a key competency for MSMEs in facing the transformation of Industry 5.0. *"Actually, it has to be. Now digital is now inevitable. The simplest example is the payment system. The payment system is many, sometimes the calculation is wrong, like that, I don't get it wrong, then the payment is less but we don't care, it can be like that. If it's digital on Qris, it will definitely fit, and we can check it directly. So that the money, whatever it is, can be calculated in real time, how much can be obtained in one day and how much. But if you don't use it, the manual system will pay you for it. So that the payment system has now begun to be used"* from what academics say shows that digital skills can increase efficiency, transparency, and customer expansion. Thus, the results of the triangulation show the compatibility between field practice and the academic view that digital skills are an important part of strengthening the human capital of MSMEs even though there are still MSMEs that are lagging behind in terms of digital skills from other MSMEs.

Human-Centricity

MSME actors stated that even though technology has been used in the transaction process, they still maintain direct interaction with customers through communication, greetings, and personal service. *"I still greet customers, ask about the level of spiciness, and say thank you after the transaction"* These interactions are considered a major strength, especially in traditional markets.

Market administrators also emphasized that technology only serves as an aid, while the hallmark of the market remains in the human relationship between traders and buyers *"We always emphasize that technology is a tool. Direct contact such as greetings, smiles, and communication remain the characteristics of the klojen market that must exist"*.

This view is in line with the perspective of academics who state that Industry 5.0 emphasizes balance and precision between the use of technology and the role of humans. *"But there are also those who have to use technology, such as taking notes. That's the time for technology, it's time to use it, record it in something routine. Then move things something routine from place A, place B Just use a robot, move things. Wow, there are 100 kilos of goods here, then they are taken to production, moved there. Now if we use robots, it's an automatic forklift, right, not people. So that's it. So very, in my opinion, very customize. What is customise? When we use, what is the name, the approach to technology, when we don't, so not all jobs can use technology"*. Therefore, the results of the triangulation show that the practices of Klojen Market MSMEs have reflected the principle of human-centricity on a local scale.

Sustainability

MSME actors have begun to implement the use of paper packaging and reduce the use of plastic as a form of concern for the environment. In addition, they also maintain a clean business environment and consider social aspects in trading activities. As revealed by the source *"now we use oil paper and start reducing plastic"* "We try not to throw oil carelessly and keep the sales area clean"

The market management said that educational efforts related to waste management and plastic reduction have been carried out, although the implementation is still gradual. *"We are still limited to educating traders to reduce the use of plastic and manage waste better, yes, although the implementation is still gradual."*

Academics consider that the sustainability practices carried out by klojen MSMEs are very relevant in supporting long-term sustainability and in line with the principles of Industry 5.0. as said by the narrator that *"Everything must start. It started from the beginning. It's just that the socialization can't be carried out as we want it to be"* "Well. Everything is better this way. If we want to completely eliminate it, if people are wrapped in it, this is if you bring your own paper, buy it here for 10,000 People will be surprised how expensive it is, after a long time he will reduce that habit, finally he brings his own. The customer must be habituated. He can't do it every once in a while. For example, this is just a straw. Straws have also been crowded, it's just like that". Thus, the results of triangulation show that there is a compatibility between field practice and the theoretical framework of sustainability

Resilience

MSME actors explained that they are adapting their business and post-pandemic through the use of online orders, takeaway systems, and production adjustments. This strategy helps businesses survive in the midst of crisis conditions *"We encourage traders to maintain cleanliness, not harm the surrounding environment, and build social concern between traders"*.

From the results of the interview with the resource person, namely the management, it can be seen that *"During the pandemic, we provided leash relief, helped coordinate assistance from the government, and encouraged traders to serve takeaway purchases."* Market administrators also play a role in supporting the resilience of traders through the policy of levy relaxation and facilitation of assistance

Academics view the adaptation as a tangible form of MSME resilience, which reflects the ability to survive and transform in the face of change. "One of the disasters that can help us to adapt from things we don't expect. So you don't have to meet, you don't have to go away, right, because covid is right, it's enough to be sent and all sorts of things are actually lessons. It means that there is online, zoom, it's because of covid." Therefore, the results of the triangulation show that Klojen Market MSMEs have shown business resilience in line with the character of Industry 5.0.

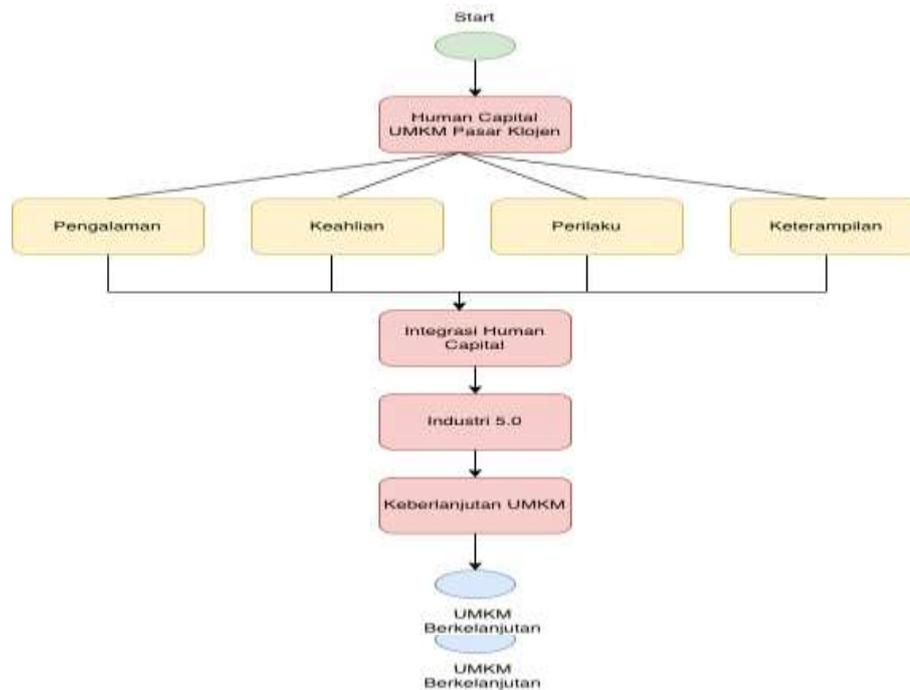


Figure 2. Human Capital Flow Chart of MSMEs in Klojen Market

Human Capital Model from MSME Actors in Klojen Market in Malang City

Based on the results of the research that has been conducted, it can be understood that *the human capital* model of MSME actors in the Klojen Market in Malang City in the Industry 5.0 era is formed through a combination of business experience, expertise, behavior and skills that develop gradually. Business experience is the main foundation in building the adaptability of MSME actors to changes in the business environment, including in facing competition, market changes and changes in consumer behavior.

The expertise of MSME actors in the Klojen market is obtained through formal training and independent learning, although the implementation is not even and still requires regular training in order to have an optimal impact on business management. Business behavior shown through friendly, communicative service and maintaining social relationships with customers and between traders is the main strength of Klojen Market MSMEs, from the results of interviews that have been conducted coupled with observations made by researchers, it can be seen that MSME actors build good interactions with customers, this indirectly forms social capital and reflects the principle of human-centricity in Industry 5.0.

On the other hand, digital skills such as the use of QRIS, social media, and non-cash payment systems are used as supporting tools to increase the efficiency and ease of transactions, but do not replace the role of humans as the main actors of the business. The integration of human values, technological adaptation, and the ability to survive and transform post-pandemic shows that the human capital model of Klojen Market MSMEs is in accordance with the theory [12] About indicators from human capital. From this study, it can also be seen that the human capital of MSMEs in the klojen market is adaptive and sustainability-oriented, so that it is able to support the existence and sustainability of businesses in the midst of the demands of the Industry 5.0 era.

The Role of MSME Human Capital in the Klojen Market in Malang City Helps the Sustainability of MSMEs

Based on the results of the research that has been conducted, human capital has a strategic role in helping the sustainability of MSMEs in the Klojen Market in Malang City in the Industry 5.0 era. Human capital not only functions as a work resource, but is also the main factor that determines the ability of MSMEs to maintain business existence, adapt to change, and build long-term competitiveness. The findings of the study show that the sustainability of MSMEs in Klojen Market is greatly influenced by the quality of experience, expertise, behavior, and skills possessed by business actors. Human capital, according to what is stated by academics, must be considered as an asset that is valuable to individual MSMEs. This is also in accordance with the theory [16] that *Human Capital*, which is considered the main asset of an organization or company, should be built and developed like any other valuable asset.

The ability of MSMEs to adapt to market shifts is a clear indication of the importance of company experience. MSMEs are better able to manage production strategies, understand consumer characteristics, and make appropriate assessments thanks to the experience gained through practical learning while running a company. Maintaining a company's stability relies heavily on this experience, especially when facing unpredictable circumstances such as shifting market trends and post-pandemic crises. As a result, experience is a valuable tool for developing company resilience, which is an essential component of Industry 5.0.

In addition to experience, the competence of MSMEs also contributes to the sustainability of their business. Although not evenly distributed, research shows that the skills and expertise of MSMEs have improved product quality, packaging, and a fundamental understanding of business administration. MSMEs are driven by this experience to increase the added value of products and maintain customer trust. However, research also shows that if skills development is carried out in a sustainable and organized manner, especially in the field of digital management and marketing, the sustainability of MSMEs will be more ideal.

Another important factor in promoting the sustainability of MSMEs is business behavior. MSMEs in Klojen Market always provide friendly, honest, and open services to consumers. The enduring emotional bond and trust between the company and the customer is fostered by this behavior. This business practice exemplifies the

implementation of the concept of human-centricity within the framework of Industry 5.0, which places people at the center of economic activity. In this context, sustainability is defined not only by technology but also by the quality of human interaction.

The sustainability of MSMEs is also supported by digital skills, especially in terms of increasing the ease and efficiency of transactions. The use of social media and QRIS by MSMEs facilitates faster and more convenient transactions, and is in line with the desires of contemporary consumers. These digital skills allow MSMEs to remain competitive in the face of technological changes and expand their market reach, while still being easy to use. This shows that technology is used in the Industry 5.0 era as a tool to help sustainability, not as a substitute for human resources.

In addition, the results of the triangulation show that sustainability awareness has begun to be implemented by MSMEs such as using environmentally friendly packaging, maintaining business cleanliness, and fostering positive social relationships between vendors also reflect the role of human capital. These actions show that the sustainability of MSMEs includes social and environmental components in addition to economic sustainability. The integration between human values, technological adaptation, and concern for the environment reflects the main character of Industry 5.0 which emphasizes the balance between economic growth and sustainability.

Thus, the role of MSME human capital in the Klojen Market in Malang City in supporting business sustainability in the Industry 5.0 era can be understood as a role that includes adaptability, improving business quality, strengthening social relations, humanizing the use of technology, and forming long-term resilience and sustainability as mentioned in the theory [19]. The positive thing about human capital from MSMEs is that it is in accordance with previous research with quantitative methods that show that human capital has a positive influence on the sustainability of MSMEs [11]. These findings confirm that the sustainability of MSMEs is not solely determined by financial capital or technology factors, but is highly dependent on human quality as the main actor in the business process.

CONCLUSION

Fundamental Finding: Based on the results of the research, it can be concluded that human capital has a strategic role in building the sustainability of MSMEs in the Klojen Market of Malang City in the Industry 5.0 era. The human capital of MSME actors is formed through experience, expertise, behavior, and skills that are integrated into each other in business activities. Business experience is the basis for adaptability to market changes, while expertise and skills including digital skills support the improvement of efficiency, service quality, and competitiveness of MSMEs. In addition, friendly, communicative, and socially connection-oriented business behavior reflects the application of the principle of human-centricity, where humans remain at the center of economic activity even though technology is used as a supporting tool. Human capital also plays a role in encouraging sustainability and resilience through environmental awareness, business cleanliness, and the ability to survive and adapt to crises. From this study, it was also found that Klojen Market MSMEs have a human tech balance, namely integrating technology with MSME resources themselves which can be useful for the

continuation of MSMEs, further ecological things are also found as evidenced by their concern for the surrounding environment. Therefore, it can be concluded that the human capital of the Klojen Market in Malang City is fulfilled for sustainable MSMEs in the Industry 5.0 era. **Implication:** The theoretical implications of this study show that, in the context of Industry 5.0, increasing the competitiveness and sustainability of MSMEs requires a strategic focus on human capital. By highlighting how the knowledge, skills, experience, and affective attitudes of MSME actors affect not only the company's performance but also their capacity to adapt to market and technological changes, this study can enhance research on human resource management. Theoretically, this study expands the MSME human capital model, emphasizing experience as an important component in promoting sustainable MSMEs in accordance with the characteristics of Industry 5.0. Therefore, a new conceptual model that combines human capital and the sustainability of MSME companies in the Industry 5.0 era can be developed based on the findings of this study. The practical implications of this study include recommendations to improve the quality of MSMEs through human capital, by emphasizing experience, and strengthening soft skills such as creativity, leadership, and decision-making through training and mentoring. **Limitation:** This research can be used as a basis by governments and policymakers to create MSME empowerment initiatives that emphasize sustainable human competency development, such as ongoing training and business mentoring, in addition to capital support. **Future Research:** In the face of the competitiveness and innovation of Industry 5.0, this is very important for MSMEs to survive and develop.

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