

HOW IS THE READINESS OF HUMAN RESOURCES FOR SMALL AND MEDIUM ENTERPRISES IN THE INDUSTRY 4.0 ?

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ABSTRACT

The big leap took place in the world of entrepreneurship, especially the Micro, Small and Medium Enterprises (MSME) industrial sector, where information and communication technology was fully utilized. Not only in the production process, but also in the entire industrial value chain in order to foster contemporary digital-based business models in order to achieve high efficiency and better product quality. Initiatives and adaptations are needed with the new open and self-developed industry 4.0 standard for data exchange in connected industries. This innovation is not a science fiction item; they are the realities that must be faced in the modern modern era, regardless of their scale and size. UMKM as the owner of the "largest economic cake is able" to sustain our country's economy, because most business actors are MSMEs and are able to absorb labor. Surabaya as one of the biggest cities in Indonesia has several Culinary Centers which attract visitors to come and enjoy the dish. Human Resources (HR) are needed to be able to follow rapid growth in the industrial era 4.0 which will be able to increase the value of MSMEs they manage. In this study aims to determine the readiness of MSME Human Resources in facing industry 4.0. Managing Human Resources for MSMEs is a skill that must be possessed by MSME actors. By using the CISCO Digital Maturity Model and SWOT models, in-depth information will be obtained up to where the MSME Human Resources stepped in a digital versatile industry in the industrial era 4.0. related to the willingness of Human Resources in dealing with industry 4.0. This research requires deepening directly with resource persons. Culinary Centers located in Surabaya in order to be able to fully disclose this matter with business people at the time of observation. Determination of focus is important, so that research can lead to the desired target of knowing the readiness of MSME Human Resources in dealing with industry 4.0.

Keyword: HR, Cisco Digital Model Maturity, SWOT, MSME.

1. INTRODUCTION

The Industrial Revolution 4.0 resulted in the development of ways of thinking people, living, and relating to one another. Deep changes in the field of technology, but also other fields such as economics, social, and politics. This also affects human resources (HR), as is known HR is the backbone and success factor of the role of industry 4.0.

The development of the quality of Human Resources is very important especially because Indonesia is still lacking, let alone using the latest technology. Technological sophistication

cannot be avoided in social life, especially in the business world, and needs to be addressed in depth and on target. Because of the importance to prepare human resources who have the talent and skills to adapt to new technology.

Indonesia has quite a good ability to implement industry 4.0. There are two things that support industrial development in the industrial era 4.0, namely a large market and the number of productive human resources in line with the demographic bonus.

The era of the industrial revolution 4.0 needs serious attention so that Human Resources, especially those engaged in UMKM, can prepare themselves to answer these challenges. Competent resources are one of the main factors determining success in adapting to the industrial era 4.0, therefore improving the quality of Human Resources (HR) needs to be prioritized.

The current Indonesian government continues to boost the quality of human resources in Indonesia. The Ministry of Manpower for example continues to realize HR development programs such as apprenticeship, optimization of Job Training Centers (HR) as well as certifications that will be maximized and disseminated massively to deal with era 4.0.

The survey conducted by the Central Statistics Agency (BPS) revealed several obstacles faced by Indonesian MSMEs (based on priorities): lack of capital, marketing difficulties, intense business competition, raw material difficulties, lack of technical production knowledge and expertise, lack of managerial skills (HR) and lack of financial management knowledge and financial records (accounting).

Micro, Small and Medium Enterprises (MSME) internally still experience various obstacles in developing their business. Product marketing is still conventional, limited marketing reach, more emphasis on the validity of low prices, less attention to quality, spontaneous marketing and impressed as it is (Maro'ah, et al., 2018). One factor that plays an important role in business is Human Resources. During this time the development of Human Resources at UMKM is an effort of many parties to help the development of MSME businesses. This is mostly done through increasing knowledge in the fields of marketing, production techniques, finance. Meanwhile, the skills of SMEs themselves in the field of management, received less attention. Based on one study of MSMEs, the majority of MSMEs in Indonesia are still dominated by high school/vocational graduates (44%), undergraduate (18%), D3 (8%), and the rest below the high school.

To grow and develop, MSMEs must be able to manage both internal and external factors in their business environment. One internal factor that requires management knowledge and skills is the subject of Human Resources at MSMEs. With the emergence of the industrial era 4.0, it is necessary to have a deep adaptation in meeting the needs of Human Resources for MSMEs to be able to compete in industry 4.0 which tends to be very digital oriented. And also the need for business empowerment assistance so that management is organized, production increases and sales of snacks or foods that are characteristic of the region also increase (Mochklas & Hariri, 2019).

The specific objective of this research is to find out the readiness of the Micro and Small Medium Enterprises (MSME) in dealing with Industry 4.0. While the final target of this study. is to make Usaka Micro Small and Medium Enterprises (UMKM) have a high competitiveness in the industrial era 4.0 and can provide maximum contribution to improving the welfare of society.

2. LITERATURE REVIEW

2.1 Industrial Revolution 4.0

Klaus (Shwab, 2016) through The Fourth Industrial Revolution states that the world has experienced four stages of revolution, namely:

- a. The Industrial Revolution 1.0 occurred in the 18th century through the invention of the steam engine, thus enabling goods to be mass produced,
- b. The Industrial Revolution 2.0 occurred in the 19th to 20th centuries through the use of electricity which made production costs cheap,
- c. The Industrial Revolution 3.0 occurred around the 1970s through the use of computerization, and 4) the Industrial Revolution 4.0 itself occurred in around the 2010s through intelligence engineering and the internet of things as the backbone of the movement and connectivity of humans and machines.

The stages of the industrial revolution are as follows (Sun, 2018):

- The first Industrial Revolution took place 1750-1870 marked by mechanization, steam power and water power. Entrepreneurship focuses on creating new markets and creating work systems (on the production floor).
- The second industrial revolution took place in 1870 - 1980 marked by mass production line, assembly line & electricity. Entrepreneurship focuses on mass production and international national trade.
- The third industrial revolution that took place in 1980 - 2011 was marked by computer automation. Entrepreneurship focuses on the development of computer science, electronics and information technology, digitalisation and multi-national companies.
- The fourth industrial revolution that took place in 2011 - is now marked by cyber physical systems, the internet of things & robotics, cloud computing, cognitive computing, big data. Entrepreneurship focuses on business interconnection, smart automation, drones and others.

In the era of the 4th industrial revolution, opportunities and threats emerged. Threats in the form of job loss (termination of employment) and improved production for developed countries. Among the opportunities are product-sebasgai-service, economic sharing (collaborative), and digital services and digital exports. Anticipation of the negative impact of the industrial revolution 4.0 in the form of job loss is to encourage entrepreneurial attitudes. Thus new businesses will emerge based on the technology that developed in the 4.0 industrial revolution. Government policy needs to accommodate the growth of entrepreneurship attitudes and practices from the world of education to the world of education (Naude, 2017).

2.2 Cisco Digital Maturity Model

CISCO worked with IDC to develop a framework to help MSMEs grow, assess their current capabilities and set goals that serve to synchronize the business objectives of Micro, Small and Medium Enterprises (MSMEs) with IT needs.

Each MSME is surveyed on four dimensions of digital transformation: strategy and organization, processes and governance, technology, and people and skills. Each dimension targets something very basic, aspects of digital transformation are comprehensively assessed so

that it can help MSMEs to meet the specified targets on the journey to digital technology. Overall, the four dimensions offered by the CISCO digital maturity model provide everything that includes an approach to the challenges and success around the digital transformation of MSMEs. In this case the focus of this research is the MSME HR itself.



Figure 1. CISCO Digital Maturity Model

Based on the CISCO Digital Maturity Model approach to four dimensions, MSMEs are classified into four digital maturity stages:

- Stage 1: Digital Indicators
- Stage 2: Digital Observer
- Stage 3: Digital Challenger
- Stage 4: Digital Native

2.2 SWOT Analysis

Arnold (2008) analyzes the internal and external environment as part of strategic planning. One of the tools used is SWOT which stands for Strength (S), Weakness (W), Opportunity (O) and Threat (T).

SWOT analysis is generally used as a basic framework of corporate, product or marketing strategies by making a list of strengths, weaknesses, opportunities and challenges which will further determine the company's strategy in responding to competition, anticipating situations and achieving goals. Then Nasution (2006) in SWOT theory, environmental analysis is divided into 2:

- a. Internal environment (inside the company)
 - Strength
 - Weakness/Weakness
- b. External Environment (outside the company)
 - Opportunity/Opportunity
 - Threat /Challenge

INTERNAL FACTORS	OPPORTUNITIES	THREAT
EXTERNAL FACTORS		
STRENGTHS	QUADRANT I Support an aggressive strategy	QUADRANT II Support a diversivication Strategy
WEAKNESSES	QUADRANT III Supports a turnaround-oriented Strategy	QUADRANT IV Supports of a defensive Strategy

Figure 1. SWOT Matrix

3. RESEARCH METHODOLOGY

This type of research used in this study is qualitative research. According to Sugiyono (2014:347), qualitative research means understanding the meaning of individual and group behavior, describing social or human problems. The research process includes making research questions and procedures that are still temporary, collecting data on participant settings, inductive data analysis, building partial data into themes, and then providing interpretations of the meaning of data.

The object of research is a scientific goal to obtain data with specific goals and uses about something objective, valid, and reliable about something (Sugiyono, 2014:363). In this study, the object to be studied is the readiness of MSME HR to face industry 4.0 while the research subject used is the owner of a restaurant in the Surabaya Culinary Center. Data collection methods in this study were interviews and observations. An interview is a meeting of the two parties between the person who gives the question and the person who answers who exchanges information, so that it can be built on a particular topic.

The sampling technique used in this study is non-probability sampling with purposive sampling technique, namely the sampling technique of data sources with certain considerations (Sugiyono, 2014). The consideration or criteria used by researchers to select the resource persons in the study are the owners of each MSME at the Culinary Tourism Centers in Surabaya, which amounted to 10 participants.

Validity in qualitative research is called authenticity or authenticity, which is honest, fair, balanced, and appropriate based on the perspective of the individual or subject concerned. While reliability in qualitative research is the level of concordance between the data or the description presented by the subject and the actual condition (Hardiansyah, 2011). The validity test used in this research is the triangulation of sources, which is a technique used to test the credibility of the data by checking the data that has been obtained through several sources (Sugiyono, 2014). The reason for using source triangulation techniques, because researchers want to get the views or opinions from different sources (Grocery Store Owners, target consumers, and consumers) about the problem under study. Sugiyono (2014) also explained that the reliability test in qualitative research was conducted by dependability testing conducted

through an audit by researchers on the consistency of answers given by informants during data collection.

4. RESULTS AND DISCUSSION

4.1 Characteristics of Participants

Participants in this study were culinary MSME actors who were accommodated in Culinary Tourism Centers in Surabaya. The number of MSMEs participating in this study was 10 MSMEs scattered in the Culinary Tourism Centers of Surabaya.

4.2 Identification of MSME HR with the CISCO Digital Maturity Model approach

A. Strategy and Organization

From the results of interviews conducted by researchers can be identified if the HR at SMEs who are incorporated in the Culinary Tourism Centers do not yet have an adequate strategy to compete in the current digitalization era. The habit of culinary businesses in carrying out business processes is the traditional way. Of the 10 participants interviewed, all businesses were managed independently without involving employees. So the owner of MSMEs at the culinary tourism center also acts as an employee. This ultimately did not change the organizational structure of the management of MSMEs. All lines of business processes are carried out independently without involving others. Of the 10 participants who were interviewed, there were weaknesses in operating digital gadgets so that all business processes were carried out traditionally without involving digitalization.

B. Processes and Governance

Business processes through a business chain based on increasing company value are not carried out by MSME entrepreneurs at the Culinary Tourism Centers in Surabaya. Starting with the production or shopping process is done manually. To shop for the menu items that will be served at their booth, the SMEs buy all the necessities at the traditional market after their booth closes at night, and start the cooking process in the morning to then be served to visitors to the Culinary Tourism Centers in the morning. If in the middle of the day the ingredients are finished, there are no more online ingredients added. They will immediately close their booth or spend the remaining ingredients that are still available with decreasing quality of cuisine.

C. People and Skills

Human Resources at MSMEs do not have high technological literacy. The SMEs in the Surabaya Culinary Tourism Centers conduct business processes, especially the supply chain with traditional methods and the process is done manually. From the results of interviews with participants conducted by researchers, it can be identified that MSMEs at the Surabaya Culinary Tourism Centers have not received in-depth training and socialization about the use of technology in dealing with industry 4.0.

When talking about MSMEs, especially culinary business performers at the Culinary Tourism Centers, they are street vendors who sell capital with experience and introduction of business problems by word of mouth. There is no touch of technology in the business processes they do. Their ability to utilize technology and adapt to it is very low.

D. Technology

In industry 4.0, technology plays a very large role. If you can't adapt to new technology, you will definitely be left behind. In the Culinary Tourism Center, MSMEs that are incorporated in it have not been able to adapt the technology that is adapted to the current industry. This happens because of their lack of technological literacy that can be used to increase the income of MSME entrepreneurs at the Culinary Tourism Centers.

4.3 CISCO's approach to the 4 dimensions of MSME

From the CISCO approach based on the 4 dimensions that have been described, the position of HR in the Culinary Tourism Centers of Surabaya lies in the position of phase 1, namely digital indifference. MSME human resources are still in phase 1 due to the lack of literacy they have about industry 4.0 and their limitations in accessing technology that is driving technology-based industries.



Figure 2. CISCO Digitalization Stage

4.4 Internal-external environment approach

The results of the study are shown in the SWOT matrix below.

INTERNAL FACTORS	OPPORTUNITIES	THREAT
EXTERNAL FACTORS		
STRENGTHS	QUADRANT I Support an aggressive strategy	QUADRANT II Support a diversivication Strategy
WEAKNESSES	QUADRANT III Supports a turnaround-oriented Strategy	QUADRANT IV Supports of a defensive Strategy

Figure 3. SWOT matrix results of the study

The CISCO Digital Maturity Model approach can provide a broad picture of the capabilities of Human Resources for Micro, Small and Medium Enterprises (MSMEs) in dealing with digital technology-based 4.0 industries. With the CISCO Digital Maturity Model approach, it can be identified the position of Human Resources for Micro, Small and Medium Enterprises (MSMEs) as business people in Surabaya Culinary Tourism Centers in the SWOT matrix.

The position of Micro, Small and Medium Enterprises (MSMEs) in the SWOT matrix is in Quadrant II. This is due to the inability of Human Resources for Micro, Small and Medium Enterprises (MSMEs) in adapting to digital technology. On the other hand, Human Resources

for Micro, Small and Medium Enterprises (MSMEs) have the strength, namely their ability to innovate culinary to meet the needs of culinary consumers in Surabaya who are growing and developing.

With a position in Quadrant II, the HR Strategy that must be developed is:

- a. Always develop culinary innovations so that they have special characteristics that attract visitors.
- b. Invite food bloggers to help market Surabaya Culinary Tourism Centers
- c. Increase the ability of digital literacy by collaborating with IT experts to socialize digital technology-based literacy.

5. CONCLUSIONS

Human Resources for Micro, Small and Medium Enterprises (MSMEs) are the backbone for the development of MSME businesses that require special attention. Need special handling to realize sustainable development. With the CISCO Digital Maturity Model approach, it can be factually identified as the position of HR MSMEs in industry 4.0. After identifying the position of Human Resources for Micro, Small and Medium Enterprises (MSMEs), a comprehensive strategy is needed related to the development of digital technology literacy for Human Resources for Micro, Small and Medium Enterprises (MSMEs), especially culinary entrepreneurs in the Culinary Tourism Centers in Surabaya.

Outside the digital technology capabilities of Human Resources for Micro, Small and Medium Enterprises (MSMEs) are low. Culinary business practitioners in Culinary Tourism Centers in Surabaya have the ability to compete both in terms of food characteristics that are well-known both by residents of Surabaya and residents outside of Surabaya. In order for this specificity to be developed and benefit, a collaborative strategy is needed between Micro, Small and Medium Enterprises (MSME) Human Resources and the City Government which, if realized, enables the improvement of prosperity for Micro, Small and Medium Enterprises (MSMEs) in Surabaya.

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