

# CHAPTER 1

## INTRODUCTION

### 1.1 Background

Technological developments that occur in the industrial world on a large scale such as in managing resources, thus making each process much more effective and efficient than before is the implementation of the industrial revolution. The presence of the Industrial Revolution 4.0 brings changes to job adjustments in humans, machines, technology and processes in various professional fields, including the accounting profession. In this era, technological development and innovation seem to be racing against time. New innovations encourage the creation of new markets and shift the existence of old markets. Smart machines and robots now take many roles and seem to rule the world.

Schwab and Samans (2016) The industrial era 4.0 enables high technology. The technology has grown 10-fold in the last five years. It is estimated that by 2020, as many as 5.1 million jobs will be lost due to the disruption era. In an increasingly fast-paced work environment, routine tasks and jobs have been taken over by automated machines. Human Resources (HR) with expert and creative skills are now needed more than ever to ensure the sustainability of national labor competitiveness.

According to the 2017 Human Capital Index, Indonesia is at the bottom, namely 65th compared to Malaysia at 33rd, the Philippines at 50th and Vietnam at 64th. Seeing these facts, coupled with the current employment conditions in Indonesia, then human resources in all professions need to increase their competence, including the activities of the accounting profession in their work

system, especially the Accounting Information System (AIS) related to information technology, such as Financial Technology, Big Data, the development of accounting knowledge in specific fields, as well as the various sharia financial accounting system such as the development of banking and financial institutions and so on.

The emergence of artificial intelligence technology (Artificial Intelligence) which has changed many things in the field of life, such as activities that used to require human touch, are now all reduced by the use of artificial intelligence, it is one common example of the Industrial Revolution 4.0 itself.

The beginning of 1970 was a very important revolution because in this era automation technology began to slowly replace the role of humans in the field, so that production costs could be reduced in this era. One example of this era is the invention of the IC (Integrated Chip) which makes a computer smaller. The beginning of 2018 until now is the Era of the Industry 4.0 Revolution where there is a merger between automation technology and cyber technology.

Industry in this era has touched the virtual world, forming connectivity of humans, machines and data. This term is known as the Internet of Things (IoT) (Cahyadi, 2018). In this industrial revolution 4.0, financial transactions began to no longer only use cash, but also use digital money. Therefore, this may provide opportunities and challenges for some people. This is evident from some human jobs now being replaced by robots, such as the existence of robot restaurant waiters, payments using digital money, and others. Entering the industrial revolution 4.0, students must be able to have the ability or responsibility in finding opportunities and facing future challenges.

The industrial revolution 4.0 in the next five years will eliminate 35 percent of jobs, one of which is accountants. This is because the work played by humans is gradually complemented by digitization technology programs. As a result, the production process becomes faster and easier to distribute with minimal human involvement. For example, in the United States, the development of online banking systems has facilitated the process of banking service transactions. As a result, 48,000 bank tellers had to face layoffs due to efficiency reasons (Karniawati, 2017).

Students, especially accounting students, are required to always keep up with the development of this industrial revolution in order to face the challenges that will be faced in the future (Alex and Wahyono, 2019). In terms of knowing student awareness, this can use George Herbert Mead's awareness theory which states a theory about humans called Mead Theory.

This theory states that humans are very rational beings and every action taken by humans is fully realized and understood by themselves. In this case, awareness is defined as the extent to which humans (especially students) understand or fully understand their own existence and the global environment in the future. Therefore, awareness is one of the bases for knowing whether accounting students have concerns or thoughts about the readiness of accounting students in facing challenges as accountants in this industrial revolution 4.0 era.

Student awareness (awareness) can also be formed with several underlying factors. Factors that influence include how students adapt to their environment, understanding of professional development (professional development) on how students can improve professional performance as accountants in the 4.0 era, there

are also factors in terms of student education which includes the vision and mission of higher education, courses, teaching lecturers who follow this industrial revolution 4.0 and student personality which can be reviewed from motivation, competitiveness, application of high standards (reaching out), and others.

In the industrial revolution 4.0, adaptability is needed from a student to be able to continue his career path because students will be more developed if they are able to adapt to technology and digitalization. If students are not able to adjust to this technological development, they will be left behind. Ngafifi (2014) argues that the presence of new technology as a new subsystem in society will have consequences, other subsystems in the system inevitably have to adjust due to the presence of this technology. This means that the existence of the industrial revolution 4.0 will indirectly affect our lives either now or in the future.

Professional development is an effort to improve the performance of professional organizations and their professional development programs to face the challenges of the 4.0 era face-to-face for students. Companies before entering the 4.0 era audited their financial statements manually, and now over time the audit of financial statements has been carried out automatically or using an Information Technology system with a computer. The need for understanding this technology needs to be met in order to achieve more effective and efficient auditing objectives.

Education in the era of the industrial revolution 4.0 is needed to create students who are creative, highly motivated, innovative, competitive and have high competitiveness. Education is a competence possessed by a person obtained from



the results of human sensing, or the result of one's knowledge of objects through the five senses which consists of several components such as mastery of concepts, theories, methods and philosophies in certain scientific fields which are obtained systematically through reasoning in the learning process, work experience, research and community service related to learning. it states that education has a positive and significant effect on accounting student awareness of the industrial revolution 4.0.

This can be realized by putting pressure on educational institutions to create a curriculum that is related and relevant to this industrial revolution 4.0 by adjusting to digital connectivity, intelligent systems, etc. Good educational institutions will produce competent graduates. Student personality should also be an important point in knowing the extent of a student's awareness of the industrial revolution 4.0. . This is the basis because it can show how to respond to the industrial revolution 4.0. Students who have high education usually have enthusiastic, active, ambitious personalities as well as high enthusiasm and curiosity.

There are several previous research results. First, the research conducted by Ngafifi (2014), and Tsiligiris & Bowyer (2021), explain that adaptation has an effect on awareness of accounting student about the industrial revolution 4.0. Second, the research conducted by Astuti at al. (2020), Rosi & Mahyuni (2021), and Saraswati et al. (2020) explain that education has an effect on awareness of accounting student about the industrial revolution 4.0. Third, Briggs et al. (2006), explain that personality has an effect on awareness of accounting student about the industrial revolution 4.0.

This research is based on previous studies conducted by Astuti et al. (2020), which stated that education has a positive impact on awareness of accounting students about the industrial revolution 4.0. Even though a lot of research has been conducted on the factors that influence student awareness of the Industrial Revolution 4.0, there are still a few that examines the effect between adaptation, education, and personality with accounting students on awareness of the Industrial Revolution 4.0.

Previous studies tended to focus more on one variable, namely education only and explained more about the factors that influence generic awareness about the Industrial Revolution 4.0. and researchers want to add 2 other independent variables, namely adaptation and personality taken from other journals which by Ngafifi (2014), Tsiligiris & Bowyer (2021), explaining that adaptation has an effect on awareness of accounting students about the industrial revolution 4.0 and by Briggs et al. (2006), explains that personality has an effect on awareness of accounting students about the industrial revolution 4.0. so that the relationship between adaptation, education, and personality with awareness of accounting students about the industrial revolution 4.0 still needs to be explained in more detail.

This research was conducted to determine the level of awareness and factors that influence accounting students, especially students at Universitas Andalas. An important point that becomes a problem in this study is the researchers want to know the effects of Adaptation, Education, and Personality on Awareness of Accounting Students About the Industrial Revolution 4.0.

## 1.2 Problem Formulation

Based on this background, the problem formulations that the authors will discuss are:

1. How does adaptation influence the awareness of accounting students in effectively responding to the opportunity and challenges of the Industrial Revolution 4.0 at Universitas Andalas?
2. How does education influence the awareness of accounting students in effectively responding to the opportunity and challenges of the Industrial Revolution 4.0 at Universitas Andalas?
3. How does personality influence the awareness of accounting students in effectively responding to the opportunity and challenges of the Industrial Revolution 4.0 at Universitas Andalas?

## 1.3 Research Objectives

In accordance with the formulation of the problem above, the objectives of this study are:

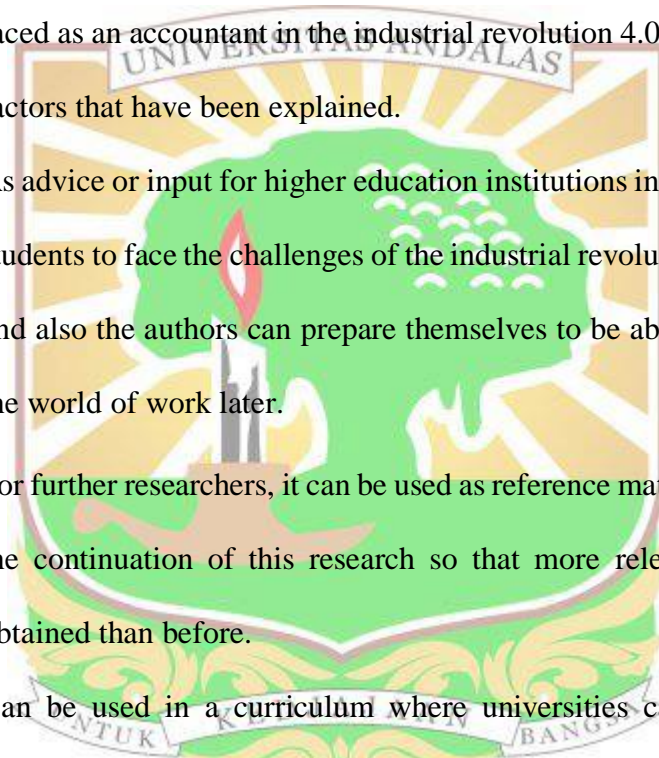
1. To examine the influence of adaptation strategies and practices on the level of awareness among accounting students regarding the challenges and opportunities presented by the Industrial Revolution 4.0 at Universitas Andalas.
2. To investigate how the education of Industrial Revolution 4.0 related topics in the accounting student at Universitas Andalas influences the awareness of accounting students about the changes and implications brought about by this revolution.

3. To explore the role of personality traits, such as openness to change, adaptability, and motivation, in shaping the awareness and readiness of accounting students to face the challenges and embrace the opportunities presented by the Industrial Revolution 4.0 at Universitas Andalas.

#### 1.4 Benefits of Research

1. Practical benefits

- a) Provide insight and knowledge regarding the challenges that will be faced as an accountant in the industrial revolution 4.0 era with several factors that have been explained.
- b) As advice or input for higher education institutions in order to prepare students to face the challenges of the industrial revolution in the future and also the authors can prepare themselves to be able to compete in the world of work later.
- c) For further researchers, it can be used as reference material to examine the continuation of this research so that more relevant results are obtained than before.
- d) Can be used in a curriculum where universities can form it as a stimulus or input to find out the factors that influence student awareness related to adaptation factors, CSR, personality and education, especially in the era of the Industrial Revolution 4.0
- e) Socialize to the wider community, especially Accounting graduates to increase adaptation and awareness of the Accounting profession in the era of the Industrial Revolution 4.0





## 2. Theoretical Benefits

It is hoped that this research can provide academic thinking as knowledge and academic literature that can be used as general research material, especially in the context of accounting education on the impact of the Industrial Revolution 4.0 on the accounting profession in the future.



