

CHAPTER I

INTRODUCTION

1.1. Background of Study

As time passes, all aspects of people's lives will lead to changes. People live a dynamic life that is always running to a new era through time. Looking back to the early industrial revolution era, it stated the big transformation of the industrial revolution through the times. At this time, the world has already come to industrial revolution 4.0 and also the new beginning of Society 5.0. Industrial Revolution 4.0 (IR 4.0) focuses closely on interconnectivity, automation, machine learning, and real-time data that can bring the newest page in Industrial Revolution. Industrial Revolution 4.0 determines innovative systems consisting of industrial Internet of Things (IoT), robotics tools and autonomous robots, big data analytics systems, artificial intelligence (AI) and cognitive systems, and augmented reality. (Arvind & Vijayakumar, 2021)

One interesting system of these Industry 4.0 products is AI which describes developing, validating, and deploying various machine learning algorithms. AI defines a system of cognitive science, including million research activities of image processing, natural language processing, robotics, and machine learning (J. Lee et al., 2018). By processing a lot of research activity, the ability of AI is so fast and accurate in appearance. This technological innovation is known as the digitalization era, where everything can be processed quickly. For example, nowadays, every smartphone uses AI systems to process all data needed. The appearance of AI is useful in making human life easier.

The next level of industrial revolution 4.0 is society 5.0 or industrial industry 5.0. In Industry 4.0, the main focus is digitalization and the industrial IoT. Industry 4.0 also allows for the development of advanced technology and industrial digitalization centered on computers connected through the internet to be consumed as part of human life. The appearance of industry 5.0 is based on the observation that industry 4.0 is too focused on digitalization and AI-driven technologies to increase the efficiency of production, where the principle of social

fairness and sustainability are ignored. Therefore, society 5.0 brings different points of view by highlighting the importance of innovation within long terms service to support human role. As the emphasis of industry 4.0, industry 5.0 focuses on human-friendly technology or cyber-physical systems (CPS). Society 5.0 describes the perfect symbiosis between humans and machines cooperating so that it creates human-friendly technology (Longo et al., 2020). The development of advanced technology in industry 4.0 is hoped to become familiar things to be controlled by smart society in industry 5.0. Therefore, the human ability to control technology must be compatible with developing digitalization.

In recognizing the changes of the industrial revolution, it might be a challenge for the human being to improve their quality of life. The positive impacts of the development of technology and the internet are it can be accepted properly and become a part of making everything easier for human life. But, the appearance of these advanced technologies, the IoT, and AI should be handled properly unless it occurs in all aspects. Because if every industry replaces the human role by using technology, human quality is not compatible anymore. Industry 5.0 is the solution to cover the possibility of the human role being replaced by technology, where smart human cognition controls technology. People who can enter Society 5.0 human need to be continuously adaptive and dynamically follow the pattern of developing technology (Sampoerno & Herwandito, 2021).

According to Suwardana (2017), the implementation of changes from Industry 4.0 in processing the production that humans originally did is taken over by machines. All the work that used to be done manually already become automated by machines. The reduction of the human role becomes a concern to be controlled properly. The production is not only in the manufacturing industry but also in all industries. For example, the use of AI can be seen through smartphones consumed by society. Before industry 4.0, humans have to manually look for knowledge from books and more books to get more knowledge. Nowadays, it can be easier to access the internet, and AI systems will quickly provide what humans are looking for.

The main challenge in facing the developing industrial revolution is that automation in every work will be replaced by AI so that there will be the deduction of jobs using humans as a workforce. AI has been implemented in many businesses to automate every job desk that humans usually do. Automation in every major work will eliminate a lot of occupations in the future. According to Acemoglu & Restrepo (2019), automation will lead to new jobs and tasks in the future but will decline the demand for labor at the same time. Another research (Manyika & Sneider, 2018) also mentioned that around 15% of the global workforce, or about 400 million workers, could be displaced by automation from 2016–2030. Job loss should be a concern for human beings to make decisions for future automation displacement in this digitalization era.

AI significantly impacts the finance world, especially the accounting field. By using AI and financial systems, accountants can provide more accurate information and quickly deliver financial information (Kupenova et al., 2020). If done manually, the error usually possible in providing financial statements will be reduced using advanced technology such as AI. AI's appearance is helpful in accounting because it has benefits and has been used as a part of globalization.

According to Bakulina et al., (2020), the stages of accounting development nowadays are based on technical and technological components already in a stage where accounting development with helpful AI. The development of accounting is related to computerization, where the transition from manual to mechanized uses specific applications supported by accounting information systems. By adopting AI, accountants do not need to manually compute and fill the journal because the system will do it directly so that it will be more efficient in time. To cope with the transition, the quality of the accountant in this stage has to be adaptive to the developing technology and willing to learn about the new changes in the accounting system. It means that in facing digitalization, besides having hard skills as an accountant, soft skills such as easy to adapt and willingness to learn new things in a group also qualify as qualifying the accountant in processing the accounting information system.

Due to the automation in the accounting system, accountants need to adapt and learn more about how to use the application given. Therefore, a new skill is needed to adopt AI to help in the accounting system. Surianti (2020) stated that the shifting role of an accountant must be responded to quickly and appropriately through higher education to be qualified in the labor market. The appropriate education needs to serve properly by the university to students. Universities can serve a qualified curriculum that has to support the quality of graduates to compete in the labor market in the future. Surianti (2020) also mentioned two approaches to curriculum changes to be done by the university, such as inserting topics into existing topics or creating new courses. The development of the industrial revolution will keep growing, so universities must face this situation by adapting and being ready to revise the curriculum or syllabi in accounting majors.

Besides talking about the curriculum served by the university, professional accounting educators must be one factor that could influence accounting students to cope with the developing technology (Stancheva-Todorova, 2019). As educators, providing the teaching materials according to the newest curriculum will be helpful for students to gain more skills to deal with the growing accounting system. Providing qualified educators who can be dynamic adaptive, and open to new system changes have to be the university's duty to make sure the students gain updated information from teaching materials. Both bachelor and magister accounting programs need qualified educators to get interdisciplinary by enhancing the knowledge about technological content in accounting.

The other important thing to be considered in market labor is the competency of having soft skills from the graduates. In Society 5.0, the main focus is how humans can control their professional skills in adapting the advanced technology. According to Phan et al., (2020), soft skills competencies that are market labor looking for consist of interpersonal skills, problem-solving, listening skills, communication skills, personal motivation, and professionalism. The ability to master the graduates' soft skills along with their accounting major studies. Most requirements to compete in market labor need soft skills as the main criteria. So, accounting students must gain more soft skills during their studies to sign their readiness to compete in the labor market.

Working readiness expresses how well-prepared the graduates are to face the work field in the future and mentally ready to carry out the jobs. Mason et al., (2009) described working readiness as skills, knowledge, attitudes, and contribution to fulfilling organizational goals. Caballero et al., (2011) also mentioned that working readiness is when college graduates' attitudes and attributes potentially can succeed in the work environment. The working readiness also interpreted how far the graduates fulfilled the criteria to compete with others in the work field. Caballero et al., (2011) stated about graduates' attitude where it should be defined as graduates' soft skill, meanwhile graduates' attribute refers to hard skill of graduates after passing the college. The graduates are hoped to gain the balance hard skill and soft skill from the college to be more confidence in facing the work environment. Hammer et al., (2009) stated that working readiness is interpreted as specific skills designed by study programs or university based on industry need.

According to data collected by Badan Pusat Statistik (2022), in Indonesia, the unemployment rate in August 2022 was 5,68%, and the percentages of underemployment and part-time workers have decreased, respectively by 2.39 percentage points and 1.77 percentage points compared to August 2021. These unemployment rates describe that there are a lot of unemployed graduates that cannot compete or decide not to implement their skills in the work field. The inability to fulfill the qualification from enterprises also becomes why Indonesia's unemployment rate should be a concern. Unemployment possibly happens because graduates working readiness is low. During this term, the university must ensure its graduates are well-prepared to balance their skills. By creating qualified graduates ready to compete, the university will increase the value of human resources quality in Indonesia.

Damerji & Salimi (2021) give the point of view about how current accounting curricula given by university is quite lacking in responding the AI technologies, where accounting student must have this knowledge to become professional accountant to compete in the working world. There are many accounting firms nowadays adapted to the innovation of technology. So that is why accounting education related to the face technology industry has to be more

invested properly. The economic observer, as reported in CNBC Indonesia (2018), stated that digital technology such as AI would cause unemployment in Indonesia which is around 5.1 million people (Bosnia, 2018). Technology can replace many conventional jobs, especially in the financial sector. For example, in the financial sector, the accountant profession, in this case, needs to be trained in new skills to use the technology applied in their work field. Besides the hard skill gained by an accountant, they need to compete by using their skills with technology by understanding how it works, unless they will lose their jobs.

Many companies in Indonesia will apply AI as their technology system, but there are some obstacles. The President Director of Microsoft Indonesia, Harris Izme, stated that one of the obstacles in applying AI in Indonesia is the relevance of skills gained by human resources is insufficient to fulfill the AI-based business environment need (Microsoft, 2019). Research conducted by Frey & Osborne (2017) stated that there is a 94% probability that the accountant profession is vulnerable to computerization. (Greenman, 2017) also mentioned that 95 percent of accountants lose their jobs as machines take over analyzing and computing. It means accountant nowadays is not enough have hard skills only but also have to balance them by having the soft skill to fulfill the requirements made by accounting firms nowadays.

There are a lot of concerns about information related to the problem faced nowadays regarding technology development and accounting graduates' future. The development of AI in Industry 4.0 already has advanced technology in helping humans in many sectors, especially the financial sector nowadays. Another concern is about how university curricula help accounting students adopt AI-based technology in accounting systems as their knowledge and skill to compete in the working field. The university must prioritize the investment in improving human resources skills as accounting graduates. In this term, the university can use the development of technology to play the role of accounting study programs to prepare accounting students for facing the work field. As informed above, the qualification to be a professional accountant requires knowledge and soft skill to fulfill the company's requirements.

In conclusion, research must be conducted to get further information and knowledge about all the concerns above. The concerns above all are connected to know how the working readiness of accounting students in facing industrial development. Therefore, the researcher is interested in taking the title “ **The Readiness of Accounting Students in Adopting Industrial Revolution 4.0 and Society 5.0,**” which will examine and answer the concerns above by surveying accounting students in Padang City. This research is obtained the data by using questionnaires that has been modified from previous research by Andani et al., (2022) and Aprillia (2021) as the main research guidance. The researcher conducts this to examine how the curricula and competencies they had received make them ready to work with AI as the systems that certainly will be applied in accounting systems. This research also examines the influence of soft skills gained by accounting students in Padang City to learn more about how ready they are to work after graduation. By summarizing several journals and previous research related to this topic, the researcher conducts this research to give a wider perspective on the working readiness of accounting students in adopting Industrial 4.0 and Society 5.0, especially in Padang City.

1.2. Problem Formulation

Based on the explanation that has been presented in the background as well as the description above, the problem to be studied are:

1. Do the curricula and competencies received by accounting students have a significant effect on the working readiness of accounting students?
2. Does the influence of soft skills gained by accounting students has a significant effect on the working readiness of accounting students?

1.3. Research Objective

The purposes of this research are to:

1. Proving empirically that curricula and competencies received by accounting students affect the working readiness of accounting students.

2. Proving empirically that the influence of soft skills gained by accounting students affects the working readiness of accounting students.

1.4. Research Benefit

This research is expected to provide benefits as follows:

1. Theoretical Benefits

The results of this research are expected to feature more references to future research, more specifically to research the working readiness of accounting students by adopting the industrial revolution.

2. Practical Benefits

The results of this research are expected to contribute to the development of accounting insights, especially from the perspective of accounting graduates to compete within the workforce.

1.5. Writing Systematic

The structure of this research paper is divided into five chapters and presented as follows:

Chapter I : Introduction , contains the background of why this research have to be conducted based on related facts and the problem formulation of the research issue. This chapter also consists of the purpose of the research, and the writing system.

Chapter II : Literature Review , consists of the theories that supports the explanation of research problems, review of some previous research related to this research topic, and the formulated of research hypothesis based on the review of previous research.

Chapter III : Research Methods , provides an overview of the research design that has been used in this research, the research population and samples criteria, the research data collection method. This chapter also contains the overview of some analysis that will be tested in this research.

Chapter IV : Results And Analysis , contains the criteria of respondents of this research obtained and the explanation of the results analysis of output tested from SPSS program. This chapter also talked about the result of hypothesis testing for hypothesis that have been formulated in Chapter II.

Chapter V: Conclusion , contains the conclusions of the research results that have been tested, the limitations of this study, and suggestions for future researcher.

