

CHAPTER I INTRODUCTION

1.1 Research Background

The current Industrial Revolution 4.0 or nowadays called IR 4.0 greatly brings some adjustments in the industrial world and human work. It significantly and fundamentally affects human life as a whole. IR 4.0 affects the industrial world including the evolution of supply chain systems and value chain, effort and value, as well as digital decision making and business models (Yazdi, et. al, 2020). Moreover, the fast advance innovation has resulted in the development of IR 4.0. It is proved by the emergence of cloud-based computing, large-scale data or known as big data, genetic experiments, changes in neurotechnology that are possible for humans to further maximize the role of the brain (World Economic Community, 2016) while Deloitte (Deloitte, 2017) portrays industry 4.0 so that the integration of digital information from several sources and places that start on manual activities in doing business is easier and more effective (Aisyah et al., 2019; Amelia et al., 2019; Hartasetiadi & Sidik, 2019).

IR 4.0 defined as a complex and flexible system covering many areas such as digital production technology, network communication technology, computer and automation technology (Zhou, et al, 2015). It also covers economics' area where economic power is carried to digital environment, takes its power from new technologies such as cloud computing, project analysis, machine learning, robotics, Artificial Intelligence (AI), Distributed Ledger Technology and mass data processing (Antoney & Augusthy, 2019).

The concept of IR 4.0 was first mentioned in Germany in 2011 (Derya, 2018), after that complied with by various other nations such as the US, Japan, and China (Supriadi, et al, 2020). The wind of innovation created by IR 4.0 has made a global impact by crossing the borders of Germany at the points of the using the internet of things and services and the Cyber-Physical Systems (CPS) at every stage of production, new generation ICT (Information and Computer Technology), technological opportunities and scientific difficulties. As a result, it is the fourth industrial revolution itself, befitting the name of IR 4.0 (Posada et al., 2015)

IR 4.0 allows smart machines for production and service processes and considered will be impacted the development of the global economy. The Industry 4.0 is projected to have relevant and admirable effects on products, supply chains, customers, and workers (Supriadi, et al, 2020). IR 4.0's brings some advantages to enterprises, such as new products to the market faster, to produce special products suitable for the demand of customers without increasing the overall production costs, to create a more flexible working environment, to provide more efficient use of natural resources and energy (Rojko, 2017). However, the disadvantages come from the employment sides, technologies give rise to worries that humans will eventually be replaced or automated by either machines or robots in the workforce that leading to unemployment. Cormier and Magnan in 2015 said the most influenced in the IR 4.0 condition are the middle of the road abilities employments.

Gerd Leonhard in 2015 predicted that globally, the era of the digital industry will get rid of 1 to 1.5 million jobs from the period of 2015 to 2025 due to the fact the human element can be replaced by engine power. Another research from Cutler and Lewis (2016) stated that in the UK, technology has the role of removing 800,000 jobs. However, technologies give rise to worries that humans will eventually be replaced or automated by either machines or robots in the workforce that leading to unemployment. In principle, basing on current technological development, IR 4.0 can influence to all countries, organizations, enterprises in the world in near future (Acemoglu, 2002; Von, 2003; Islam, 2017; Rae, 2017), and it creates challenges for accounting, audit, finance professions at the same time, opportunities for those who were willing to bolster it (Islam, 2017; Rae, 2017; Fernandez & Aman, 2018).

Bloomberg Businessweek in 2017 disclosed numerous studies conducted in the United States, the United Kingdom, and Europe found that the most vulnerable occupation to the disruption of digital technologies in IR 4.0 is accounting, especially low-level accountants whose main daily tasks are to record business transactions. They are expected to lose their jobs because of automation (Hart, 2017). It can be concluded that the career sequence of accountants needs to follow the fast rhythm and rhythm of the revolution by adapting to the new normal namely the transformation of accountants' careers in detail or the demands of the new mode of industry 4.0 or accountants' careers will be lost if they cannot adjust to that development. Maitah and Smutka (2019) state that automation transforms the work and

skills needed for work, as a result of which the demand for advanced cognitive abilities and socio behavioral skills increases.

People currently and frequently and continuously mention about IR 4.0 as warning. Accounting, audit firms, accountants, auditors were the first group who receive these warnings that they would be failed if they kept their mindset and service supply method (Deloitte, 2016; Pereira & Romero, 2017; Fernandez & Aman, 2018.) The information that most undergrad bookkeeping understudies will be utilized in the middle of the road abilities occupations raises concerns whether these alumni will have the option to verify work after graduation. Along these lines, to guarantee the employability of graduates, educating, and learning exercises of bookkeeping, understudies should be acclimated to the desires for businesses of bookkeeping graduates in Industry 4.0 (Cooper B, 2015). As a result, given the likely employment domain, accounting students must be prepared to meet IR 4.0 demand. IR 4.0 is going to and will deeply affect accounting, audit, finance professions. Studying about this issue should be conducted to benefit for accounting studies in Andalas University, Padang.

Based on the explanation above, the author is interested in carrying out the research entitled "**The Understanding of Accounting Students of Andalas University Regarding to Industrial Revolution 4.0**"

1.2 Problem Statement

1. What are the students of Accounting in Andalas University skill profile? How is it determined?
2. How is the understanding of the students of Accounting in Andalas University regarding IR 4.0? How is it determined?

1.3 Research Objectives

1. To investigate the skill profile of the students of Accounting in Andalas University and the determination.
2. To find out how is understanding of the students of Accounting in Andalas University regarding IR 4.0 and the determination.

1.4 Research Benefits

1. For Accounting Department of Andalas University, this research can contribute thoughts about how they should develop curriculum further and prepare the Accounting students' readiness to face their profession' challenges in IR 4.0.
2. For accountants, auditors, financial experts' awareness of IR 4.0's challenges and hopefully they are willing to look for opportunities from it.

1.5 Systematic Writing

The systematic writing of this research is divided into five chapters and presented as follows:

1. CHAPTER I: Introduction. This chapter contains a description of the background of the problem, the problem statement, the research objectives, the research benefits and writingsystematic.
2. CHAPTER II: Literature Review and Prior Research. This chapter contains theoretical frameworks to give the insight of the research conducted and the review of previous research.
3. CHAPTER III: Research Methodology. This chapter contains a description of the research design, data collection technique, data processing and analysis technique.
4. CHAPTER IV: Research result and discussion. This chapter explains about the result anddiscussion towards this research, which the descriptive information of the result of the understanding of accounting students of Andalas University regarding Industrial Revolution 4.0 (IR 4.0).
5. CHAPTER V: Conclusion. This chapter contains conclusions, implications and limitations.