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# CHALLENGES FOR ACCOUNTING PROFESSIONALS IN THE DIGITAL AGE IN INDONESIA

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Abstract
*The accounting profession faces a threat in the form of ending accounting when the digital era emerges. This research then aims to see how the relationship exists between the technology of the accounting profession and strategies in the accounting profession during the digital era. This research will be carried out using a qualitative approach as well as data obtained from the results of previous research and studies that are still relevant. This study found that an accountant must adapt to this digitalization system in the digitalization era. The accountant profession also has new competitors, namely programmers and the technology it has in carrying out the work of the previous assistant. As for the academic field, accounting majors need to study information systems more actively to improve the accounting profession. In addition, learning from case studies also needs to be reproduced to provide creative thinking to make decisions so that the results can create an accountant profession that is ready in the digital era.*

*Keyword :*
*Technology, Accounting Profession, Digital Age..*

## 1. INTRODUCTION

Technology advancements have facilitated all human activities, such as the use of computers and computer-based hardware, which has changed work patterns in various industrial sectors, where this condition is known as the digital era or digitization. Digitization is the process of translating one or several pieces of information into bits which are the basic units of information in a computer system (Oke & Fernandes, 2020). According to Meydawati, a computer is a data processor that can perform large and fast calculations, including arithmetic calculations or logical operations, without human intervention to operate it during the processing (Kumar & Kumar, 2019).

The use of computers and computerized systems is common nowadays, especially after the start of the industrial era 4.0, even at a higher era in several developed countries in the world. The use of computer systems to support human activities in various ways so that the massive use of technology in various aspects of human life will eventually raise the question of whether the existence of technology in the future will replace human labor (Ellitan, 2020).

Since the 21st century, business models have also used technology to support their operations, as done by a reputable Swedish home furnishings retailer, IKEA. The company is digitizing by changing its business model to e-commerce. According to Aco and Endang, e-commerce is a form of electronic commerce that allows transactions between traders and buyers with a network or connected to the internet (Burt et al., 2021). At the end of 2018, IKEA carried out massive layoffs (terminations) for its employees because IKEA chose to focus on the e-commerce business. This resulted in as many as 7,500 employees or workers being laid off. The termination of employment by IKEA is one of the company's reorganization programs that focus its business on e-commerce and small shops in the city center (Eusebio et al., 2021). Retail Manager Ingka Tolga said this decision was based on a simpler, more effective, efficient business leadership policy. IKEA has duplication of work across markets, so the decision doesn't affect its

distribution unit as it keeps up with today's digital capabilities (Elg & Welinder, 2022).

Digitalization can be good news or a threat depending on how people perceive it. Digitization has also had a major influence on the world of education, both in the teaching and learning system in the classroom and the material being taught. Accounting is one of the majors or study programs that is quite affected by digitalization. The development of digitalization has impacted the accounting sector through the emergence of software systems to support the work of the current accounting profession (Adel & Dayan, 2021). The use of accounting systems or software in several companies aims to facilitate the processing of accounting and financial data according to the company's needs. There are various types of accounting software with various packages that can be used by any company with a patented factory setting. Generally, the software tends to be "user friendly" or easily used by its users (Putra, 2019).

Currently developing accounting software, users can choose according to the needs and conditions of the company or organization to facilitate the preparation of financial reports such as Jurnal.ID, Keysoft, Linmax, EAS, Accurate, Bee, MYOB, Zahir Accounting, and others (Mosteanu & Faccia, 2020). So, will the existence of these various software packages shift the field of work of the accounting profession because the preparation of financial reports can be done by ordinary people who may not take formal accounting education by operating the available system or software? Thus, the purpose of this study is to reveal the main competitors of the accounting profession, the accounting field that cannot be disrupted by technology, and the current strategy of the accounting profession.

## 2. LITERATURE REVIEW

### Digital Era

Technology has shown its role in human life. Thanks to technology, many human activities have become much easier. Heidegger states that technology encourages humans to create convenience to maintain their existence. It is characterized by a desire to exploit nature as far and efficiently as possible (Achmad, 2021). Technology changes the nature of human relations with their environment, which originally depended on nature (qualitative) to become productive (quantitative). So, the presence of technology and digital media can accelerate and create new networks (Saleh et al., 2020).

The exponential growth and development of information cause the development of information very quickly. Digitization of information in society involves a process of spatialization, namely, compressing the boundaries of space and time in social life (Ahsan & Musteen, 2021). According to Ariyani and Nurcahyono, the process of movement for change is within a range of goals in modern society. The most decisive aspect of modern life is the development of formal rationality. The formal rationale in question includes thinking in making choices by referring to customs, rules, and laws that are universally applied (Caiado et al., 2018).

According to Hendro Setyo Wahyudi, technology changes society because creation combines existing elements and materials to form new elements and materials. The spread of creation and discovery from one area to another can greatly impact human life. In addition, technological advances have created artificial intelligence products that can help management supported by hardware that can support decision-making or expert systems (Litvinenko, 2020). According to Natalia Paranoan, modern society should regard technology not as a threat but as something that offers practicality, sophistication, and convenience that is generally accepted (Jafar et al., 2021).

The research results regarding the transformation of the role of accountants in the digital era must have a strategy to coexist with a revolution or change. The benefits of collaboration between accountants and technology can lead to the pace of innovation followed by the value of digital services so that they can complement each other. This will impact conventional accountants if they do not pay attention to these changes related to their existence (Bhimani, 2020).

### Accountant Profession

According to the Financial Accounting Standards Board (FASB), accounting is a service activity that provides quantitative information, which is then used for economic decision-making. Accounting produces information that describes the entity's financial performance in a certain period and the entity's financial condition on a certain date (Ermaliza et al., 2022). Statement of Financial Accounting Standards (PSAK) 1 states that the objective of financial statements is to provide information about the financial position, financial performance, and cash flows of an entity that is useful for most users of the report in making economic decisions (Mukhlisin, 2020).

According to the International Federation of Accountants, what is meant by the accounting profession is all fields of work that use expertise in the field of accounting, including public accountants, internal accountants working in industrial, financial, or trade companies, accountants working in the government sector, and

accountants as an educator (Melnyk et al., 2020). According to the IAI (Indonesian Institute of Accountants), three groups of accountants are members of the organization, namely the Public Accountants compartment, Corporate/Management Accountants, and Educator Accountants (Asry & Ginting, 2020).

**The Digital Age and the Accounting Profession**

According to Güney, the field of accounting work is an area that has the potential to be replaced by computers. Processing accounting data is faster when using a computer. On the one hand, the computer is useful in accounting information systems. On the other hand, companies need proper monitoring techniques to ensure accuracy and security in processing data and safeguarding company property (Cirillo et al., 2020).

In the digital era, companies need an accounting model that can measure the level of changes in resources, process changes, measure intangible fixed assets, and measure processes in real-time to support the company's focus on customers so that it is also possible for network accounting process changes to affect the audit process because audits are a field of practice that uses financial statements (accounting products) as its object. Auditing aims to provide an opinion on the presentation of financial statements produced by SIA. Thus, historical cost-based accounting models are insufficient to provide the information companies need in the information technology/digital era (Ting et al., 2020).

According to Nurillah and Muid, the use of technology is the level of integration of information technology in implementing accounting tasks. The development of information technology, especially in the information age, significantly impacts a company's accounting information system (AIS). The real impact is the data processing that has changed from manual to computer systems (Putra, 2019). In addition, internal control within the AIS and an increase in the amount and quality of the information in financial reporting will also be affected. According to Rahmi, the use of technology is the level of integration of information technology in the implementation of accounting tasks and the utilization of the level of IT integration in the implementation of their duties (Al-Omairi et al., 2020).

Information technology's rapid development has resulted in significant accounting changes. The development of accounting based on technological advances occurs in three stages, namely the farming era, the industrial era, and the information age. Alvin Toffler states this in his book The Third Wave (Chege et al., 2020). One accounting field heavily influenced by IT developments is SIA (Accounting Information System). The accounting cycle in a computer-based AIS is the same as a manual-based AIS, meaning that the activities that must be carried out to produce a financial report are neither added nor deleted. A computer-based AIS only changes the character of the activity.

## 3. METHOD

This research method uses qualitative research methods with a descriptive approach. Research data were collected through various research results and previous studies that are still relevant to this research. The data analysis technique used in this research is the inductive technique. This technique is intended to assist and direct the understanding of the meaning of words through the development of themes.

## 4. RESULT AND DISCUSSION

**The Main Competitors of the Accounting Profession in Facing the Digital Age**

Massive technological developments impact the accounting profession not only positively but can also harm the accounting profession itself. Advances in technology and information, especially in terms of systems, can indeed make it easier for the accounting profession to complete their tasks, but on the other hand, an accountant will encounter more complex challenges. Technological risks and opportunities need to be identified and understood properly by the professional community, especially the accountants, during the global IT trend so that the business world can grow safely and optimally. As in the current development of the business world, the financial sector has begun to use a system or software to compile and present financial information. In an advanced era, the preparation of reports or financial information is not generally done manually as it used to be. So, of course, this can have a good impact on accountants because the presence of software will facilitate their duties. However, there is a lurking threat related to the existence of the accounting profession due to the widespread use of accounting software so that the worst-case scenario of the widespread digitalization of the accounting profession can be replaced by increasingly developing technology.

According to Tikurante et al., in the industrial revolution 4.0, the challenge of an accountant in the form of mastery of technology means adjusting accountants to the increasingly

rapid development of information technology. The convenience offered by various technologies will slowly erode the existence of conservative accountants. Thus, the ability to process information optimally by adding qualitative aspects to disclosing information can be one of the current accountants' strategies because it is not always possible to master technology to guarantee an accountant can survive in the digital era. Behind all the sophistication of the system or software offered, some people will continue to perfect the system on the technology that has been created, namely programmers. A programmer, of course, will continue to try to improve a system or software to refine it further to provide more optimal and efficient results. So, it can raise suspicions about the convenience of the features contained in the software that can be operated by cloud people or people who do not take formal accounting education. This is because the accounting profession must be managed properly while maintaining its integrity as a person competent in the financial sector.

**Fields of Work or Assignments of the Accounting Profession that Can and Can't Be Replaced by Technology**

The current digital era provides many conveniences in various business activities because it can be considered an era that focuses on setting up information systems using computers or technology to meet the information needs of the business world quickly, precisely, relevantly, and accurately. Technological developments significantly affect the development of accounting, whose activities cannot be separated from technology. The more advanced technology, the more influence it has on the accounting field. Technological developments, especially in the digital era, significantly impact the accounting information system (AIS) in a company. The real impact is the data processing that has changed from manual to computer systems. In addition, internal control in the accounting information system and an increase in the amount and quality of the information in financial reporting will also be affected.

The development of accounting information systems due to technological advances will create opportunities for accountants, which can be utilized by accountants with adequate knowledge of computer-based accounting information systems. So an accountant must understand accounting software to maximize performance. Accuracy, foresight, and data accuracy are the main keys for a professional accountant when analyzing finances, so using software will be more accurate when compared to calculating manually. On the other hand, accountants with insufficient knowledge of computer-based accounting will be displaced because they cannot provide the services required by clients.

System-based accounting is very helpful for accountants in completing their work. However, even though the system already exists, not all accounting work can be done by the system. There are still many jobs that require human labor or accountants. Some of the accounting jobs that the system can replace include:

a. Journaling was originally done by writing manually, but now there is a system that can replace this work. Using the system is considered effective compared to using human labor, which, if using the manual method, will be more at risk of recording errors.
b. Calculation of the age of receivables. For example, by calculating the age of accounts receivable, a computer can easily do this work, so it will automatically replace human work.
c. Counting inventory. The system can easily record inventory records using the FIFO or LIFO method.
d. Preparation of financial reports. With a computerized system, the preparation of financial reports will be easier and less complex than the manual method. Because, by using the system, we no longer need to make financial reports. For example, in the Myob application, when we input a transaction, the system will automatically generate the financial reports we need.

While the work of accountants that the system cannot replace include:

a. Analysis of transaction evidence. To analyze a transaction, human labor is needed because even though technology has developed, the system cannot analyze transactions automatically.
b. Policy decision-making. To determine a policy or make a decision in a company or organization, it takes a person who is competent in his field, and this job cannot be replaced by technology or systems.
c. Managerial function/POAC (Planning, Organizing, Actuating, Controlling).
d. The estimated economic life of fixed assets. Humans must do this work because estimating a fixed asset's economic life must go through various considerations that the system cannot do.
e. Giving an opinion on the fairness of the financial statements. On the auditor's side, the system cannot provide an opinion or opinion on

the fairness of a financial report because in giving an opinion, the auditor must consider various things such as the condition of the company and its size.

**Strategy for Facing the Digital Age**

According to Merlina and Nuraini, accounting is the most important part that is like the backbone of business activities because accounting collects information about company finances, financial controllers, decision-making references, and has links with other parties. However, the current accounting profession is endangered by 2030 due to Big Data and Artificial Intelligence, in the digital era, all tasks carried out by conventional accountants can be carried out by computerized systems. The meaning of an accounting profession is those or subjects who have a job in the realm of science, namely accounting. In the digital era, it is appropriate that many jobs are replaced by technology or computerized systems, including accounting. There have been many uses of computerized systems as a support or even a substitute for accounting personnel in recording, journalizing, preparing financial reports, etc. Therefore, strategies are needed to maintain the existence of the accounting profession today.

**Academics**

Many academics argue that the biggest competitor of an accounting profession is the technology/accounting system with the current massive digitalization. It is as if all accounting processes can be carried out by accounting software such as MYOB, Zahir, and so on, which can be operated by people who do not take formal accounting education in college as long as they learn it first. So, this can be a threat, especially for those pursuing higher education with an accounting study program, if later, the accounting profession will be marginalized due to the massive computerized system. Today, the task of academics is not only teaching the theory and practice of journaling, such as accounting in the past. This is in line with Arikunto's opinion that accounting learning in universities is focused on understanding accounting information systems and thinking creatively with problem-solving (case studies) and decision-making processes.

The insertion of courses or materials related to information systems and informatics is relevant in the digital era. The same thing was conveyed by Gildon, who argued that the profession must identify and understand risks and opportunities amid global IT trends to grow safely and optimally. An accounting profession is also expected to act as a controller of digital systems in addition to users. Although the system will replace not all jobs, for example, educators, it is clear that this is needed at any time. However, as a subject of the accounting profession (academics), it is still necessary to improve the quality of oneself as a teacher because accounting science will develop according to its era. Participating in workshops and training are several ways to improve the quality of yourself as a teacher. As a lecturer or academic, it is also important to think about graduates so that they can compete in this digital era by revamping the curriculum relevant for the careers of prospective accounting professionals later. The basic competencies that students must have should also be more qualified in the digital era, and they must have good analytical power for the learning process in the classroom. The strategies that can be applied before universities accept prospective students before being educated are to fulfill the basic competencies that must be possessed to be qualified in the digital era, such as good analytical power to support the learning process in the classroom. For example, the college entrance examinations at various universities are applied to the medical education department. Where the criteria for prospective students are idealistic enough to become a doctor, it is hoped that the accounting major should also be able to apply the same system before prospective students become accounting students later.

**Accounting Student**

Many accounting students believe that the closest tie between accounting and the digital era is the entry or process of entering financial information using technology or computerized systems with today's software. Obviously, the potential of a student in this day must be greater in terms of accounting knowledge and information technology. Everything must begin with the awareness that one is capable of quality or skill by mastering the use of systems or software and always keeping up with the times, because the benchmark for becoming an accountant in the future requires both accountants and lecturers to possess skills and qualities that are appropriate for the present. Mastery of not only one system, but of all systems, is required. A student will not be able to compete in the future if he only relies on school benches. Training must also be followed because not necessarily what is taught in universities is also taught in other universities. For those whose home universities have facilitated, it is not a big problem, and their universities have equipped them to compete in the current digital era. The problem is that universities do not provide facilities such as

training, courses, etc. They must be aware that they are looking for it outside the institution where they study so that they will have qualified potential when they graduate.

## 5. CONCLUSION

In the digital era, the accounting profession is expected to be able to adapt to the massive development of technology today. The massive development of technology and the rapid growth of information will bring about changes that impact the accounting profession, which is not only limited to recording and journaling as in the past because it can be disrupted by the presence of accounting technology/software. The presence of technology in the world of accounting can be a threat to the accounting profession because the software will continue to be refined to make it more optimal and efficient. However, there are fields of work for the accounting profession that cannot be replaced by technology that can be maximized, such as analysis of transaction evidence, decision-making policies, and managerial functions such as planning, organizing, actuating, controlling, estimating the economic life of fixed assets, and giving opinions on the fairness of financial statements. As for the concrete strategy to face the digital era for accountants so that they can continue to show the existence of their careers in the future, which can be started from the university side by learning information systems in study programs or accounting majors so that they are more massive together with increasing case studies to train critical and creative thinking, as well as participating in various training or courses related to things that are not and have not been taught in depth in higher education.

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