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## The role of artificial intelligence in financial reporting tasks

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### Abstract

Artificial Intelligence is part of the development of information technology that has an impact on the accounting process. The research method used in this study is a literature study method on the relevant previous literature and discusses the role of artificial intelligence in financial reporting. The potential for using Artificial Intelligence

is very high, and software robots can make it easier for accountants to do several jobs. Accountants' responsibilities in the future will go beyond bookkeeping transactions to becoming business consultants as well as leading organizations. This change requires increasing skills in technology and data as well as communication skills.

**Keywords:** Artificial Intelligence, Financial Statements

### Introduction

The increasingly rapid development of technology and information requires all professional fields to continue to develop ways of working quickly and precisely so that they are not left behind by the times and can achieve goals efficiently. Similarly, the field of Accounting, a branch of science from economics, studies various kinds of financial analysis. With increasingly modern technology demands that accounting can make more use of technology. (MF Tiatmaja, 2019).

The accounting and financial process is one of the most widely supported or taken over by software robots (Peccarelli, 2016). Artificial Intelligence (AI) is one of the fields of study regarding intelligent thoughts that can be used as a form to perform a calculation (Singh and Singh, 2010). The calculations carried out by Artificial Intelligence AI aim to create a more controllable system and make it easier for users to do their work. Artificial Intelligence AI is certainly very useful for workers in various fields. Artificial Intelligence AI can help a business to create effectiveness and efficiency.

Initially computers only process data, then produce information for decision making. Along with developments, currently computers can process knowledge so that the decision-making process becomes faster and more accurate.

If the computer is working on data processing, then humans must convert the data into information that can be used in processing knowledge to produce decisions. If the computer does the processing of information which means it also includes data processing - then humans simply do the processing of knowledge to produce decisions. However, if the computer can perform knowledge processing – also contained in the processing of data and information – then there will be very little part of the work that must be done by humans, including in applying the results for certain purposes.

The technique makes the computer able to process this knowledge is called artificial intelligence techniques. With this approach, humans try to make computers think like the way humans solve problems. There are several levels of intelligence as illustrated by the following figure.

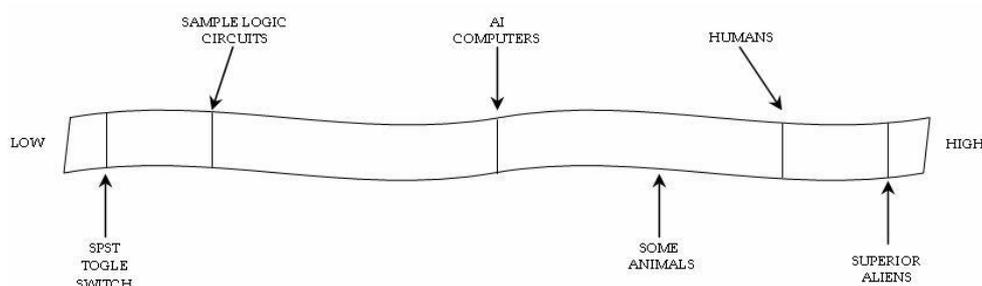


Fig 1.1: Spectrum of Intelligence or “direction ability”

The human mind occupies the highest level in the spectrum of intelligence, simple logic circuits are at the lowest level of the spectrum, while artificial intelligence lies in both of these. Technological sophistication that continues to grow rapidly, it is undeniable that it has changed habits and replaced several roles in the field of work.

Technology in the field of artificial intelligence can be programmed to resemble human intelligence that can imitate human actions. With this artificial intelligence, the role of humans will be systematically replaced, and begin to narrow some of the jobs in a company. The more modern technological developments require the accounting world to be able to utilize technology, to make decisions quickly and determine strategic steps.

Based on the description above, the purpose of writing this article is to find out the extent of the role of Artificial Intelligence (AI) in financial reporting tasks through a literature review of previous studies that discuss the role of Artificial Intelligence in financial reporting.

## 2. Method

As part of conducting exploratory research, literature study is an important thing to do, especially to provide a research basis. By conducting a literature study, researchers will get what information is already known regarding the problems, concepts and theories that have developed, as well as controversies such as what happened regarding these problems. The literature study also provides insight into what research methods have been used to achieve new knowledge related to the research problem. Researchers can also pay attention to directions from previous researchers on literature studies to make the input a topic that needs to be researched (Miles, 2014) <sup>[6]</sup> (Petticrew, 2006) <sup>[8]</sup>.

## 3. Results and Discussion

The driving factors for the implementation of Artificial Intelligence applications are:

1. The rapid development of hardware technology.  
Almost all Artificial Intelligence applications require hardware that has a higher capacity speed, even if running only the simplest Artificial Intelligence software. In addition, the price of hardware with more capabilities has a relatively cheaper price.
2. Artificial Intelligence software development  
Today, new, more sophisticated programming languages and tools have been developed and widely marketed, including special languages for Artificial Intelligence.
3. The special development of personal computers (personal computers / PCs).  
Nowadays, many people use microcomputers, especially personal computers, whether at school, company or even at home, which causes their demand for superior software for their work.
4. The participation of investors in funding research and development of Artificial Intelligence technology.  
This has resulted in a kind of pressure among the Artificial Intelligence community to compete in accelerating the movement and pace of research and immediately producing Artificial Intelligence in a short time.

The accounting and finance process is one of the most widely supported or taken over by software robots (Peccarelli, 2016). Accounting record operations require high accuracy, consistency, and many of them require manual management

of recurring transactions. An employee usually collects information from various separate systems and then processes the data before finally inputting it into the accounting system. The process of collecting data and processing it manually will take a lot of time and cause many errors. Accounting processes use structured rules and procedures so that it is relatively easy to automate the process (Moffitt, 2018). On the other hand, the automation process can be carried out in tracking payment checks, document management and authorization procedures. Audit logs of an automated process can provide more detail than if done manually.

Accounting processes that can be automated to improve performance and accuracy include (Jędrzejka, 2019) <sup>[3]</sup>:

1. Accounts that need to be closed at the end of the period, validation of journal entries, account reconciliation, and consolidation.
2. Financial reporting, internal and management performance reporting, external reporting of rules and regulations.
3. Management of accounts receivable and payable, updating customer data, suppliers, invoice processing, automation of authorization, as well as validation and posting of payments, cash receipts, billing and invoice adjustment with purchase and sales orders.
4. Cash management, transactions within the company, accounting for inventory, expenses and travel, accounting for fixed assets and accounting for taxes.

There are several reasons to automate the accounting and reporting period closing entries. Regulatory provisions (especially those concerning public companies) continue to evolve and increase pressure for the accounting department to keep up with all developments in these regulations. Closing the notebook at the end of the period, consolidating the performance of group companies, and issuing financial reports in a short period of time requires effective coordination within the company with a competent financial team with good corporate governance.

The process of closing transactions at the end of the period has a direct impact on the results of financial reporting. Ninety-seven percent of CFOs surveyed said that there is a level of uncertainty in the financial reporting process, which mainly occurs due to disclosure of information when there are recent changes to accounts, data accuracy and integrity caused by the inability to monitor all activities at all times (FSN, 2017).

Several researchers reveal the impact of Artificial Intelligence (AI) in the form of reducing work, increasing company performance and saving working time. Transaction closing activities and reporting processes are usually measured using a check list, which includes various tasks and their completion status. The reliability of this list depends on human factors. The need to use various sources of information and programs/software (including current software), repetitive tasks and the priority of accuracy, consistency and timeliness make the account closing process and report generation the right activity for automation (Lacity, 2016) <sup>[4]</sup> (Asatiani, 2016) & Penttinen, 2016).

In general, the impact of Artificial Intelligence (AI) on the business world is considered positive, technological progress is seen as an opportunity rather than a threat. However, the role of robots that will take over the role of accountants as a whole still needs to be investigated further. So far humans

only need to compete with other humans, but now they will also compete with robots. Employees who were previously responsible for doing manual and repetitive work are now responsible for implementing, managing and controlling robots, and once they feel more comfortable they are less likely to resist changes in Artificial Intelligence implementation. Robots do not replace humans in carrying out a job but as a resource. Robots act as virtual assistants or digital assistants that help and support humans in routine and repetitive activities. Artificial intelligence will help to automate unstructured accounting tasks, where this is an opportunity to synergize with technology to support decision making and not replace the role of humans (Davenport, 2018) <sup>[1]</sup> Marshall, 2018) <sup>[5]</sup>.

Robots may replace some human positions, but will not replace all processes and jobs, besides the process of configuring and designing the robot itself is still a human domain because this activity requires an assessment (Marshall, 2018) <sup>[5]</sup>. Robots may replace some human positions, but will not replace all processes and jobs, besides the process of configuring and designing robots themselves is still a human domain because these activities require assessment. On the other hand, the need for innovative problem solving skills, communication, creativity and active and strategic learning is expected to increase. (WEF, 2020). Accountants are expected to be able to have a combination of information technology or information management skills with general accounting knowledge (Ahmed, 2003). However, the accounting profession in the future also needs to develop soft skills that distinguish humans from robotic automation. One survey among accounting employees emphasized that communication and collaboration are the most important skills (Talents, 2017) <sup>[10]</sup>. At the same time the ability to work with the latest data and technology will become an indispensable part of it.

The process of automation of tasks that require basic skills and are repetitive will cause the accounting position at the basic level to be reduced, while for the accounting profession it will cause the opportunity to learn from the basic level to be lost. On the other hand, the accountant is expected to provide advantages in the form of expertise and data interpretation, while the accountant's own expertise is obtained in stages from starting to do accounting work at the basic level.

#### 4. Conclusion

A professional accountant must be able to analyze, so as to be able to take strategic decisions. Also can take advantage of artificial intelligence applications to automate, improve the performance of the accounting field and fully participate in implementing artificial intelligence in the company. With artificial intelligence technology, a professional accountant must be able to improve performance by automating repetitive work, and focus more on managing financial data to generate value and recommendations that can strengthen business for corporate clients.

The existence of artificial intelligence technology innovation in the accounting field is expected not to eliminate the role of a professional accountant, but to help effectively their work. Inserting the role of artificial intelligence in the accounting process, will be able to minimize errors in bookkeeping so as to be able to produce accurate decisions.

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