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Digital Transformation in the Accounting Field in the Conditions of Technology Revolution 4.0

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Abstract

At societal, industry, organizational, and professional levels, advances in digital transformation technologies such as cloud computing, the internet of things, blockchain, and artificial intelligence are causing challenges and opportunities. The digital transformation makes mechanical and software systems replace accounting and add new functions. To survive in the age of digital transformation,

accountants must continue to innovate and add new insights into how to integrate technology and accounting practices. Accountants consider business analytics and information technology to be “must-have” competencies. At that time, accountants must be agile and continuously learn about technology to create digital infrastructure, platforms, and software to automate business activities.

Keywords: Accounting, Digital Transformation, Technology Revolution 4.0.

1. Introduction

The fourth industrial revolution has created enormous changes in business operations. Advances in digital transformation technologies such as cloud computing, the internet of things, blockchain, and artificial intelligence are creating challenges and opportunities at both societal, industry, and organizational levels. Businesses are having difficulty sifting through and opening new data sources. These include industry readiness, a reliable workforce, and employment diversification. However, ecosystem innovation, competitive industrial platforms, investments in technology, and integration opportunities for small and medium enterprises are opportunities. Indeed, digital transformation requires both soft and hard skills to support business growth now and in the future. Artificial intelligence, the internet of things, big data analytics, cybersecurity, cloud computing, etc. Soft skills such as critical thinking, creativity, working together, and communication are indispensable. In the future, digital transformation will grow in every industry and profession, including accounting. At that time, the rise of big data forced administrators and accountants to become competent. Accountants consider business analytics and information technology to be “must-have” competencies. Accounting must adapt to the new environment due to digital transformation. Increasingly sophisticated software and digital technology will replace accounting. Therefore, to continue to survive in the age of digital transformation, accountants must continue to learn about how to integrate technology and accounting practices. Similarly, businesses that cannot respond to the fourth industrial revolution will be limited in their operations and customer relationships, affecting profit optimization and business continuity. Therefore, to survive in the changing business environment and technological developments of this digital century, accountants must learn quickly. The majority of accounting tasks will be performed by digital technology, including the production of diverse accounting software and the processing of large amounts of data performed automatically by artificial intelligence. This study aims to determine the impact of digital transformation on the accounting profession and the adaptation of accountants to the future technological development environment.

2. Methodology

Accounting is part of the information system, and it measures business performance, processes data into reports, and provides information to lawmakers (Horngren, 2017). Accounting helps report users make better decisions about a company's growth by providing them with important information about the company's performance. Eight factors are affecting accounting in the era of digital transformation, according to Lazanis (2020) [6]. These include automation, new skills, integrated accounting models, training accounting services for customers, using Google to attract customers, and changing customer experiences.

In addition, the International Federation of Auditors (IFAC) discussed the role of accounting in digital transformation, such as determining how finance and accounting must change to adapt to future changes. Hybrid: Eliminating manual accounting roles

in favor of IFCA has identified two essential tasks to create a professional accountant: maintaining relevance and enhancing contributions to helping businesses become strong organizations and sustainability in the financial market. In the future, the work of accountants will change. They will not only be accountants but also navigators, brand champions, storytellers, digital and technology enablers, process and control experts, and trusted information providers. trust.

The following research questions are answered by the author with the aim of exploring upcoming changes in accounting in the context of digital transformation: (1) How does digital transformation affect capabilities and translation? Career change for accountants? (2) How can accountants change their professional role to become adaptors in the age of digital transformation?

For analysis, the study uses a qualitative approach combined with an explanatory method. To construct, describe, extend, or test theory, the main goal of the explanatory approach is to explain why a phenomenon occurs. Accounting in various fields-in particular financial, management, and public accounting-is the subject of study.

3. Accounting in the Context of Digital Transformation

The Impact of Digital Transformation on Accounting

The Internet of Things includes sensing, connecting, reasoning, and acting through connected networks, devices, and services on the internet (Siegel *et al.*, 2018). Sensors and actuators can be connected to computers to support the production of new goods and services by reducing costs, increasing efficiency, and increasing the usability of existing systems. IoT connects many important and private platforms, so when used, they present significant opportunities and risks to privacy and security. IoT endangers privacy rights related to the sharing and ownership of accounting data. Accountants must understand the devices, networks, and services that connect online to complete their work and ensure that accounting data is used and shared safely.

Big data is when a large amount of data becomes difficult to manage using traditional methods. Accountants need authentic data to carry out budget plans, policymaking, and enforcement. Establishing a big data strategy, identifying big data sources, accessing, managing, and storing big data, analyzing big data, and making decisions are the five key steps to optimizing accounting work with big data. Accountants must have business analysis capabilities and information technology skills when working with big data.

Cybersecurity: The development of new software, hardware, and applications also includes threats due to the development of digital technology. Some threats to cybersecurity include malware, phishing attacks, man-in-the-middle attacks, denial-of-service attacks, and the like. Cybersecurity threats affect the storage and security of accounting data.

Cloud-based computing: computing services such as servers, storage, databases, networking, software, analytics, and intelligence are delivered through the internet and enable innovation faster, with more flexible resources and economies of scale. Cloud computing accounting can perform accounting operations quickly and effectively, saving manpower, time, and costs.

Benefits of Digital Transformation in the Accounting Field:

Digital transformation promotes the rapid application of modern technologies from the 4.0 Industrial Revolution to improve productivity and efficiency in accounting activities. According to John Peter Krahel, the application of digital technology to machinery and equipment management will reduce the accountant's workload in monitoring production activities, production costs, and product prices. Besides, the development of high technology creates many modern tools and software, and automatic technology replaces humans in many jobs. From there, information is stored in real time in large volumes, and without limitation, technology can even handle complex accounting operations. Research by Dang Van Thanh (2018)^[1] also clearly shows that using electronic documents instead of checking on paper records and processing them right on data processing software in a computerized environment will be simpler for classifying documents, recording accounting books, or handling individual operations, thereby significantly saving management costs for businesses.

Digital transformation enhances the usefulness of accounting information systems. Digital technology applied in accounting will help enhance the usefulness of accounting information systems. Report users can simultaneously analyze information and make business decisions. Smart systems, robots, and AI tools that replace humans with soft entities will improve compliance and limit subjective decisions. Shawnie Kruskopf points out that instead of periodic audits, audit processes will be automated and there will be advanced tools to detect risk and fraud.

Digital transformation drives innovation in management and operations methods in the accounting sector. Through digital systems, business models can be automated, streamlined, and globally standardized. A comprehensive digital transformation will change mobilization channels and methods, methods of accessing capital, accounting procedures, and accounting information organization. Accordingly, the development of digital currencies and electronic currencies forces financial institutions and banks to change payment methods, monetary functions, and how to operate financial policies main.

Digital transformation ensures the integrity of financial records. Research by Jun Dai and colleagues (2016)^[3] shows that blockchain technology is considered a decentralized ledger capable of recording and verifying transactions, and accounting records cannot be edited or changed once saved on the blockchain. Accounting information is continuously updated and stored on big data in real time, so internal control can ensure control and set data security policies.

The Adaptation of Accounting is Suitable for the Digital Transformation Environment

Every business needs an accountant with five business skills, in addition to changing technology and resources to fit the digital transformation environment. An understanding of economics, data analysis, financial accounting, negotiation ability, and management ability are all essential. Accountants must be able to adapt, solve problems, innovate, and use technology and data. To stay relevant and enhance their contribution to strong and sustainable business growth, IFCA has identified seven key roles for finance and

audit professionals. In large-scale businesses, these roles are divided into leadership, finance, operations, and internal audit functions. In small businesses, accountants perform more roles, including manager, navigator, and technology support person.

Accounting responsibilities also need to change. To adapt to the world of digital transformation, accountants must be responsible for the following issues: developing business regulations, policies, and systems; ensuring effective internal control; building security and digital infrastructure; supervising and training human resources; and providing financial and management reporting to support decision-making. At that time, there was also a change in the assignment of tasks to accountants. It changes from traditional methods to more modern methods to enhance accounting accountability. Traditional accounting has repetitive cycles and tasks that will in the future be handled by mechanical or robotic systems. This reduces headcount and reduces the risk of human error compared to manual business transactions. Security breaches increase with technological advancements. Companies always prioritize the security and safety of their financial and confidential data. Responsibility for storing and securing accounting data will increase in the future.

Accountants must stay up-to-date with new skills to meet their professional needs in digital transformation and other innovations. The fourth industrial revolution leads to the digital era, affecting the transition of the accounting profession from traditional accounting (manual calculations, recording, and reporting; long reporting and decision-making times). long) to digital accounting (simplifying the accounting process, using book accounting software and applications, shortening the time to prepare reports and make decisions, etc.). Doing business in a digital transformation environment comes with financial risks and significant changes in technology and strategy. Accountants need to play a key role in helping businesses make the most of advances in digital technology and realize the full benefits of going digital in their business operations. However, it is essential to transform accounting skills and competencies to perform these important roles. Accountants must understand digital technologies and their impact on businesses if they want to create accounting value using them. Previous accountants may have skipped learning about digital technology and focused on specific accounting activities, but now they must understand industry jargon and solve important digital technology problems. Accounting competencies such as business analytics and the ability to use information technology have been considered “must-haves” for accounting and financial control due to the rise of big data (Oesterreich & Teuteberg, 2019)^[7]. In the future, machines and robots can double human capabilities to work instead of humans. Therefore, accountants must be able to think logically, be able to use information from machines, and balance emotions to make objective business decisions.

4. Conclusion

The digital transformation has caused mechanical systems and software to take over accounting functions and replace some basic accounting functions. By transferring repetitive tasks to an integrated system, accounting professionals can work more efficiently and take on technical and analytical responsibilities related to human resources and clients. To create digital infrastructure, platforms, and software that can

drive business automation, accountants must be able to learn quickly and manage inference. Accounting is becoming more important for mastering financial reporting systems, especially for strategic business analysts who use artificial intelligence to make business decisions.

5. References

1. Dang Van Thanh. Innovating accounting processes in the digital technology age. Securities Investment Newspaper, 2018.
2. John Peter Krahel. On the Formalization of accounting Standards. A dissertation submitted to the Graduate School-Neward, 2012. Available at: <https://rucore.libraries.rutgers.edu/rutgers-lib/38677/PDF/1/play/>.
3. Jun Dai and Miklos A, Vasarhelyi. Imagineering Audit 4.0. *Journal of Emerging Technologies in Accounting*. 2016; 13(1):1-15.
4. Horngren CT. Accounting. Jilid Satu, Edisi Tujuh. Jakarta: Erlangga, 2007.
5. IFAC (International Federation of Accountants). Future Fit Accountants: CFO and Finance Function Roles for the Next Decade. New York: IFAC, 2019.
6. Lazanis R. Future of Accounting, 2020. [<https://futurefirm.co/future-of-accounting>]
7. Oesterreich TD, Teuteberg F. The role of business analytics in the controllers and management accountants' competence profiles. *Journal of Accounting and Organizational Change*. 2019; 15(2):330-356.