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AGRICULTURE'S DIGITALIZATION AND PLACE OF ACCOUNTING PROFESSION

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ABSTRACT

The focus of the paper is on how the agriculture economy is becoming more digitalized and how that is affecting the accounting profession. The idea of the economy being digital is disclosed, and the agricultural sector will follow in certain ways. It is taken into account how important it is for an agricultural enterprise to develop a single information space that fosters interaction between structural units. To digitalize the agro-industrial complex, accounting plays a crucial role in the development of the database and the development of an analytical platform. It is explained how the robotic system functions as a tool in the digital economy. We can now see the four stages of accounting robotization: organizational and informational, robotic data processing, reporting and analytics, and account management. Every stage's attribute is listed. In a robotic accounting system, an information flow plan is put out. There is a list of requirements for accounting robots that have emerged recently and will be needed for their future development. The function of account managers in the digitalization of agriculture is emphasized, and the job of an accountant in the digital economy is described as evolving.

Keywords: Accounting Profession, Agriculture, Digitalization, Robotic System, Single Information

1. INTRODUCTION

The trend of digitizing agriculture in Nigeria is revolutionary. It is simple to understand the need for digital solutions in agriculture, particularly in a nation like Nigeria where farming is largely subsistence or smallholder level with enormous inefficiencies characterizing the practice, leading to a fragmented and frequently underdeveloped agricultural economy. Some seasoned and more recent participants in the sector are looking for solutions that can best be described as digital in order to bring about a greater level of efficiency and openness (Okafor, 2022).

The World Bank's Enabling the Business for Agriculture (EBA), ICT Index Score gave Nigeria a score of 4.5 out of 9, which indicates a slight improvement in the country's efforts to build a more favourable digital environment through laws, regulations, and policies (Wole-Alo, 2020). According to the GSMA Mobile Connectivity Index (MCI), the nation also does well on measures including inexpensive handset costs, a decline in mobile-specific taxes, and the establishment of gender equality in the workplace and market. When we consider that one of the most potent ways to increase economic activity is through increased use of digital technologies, these are encouraging indicators that must continue and get even better (Wole-Alo, 2020). Digital technologies are demonstrated to be a potent method of service delivery, producing disruptive advances in numerous industries, and aiding in the growth of wealth and employment.

According to Olutumise, et al. (2021), in 2011, digitization increased global economic output by $193 billion and produced 6 million new employments. Digitization contributed to an increase in output of $16.5 billion and the creation of about 380,000 new employments in the Middle East and North Africa alone in the same year. However, the effects of digitization vary depending on the level of development of an economy. In industrialized economies as opposed to those in emerging ones, it has a bigger effect on economic growth.

The following are the key directions for digitalizing agriculture according to Olutumise, et al. (2021):

- Changing consumer habits and tastes
- Possibilities for expansion in other markets
- Sector-oriented competition, increased competitive pressure,
- New standards for regulatory and compliance needs, and new developing technologies
- Digitalization of production, including the use of robots and artificial intelligence
- Digitalization of sales of agricultural goods
- Organization of analytical platforms across all agro-industrial complex verticals

2. LITERATURE REVIEW

A developed enterprise information base, with the accounting system, comprising financial, tax, and management accounting as its primary source, is a prerequisite for the development of the analytical platform. The current state of accounting development tends to decrease an accountant's labour costs and optimize information technology for data processing and transmission. Agriculture has an extremely high data flow, necessitating the development of secure

transmission technologies. Crop production, animal husbandry, mechanization, the administrative sector, and the digitization of production, accounting, administration, and decision-making are some of the structural divisions that are encouraged to interact when an agricultural firm is organized as a unified information space (Stolbov, 2018). Accounting serves as an information accumulator and serves as the basis for the digitization of savings in this combination.

Young, qualified workers favor employment in technologically cutting-edge, rapidly expanding businesses that pay well. All of this makes it challenging to implement and impossible to use contemporary accounting information technologies in agriculture. In the context of shifting market conditions, the ability and requirement of getting timely information for managerial decisions predominate. Therefore, the accounting information system should generate a variety of management reports in addition to the required accounting and tax reports and declarations (Okafor, 2022).

Accounting automation is closely tied to computerization, which facilitates the shift from manual and mechanized work to the use of specialized software and makes it possible to outsource some accounting tasks from humans to machines. Up to 75% of all work is taken up by accounting and technical activities connected to the settlement process because of their complexity and volume. Accounting is the process of gathering data about an organization's assets and liabilities, reflecting actions conducted with them, and generalizing that data for use in various reporting formats. The work of an accountant now, which is essentially tied to the advancement of modern tools and technology, will be very different from the work of an accountant in the future (Jellason, et al., 2020).

Currently, it is most pertinent to categorize accounting's stages of development in terms of its technical and technological components (Traldi, 2021):

Stage 1: Conventional manual accounting;

Stage 2: mechanical accounting;

Stage 3: automated accounting;

Stage 4: robotic accounting; and

Stage 5: artificial intelligence-assisted accounting.

Manual accounting is a common practice in accounting. One should be aware of the change from manual labor to using some mechanical tools while discussing mechanization. Automation is the conversion of a portion of manual or automated job functions to automatic execution. Human labor is replaced by robot labor as a result of robotization. The creation of a system centered on the potential for autonomous decision-making while taking changing initial conditions into consideration will be aided by the inclusion of artificial intelligence. Ancient accounting methods used clay and stone tablets, colorful stones, and other objects to record transactions. Drawings, hieroglyphic writing, cuneiform writing, and other methods of recording were used. The publications "On Trade and the Modern Merchant" by Benedetto Cotrulla (1458) and "On Accounts and Records" by Luca Pacioli (1494), which disclosed a double-entry accounting system, served as the catalyst for the development of accounting (Bakulina, et al., 2020) The invention of perforators, tabulators, and arithmometers at the end of the 19th century helped to mechanize accounting labor. Due to processes like summation, multiplication, division, and grouping of credentials, the use of calculating equipment enhanced labor productivity. The mechanization of accounting improved accounting parameters' correctness and dependability, as well as the efficiency of accounting staff and the development of standard formats for accounting records. Depending on the type and extent of available computer technology, partial or comprehensive mechanization was carried out. It was the latter that helped accounting automation develop. The computerization of accounting is directly tied to the change from manual, mechanized work to the use of specialized software, which enabled some accounting tasks to be moved from humans to technology. The functions of an accountant are significantly impacted by accounting automation because they no longer require performing routine mathematical operations, filling out paperwork, or keeping journals. Instead, they register primary documents in an automated accounting system and carry out analytical and control tasks. Giving mundane, everyday tasks to the machine, enables the accountant's work to become more exciting. The demand for a competent workforce is altering, though, as more accountants are exiting the labor force. Programmers who configure universal programs to meet the specific organization, operators who input the fundamental data, and universal accountants who carry out the control and operational management responsibilities are all in greater demand (Bakulina, et al., 2020).Due to the shortcomings of accounting information systems that necessitate monitoring and, occasionally, result rectification, the chief accountant's position is still necessary for today's automated accounting environments. A computer and software that are tailored to the needs of the business and the structure of the accounting service are necessary for the transition to automated accounting systems. A new phase in the development of accounting for robotics is being brought closer by the integration of contemporary data processing and transmission technologies into the accounting service. The Luca Pacioli-developed accounting postulates, such as double entry, general ledger, and others, remain in place concurrently (Izuogu, et al.,

2023). The development and deployment of accounting automation with the potential use of intelligent robotics are made possible by accounting conservatism.

An instrument of the digital economy is the development of robotic accounting systems. The use of modern bot applications, such as a bot accountant that computes insurance premiums, taxes, etc., a bot consultant that provides information support, as well as technologies that bring robotization closer to accounting, such as electronic signature, electronic document management, blockchains, etc., are the most important technologies that contribute to the approximation of accounting robots (Bakulina, et al., 2020). A qualitatively new method of arranging and maintaining accounting is required for the transition to robotization. Stages of the robotic type of accounting:

- ✓ The organizational and informational will be the primary stages.
- ✓ Robotic data processing,
- ✓ analytical reporting, and
- ✓ Account management.

A foundation of primary documents is created throughout the organizational and informational stage through the receipt of external and internal data in a robotic accounting system. The inclusion of external information in the organization's accounting data will only require confirmation, partial confirmation, or denial from external sources. For instance, information about materials acquired from suppliers will be inputted based on papers that firms will get via telecommunications networks. Therefore, information will be automatically recorded into the organization's accounting system data upon confirmation of the supply of supplies, seeds, or feed (Bakulina, et al., 2020). Depending on the decision made, a document on the non-compliance of the delivery will be prepared and delivered to the counterparty, etc., if the quantity or quality of the given materials, seeds, or feed does not match the documents received. The heads of units or other responsible individuals will directly input information generated within the organization at the locations where it occurs. Examples include the utilization of materials in production by foremen in crop production and farm managers in animal husbandry, or the provision of supplies to plant growing and animal husbandry divisions from the warehouse by storekeepers. As a result, when business operations are finished, the entry of primary data will be reflected in the robotic information system, leading to the creation of primary documents (Olutumise, Adene, Ajibefun, & Amos, 2021). Without human involvement, robotic processing of the data from the source is done in the second stage. The minimal human involvement in the operation of the information robotic system defines the stage of robotic data processing. A variety of papers, such as industry regulations and legislative acts, regulate the internal algorithm of accounting operations and agricultural production processes in a robotic system. Robotics installation will take place in two different ways: integrated and process. Individual agricultural processes or a group of connected processes can be digitalized through process robotization, which removes the danger of human exposure. An accounting system that enables the input of primary data, their processing, and their reporting links the information flows of the many activities of crop agriculture, animal husbandry, automation, and the administrative and management sector (Izuogu, et al., 2023).

The output information is compiled in a set of reporting and analytical forms in the third stage. Data processing produces a variety of accounting registers, production reports for crops and livestock, financial reporting, and management reporting, all of which can be used both inside the company and by outside customers. The account manager uses the accounting data in the fourth stage while making management decisions. At the account management stage, the procedure for gathering, processing, and analyzing data on the organization's work is managed. This includes their comparison with baseline and planned parameters, the outcomes of other organizations' activities, and their management in order to promptly identify issues, open reserves, and ensure the full utilization of current potential (Okon, et al., 2021). The most important and exciting stage for agricultural businesses is this one since it redefines what an accountant does.

While the information system generates a set of internal reports containing not only pertinent information but also the outcomes of an interactive situation analysis, ensuring the effectiveness of daily work, accounting robotization helps reallocate working hours from traditional accounting work to developing, evaluating, and making management decisions. It should be highlighted that the necessary foundation has already been laid for accounting robotization. These are merely the initial steps, though, and further research and execution are needed. Even with the automation of accounting, the requirement for an accountant-bookkeeper has started to decline and is now entirely replaced by an accountant operator who inputs raw data into the information system (Mustapha, et al., 2020). The future of the accounting profession is being seen in oppositional ways as a result of this circumstance. The automation of accounting, when computer and automated accounting systems took over the mathematical job and technical procedures, rocked the position of this profession for the first time. Of course, the accounting profession will endure, but there have been significant changes and the pace of change is accelerating. Maybe in the future, accountants and

accountant-operators will be extinct. On the other hand, the job of an accountant-analyst, an expert who can exercise professional judgment, will expand. The study's objective is to determine if accounting for future events in the contemporary information society is necessary or even feasible. This demonstrates unequivocally that accounting continues to advance alongside the accounting profession. Agriculture's features place certain demands on agricultural accountants:

- Understanding the intricacies of agricultural production and the underlying organizing principles;
- Developing a pay system based on the quantity and caliber of work performed;
- Figuring out the cost structure and techniques for estimating the cost of production, etc.

An accountant's knowledge, talents, and abilities in the area of information preparation and the creation of management decisions helpful to corporate development are highlighted. The ability to correlate different prices with alternatives, detect limiting constraints, and have the skills to generate not only regular but also unique, non-standard management judgments are all imposed by knowledge of arranging and maintaining accounting. In this sense, an accountant's role in the digital economy has changed to become that of an account manager (accountant, management). To put it simply, an account manager is a manager who uses his accounting expertise to get things done and uses data to paint a picture of production. As a member of the management team, a qualified account manager oversees the operations of structural units while taking into consideration their interests.

3. CONCLUSION

In summary, it should be noted that technical and technological elements, such as the processing of global data through digitization and storage, are at the foundation of the digitalization of the economy, and in particular agriculture. The improvement in agricultural output is correlated with the digital economy. The degree of economic development, the level of education, the readiness of the regulatory framework, and the state of applied technologies all influence how quickly the digital economy is incorporated into agriculture. The most digitalized aspect of agriculture nowadays is modern information accounting systems, which necessitate a sufficient level of specialized knowledge. Due to the low attractiveness of the industry, which hinders the digitalization of both accounting and agriculture, the analysis of the current state of the labor market and employment in agriculture reveals the insufficient qualifications of accountants. A shift in emphasis from the traditional understanding of accounting towards account management and, as a result, the transformation of the accounting profession into an account manager is determined by the emerging transition to accounting robotics, which determines promising areas of development that contribute to its modern development. Modern accounting practices have expanded the duty of the accountant to include making managerial decisions that will increase the productivity of the agricultural operation. As a result, accounting and the profession of an accountant are changing to meet the needs of the digital society, ensuring their continued relevance in the age of the wider digital economy.

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