Accounting Information System and Computerisation: A Conceptualisation

Collins C. Ngwakwe*

Turfloop Graduate School of Leadership, Faculty of Management and Law, University of Limpopo, South Africa.
Email: collins.ngwakwe@ul.ac.za

ABSTRACT

This paper highlights the computerisation fundamentals of accounting information system through accounting software application. It presents the layers of computerisation, which are pivotal to the application of accounting software, namely the hardware, the application, and system software. Furthermore, it highlights accounting software with selected examples from the Sage Accounting Software and notes significant advantage of applying the accounting software into accounting operations. These include amongst others integration of different items and different segments, speed, reliability, volume, storage, virtual, and real-time concurrent operations. It highlights nascent threat to computerisation and remote accounting processing, namely the ransom-ware cyber-attack. Therefore, the development of new anti-cyber-attack accounting software becomes very pertinent.

Keywords: Accounting Information, Computerised Accounting, Accounting System
JEL Classification: M41

1. INTRODUCTION

The contemporary financial managers face increasing urgency to make prompt accounting decisions, which must incline on real-time financial standing (Sage, 2021a). This arises because the internet of things (IoT) and attendant 4IR has meant that business operations and related commercial activities, such as, quotations, billings, orders, and payments happen with an expedited speed (Ganapathy, 2021). In the same vein, management decisions involving alternative choices such as special order or pricing decisions, make or buy decisions, segment closures or segment expansions require real-time financial standing to expedite decisions within the shortest time to avail from potential financial gain from such special decisions (Trigo et al., 2014). The bourgeoning of computer capabilities in support of accounting and finance functions via the accounting software comes handy to provide enabling decisions required to meet the competition orchestrated by business complexities and attendant volumes of production and services made possible by computer technology.

Accordingly, accounting operations in today's intricate commercial environment requires businesses to acquire latest computer technology to withstand growing computer-enabled business competition (2021a). This is exigent because the advent of computer technology with resultant online business transactions has given rise to increasing number of staff that work remotely. In addition, the recent years has seen the challenge posed by the COVID-19 pandemic. This has in turn increased the number of businesses, offices, and people working remotely to avert the danger posed by the pandemic (Blanchard, 2021). Yet amid the increasing remote working, companies need to prepare and close the financial records, produce financial reports and make financial decisions, which must comply with mutable national and international regulations. In the midst of these technological and environmental challenges, the accounting software becomes a veritable catalyst to meet the urgency, speed, accuracy, volume, reliability, and virtual necessity wrought by computer technology and attendant globalisation.

2. THE CONCEPT OF ACCOUNTING INFORMATION SYSTEM

The terminology "accounting" may connote little or no tangible meaning when dissociated from the information systems setup. Positively, accounting is only a tentacle within the colossal empire of information systems and narrowly within the management information system niche. What makes accounting distinct from other array of management information system is the somewhat intricate organised and statutory backed process of preparing and communicating the internal and final information in an organised structure that passes the fairness scrutiny by independent auditors (Jurakulovna, 2021; Krasodomska et al., 2021). This quality characteristic provides credible, reliable, and objective decision guide for managers and stakeholders within and outside of the organisation. Sequel to the above description, it becomes clearer that accounting as an information system is guided by regulations that traverses national and international boundaries. This is because, preparers of accounting information in each country undergo rigorous training that culminate to the awarding of a certificate that bears the seal of an accounting professional body within a particular jurisdiction as approved by the host country's government (Lee and Wolnizer, 2021). In addition, such professional body or association falls under the umbrella of a larger international professional accounting association, such as the International Federation of Accountants (IFAC), which is the global accounting profession body that serves as a voice for the accounting profession (Redda and Khalfallah, 2021). Furthermore, the international body also serves as a watchdog that protects public interests to bestow credibility to the accounting profession by ensuring that the myriad of accounting professions under its auspices also serve the public interest through the protection of private and public wealth. This is achievable by ensuring that accounting information declared after the rigorous process of professional independent auditing contains pertinent and reliable financial and non-financial information that is trust worthy and usable by management and all stakeholders in making current and future planning and decisions.

Therefore, the concept of accounting information system can be understood from an organisation's information systems architecture (Fullana and Ruiz, 2021). Hence, accounting information system depicts a formal structure of accounting system within the organisation. The established structure, functions as a guide in collecting data, storage of data, dealing with the processes of management of data, handling the retrieval of data and the application of the diverse data in preparing the ultimate organisational financial report (Robinson, 2020); which is formally sewed together in an organised form as a holistic accounting information for each fiscal period. Such report becomes credible only after certification by accredited independent auditors, thereafter the report, currently known as integrated report becomes a reliable accounting information for use by all stakeholders in decision and planning functions. The focus of this brief paper is that given the boost in modern digital technology, accounting information system may not be very effective in the absence of computers. Hence, some researchers concurs that ICT provides the key recipe for accounting system's efficacy and corporate performance (Taiwo, 2016, p. 1). Accordingly, the following section looks at aspects of computer enablement for accounting information system.

3. COMPUTER ENHANCED ACCOUNTING INFORMATION SYSTEM

Accounting information system in modern computer age has evolved rapidly with the advent of the stages of computer development and it is still evolving with every advancement in current information technology marked by miniaturised chips and robotics (Taiwo, 2016). Consequently, today's accounting information system has improved significantly in many fronts including amongst others speed, accuracy, massive storage bandwidth, cloud-backup, security and remote functionality (Wang, 2011). Amid the computerisation of accounting, there is strict adherence to international accounting principles, which may not be compromised (Ilias and Zainudin, 1970). Hence, the first consideration for computerisation of accounting system is ensuring that the system complies with accounting principles to enhance the reliability, fairness, and trustworthiness of accounting reports. In the physical accounting office – accountants operates in tandem to produce timely accounting information required by management and external users during the operating cycle, hence the working environment can be technically termed the operating environment. In the same vein, the usage of computers in facilitating the work of accountants maintains the same operating environment. The operating environment catalyse the process of record keeping (which is storage of record) and usage of such records to produce the needed reports – this is technically referred to as the framework. Similarly, the same operating environment is applicable in a computerised system of accounting, where akin to manual accounting, there is an automated storage and processing of data for information production and dissemination. One striking difference is that under the computerised accounting system – the pivotal elements consists of the software and hardware (Taiwo, 2016), which enables computerisation functionality. Computerised accounting hardware comprises the main computer machine itself such as the central processing unit (CPU), the monitor (the screen display unit), the key board, the mouse, etcetera. Taiwo (2016) opines that the ICT has elevated the reliability standing of accounting as an information system, and that this has provided a boost to corporate performance.

The software comprises different types of information, which provides instructional guide to the main computer for it to perform its processing activity (Yurchenko, 2018). Accordingly, the software functions as an instructor to the computer machine, without which, the machine remains almost unusable. There are two main groups of computer software namely the application software and the operating software (example in Figure 1). Some are general software, and others are tailor-made software to match specific needs, such as accounting information needs. A typical example is the Sage Intacct Accounting Software, which are produced by Sage (2021a) to specifically assist in preparing diverse aspects of accounting information. In addition to the general application software, there are also tailor-made application software such

Figure 1: A conceptual framework of computerised accounting system
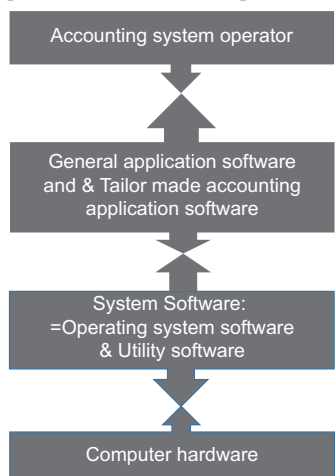
as the Sage Accounting Software, which serve unique functions of assisting the accountants to produce accounting information with enhanced advantages of speed, reliability, accuracy, volume, remote access and/or real-time visibility, etcetera.

4. EXAMPLE WITH SAGE ACCOUNTING SOFTWARE IN ACTION

4.1. Sage Revenue Recognition Software

The revenue recognition software functions to simplify associated complexities implicit in conventional accounting recognition of revenue. Hence, the revenue recognition software configures the amortisation of expenditure in a fashion that enhances revenue recognition – through a matching or differing functionality. The advantage is enhanced through automation, which pinpoints the following:

> *"Enhances management of recurring revenue; a bidirectional alignment of sales order with the customer for time saving and error reductions. It also enhances real-time connection with accounting for recognition of recurring revenue, which takes cognisance of discounts, customer renewal of orders, usage and any cancellations"* (Sage, 2021b, p.3)

4.2. Sage Accounts Receivable Software

The Sage accounts receivable software enhances efficiency in the accounts section and catalyses expedited receipt of payments from receivables. This advantage is bolstered through receivables process automation and improved record keeping for sales orders, quotations, and billings, postings to ledgers and accounts receivables (Sage, 2021c).

4.3. Sage Accounts Payable Software

The Sage accounts payable software enhances easy automation of payables with added advantage of configuration of approved invoices via internal control system with expected accountability. In addition, the software has inbuilt system of monitoring when spending limits is reached to enable compliance with the set budgets on spending (Sage, 2021d).

All the accounting software packages including the order management software, the cash management software, and the general ledger software possess the advantage of automation, speed, reliability, accuracy, volume of job accomplishable, safe storage, etcetera. It follows that accounting software packages may enhance more productivity as more clients can be serviced. In addition, accounting operations in remote divisions or segments of a company becomes amenable to systems integration to enable spontaneous visualization of the financial stand of each segment. This empowers the managers with clearer information to make prompt decisions about potential profitable business engagements without waiting for days, weeks and months as applicable in the manual accounting system.

5. CONCLUSION

The application of computer software in accounting processes has the capability to cut processing time to a magnitude of over 65% in a year. This means an unprecedented turnaround in producing accounting reports and attendant speed, accuracy and reliability in the resulting accounting reports for internal and external users. Albeit the enormous advantages of computerised accounting system, the years 2020 and 2021 witnessed record challenges arising from increasing ransom-ware cyber-attacks, which has the potential to increase in the year 2022 and beyond. It follows therefore that organisations – profit and non-profit should invest toward enhanced security of business software to protect financial and other organisational data from being vulnerable to ransom-ware cyber-attacks. This appears to be the greatest threat facing the computerisation and remote capabilities fostered through the usage of modern accounting software.

Accordingly, whilst the enormous advantage of speed, volume, and quality are celebrated, business accounting systems managers should be pre-emptive of cyber-attacks with every single or volume of transaction with a view to creating adequate backups and be innovative in software development. Further research discussion may focus on the possibility that a tailored accounting software may stand a better advantage to obviate ransom-ware cyber-attacks than general software.

REFERENCES

Blanchard, A.L. (2021), The effects of COVID-19 on virtual working within online groups. Group Processes and Intergroup Relations, 24(2), 290-296.

Fullana, O., Ruiz, J. (2021). Accounting information systems in the blockchain era. International Journal of Intellectual Property Management, 11(1), 63-80.

Ganapathy, A. (2021), Edge computing: Utilization of the internet of things for time-sensitive data processing. Asian Business Review, 11(2), 59-66.

Ilias, A., Zainudin, N.N.B. (1970), Factor affecting the computerised accounting system (CAS) usage in public sector. The Journal of Internet Banking and Commerce, 18(1), 1-29.

Jurakulovna, J.G. (2021), The necessity and theoretical basis of financial statement analysis in modern management. Academic Journal of Digital Economics and Stability, 7, 89-95.

Krasodomska, J., Simnett, R., Street, D.L. (2021), Extended external

reporting assurance: Current practices and challenges. Journal of International Financial Management and Accounting, 32(1), 104-142.

Lee, T.A., Wolnizer, P.W, editors. (2021), The Quest for a Science of Accounting: An Anthology of the Research of Robert R. Sterling. London, United Kingdom: Routledge.

Redda, K., Khalfallah, Z. (2021), Accounting education: A theoretical overview. Journal of Finance and Corporate Governance, 5(1), 1-11.

Robinson, T.R. (2020), International Financial Statement Analysis. New Jersey: John Wiley and Sons.

Sage (2021b) Revenue Recognition Software. Available from: https://www.sage.com/en-za/sage-business-cloud/intacct/billing/revenue-management

Sage (2021c) Accounts Receivable Software. Available from: https://www.sage.com/en-za/sage-business-cloud/intacct/core-financials/accounts-receivable-management

Sage (2021d) Accounts Payable Software. Available from: https://www.sageintacct.com/products/accounting-software/core-financials/accounts-payable

Sage. (2021a), Sage Intacct Accounting Software Products. Available from: https://www.sageintacct.com/products/accounting-software

Taiwo, J.N. (2016), Effect of ICT on accounting information system and organisational performance: The application of information and communication technology on accounting information system. European Journal of Business and Social Sciences, 5(2), 1-15.

Trigo, A., Belfo, F., Estébanez, R.P. (2014), Accounting information systems: The challenge of the real-time reporting. Procedia Technology, 16, 118-127.

Wang, L.N. (2011), Impact of information technology on accounting. In: Advanced Materials Research. Vol. 219. Freienbach, Switzerland: Trans Tech Publications Ltd. p1224-1227.

Yurchenko, I. (2018), Information support system designed for technical operation planning of reclamative facilities. Journal of Theoretical and Applied Information Technology, 96(5), 1253-1265.