

Evaluation of the Effectiveness of Accounting Information System of Selected Public Organizations in Anambra State

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Abstract: Accounting Information System (AIS) indicates an integrated framework within an organization that employs physical resources to transform economic data into financial information for conducting the firm's operations and activities, and providing information concerning the entity to a variety of interested users. The effectiveness of AIS can be determined by the role of the human element in generation, storage, retrieval and deletion of information. The study employed descriptive survey to determine the effectiveness of AIS in selected public organizations in Anambra State. Three public organizations were purposively selected from three sectors, namely education, finance and core civil service for the study. A sample of 205 staff was selected for the study. The sample was purposively selected from the following departments: Administration, Revenue/Finance/Bursary and Establishment. A questionnaire titled Accounting Information System Effectiveness Survey (AISES) was developed by researcher, validated by specialists, and used for the collection of relevant data. Data obtained were analysed with descriptive statistics on SPSS version 23. The study found that apart from information retrieval, these organizations were found lacking in information generation, storage and deletion. The study therefore recommended, among others, appropriate checks and balances to be put in place by organizational management to ensure that accounting information system works in their organizations.

Keywords: Accounting Information System, Effectiveness, Generation, Storage, Retrieval, Deletion.

INTRODUCTION

Information is a business resource. Like the other business resources of raw materials, capital, and labour, information is vital to the survival of the contemporary business organization. Information is often defined, rather inadequately as processed data. This is because information is determined by the effect it has on the user, not by its physical form (Hall, 2011). One person's information could be another person's data (that is unprocessed pieces of facts that have no effect on the receiver). Thus, information is not just a set of processed facts arranged in a formal report. Information allows users to take action to resolve conflicts, reduce uncertainty, and make decisions. It is a valuable data processing that provides a basis for making decisions, taking action and fulfilling legal obligation (Sori, 2009).

The value of information to a user is determined by its reliability. This is because the purpose of information is to lead the user to a desired action. For this to happen, information must possess certain attributes – relevance, accuracy, completeness, summarization, and timeliness (Al Azmi, Al-Lozi, Al-Zu'bi, Dahiyat, & Masa'deh, 2012). When these attributes are consistently present, information has reliability and provides value to the user. Unreliable information has no value. At best, it is a waste of resources; at worst, it can lead to dysfunctional decisions.

Over time, accounting information system has evolved to provide accurate, fast and

reliable information for the various users of accounting information for effective decision making.

Accounting information system is meant to enable organizations to conduct their operations and activities, and provide information concerning the entity to a variety of interested users. For AIS to be effective, due care should be exercised at the various levels of tasks, namely, information generation, storage, retrieval and deletion. An error at any level can undermine the effectiveness of the AIS. Thus, the effectiveness of any AIS will be determined by the manner in which information are generated, stored, retrieved and deleted. The problem however, is that given the human input, there could be certain errors of judgement that could undermine the effectiveness of the AIS in selected public organizations in Anambra State. Thus, the effectiveness of AIS could be evaluated at its different phases of information generation, storage, retrieval and deletion.

Objectives of the Study

The main objective of the study was to evaluate the effectiveness of Accounting Information System (AIS) in selected public organizations in Anambra State. Specifically, the study sought to:

1. Evaluate the effectiveness of information generation in selected public organizations in Anambra State.
2. Evaluate the effectiveness of information storage in selected public organizations in Anambra State.
3. Evaluate the effectiveness of information retrieval in selected public organizations in Anambra State.
4. Evaluate the effectiveness of information deletion in selected public organizations in Anambra State.

Research Questions

The following research questions were posed to guide the study:

1. How effective is information generation in selected public organizations in Anambra State?
2. How effective is information storage in selected public organizations in Anambra State?
3. How effective is information retrieval in selected public organizations in Anambra State?
4. How effective is information deletion in selected public organizations in Anambra State?

Research Hypotheses

The following research hypotheses were formulated to guide the study

- Ho1:** There is no effective information generation in selected public organizations in Anambra State.
- Ho2:** There is no effective information storage in selected public organizations in Anambra State.
- Ho3:** There is effective information retrieval in selected public organizations in Anambra State.
- Ho4:** There is no effective information deletion in selected public organizations in Anambra State.

LITERATURE REVIEW

The word “Accounting” is an art, a method, a measurement methodology of communication system and an information system designed to produce selected quantitative data in monetary terms about an entity engaged in economic activity. In this explanation, accounting is a part of information system of an economic entity. Accounting Information is information which

describes an account for a utility. It processes financial transactions to provide external reporting to outside parties such as to stockholders, investors, creditors, and government agencies etc. And non-accounting information is information which cannot be measured in monetary terms to make investment decisions by the investors (Amahalu, Abiahu, Obi and Nweze, 2018). This type of investment is called as ethical investment. Financial information is essential in making sound investment decisions and it will reduce the informational asymmetry problem between the firm's managers and the investors (Hossain, Khan, Yasmin, 2004; Amahalu, Nweze, and Obi, 2017). For financial reporting to be effective, accounting information must be relevant, complete and reliable. The primary purpose of the financial statements is to provide information about a company in order to make better decisions for users particularly the investors (Germon and Meek 2001). It should also increase the knowledge of the users and give a decision maker the capacity to predict future actions. Therefore, relevance accounting information can be described as an essential pre requisite for stock market growth (Oyerinde, 2009).

Every business day, vast quantities of information flow to decision makers and other users to meet a variety of internal needs. In addition, information flows out from the organization to external users, such as customers, suppliers, and stakeholders who have an interest in the firm. Every individual in the organization, from business operations to top management, needs information to accomplish his or her tasks. All user groups have unique information requirements. The level of detail and the nature of the information these groups receive differ considerably. For example, managers cannot use the highly detailed information needed by operations personnel. Management information is thus more summarized and oriented toward reporting on overall performance and problems rather than routine operations. The information must identify potential problems in time for management to take corrective action. External stakeholders, on the other hand, require information very different from that of management and operations users. Their financial statement information, based on generally accepted accounting principles (GAAP), is accrual-based and far too aggregated for most internal uses (Abu-Shanab, Abu-Shanab & Khairallah, 2015). Thus, to make for effective management of information, Accounting Information System (AIS) becomes imperative.

A system is a set of interdependent elements that collect, manipulate, store and disseminate the data and information and provide a feedback mechanism to meet an objective (Sori, 2009). A system must have organization, interrelationships, integration, and central objectives. A system can further be described as a network of interrelated components that function together as an integrated whole embedding checks and balances to ensure its smooth operation and the achievement of the common objective. Information system is manmade system that consists of an integrated set of computer-based and manual components established to collect, store, and manage data and to provide output information to users. (Gelinis et al, 2017). Information System (IS) includes people, data, processes, and information technology that interact to collect data, store, process, and provide output in the form of information needed to support and improve operational, tactical, and strategic activities of an organization (business). The combination of the three words Accounting Information System (AIS) indicates an integrated framework within an entity (such as a business firm) that employs physical resources (i.e., materials, supplies, personnel, equipment, funds) to transform economic data into financial information for; (1) conducting the firm's operations and activities, and (2) providing information concerning the entity to a variety of interested users. Indeed, the combination or interaction between human, technology and techniques would permit an organization to administer its knowledge effectively (Sori, 2009).

Accounting Information System (AIS) is considered as a specialized subsystem of the IS. This involves the collection, processing, categorizing and reporting of information related to the financial aspects of business events. AIS are often integrated and indistinguishable from the overall information system. Like the IS, the AIS may be divided into components based on the operational functions supported. According to (Hall, 2011), the AIS is composed of three major subsystems: (1) the Transaction Processing System (TPS), which supports daily business operations with numerous reports, documents, and messages for users throughout the organization; (2) the General Ledger/Financial Reporting System (GL/FRS), which produces the traditional financial statements, such as the income statement, balance sheet, statement of cash flows, tax returns, and other reports required by law; and (3) the Management Reporting System (MRS), which provides internal management with special-purpose financial reports and information needed for decision making such as budgets, variance reports, and responsibility reports. Accounting information systems are considered as important organizational mechanisms that are critical for effectiveness of decision management and control in organizations.

In this information age, the place of AIS in modern businesses cannot be over stressed. Al-dmour, Al-fawaz, Al-dmour and Allozi (2017) state that implementing a proper Accounting Information System is an enabler to competitive advantage. This however, does not preclude some weaknesses in the system, nor does it present the AIS as an excellent platform for business effectiveness. There is the human factor in the management of accounting information system that could undermine the effectiveness of the system. Since database management involves four fundamental tasks of information generation, storage, retrieval and deletion, error of judgement on the manager of this information could jeopardize information management with its costly consequences (Abu-Shanab et al, 2015). Information generation is the process of compiling, arranging, formatting, and presenting information to users. Information can be an operational document such as a sales order, a structured report, or a message on a computer screen. Regardless of physical form, useful information has the following characteristics: relevance, timeliness, accuracy, completeness, and summarization (Alalwan, Rana, Algharabat & Tarhini, 2016). Where any of these characteristics is lacking, information loses its quality. In like manner, there could be errors in the process of carrying out other tasks such as storage, retrieval and deletion of information. All these have made it necessary for organizations to exercise extra care in the management of its accounting information system.

Thus, it is important that some evaluation be carried out from time to time on organizations' accounting information system. In every human endeavour, evaluation is an inevitable component of any meaningful process. Evaluation is an independent, systematic investigation into how, why, and to what extent objectives or goals are achieved (Twersky & Lindbrom, 2012). It is the process of determining the merit, worth and value of things. Evaluations are the products of the process (Calidoni-Lundberg, 2016). Evaluation has two arms: one is data gathering; the other collects, clarifies and verifies relevant values and standards.

In spite of the role of AIS in modern organizations, there is dearth of empirical studies available in literature that evaluated the effectiveness of AIS. The study therefore seeks to evaluate the effectiveness of the AIS in some selected public organizations in Anambra State.

RESEARCH METHODOLOGY

This study is concerned with the effectiveness of accounting information system of selected public organizations in Anambra state. The study adopted a descriptive survey design. Three public organizations were purposively selected from three sectors, namely education, finance and

core civil service for the study. A sample of 205 staff was selected for the study. The sample was purposively selected from the following departments: Administration, Revenue/Finance/Bursary and Establishment. A questionnaire titled Accounting Information System Effectiveness Survey (AISES) was developed by researcher, validated by specialists, and used for the collection of relevant data. The AISES is a 20-item structured questionnaire embodying the four key objectives of the study. There are three options provided for the items, and respondents were expected to check () on the option that best expressed their opinion. The available options are Highly Effective (HE), Moderately Effective (ME) and Not Effective (NE). These options are weighted 3, 2, and 1 respectively. The mean of a 3-point scale is 2 and with the addition of a margin of error of .5, the cut-off point was 2.5. Data obtained were analysed with descriptive statistics on SPSS version 23.

Techniques for Data Analysis

Descriptive Survey was adopted for easy appreciation and understanding of the analysis carried out in this research work. The 3-Point rating scale approach was adopted. Thus, points were duly assigned for the proper weighing of the different response obtained through the questionnaire administered.

Response Option	Weight
Highly Effective (HE)	3
Moderately Effective (ME)	2
Not Effective (NE)	1
Total	<u><u>6</u></u>

As result, the mean scale of 2 was ascertained.

$$\text{Mean Scale} = \frac{3+2+1}{3} = 2$$

$$\text{Margin of Error} = 0.5$$

$$\text{Cut-Off Point} = 2.5$$

For effectiveness, cut-off point of 2.5 required.

DATA ANALYSIS AND PRESENTATION OF RESULTS

This section of the study is devoted to presenting the results of the analysis performed on the data collected to test the prepositions made in the study and answer the research questions. Analyses were carried out with the aid of the Statistical Package for Social Sciences (SPSS Version 23).

Research Question One: How effective is information generation in selected public organizations in Anambra State?

Table 1: Descriptive statistics on effectiveness of information generation

	Minimum Statistic	Maximum Statistic	Mean Statistic	Std Error	Std. Deviation Statistic
Item 1	1.00	3.00	2.1833	.16276	.56381
Item 2	2.00	3.00	2.7583	.10763	.37285
Item 3	1.00	3.00	2.3917	.17121	.59308
Item 4	1.00	3.00	2.4250	.18138	.62831
Item 5	2.00	3.00	2.5000	.11415	.39543
Item 6	2.00	3.00	2.5492	.12417	.43013
Grand Mean			2.4679		.4973

Table 1: Shows the grand mean rating of 2.47 for the effectiveness of information generation in public organizations. This is below the criterion mean of 2.5 required. Information generation in public organizations surveyed therefore was not effective.

Research Question Two: How effective is information storage in selected public organizations in Anambra State?

Table 2: Descriptive statistics on effectiveness of information storage

	Minimum Statistic	Maximum Statistic	Mean Statistic	Std Error	Std. Deviation Statistic
Item 7	1.90	3.00	2.2667	.12452	.43135
Item 8	2.00	3.00	2.6250	.13603	.47122
Item 9	2.00	3.00	2.3917	.11900	.41222
Item 10	1.00	3.00	2.3417	.17644	.61120
Item 11	2.00	3.00	2.4167	.11135	.38573
Grand Mean			2.4084		.4623

Table 2: Shows the grand mean rating of 2.41 for the effectiveness of information storage in public organizations. This is below the criterion mean of 2.5 required. Information storage in public organizations surveyed therefore was not effective.

Research Question Three: How effective is information retrieval in selected public organizations in Anambra State?

Table 3: Descriptive statistics on effectiveness of information retrieval

	Minimum Statistic	Maximum Statistic	Mean Statistic	Std Error	Std. Deviation Statistic
Item 12	2.00	3.00	2.6083	.13621	.47186
Item 13	2.00	3.00	2.7083	.12641	.43788
Item 14	2.00	3.00	2.4750	.12317	.42667
Item 15	2.00	3.00	2.5167	.13753	.47641
Item 16	2.00	3.00	2.5500	.12643	.43797
Grand Mean			2.5717		.4502

Table 3: Shows the grand mean rating of 2.57 for the effectiveness of information retrieval in public organizations. This is above the criterion mean of 2.5 required. Information retrieval in public organizations surveyed therefore was effective.

Research Question Four: How effective is information deletion in selected public organizations in Anambra State?

Table 4: Descriptive statistics on effectiveness of information deletion

	Minimum Statistic	Maximum Statistic	Mean Statistic	Std Error	Std. Deviation Statistic
Item 17	2.00	3.00	2.4000	.14355	.49727
Item 18	2.00	3.00	2.4583	.14059	.48703
Item 19	2.00	3.00	2.3917	.11900	.41222
Item 20	2.00	3.00	2.2833	.12603	.43658
	Grand Mean		2.3833		.4583

Table 4: Shows the grand mean rating of 2.38 for the effectiveness of information deletion in public organizations. This is below the criterion mean of 2.5 required. Information deletion in public organizations surveyed therefore was not effective.

Table 5: Effectiveness of accounting information system

S/N	Proxy	Grand Mean
1	Information generation	2.4679
2	Information storage	2.4084
3	Information retrieval	2.5717
4	Information deletion	2.3833
	Mean of grand Means	2.4578

Table 5: Shows the mean of grand means of 2.46 which is below the cut-off of 2.50 required for effectiveness. This suggests that accounting information system in the selected public organizations is not effective.

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

Summary of findings

Accounting Information System (AIS) is meant to ease business operation. The effectiveness of the system however depends on the quality of information generation, storage, retrieval and deletion. The study has shown that information generation, storage and deletion are weak in the public organizations studies.

Information retrieval however, is found effective in the organizations. Over all, accounting information system was found to be ineffective in the organization studied. This is in line with a priori expectation. Al-dmour et al (2017) state that while implementing a proper AIS is an enabler to competitive advantage, there is the concern over some weaknesses associated with the human element in the system.

Thus, the AIS are not an excellent platform for business effectiveness due to the human factor in the management of accounting information system that could undermine the effectiveness of the system.

CONCLUSION

This study investigated the effectiveness of accounting information system of selected public

organizations in Anambra state. The study adopted a descriptive survey design. Three public organizations were purposively selected from three sectors, namely education, finance and core civil service for the study. Accounting Information System (AIS) is considered as a specialized subsystem of the IS which involves the collection, processing, categorizing and reporting of information related to the financial aspects of business events. The effectiveness of the AIS in public organizations is determined by how well information is generated, stored, retrieved and deleted. Based on the aforementioned components, it may be concluded that the AIS in the selected public organizations is not effective. This therefore, requires the need to overhaul the system for effectiveness.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. Appropriate checks and balances should be put in place by organizational management to ensure that accounting information system works in their organizations.
2. Since AIS in the selected public organizations is not effective, they should adopt ethical standards in the preparation and presentation of their accounting information in order to increase their earnings.
3. Personnel should be properly equipped technically to handle the system.
4. There is the need to train workers on the propriety of information generation, storage and deletion to ensure the integrity of information.
5. Public organizations should be encouraged to embrace the effective use of information technology in order to enhance and improve their competitive advantage.
6. Management should come up with policies and guidelines that will facilitate the implementation of Accounting Information Systems in the public environment.
7. Public organizations should be encouraged to invest in information systems for the best interest of their workers and organizations.

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APPENDIX

Items on the questionnaire

1. Information about actual authorized events and objects are generated.
2. There is correspondence or agreement between the information and the actual events or objects that the information represents.
3. Information includes data about every relevant object or event necessary to make a decision and includes that information only once.
4. Information is crosschecked for material errors.
5. Information generated is timely.
6. The information system captures only relevant data.
7. Information is backed up usually with external disc.
8. Information backed up is properly identified.
9. There is attempt to avoid data redundancy that overloads the system.
10. Contents of the database are presented in logical hierarchy.
11. Information stored is usually right protected to avoid unauthorized editing.
12. Any authorized staff can locate information easily without the assistance of a designated officer.
13. Information stored in the database can be accessed easily.
14. Information can be retrieved with dispatch.
15. Information can be shared across levels of hierarchy in the organization.
16. Organization can respond to inquiry from external bodies with relative ease.
17. Information passes through audit process before deletion.
18. There is adequate checks and balances to guarantee that information due for deletion is cross-checked.
19. Information due for deletion are usually stored in the archives in case of future demand.
20. Only authorized personnel are allowed to delete information from the database.