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Accounting Information System on the Operations of Rural Banks in Ghana.

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Abstract

Rural banks like any other businesses place important role by ensuring effective accounting information system necessary to provide the required information to the end users, therefore, the evaluation of the impact of accounting information system on the operations of rural banks in Ghana. Most rural banks are faced with the problem of keeping initial source documents, handling the correct accounting data to functions responsible for transformation of such data for end users to make right decision. The analysis of the data confirmed through questionnaire and interview found that the use of both manual and automated system has effectively affected the operations of these rural banks through provision of accounting reports, however, its implementation was no without challenges and this has impeded the smooth application of these systems. The study also found that most rural banks are faced with the problem of qualified personnel to handle appropriate level of accounting data. A research strategy adopted was a case study on selected rural banks in Ashanti region and these were analysed qualitatively and quantitatively using simple percentages and tables. The researcher uses convenient sampling technique to enable him reduces the possibility of research limitations, and came out with conclusion, and recommended as appropriate.

Keywords: accounting information system, rural banks

INTRODUCTION

Accounting information system (AIS) has become expansion drive for many businesses in Ghana as it seeks to improve and enhance the operational efficiencies of businesses. An important question in the field of accounting and management decision-making concerns the fit of AIS with organizational requirements for information, communication and control. Although the information generated from accounting information system can be effective in decision-making process. Purchase, installation and usage of such a system are beneficial when the benefits exceed its costs. Benefits of accounting information system can be evaluated by its impacts on improvement of decision-making process, quality of accounting information, performance evaluation, internal controls and facilitating company's transactions. (Gibson et al, 2006)

Also, the emerging global economic scenario characterized by advancement in information technology, rapid changes in production processes, increased lack of imagination of the consumer, severe market competition and unethical skimming activities of producers in the drive to survive the unpredictable and complex business dynamics, has brought to the forefront the crucial role of accounting information in economic and business discourse especially in relation to administrative effectiveness (Curtis, 1995). Accounting information systems are said to be effective when the information provided by them serves widely the requirements of the system users. Effective information should systematically provide information which has potential effects on decision making process (Ives, 1983).

Accounting information system is the whole of the related components that are combined to collect financial data and transform them into financial information for the purpose of reporting them to decision makers. The emanating of accounting information system was to offer improved operations in entities of which rural banks are no exception.

The problem of keeping initial source documents, handling the correct accounting data to functions responsible for transformation of such data for end users to make right decision is lacking in many rural banks. This has resulted in many rural banks unable to produce accounting information at the right time paving way for irrelevancy of accounting information. A number of rural banks' employees lack adequate knowledge in proper records keeping and therefore, extend problems for the various functions to have necessary data transformation. This, as a result, suffers the object of accounting information system on the operations of rural banks.

It is on this premise that the researcher wishes to examine the impact of accounting information system on the operations of Rural Banks in Ghana.

LITERATURE REVIEW

Impact of Accounting Information Systems on Business Operations

In the study by Elena et al (2010), on the impact of accounting information systems on performance measures conducted on Small and Medium Enterprises (SME's) in Spain, they found that AIS has positive influence on productivity through the speeding of time lines in the provision of services to banks' clients. They also found that there is a significant impact on Return on Capital Employed. From their study, AIS assists management to assess investment opportunities early enough and take advantage of them. The study also showed that accounting information system provides economic gains to the organisations. The study has only emphasized on positive impact which might not be the only case pertaining in the enterprises.

The researchers failed to identify the difficulties SME's might encounter in the usage and application of AIS. This could be financial constraints, inadequate expertise to manage the whole system and the presence of weak internal controls system to ensure conformity and continuity.

The study was conducted by Onaolapo and Odetayo (2012) on the effect of accounting information system on organizational effectiveness on construction firms. They showed that AIS is highly important for constructional industry with regards to facilitating company's transactions. Thus, proper automated AIS assists constructional companies to rapidly produce processed documents for biding of contracts and effect receipts and payments of amount to prospective clients and staff. They also stated in their publication that AIS improves quality of information presented to the end users. Determining the quality of accounting information system in the constructional industry has been one of a problem. To overcome this, it is imperative to identify the major stakeholders such as shareholders, management, clients, internal auditors etc and know their information needs so as to meet their expectations. They found that AIS enhances internal controls such instituting limits as to how far each staff member especially those at the accounts department can have access to a certain form of information.

However, they failed to point out the dangers in the usage of automated AIS as wrong one wrong information input may cause damaging havoc in entities.

FURTHER EMPIRICAL EVIDENCE

According to İbrahimoğlu & Karacaer (as cited in Daştan & Sürmen, 2007, p. 6), an Accounting Information System (AIS) is the whole of the related components that are combined to collect information, raw data, or ordinary data and transform them into financial data for the purpose of reporting them to decision makers. According to Pierson and Ramsay, most businesses require some type of accounting information system to collect, process, and report their financial performance operations (as cited in Dyt & Halabi, 2007, p. 1). Having a strong accounting system provides benefits to the different stakeholders of the company, may it be the management, employees, investors, creditors, or regulators.

There are many views when it comes to accounting information systems. One view shows AIS as the logical intersection of the broad fields of accounting and management information systems. The purpose of accounting is to provide information for economic decision-making.

On the other hand, Management Information System (MIS) addresses the design, implementation, use, and management of information systems. Accounting is more focused on the information itself, while MIS tends to focus more on the systems that produce the information (Murthy & Wiggins, 1999).

This view is in line with Stefanou's (2006) position, stating that the fundamental purpose of an accounting information system is the collection and recording of data and information regarding events that have an economic impact upon organizations and the maintenance, processing, and communication of information to internal and external stakeholders.

However, the studies failed to identify the inherent problems that come with AIS. Most computerized accounting software fail to generate ready financial report on the needed information resulting inappropriate balances, failure to meet deadline, delay in auditing. The question is why most rural banks are not able to: produce up-to-date accounting information; publish final accounts as required by statute and meeting Bank of Ghana (BOG) returns requirements. It is on this premise that the researcher wishes to examine the impact of accounting information system on the operations of Rural Banks in Ghana.

METHODOLOGY

Both Qualitative and quantitative methods were considered appropriate for the study to gather information from respondents concerning their opinions on the impact of accounting information system on the operations of selected rural banks in Ghana. The questionnaire was administered and a total of one hundred and thirty eight (138) bankers were selected from Amanano Rural Bank (ARB), Nwabiagya Rural Bank (NRB) and Otuasikan Rural Bank (ORB) in Ashanti region for the purpose of analysis.

The sample size was determined by the proportion of total businesses in the District in relation to the registered businesses with Vat Service in the District. The sample size at 95% confidence interval with 0.05 error margin was approximately 138 respondents computed as follows:

Using the formulae; $\quad N = \dfrac{Z^2 \times (p\,q)}{d^2}$ (Corlien et al 2002)

Where N = Sample size, Z = zee value, P = Population proportion, q = 1-p and d = being degree of freedom/error margin.

Z = 1.96 obtained from statistical tables

P =90% = 0.90   d = 0.05

Q = 10% = 0.10.

Therefore $N = \dfrac{Z^2 \times (pq)}{d^2} = \dfrac{1.96^2 \times (.90 \times .10)}{0.05^2} = \dfrac{(3.84)\,(0.09)}{0.0025} = \dfrac{0.3456}{0.0025} = 138$

N = 138 approximately.

Purposive sampling method was use to select the rural banks and population proportion was used to select the respondents in each bank. This was adopted because there were variations in the size of staff in the selected banks and that the larger the banks the more the respondents selected.

Table 1 Sampled Respondents

Bank	Operational Staff	No. of Respondents
NRB	185	66
ARB	77	27
ORB	127	45
Total	**389**	**138**

Source: Authors field work, 2015

RESULTS AND ANALYSIS
Application Of Accounting Information System In Business Operations
Table 2: Training Status in the Application of Accounting Information System

Training on the application of your Record keeping system in your bank

Response	Summary		Nwabiagya Rural Bank Ltd		Amanano Rural Bank Ltd		Otuasekan Rural Bank Ltd	
	Frequency	Percentages	Frequency	Percentages	Frequency	Percentages	Frequency	Percentages

YES	85	62%	39	59%	16	59%	30	67%
NO	53	38%	27	41%	11	41%	15	33%
TOTAL	138	100%	66	100%	27	100%	45	100%

Source: Researchers Field data, 2015

53 respondents answered "No" whiles 85 respondents answered "Yes". The majority of the respondents confirmed the presence of training programmes in respect of the adoption of any system of record keeping. The respondents who answered "No" were probed to have not been in the known of some of the training programmes since these respondents were merely not actively involved in the direct operations of the banks. Some were said to be credit officers and others marketing staff whose jobs were on field visits and reporting manually except in the instances of loan tracking and customer and products base of the banks.

Out of the total respondents of 85 who confirmed the presence of training programmes, representing 62%, 39 respondents were from Nwabiagya rural bank limited, 16 from Amanano Rural Bank Ltd and 30 respondents from Otuasekan Rural Bank Ltd.

Table 3: Kind of Training

Kinds of training is/are organized for the bank's employees in respect of records keeping	
Bank	**Training programme**
Nwabiagya Rural Bank	Capacity building on: • The use of software modules • Financial statement analysis • Monthly returns preparation • The use of application of excel in database management • The keeping of initial records on customers and other registers such as KYC and other office account
Amanano Rural Bank	• The use of the software(T24) modules • Training on frontline service • Cashiering • Returns preparation • Loans administration
Otuasekan Rural Bank	• Returns preparation • Loans administration • The keeping of initial records on customers and other registers such as KYC and other office accounts

Source: Researchers Field data, 2015

The respondent banks all seemed to give similar responses. The various responses categories training into capacity building that seemed upon further probing gives a clear indication of the object of accounting information system. All the three selected banks had organized programmes relating to return preparation, initial record keeping, specifically data capturing being it manual or automated systems. According to the underlining objective of accounting information system, all the banks lie on the expectation of providing adequate information.

The responses giving by Nwabiagya rural bank limited was no different in context from the response given by Amanano rural bank limited following that of Otuasekan rural bank limited.

Table 4: Periods for Training Programmes

7. For how long does training programme last?

Bank/ Period	Summary		Nwabiagya Rural Bank Ltd		Amanano Rural Bank Ltd		Otuasekan Rural Bank Ltd	
	Frequency	Percent ages	Frequency	Percent ages	Frequency	Percent ages	Frequency	Percent ages
1 - 3 days	69	50.0%	28	42.4%	13	48.2%	28	62.2%
1 – 5 days	41	29.7%	26	39.4%	8	29.6%	7	15.6%
1 – 14 days	28	20.3%	12	18.2%	6	22.2%	10	22.2%
TOTAL	138	100%	66	100%	27	100%	45	100%

Source: Researchers Field data, 2015

Out of the total respondents of 138, 69 representing 50% of the respondents confirmed an average of 3 days maximum training programme. An average of 5 maximum days long was confirmed by total respondents of 41 from the various respondent banks. The remaining 28 respondents representing 20.3% of the respondents gave an average of 14 days maximum.

Under the response from Nwabiagya rural bank, 28 respondents formed part of the 69 representing 42.4%. Of those who confirmed similar average period from Amanano Rural bank constitute 48.2% besides the 28 respondents from Otuasekan rural bank representing 62.2%. The respective average period of 14days gives total of 28 representing 20.3% of the total respondents of 138.

The further probing provided that of those who confirmed the 3 day maximum were those in the main banking operations usually called "main stream". The respondents further explained that the 3 day maximum was enough for the main stream staff who usually have daily interaction with customers.

Of those who confirmed the 5 day maximum were confirmed to field workers who could have enough time to attend training programmes without necessarily causing any inconvenient to customers.

Of those who confirmed the 14 day were understood to be of the management staff that had to undergo a long period intensive programme to enable them affect the organizations activities strategically.

CHALLENGES IN THE IMPLEMENTATION OF ACCOUNTING INFORMATION SYSTEM
Table 5: Main Challenges

Main challenges in the application of the manual or automated system

Bank	Challenges
Nwabiagya Rural Bank	• Casting errors through manual system • System power failure causing break up in data • Unskilled labour handling initial data capturing that result in wrong information produce for users
Amanano Rural Bank	• Improper casting using manual system

Otuasekan Rural Bank	• Untimely recording of transactions • Back locks resulting from system failure being it manual or automated • Improper filing system resulting missing of documents • Lack of professional personnel result in inappropriate recording and entering of transactions • Casting errors emerges using manual system • Irregularities in account balances generated through automated system • Reports generation are affected due to power system failure

Source: Researchers Field data, 2015

All the respondent banks were emphasizing similar areas of challenges. According to the response areas of challenges include; system failure results in account in-balances, improper personnel handling the bases of accounts, casting resulting from the use of manual system.

The respondent banks were further probed and indicated that the experienced staffs were perceived to handle secondary stages in transactions processes. According to the respondent banks on interview, they emphasized that, data handling from initial sources were perceived to require low level of knowledge and for that matter were normally handled by new staff, service personnel and attaches.

According to Ashari (2008), similar challenges have encountered by staff of Central Java Small and Medium Company. This is of great essence when every system adopted is to be effective. Similar study was conducted by Emmanuel (2012) pointing out similar challenges which also encapsulated the above challenges.

Table6: Resolving Challenges

Attempts to resolve the challenges in the adoption of AIS by management

Bank	Challenges	Attempt(s)
Nwabiagya Rural Bank	• Casting errors through manual system • System power failure causing break up in data • Unskilled labour handling initial data capturing that result in wrong information produce for users	• Confirmation and calling over of individual figures • Installation of power generators and UPS for computers and data handling equipment • Continues and effective training for staff and staff with experience were been made to handle front line service
	• Improper casting using manual	• Recasting

	system	• The field officers have been given time to report for capturing of their transactions especially of the Susu staff
Amanano Rural Bank	• Untimely recording of transactions • Back-locks resulting from the system network gaming • Improper filing system resulting missing of documents	• Restrictions have been made to number users to log on to the system at a time.
		• Filing of document has been included in the job schedule of staff which shall be done on rotational basis.
Otuasekan Rural Bank	• Lack of professional personnel result in inappropriate recording and entering of transactions • Casting errors emerges using manual system • Irregularities in account balances generated through automated system • Reports generation are affected due to power system failure	• Several training programmes have been organized for staff to over problem of incompetence. • Recasting • Writing in a computer log book and call for system developers • Purchase of UPS and generators to assist the power supply

Source: Researchers Field data, 2015

From the respondents there are several attempts been made to resolve the challenges in the implementation of their system of accounts? The various respondents bank came out with similar challenges, and their respective attempts. Among the attempts include purchase of UPS and generators to assist power supply, training programmes been organized for staff to over problem of incompetence, recasting and field officers have been given time to report for capturing of their transactions especially of the Susu staff.

Probing them further reviewed that cost associated with the provision of these solutions sometimes poses the worst challenge and, therefore, impede the smooth implementation of the system.

IMPACT OF ACCOUNTING INFORMATION SYSTEM ON THE BUSINESS OPERATIONS

Table 7: Extent of Resolution

Extent to which the attempts resolved the challenges		
Bank	**Attempt(s)**	**Extent of Resolution**
Nwabiagya Rural Bank	• Confirmation and calling over of individual figures • Installation of power generators and UPS for computers and data handling equipment • Continues and effective training for staff and staff with experience were been made to handle front line service	• Calling over transactions at the input level has help to minimized wrong postings and other errors • Installation of power generators and UPS for computers and data handling equipment help avoid break up in data • It has helped to increase staff level of competence regarding report generation.
Amanano Rural Bank	• Recasting • The field officers have been given time to report for capturing of their transactions especially of the Susu staff • Restrictions have been made to the number of users to log on to the system at a time. • Filing of document has been included in the job schedule of staff which shall be done on rotational basis.	• Recasting has helped to validate all data inputs. • This has helped to avoid back logs and delay in data capturing • This has assisted to avoid system gaming and therefore reports are always generated timely • This has helped to avoid mishandling of documents by unassigned staff.
Otuasekan Rural Bank	• Several training programmes have been organized for staff to overcome problem of incompetence. • Recasting • Writing in a computer log book and call for system developers • Purchase of UPS and generators to	• It has helped to increase staff level of competence regarding report generation • Recasting has helped to validate all data inputs. • This has helped to

assist the power supply	identify all errors messages thereby enabling the developers easily debug the system • Installation of power generators and UPS for computers and data handling equipment help avoid break up in data

Source: Researchers Field data, 2015

The various respondent banks gave how the resolution has helped various challenges faced by the banks. With this they construed the extent to include, increase the level of competence for report generation, easy access to right information, to identify all errors messages thereby enabling the developers easily debug the system and Installation of power generators and UPS for computers and data handling equipment help avoid break up in data.

Upon further probing, the respondent said the increase in competent level is applied to some few staff that had had the privilege to secure additional knowledge somewhere. With regards to the avoidance of backlogs further probes reviews that such situation is common in some few branches due to increase in demand of customers and power failure.

Table 8: Benefits

Benefits from the practice of the manual or automated system?

Bank	Benefits	
	Manual	Automated
Nwabiagya Rural Bank	• Access to first hand information is easy • Increase in staff customer-relationship	• Increase speed • High Security system • Increase in turnaround time of customers • Saves time • Monitoring loans becomes easier
Amanano Rural Bank	• Access to first hand information is easy • Increase in staff customer-relationship	• Increase speed • High Security system • Increase in turnaround time of customers • Saves time • Monitoring loans becomes easier

| Otuasekan Rural Bank | • Access to first hand information is easy
• Increase in staff customer-relationship | • Increase speed
• High Security system
• Increase in turnaround time of customers
• Saves time
• Monitoring loans becomes easier |

Source: Researchers Field data, 2015

From the above responses, it was seen that all the selected banks gave related benefits indicating how effectively and efficient the banks are using both the manual and automated system to achieve their distinguished benefits. The responses seem to be vital to these rural banks as they identified similar areas of the system operations. The responses from the individual respondents from each of the banks have been match up to the others and summarized for easy comparison and it was seen that all the banks gave similar benefits.

A research by Elena (2010) pointed out that benefit accruing to an organization about the use of a particular accounting information system includes time savings, improving operational performance of the organization, and this is in line with this study. Similar findings were found by Onaolapo A. and Odetayo T. (2012) which said that proper use of accounting information system brings about rapid processing of accounting information which can also bring about quality of work.

CONCLUSIONS AND RECOMMENDATIONS

It was concluded that most rural banks in Ghana and the world at large are in to operation because of profit maximization. It is true that every organization do not want to make losses or break even but to make profit but should consider the quality of the product, customer satisfaction, prices of the product and other vital activities. When proper accounting information systems are put in place, rural bank can render adequate services at affordable and cheaper cost to customers without reducing the level of quality of their final services.

It was recommended that the banks should be straightforward as to which system of accounting is effective, not to say combined adoption which can result in data redundancy thereby delaying information processing. Also, training should be tailor made to address the expected knowledge of staff and it should be organized blending the turnaround time of the banks customers. Finally, adequate automated power generators should be made available, at least the one that could support the main server to enable sustainability of the system.

REFERECES

Ashari, A. (2008). *Factors affecting accounting information systems success implementation (an empirical study on central java small and medium company).* Master's thesis, Diponegoro University

Dyt, R., & Halabi, A. K. (2007). Empirical evidence examining the accounting information systems and accounting reports of small and micro business in Australia. *Small Enterprise Research*, 15(2), 1-9.

Emmanuel, A. (2012). *The impact of computerization using T24 on the operation of rural banks.*

Elena, et al. (2010). *The impact of accounting information systems on performance measures conducted on Small and Medium Enterprises (SME's) in Spain.*

Curtis, G. (1995). *Business information systems: Analysis, design and practice.* Wokingham: Addison-Wesley Publishing Company

Bank of Ghana Report, (2004), Accra: Bank of Ghana Publication.

Daştan, A. & Sürmen, Y. (2007). *The relationship between the historical development of the accounting information system and its applications and information technologies.* Retrieved March 24, 2013, from www.mufad.org/index2.php?option=com_docman&task

Murthy, U.S., & Wiggins, C.E. Jr. (1999). A perspective on accounting information systems research. *Journal of Information Systems*, 13(1), 3-6. Retrieved on March 24, 2009, from EBSCO (Elton B. Stephens Co.) Online database

Onaolapo, A.A and Odetayo T.A. (2012). Effect of Accounting Information System on Organizational effectiveness. *American Journal of Business and Management* .Vol. 1–

Chenall, R.H. and Morris, D. (1986). The impact of Structure, Environment and Interdependence of Perceived Usefulness of Management Accounting System, *The Accounting Review*, Vol.61, pp. 16-35

Ives, B. (1983). The Measurement of User Information Satisfaction, *Communications of ACM*, Vol.26, No. 10 pp. 785 – 793.

Saunders, M. N. K., Thornhill, A. & Lewis, P. (2006). *Research Methods for Business Students.* London: Pearson education

Stefanou, C.L. (2006). The complexity and the research area of AIS. *Journal of Enterprise Information Management*, 19(1), 9-12. Retrieved March 25, 2009, from Emerald Insight database.

Gibson, J. L., Ivanicevic, J. M., Donelly, J. H., & Konopaske, Robert. (2006). *Organizations Behevior, Structure, Processes* (13th ed). New York: McGraw-Hill.

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