International Journal of Advanced Research in Management and Social Sciences
ISSN: 2278-6236
Impact Factor: 4.400

AN EVALUATION OF THE EFFECTIVENESS OF THE MCA RURAL BANKS COMPUTERIZATION AND INTERCONNECTIVITY PROJECT IMPLEMENTATION: A COMPARATIVE CASE STUDY OF TWO RURAL BANKS IN GHANA

Kwabena Owusu-Agyemang*

Abstract: *The aim of this research project is to addresses the effectiveness of the MCA Rural Banks Computerization and Interconnectivity project to the rural banks. This study will provide an exploratory look at the challenges surrounding the computerization project implementation and how the system administrators, Managers and staff of Amanano and Odotobri Rural Bank in particular perceive them.*

Collation of the relevant data is followed by a discussion of the challenges emanating from the computerization project that impedes on the effectiveness of the process. After analyzing the relevant information, it became apparent that there are three primary results, which are shown here. The first is that, strategic planning for the computerization project is fundamental and key to the ultimate effectiveness of MCA computerization project. Planning with regard to the acquisition of equipment for the computerization project has proven to be a difficult accomplishment regardless of the type of rural bank. Secondly, training and sensitization of the staff on information technology has proven to be a major factor in effective implementation of the project. This trend speaks directly to the lack of training and the difficulties rural banks face during the computerization of their banks. Finally, it is shown that the expertise level of staff with regard to Information Technology has proven to be a contributing factor to the effectiveness of the computerization implementation process.

Keywords: *Information and Communication Technology, IT Planning, IT Procurement, IT implementation, Millennium Challenge Account (MCA), RCB, ARP Apex Bank*

*Ghana

1.0 INTRODUCTION

Since the establishment of Rural Banks, their operations have been largely manual. The difficulty and complexities associated with the manual operations are well known. These difficulties have been translated into inaccuracies in record keeping, late preparation and submission of prudential returns to the Central Bank of Ghana and ARB Apex Bank, weak internal control systems and poor quality of service delivery to customers.

In view of this the Government of Ghana under the auspices of Millennium Challenge Account (MCA) Ghana Program sponsored the US$25 Million Ghana Rural Bank Computerization and Connectivity Project that commenced in 2008 and was completed in 2012. Mantey, (2011) contended strongly that it is becoming increasingly obvious that if Rural Banks are to survive the increasing competition in the financial industry, then the manual system of operation should give way to automation.

The main objective of The Rural Bank Computerization Project is to provide *"Information Communication Technologies (ICT) to Rural Banks in Ghana"* to improve their service delivery and support local enterprise, the bulk of which is in Agriculture. It is the major MCA Ghana Project that covers all the ten (10) administrative regions of Ghana.The application of ICT concepts, policies,techniques, and implementation strategies to rural banking product and services hasbasically become a prime concern and importance to all Rural Banks and indeed a requirement for competitiveness in our financial institutions both internally and around the globe. Information and Communication Technology (ICT) directly helps Managers in their decision making in the rural banking sector.These havecontinued to transform how banking operations and corporate interactionare been organized in this country and the diversity of innovative technologies available to augment the speed and quality of rural banking service delivery.The current business environment has become very dynamic and has undergone drastic changes due to the innovations in technology, increase in demands and awarenessfrom clients of the rural banks.Corporate organizations, especially the Rural Banking sector currently executes their operations in a competitive and complex environment caused by these transformative conditions and highly volatile economic environment. Computerization of their systems has become the engine of their operations. Laudon and Laudon,(1991) did argued that CEO's and Managers within the financial sector cannot in anyway deny the importance of Information and Communication

Technology on their operations as it plays a very crucial role in contemporary business entities. They are of the notion that the entire cash flow of most successful financial institutions in the world are based on the information and communication technology systems they employ in their operations.

Harold and Jeff (1995) were of the opinion that, financial institutions should modify their manual and traditional mode of operation in order to remain viable now and in the future as. They further argued that the most significant challenges in the rural banking sector today is the wide-spread failure on the part of Board of Directors and Top Management in Rural Banks to grasp the importance of Information and Communication Technology and thereby incorporating it into their strategic business plans as the system requires them to do.

Woherem (2000) also contended vehemently that only Rural Banks that change their entire payment and delivery systems and employ Information and Communication Technology to their mode of operations would be capable of surviving and also prosper in the new millennium. He therefore advices Rural Banks that, in order for them to properly position themselves to enable them operate within the framework of the power of the dynamic nature of Information Communication Technology they must review their service delivery system.

The Rural Banking Sector in this country has witnessed incredibletransformation that is as a result of the gradual advancement in Information and Communication Technology (ICT) over the past ten (10) years. The pursuitof sustenance of the rural bank business, their significance, maintenance of existing market share and sustainable growthhas facilitated the exploitation of the numerous advantages of Information and Communication Technology through the use of technologiesvitalin the Rural Banking Sector.

This study evaluates the effectiveness of the implementation of the Rural Banks computerization project by Rural Banks in Ghana and to examine some of the challenges and the degreeto which they have incorporated technological innovations into their banking operations and its resultant effects.

1.1 Statement of Problems

Rural Banks computerization projects by The Government of Ghana under the auspices of the Millennium Challenge Account (MCA) could be a powerful strategy or system to improve

on the mode of operation of the Rural Banks in Ghana to enable them reduce or improve the inconsistencies in their book keeping and service delivery.It will be expedient to point out that computerization of the Rural Banks in Ghana and all its advancement and sophistications has not yet succeeded in effectively archiving this intended mission. The reason is not just the fact that some Rural Banks have failed, but some factors continue to militate against the successful performance of the system at the banks rather than the computerization project improving on the service delivery of the Rural Banks, most ofthe rural banks are not fully utilizing the system and this has compelled some of the rural banks to stop using the T24 Banking Application, whiles other rural banks are reluctant to join because of the numerous challenges confronting most of the Rural Banks.In a similar vein, most Rural Banks running on these systems have performed poorly whiles others too are gradually opting out of the computerization project by way of finding out alternative software to cater for their needs and to improve on their operations.There have been serious of negative rumors surrounding the computerization project thereby compelling the yet to join rural banks feeling reluctant to do so for the fear of the system affecting their banking operations.The problem of poor infrastructure in some of the rural banks has been rumored and arguably been traced to some of the few factors that have been responsible for the conditions in which rural banks have found themselves in today.The effect of computerization project failure has been attributedto poor networking infrastructure by some of the Rural Banks. They believe it is one of the spicing board in the IT/IS deployment in Banking. Some of them too were of the opinion that, lack of proper IT training before T24 Banking Application go-live might be a contributing factor.It is in this light that the researcher has decided to find out remedies to the numerous concerns raised by the rural banks and to look at the impact of planning, training and staff IT knowledge on the effectiveness of the computerization project using Odotobri Rural Bank and Amanano rural bank as the case study.

Research Objective

The general objective of the study is to determine whether Odotobri and Amanano Rural Bank Limited meeting their objectives of joining the MCA Rural Banks Computerization Projects and to critically appraise the implementation process.

Specific objectives of the study include:

i. To identify the challenges (if any) from the Computerization project
ii. To investigate how the challenges emanating from the computerization project is affecting Rural Banking operations i.e. Amanano and Odotobri Rural Bank Limited.
iii. To access the extent to which the Computerization project has impacted on Rural Banking operations.
iv. To examine whether computerization has improve the fortune of the Rural Banks.
v. To suggest systems and remedies that the Apex Bank and the rural banks should put in place to checkmate such challenges in the future

2.0 LITERATURE REVIEW

In order to understand the transition process for the Implementation of the Ghana Rural Bank Computerization Project, it was necessary to explore the literature in areas of IT Planning, IT Procurement and IT implementation.

2.1 Planning and Information Technology in Rural Banking

Planning is a major endeavor in the research and discussion of Information Technology implementation. Though it is not the purpose of this research project to explain the utilization and strategic planning development, it is important to review the current thinking on the subject because this area provides one of the primary pivot for this research. A significant number of the issues that will be addressed are directly related to the planning phase of IT implementation.

Over the course of the last decade rural banks have increasingly made use of the process of strategic planning. It should be noted that strategic planning arose out of the rural banks as a process designed to minimize risks and maximize profits, by establishing formal planning systems to replace, older, informal, intuitive methods. Because it has been a primarily rural banking industry project, most of the research and writing done on the topic focuses on market share and profit. This factor does not detract from the reality that strategic planning can certainly have an impact on a rural bank's success and effectiveness. Rural banks can certainly benefit from strategic planning because of their need to address the present and plan for future possibilities with regard to the viability of their operations. Strategic planning is a process which creates a product, usually in the form of a written, comprehensive, long-term strategy for determining priorities, allocating limited resources and measuring progress. In his discussion of strategic planning in rural banks, Gordon argues strongly that,

strategic plans provide five important aspects for rural banks. The first, anticipation of the future, can prove instrumental in improving the chances of rural bank's success by helping managers comprehend the future and the position of their banks within IT. This particular aspect includes processes for the anticipation of future problems and opportunities so that they may be appropriately addressed. The second aspect, assessment of the rural banks, forces individuals within the bank to come together in order to discuss strengths and weaknesses of the rural banks where it's going, and how best to get there. Rural banks staff goal setting and consensus building is the third aspect described by Gordon. This stand promotes specific short and long-term goal setting towards ultimate achievement of consensus around these goals. Through consensus the likelihood of achieving goals is enhanced and in addition, promotes compromise across the banks. A fourth aspect, allocation of resources, facilitates the difficult process of personal and capital resource allocation. In the process of allocation, all of the potential demands and impacts of providing resources to one particular project over another (possibly equally important) proposal must be considered. The final aspect that Gordon addresses deals with the establishment of benchmarks. This particular view speaks to the ability of organizational leaders to make use of predefined goals and objectives to provide direction at the outset of any new project or directive.

Benchmarks, as discussed here, also provide measurement standards by which performance can be ascertained.While formal strategic planning is not, "a panacea for resolving rural banking conflicts" it should produce the following results: a rural banks mission statement; an environmental scan with a three to five year horizon; basic long-term goals and basic one year goals; strategies and steps for action to move the bank toward the set goals; and, finally, implementation plans with assigned responsibilities for action. Above all, strategic planning should not be regarded as the end point or an unalterable product. It should not fail to question preconceived notions or assumptions before adding or incorporating into the plan. Gaining rural banking commitment is important, but not adopting wrong or un-implementable goals should also be stressed. According to Gordon, argued that, in order for strategic planning to be effective, it must be fully accepted at the senior-most levels and integrated into the lower level in the rural banks as both a product and a process.

Strategic planning is a tool that can be used by rural bank's Managers who are the decision-makers to enhance their decisions and help them make more informed choices. In order to be effective, strategic planning must be ongoing, always adapting to the changes in rural banking environment and direction. If used in a proactive manner, strategic planning can assist or facilitate direction, consensus, and resource prioritization.

The relationship of information technology and strategic planning essentially developed out of two trends which occurred in the 90s. The first of these trends began in the early 1990s with the push for a single integrated approach to ICT which could be used across entire banks. It quickly became apparent that this approach was doomed to failure due to the complexities inherent in the process of managing ITs across multiple levels of banking organizations. By the late 90s, an approach which integrated separate but interrelated information systems throughout the organization became the norm, especially for bigger banks. This approach developed into a second trend which still exists in rural banks today that is, information systems interwoven into the management processes of the rural banks. With this trend comes recognition of the pressing need for long range planning with regard to information systems and the activities of ICT departments. This direction also speaks to the importance of interrelating this long range IT plans with the comprehensive corporate planning subsystems. Current IT planning trends recognize that each strategic plan is unique to the specific characteristics of each individual organization. In addition they must be equipped to cope with the fact that system changes are inevitable and for that reason, the strategic plan must be flexible.

McLean and Soden (1977) view IT planning as a conjunction of two basic perspectives: time horizon referring to short, medium, and long term planning; and focus relating to the principal concerns of the plan which may be strategic, managerial, or operational.

According to these authors strategic planning for Information Technology is "vital to ensure that the role played by ICT will be congruent with that of the overall organization". Information technologies and their applications for rural banks have evolved exponentially over the last 20 years, essentially becoming an integral and imperative part of all rural banking processes. The symbiotic nature of IT and organizational operations necessitates the increased involvement of all levels of management in the Information Technologydeploymentand development process. No longer is it acceptable or suggested to

leave total discretion over key IT decisions to an IT department or individual IT specialist and its impact on the rural bank is too great. According to Ward the more dependent that a rural bank becomes on IT the more centralized and structured the approach to planning and control should become. This does not mean that IT planning should be exclusively the domain of top management, on the contrary, the facilitation of IT innovation and effective use demands the participation of users at all levels of the organization in the planning process.Sullivan (1985) describes this situation and calls for a complex but balanced set of management approaches referring to this as "eclectic IT management". Essentially, Sullivan's eclectic management approach is a prescription for IT planning processes that are tailored to the specialized and individual circumstances which are determined by the rural banking industry of a given bank and it's particular company culture.

By the late 1980's, rural banks across the board were recognizing the need for strategic plans specific to information technology implementation. In 1988 Lederer and Mendelow conducted a survey of 20 private sector organizations in an attempt to determine the problems senior management were having with regard to the development and implementation of IT strategic plans. In their study the researchers found five reasons for the problems that were occurring with IT planning:

1. Managers tended to view ITs as operational tools and did not recognize their impact on the organization
2. Managers perceived a gap between industry claims of what ITs could do and the difficulties of their organizations in duplicating those claims
3. Managers tended to view ITs as critical to the organization only when it impacted their needs for information or services otherwise they failed to see their facility as a resource
4. Managers constantly focused on financial justification for IT investments
5. Finally, top management had become increasingly action-oriented with a short-term focus to the detriment of long-term planning especially for IT.

2.2 Information Technology Procurement

IT procurement processes exist, formally or informally, in every rural bank and any financial institution that acquires information technologies. Procurement involves all aspects of IT acquisition: competitive bidding, purchasing equipment and services, and evaluation of

implemented systems. Part of the complication of IT procurement in particular is that the acquisition of ITs is not just about the purchase and use of hardware and software, it is also inherently tied to the acquisition of a variety of services, support personnel, intellectual properties, and any items that have either a direct or indirect affect on information or information technologies. The IT procurement process is interdisciplinary and in most circumstances involves staff members from all through the rural bank's IT staff; purchasing, legal, and financial employees, not to mention a number of end users from all departments across the organization and its planning and implementation procedures. This multi-dimensional aspect makes IT procurement especially complex with relation to the rural bank. This complexity, in conjunction with the huge number of available products and services, and the speed with which new products are introduced to the market, makes the area of IT procurement an extremely intricate and volatile process area. Literature surrounding this domain is relatively scarce aside from the many prescriptions and guidelines for actually carrying out the procurement process. Much of what is available speaks primarily to major trends like cost/benefit analysis of IT and specific procurement practices in particular individual banks. Essentially, the procurement of information technology consists of budgeting for ITs and the ultimate acquisition of ITs. The early literature in this area in essence discussed procurement as a set of alternatives for IT acquisition, the first of which is internal information technology appropriation. At it's most fundamental level this means that each individual rural bank must take care of all the budgeting, cost-benefit analysis, IT selection, purchasing, and implementation on its own. The second alternative, known as external, is the contracting out for all or a significant portion of all, IT equipment and services for a given municipality.

Currently, and in the foreseeable future, contracting out still occurs for the provision of certain IT services. More recent literature with regard to IT procurement discusses the process of acquiring IT equipment and services but it refers mostly to the governmental procurement policy in the country. This discussion provides an overview of the bidding and contracting process which is often defined in statutes and regulations. According to Andersen and Dawes (which year) this aspect of the procurement process creates special problems for the management of ITs. Most of the procurement regulations require the acceptance of minimum bids for equipment and services which meet proposal guidelines.

The procedures are often quite slow and stretch out over a number of planning cycles. In this environment it is difficult to handle system and software upgrades which are an integral part of today's information technologies. To make matters more problematic personnel costs and equipment service costs are often ignored in the process.As in the earliest stages of information technology procurement of ITs area of cost benefit analysis remains a prominent concern. Many of the problems with IT implementation that rural banks face today are drawn from the history of a strict cost benefit approach to the development of information systems. Over time, the level of concern and frustration that managers have developed with regard to IT acquisitions has grown substantially. Their main consideration has become a question of how IT can best be made to work efficiently and economically, and deliver the expected benefits. This view often comes from unrealistic expectations of technology, ignorance of the systems, and excessive expense. Unfortunately, these issues have taken focus away from other important issues which come into play.

Rural Banks must look on the acquisition of information technologies as an investment decision which necessarily requires careful evaluation of the risks as well as the benefits. As Kraemer and King point out, IT acquisitions entail future costs which go far beyond initial procurement decisions. There must necessarily be a substantial commitment to future upgrades, operating expenses, software and personnel.

Typical cost/benefit analysis of an IT investment does not fully realize the implications of the IT procurement process. IT investments cannot be calculated the same as other capital investments, that is by using internal rates of return or net present values to determine whether to invest in specific systems or not. According to Ward this method only works when the costs and benefits can be accurately predicted over the life-cycle of the system and since the actual life-cycle is extremely hard to determine, it is very difficult to evaluate ITs on a financial basis alone.

In order to effectively evaluate (in an appropriate manner), IT investments in rural banking, it is necessary to secure a more holistic view of the process by taking into account infrastructure investments, personnel investments, and incremental capacities. Part of the problem with quantifying the benefits of ITs lies in the inability to convert the many "intangibles" of information technologies into financial figures. In effect it is really not

possible to quantify all of the benefits of IT nor does it make sense to try and force these types of quantitative measures on the unquantifiable.

M.M. Parker et al (1995) in Information Economics provides: an analysis technique specifically for IT which takes into account possible IT applications and then justifies five basic techniques for evaluation. They maintain the traditional cost/benefit analysis and add to it value linking (improvement to performance), value acceleration (improvements in time use), value restructuring (productivity through organizational change), and innovation evaluation (the value of new processes and practices). This approach is one of the more creative of the limited offerings in the literature on this area and provides a better way of interpreting the long-term values of IT for a rural bank.

In order to determine the tangible benefits of ITs to rural banking, they must be broken down into distinct divisions which represent the types of technology categories. M.M Parker et al (1995.) provide three main ways in which IT systems benefits accrue:

1. Substitutivereplacing people power with machine power. This approach is generally driven by economic factors with the ultimate goal of improving efficiency.
2. Complementaryimproving productivity and personnel effectiveness by providing new ways to perform tasks though IT.
3. Innovation by increasing a competitive edge by creating new applications for IT.

In this particular model the authors provide a way of looking at IT acquisitions which provides for a view which is neither purely based on efficiency nor solely on innovation.

Instead they provide a framework where integration between cost/benefit analysis and innovative evaluation is possible depending on organizational needs and directives. On the whole, this particular area has proven itself very resistant to change. Guidelines for IT procurement are still floundering in a traditional approach to budgeting and acquisitions. The most recent procurement act by the Government of Ghana actually addresses the procurement process for all companies in the country. This guide lays out a step by step acquisition process which is based on a standardized evaluation of risks, benefits, and costs. Their proposed process begins with a prioritization of all funding requests from all other agencies in the company in an attempt to maximize the value of the banks scarce resources. This part of the process requires the balancing of any potential benefits against the costs and risks, while at the same time aligning the bank's strategic and tactical goals with any

proposed IT investments. A critical factor to this particular guide's approach is the eventual clear evidence of the positive net benefits that the shareholder has garnered for their share invested.

Inherent problems with this process are obvious and intrinsic in IT procurement efforts. The IT acquisition and management process is reasonable from an ideal view of how the process should function: that is, the delivery of IT systems that operate as intended, within specific time parameters, and in a measurable and cost-effective manner. For overall government efficiency it is desirable that the procurement process achieve economy through the standardization and sharing of systems across agencies. Unfortunately, in practice, the process continually fails to meet these ideal objectives primarily because the realities of IT systems procurement and implementation are not taken into account. As Ward and others have pointed out, the IT acquisition process is risk-averse and demands a high degree of certainty. Both demands are the exact opposite of the reality of IT procurement that is both uncertain and high risk. The typical acquisition process, as illuminated by the federal government's guide to technology investment, calls for the formulation of precise long-term plans and budgets which essentially assume that all systems requirements can be identified and forecasted at the outset. Process models like this one assume that IT hardware and software development are predictable and that there is a high degree of accuracy in long-term budgeting for ITs. Typical acquisition processes do not work well within the complex and long-term life cycles of IT systems. The very nature of information technologies makes traditional acquisition processes ineffective and problematic. Its change rapidly and defy predictions as to costs, development time, and ultimate performance measures.

For authors such as Braithwaite (1996) one of the most crucial aspects in the IT procurement and acquisition process is what he terms "Alternatives Analysis and Feasibility". This part of the process takes on the job of deciding whether or not a future IT acquisition is headed in the right direction and feasible with relation to the bank's goals and directives. For Braithwaite (1996) this requires a full review of the financial situation, system possibilities, existing systems needs, and specific guidelines for use.

Braithwaite (1996) also argues that all IT planning and implementation must be subjected to a "series of feasibility and trade-offs tests that examine each according to technical, operational, and economic factors". A number of important issues arise in an examination of

technical feasibility and is it the planned for IT a reliable use of technology? Is it compatible with existing systems? Does it require specialized training or rely on unfamiliar techniques, hardware and software? In the end, IT solutions must be compatible and in line with users skill levels and expertise. It should also be implementable using existing staff and not overly tax their capabilities and time. Ideally, information technologies are supposed to enhance the rural banks effectiveness but not to detract from it. The reality of the situation is that if proposed acquisitions cannot meet certain technical requirements it is more than likely that problems will occur on implementation.

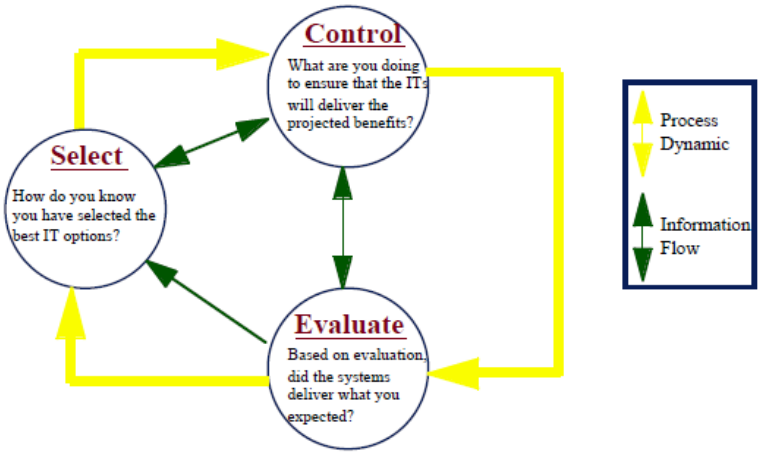
According to Braithwaite (1996), operational feasibility is the most critical but most often overlooked aspect of the procurement process when dealing with the planning, acquisition, and implementation of ITs. Operational feasibility speaks to the attempt to determine how well the predetermined technical alternatives will work within the context of the organization's day-to-day operations and environment. In an ideal situation, implemented ITs will enhance the effectiveness of the bank at the very least it should not detract from, or disrupt existing operations. In order to be feasible in this way, the technologies must be in line with the banks needs and directives. A main part of the difficulty in this area stems from the fact that in many instances operational procedures must be changed to accommodate ITs and in a few cases the fundamental culture of the organization may require some modicum of change. Ideally, these sorts of changes should be addressed earlier on in the planning stages in order to lessen some of the more detrimental impacts (perceived or otherwise) of implementation. In essence, the operational feasibility of any specific information technology affects both the social and working processes of the bank and as such must be treated as a fundamental factor in IT implementation.

Finally, Braithwaite (1996) discusses economic feasibility and specifically places this aspect last to deal with a management predilection toward the pure cost benefit analysis of IT. In his words "Economic feasibility should be considered last or else the probability is high that technological direction could be determined for the wrong reason; that is, low cost. "Braithwaite recognizes that funding decisions for IT are usually dependent on the justification of increased revenue, reduced costs, or better services.

Braithwaite further cautions that pure evaluation of costs to benefits does not necessarily provide a full picture of the economic feasibility of any given IT. He proposes that they must

be evaluated in terms of the whole work process and only on those IT alternatives deemed technically and operationally feasible. He argues that this is the only way to make sure that the analysis is a true evaluation of all favorable alternatives. Potential benefits should not be masked by unanticipated costs associated with trying to make an unfeasible system work. For any IT implementation to be successful it must be funded and justified by enough benefits across the board to allow for full development and implementation. To achieve this, benefits must be projected for the full "useful" life cycle of the system. As discussed previously, this is quite difficult to do and requires the analysis of all three types of feasibility. One of the earliest recognized problems for IT implementation in local government has been poor IT acquisition and development procedures. "Many rural banks, and particularly those adopting integrated ITs for the first time, are unsure how to go about procuring systems that will really meet their needs." As has always been the case, there is a great deal of difference, with regard to capability, among the range of ITs available for any given solution. Procuring a system which is too limited for the tasks a rural bank wants to utilize generally leads to immediate upgrade needs. This in turn creates a disruption of the whole process of implementation particularly if a system must be upgraded prior to full systems implementation. The opposite situation can also have detrimental effects. If too much systems capacity is acquired there may be desire to "fill-in" the slack capacity so as not to appear underutilized in evaluation. This may result in the establishment of processes that are not needed by the municipality, but that may eventually become entrenched. In the end it is very important that IT procurement be tied to the development of specific but integrated systems over a particular period of time.

In Braithwaite report, "Evaluating IT Investments: A practical guide", the Office of Information and Regulatory Affairs Information Policy and Technology Branch proposed a process model for IT investments which outlined the major aspects of the IT procurement process, figure 2.1 shows a model of their process.



IT Investment Process Model

Source - General Accounting Office in conjunction with the Office of Information and Regulatory Affairs, Information Policy and Technology Branch. (1995) Evaluating Information Technology Investments: A Practical Guide. Washington, D.C.: Government Printing Office, November. Pg.12.

In this particular model, three specific processes exist. Select refers to the screening of all possible projects requiring ITs. It also requires an analysis of risks and cost/benefit ratios resulting in the prioritization of projects based on rate of return to risk. The ultimate objective is the determination of the right mix of projects for the organization. The second step in this IT procurement process refers to control of the selected projects. As ITs are acquired for any given project they must be evaluated against projected costs, implementation schedules, and predefined performance measures. As acquisition and implementation take place action may be taken to correct any deficiencies with regard to the ITs and their relationship to the given project.Finally, the ITs must be evaluated to determine whether or not they met expectations and/or cost to benefit ratios. This step allows for adjustments to the systems and/or their usage in existing or future projects. While this acquisition process model appears to be fairly standard it does speak directly to the implementation of information technologies and it does allow for course correction within the process. Unfortunately, as with a multitude of other available models, it places most of its focus on cost/benefit analysis.

2.3 Information Technology Implementation

Much of the literature available in the area of IT development and deployment recognizes that the relationship that exists between ITs and rural banking demands process types that specifically address the special implications of the relationship. To this end, Walton (1989) argues that there are five specific aspects that must be part of any IT development and deployment process they are: priority attention and commitment of resources; the process must be an extended one; the process must be inclusive; rural bank's values must be an integral part of the guiding factors; and technological and the bank's aspects must be develop in conjunction and parallel with the IT requirements. The first aspect provided by Walton (1989) has become a common theme. This supports the view that the IT development and deployment process is crucial to the effectiveness of the rural banks and as such it warrants the direct attention and leadership of top management. Walton (1989) adds that this kind of leadership provides a distinctive dimension to the process and that is, the critical importance of commitment of the banks resources not just fiscal resources, but those that are educational and personnel related as well.A second crucial factor is the life cycle of the Information Technology deployment and development process. The process must extend beyond the development and implementation of IT in the rural banks and it must ultimately continue through the evaluation and adjustment stages, as well. In the volatile area of IT, conditions change throughout the development and use of information systems. In addition to being extensive the implementation process must also be inclusive, as the wide-ranging impact of IT on a rural bank demands the involvement and support of individuals and departments across the entire company.The two aspects which Walton (1989) discussed is an ongoing developmental IT implementation process and must be given all the necessary attention.The process requires that a framework exist for its development. To be really effective this necessitates the infusion of the banks goals and missions into the process at the very beginning or planning stages. IT has such an impact on bank's outcomes that a clear understanding of the desired organizational effects of IT is crucial. As banks goals and directives are not static, neither are the requirements for ITs. As the bank develops its IT needs will change the relationship between the rural bank and ITs is two-way and over time the two must develop consistently intertwined.

Walton's (1989) view of IT implementation is so important because of it's recognition of the importance of integrating the bank's goals and garnering support at a number of different levels. A good portion of the ICT literature views IT implementation with an internal focus that overrides all others. In other words the goals of IT are viewed as the primary goals for future IT development and implementation. Most of the authors who have delved into the area of IT implementation agree that it is intricately intertwined with the organizational design and culture. Hansen (1995) recognizes the alignment of IT development with the bank's goals as desirable after the IT implementation goals have been met.

Markus (1983) provides a view of IT implementation which proposes that resistance is a key factor in achieving effectiveness in that it "guides the behavior and influences the actions taken by managers and IT developers who are concerned with the implementation of ITs." This argument builds on the view that top management support and user involvement is key to process effectiveness but from the unique standpoint that it aids in the avoidance of resistance. In addition to organizational support, are the issues of well-designed systems that are technically sound and "user friendly". The arguments relating to resistance and IT implementation suggest that there are 3 types of resistance. First, individuals or groups may resist based on internal factors specific to that person or subunit. Secondly, the resistance may be technically oriented, based on factors inherent in the ITs themselves or the complete system being implemented. These two types of resistance to implementation are divergent in that the first sees individual and group behavior as internally determined and the second sees the same behavior as being determined environmentally or by the technologies themselves. It is common in the process of implementation to adhere to both of these influences simultaneously, that behavior is determined both internally and externally. Markus and Ginzberg (1983) both describe this as the tendency for people to resist regardless of the system but all things being equal they are less likely to resist ITs that are well designed.

The third type of resistance which is seen as a primary impact on IT implementation is the argument that individuals and groups resist ITs because of the interaction of personal characteristics with those of the IT systems. The key here is "interaction". Keen (1980) gives an example where he argues that IT systems which centralize control are resisted in rural banks that have decentralized authority structures. It is important to note that in the IT

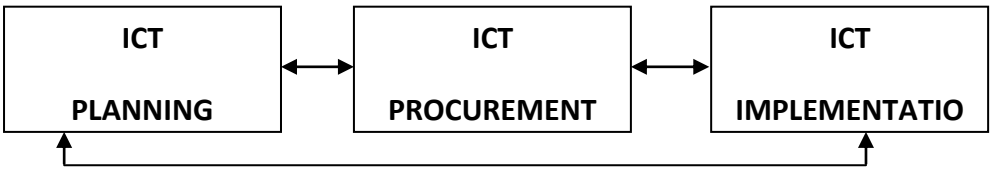
implementation literature resistance is defined as behaviors that are intended to prevent the effective implementation of ITs. However, resistance may also be applied to behaviors which do not manifest these intentions. Markus(1983) makes the distinction by suggesting that when a person's use or interaction with ITs is not critical to overall system operation then the individual's choice not to use the system cannot really be considered resistance. Instead this behavior may be an indication of other factors such as lack of training, personal fear of IT, or ignorance of the system.Some of the more recent literature in the area of IT implementation discusses the impact of company culture, which was all but absent from most of the early literature.

Organizational culture has a variety of meanings in the context of IT. Cooper (1994) defines it in his article "The Inertial Impact of Culture on IT Implementation" as "the social or normative glue that holds an organization together and expresses the values or social ideals and beliefs which organization members come to share". One of the more important ideas provided with regard to organizational culture is that changes which are most significant in an organization will breed resistance and ultimately fail if they are not accompanied by cultural changes. Relationships to this discussion can be seen in Schein's analysis that groups in organizations typically build their culture around their underlying technologies. Any adjustment to power (perceptions of power, work habits, or status) which may accompany IT implementation may violate the shared meanings and values of the group bringing about cultural based resistance. Although the issue of culture has been relatively absent from IT implementation literature there are a number of indications that it is quite important to the process. In essence, different cultures require different kinds of information and technologies since they process information differently and they play an important role in user satisfaction of ITs. According to Cooper (1994) the differences inherent in organization cultures can lead to resistance of IT implementation which can in turn increase the likelihood of failed implementation.

3.0 METHODOLOGY

For the purpose of this study the researcher did categorized the whole MCA Rural Bank computerization and interconnectivity project implementation process into a single system model. This process was viewed as a combination of three integral parts, each of which involves a separate set of internal, external factors and processes. Each of these integral

parts of the computerization process, i.e planning, procurement and implementation is necessary for the successful implementation of the computerized project.



ICT Development and Deployment

As seen in this representation, planning has a direct impact on the procurement process, and vice-versa whiles procurement and acquisition capabilities are also directly related to planning efforts. Procurement impacts implementation that has a direct impact on both the procurement and planning efforts.This study did discuss the fundamental issues of computerization project implementation in the MCA Rural Banks and Interconnectivity project. Basically the diverse and varied challenging issues that exist across the multiple levels of the implementation process were also addressed. The multiplicity in the implementation process did made the entire process very cumbersome with lots of issues. As a result of the nature of the MCA Computerization and interconnectivity implementation process, each set of the challenging issues were viewed in layers relative to the distinct stages in the whole process.Generally, the computerization planning issues are different from its procurement issues and yet each individual factor is inherently important to the whole process and must be viewed ultimately in that context.

This research addresses each of the stages of the process into a separate part to better identify the challenging issues, which are specific to that stage. It was noted that until each of the distinct piece of the process is viewed as a separate entity, it is impossible to figure out where the whole process might ultimately break down and which particular issue or set of issues might be to blame. During the MCA computerization and interconnectivity project implementation process as described in this research, planning was noted as the first stage. The planning process provides the fundamental steps from which the rest of the computerization implementation process continues. From the planning stage the process moves on to procurement or acquisition processes. This is the initial stages of the process where strategies are mapped out in the planning stage thereby begin to take shape. Once all of the necessary facets of the project plan have been acquired, the plan can be formalized and implemented. Each of these stages are intimately related to the others ie procurement

and implementation, failure to plan adequately impacts both procurement and implementation. Conversely, a breakdown in implementation may inform future planning efforts or require review and revisement of the original plan. Without the procurement portion of the process, implementation would be impossible. The acquisition of the proper equipment, technologies and budgeting for future acquisitions are integral to effective implementation of the MCA computerization project. Each stage of the implementation process demands careful consideration and foresight as they are all symbiotically related. Generally, failure to plan well for this project will ultimately result in a plan to fail.

Data were obtained from Audited Report thatincludes profit and loss account, balance sheet, portfolio reports and manual tariffs of Odotobri and Amanano Rural Bank Limited respectively.

The questionnaires were delivered by hand to the staff, customers, management, system administrators and managers of Amanano Rural Bank and Odotobri Rural Bank respectively. The study took place at Nyinahin, Bibiani, Jacobu, Obuasi, Bekwai and Kumasi. It covered all the agencies and head offices of both banks under study

3.1 Questionnaire

The questionnaire comprised of background questions about gender, age, education, knowledge in information technology and their knowledge in banking applications. Structured questions and some dichotomous question were asked to collect the information from the respondents. The same context of questions was given to all interviewees and they received exactly the same interview stimulus. Questions were very specific with a fixed range of answers. The structured questionnaire had multiple-choice questions in which the researcher provided a choice of answers and respondents were asked to select one or more of the alternatives, and dichotomous questions that had only two response alternatives, yes or no. The researcher also used 'LikersScale' (considered on 1-5 points scale) to measure the respondents' perceptions based on few statements to perceive the effect of planning and the impact of the computerization project on their banking operations. The points of the scale indicate the degree of agree or disagree level of the performance and impact of the system on their banking operations as they started using the T24 banking application **'1'** represents the lowest level of satisfaction or high disagreement, whereas '**5'** represents the highest level of satisfaction or high agreement.

4.0 RESULTS

System administrators, Managers and staff of Odotobri and Amanano Rural Bank Limited were surveyed for their response to a series of the challenges in the computerization project and also the extent these challenges have affected the computerization project and the operations of the rural banks. Of those polled 6 were managers, 3 were system administrators, and 35 were staff. Out of the 70 surveyed 44 responded, a 62.86% return rate.

4.1 Categorization of the challenges from the computerization of Amanano and Odotobri rural bank

All the challenges in the computerization project were initially viewed within either management or organization processes. It became obvious, as the literature review and interviews progressed, that the originally conceived categorization of the challenges were inadequate. Extensive representations of the influences from the rural banks based on the challenges were obviously necessary. This involves challenges with regards to Leadership, Managerial Process, Organization, Technical and Personnel.Leadership challenges reflect those issues that require the commitment, interaction, direction of General Managers and Board of Directors in the rural banks, such as interdepartmental coordination, organizational support, individual support, timeframes and scheduling. These challenging areas reflect the premise that organizational change occurs from Board of Directorsto the ensuring of management involvement in the computerization project implementation.In a similar vein, those challenges revealed in the management processes are in relation to General Managers to be specific and their role in the functional operations of the rural banks, as in budgeting, personnel management, and general management: In essence, any challenge which require specific attention or directives from a General Manager.The challenges characterized as organizational environment are broader, addressing factors, which are less tangible and more difficult to define, such as organizational culture, change that comes as a result of the computerization, Internal or External Politics, and behavior. These are essentially challenges that affect or may be affected by environmental factors, both external and internal.

Technical systems issues are primarily those related to the impact the computerization have on rural banks and their staff based on their specific nature. These challenges include

hardware and software considerations as well as the compatibility of the data capturing templates presented to the rural banks from the data center. Additionally, challenges with regards to personnel are those factors surrounding each individual within the rural banks, such as individual expertise levels, staffing levels, and resistance to change. These challenges are significantly impacted by the human conditions related to interactions, personal feelings and perceptions.

Interdepartmental coordination

The first of the background questions dealt with the level of interdepartmental coordination and the rate at which each of the departments involved themselves during the computerization project implementation. Content analysis of the responses indicates 27.27% of the respondent agreed there was interdepartmental involvement in the project whiles 72.73% believe there was nothing like interdepartmental coordination in the execution of the project. The high mean value suggested that most of the departmental heads did not understand the project to enable them engage their subordinates to furnish the IT department with the necessary data. Additionally it also creates the impression that the IT departments are solely responsible for the computerization project.

Organizational support

Successful and effective implementation of computerization project relies on the ability of the rural banks to change and adapt in order to exploit the uses of system. The study reveals that only 18.18% of total respondents agree and 81.82% totally disagree there was an organizational support. This suggests that the rural banks did not have any predilection towards supporting strategic vision and the impression created was the computerization project was imposed on the banks.

Leadership

This leadership challenge refers to the support of key individuals like top management within the rural banks setup who were either in favour or against the computerization project. The data obtained from the study established the fact that only 34.09% of the respondent saw the involvement of top management members like the credit manager, IT Manager, Operations manager, head of finance, microfinance manager. In the interviews it was also confirmed that with the exception of the IT Manager and the system

administrators all other top management members did not take keen interest in the computerization project. This therefore delayed the progress of the project.

4.2 Analysis of management process challenges

Strategic/formal plan

This part of the response was to find out whether there was a strategic plan put in place for the project which every computerization project must have serving as a roadmap for a successful implementation.Majority of the respondents (79.54%) said there was no strategic or formal planning of the computerization project whiles 66.6% of managers who are the decision makers within both banks also confirmed it. Since there was no formal or strategic plan for the computerization project, things were not done orderly.

Fiscal/budgeting

Computerization of the rural banks is expensive at a number of levels during the implementation process. The project requires fiscal concerns that define and measure operation costs, investment cost and also possible or achieved benefits of the computerization project. In the interview the notion created was that all equipment were going to be procured by the MCA under the auspices of the Ghana government, therefore preventing the banks from budgeting for the project. Meaning the rural banks did not budget for the computerization project. The interview further reveals that the purchase of the equipment was done as when the need arises and also upon a requisition from the IT department.

Lack of a planning model

77.28% of the respondents agreed there was no planning models for the project causing staff and management involve in the project to be working in an unorganized manner.

In an interview with the head of data center, it was revealed that the multi-company multi-book system been run at the data center was the first of its kind. This means the consultants hired for the computerization project implementation could not use any model but rather implement the project and correct the system when there are challenges. The data center manager also stated that the kind of system being run in the rural banks is the first of its kind in the world, therefore making it difficult for one to pick a model that works exactly as the one the rural banks in Ghana are trying to implement.

Organizational directives

Interview with some of the managers revealed that the missions, objectives and plans that their banks possess for the implementation of the computerization project did not exist. Since these organizational directives were not in place, they were finding it difficult to be strategic and having a well define activities to facilitate the effectiveness of the computerization project. This eventually has affected the effectiveness and efficiency of the whole implementation process.

Written procedures/guidelines

Written procedures or guidelines also refer to the mandate give to other parties outside or within the company who the rural banks think they can engage their services for the smooth implementation of the project.The interview disclosed that Apex bank as part of the computerization project did contracted some consultants like Inlak, Global solutions. On the other hand the rural banks did not engaged the services of consultants for the training and capturing of their data which apex bank have been advising them to do.

4.3 Analysis of challenges with regards to personnel of Odotobri and Amanano rural bank

Organizational IT expertise

This was to find out how technologically savvy the rural banks. In an attempt to ascertain their organizational IT expertise level and how progressive in it nature the rural banks may be, it was revealed that only 15.9% of the respondents were technologically informed. It clearly shows that they did not have well focus resources to enhance this computerization project and also to ensure their cutting edge in this modern day technological development in their banking operations. It shows they did not have information technology embedded in their organizational culture.

Individual IT expertise

This challenge of the lack of individual IT expertise in both banks speaks to how technologically savvy each of the staff within the rural banking setup are suppose to be. It is typical for a rural bank to employ individuals with a verydiverse range of IT competence. Interestingly the result of the data reveals that though the rural banks did not employ staff with diverse range of IT knowledge, they also have staff who are unwilling and do not have the desire to learn more about technology and how to even use simple office applications.

Some of them too were resisting to adapting to new technologies the computerization project is bringing.

Internal leadership

In an attempt to find out the various levels of internal leadership involvement within the rural banks with regard to the computerization project implementation. It was once again observed through the interview that not everyone in the workplace is ready or willing to become part of a technologically based workforce. It was the duty of leadership from managers and co-workers to help enhance the implementation process by getting their subordinate involve. Managers failed to promote the implementation process by refusing to get themselves involve in the training and also helping to prevent the resistance to the change the computerization project was bringing to the rural banks.

Training

The study reveals that the two weeks training for the T24 banking application was woefully inadequate, since that was the first time all the staff were coming into contact with a banking application and T24 to be precise. It was observed that the external consultants who were hired by the Apex Bank for the training had little or no knowledge in banking operations thereby impeding on their delivery during the training sections. This lack of quality training has acted as a powerful restrain to the effective implementation of the computerization project.

Resistance to change

Resistant to the change the computerization is bringing to the rural banks was seen as a human resources challenge. It was observe in the interviews that part of the resistance is couched in fear: fear of the computerization project; fear of being displaced by computerization project as result of the automation of all the functional areas of their operations; and fear of the unfamiliar things in the T24 Banking application.

Most of the staff resisted the computerization project implementation because they thought that was also an avenue for the General Managers with the ultimate powers to make purchasing decisions to amass wealth.

4.4 Analysis of technical system challenges

In an interview with the head of the data center and system administrators the following technical system challenges were revealed:

Data preparation and migration challenges

- There was a submission of incomplete customer data, unbalance books and wrong account balances to the data center delay the go-live process.
- Wrong classification of accounts into savings, current and other type of products by the rural banks was a great challenge in the computerization project.
- There was also the late submission of the data for upload during the go-live weekend.
- There was also a late submission of loans and fixed deposits information for upload.
- The delay and improper scanning of mandate cards for upload also impeded on the upload of the data.
- Most staff involve in the capturing of the data on the excel template have little or no knowledge in the area thereby their activity created lot of mistakes in the final data for submission.
- There the difficult of updating the excel templates for upload as a result of their low level of computer appreciation.
- Dormant accounts were not properly tagged during data submission.

Challenges encounter: wide area network and VSAT bandwidth

- During the initial implementation of the project some sites of both banks did experience high latency and pack loss during business hours that affect the daily balances of the banks.
- The high latency at the data center resulted in slowness in accessing the T24 banking application when the weather gets cloudy.
- It was observed that some agencies require more IP addresses than what was initially allocated to them due to increase in staff strength. This shortage of the IP's made most of the staff redundant.
- It was observed once again that some sites of Amanano and Odotobri rural banks were using unclean and unstable power at their sites causing the WAN modems to fail resulting in loss of connectivity.
- There was also loss of communication between web servers from Amanano and Odotobri rural banks to thedatabase server at the data center

- The power fluctuations have also caused failure of some components on the infrastructure, such as server disks, storage disks and power supply unit.
- There was also an intermittent database file corruption on one of the servers at the data center. Resolution of such challenges also prolongs the running of the close of business activity thereby affecting banking operations the following day.

T24 software challenges

- Slowness in accessing the T24 system during business hours when posting of transactions (inputting/authorizing), retrieval of BSD reports and other enquires and retrieval of customer mandate (image).
- Delay in COB processing due to the large volumes of transactions and account to be processed. This affected the opening of the system the next working day.
- There was non-completion of the BSD reports.
- The data center did notice Most RCB's were unable to work within the allocated 12hours even when the system is very stable.
- There were also loan and fixed deposit booking and redemption challenges. Solutions for this kind of challenges were not forth coming from Temenos who offers technical support to the management of the software. Loans that were terminated before schedule reverses all the previous interest paid by the customer to his account. This thereby causes huge financial loss to the company. Interest on overdraft was suppose to be charged daily but the system charges the customer on a monthly basis therefore compelling the customer to pay more than the agreed amount in the contract. This issue sometimes leads to threat from customer to close their accounts with the banks.
- There was also lack of proper understanding of the workings of the T24 especially report interpretation and generation. This sometimes led to poor preparation of monthly returns.
- Tariff manual for interest, commissions and other charges on the system submitted to the data center were wrong leading to income leakages or charges above the normal rates.
- There were issues on GL differences and unassigned line values due to wrong postings and unbalanced batches during data capturing.

- Odotobri rural bank on one occasion did not inform the data center of their banking activities on Saturdays. This lead to non-availability of the system.
- There were numerous times when both banks have to close very late leading to late opening of the systems on Saturdays. Even though the system is suppose to be accessed from 9am on Saturdays.
- There were challenges with customer statement printing. Both banks were unable to print customer statements on preprinted forms due to some network challenges. This issue is still pending thereby preventing customers from requestion for their statements.
- There was Non-Authorization of transactions due to some system problems. Therefore affecting account balances and the statement of those accounts involved.
- Some users were found of using GL accounts which did not exist during transaction inputting. This lead to automatic creation of accounts with title "Record Automatically Generated". Inter agency transactions also created inter-agency account for the very first transaction, if it was not created during system setup. The counter side of all inter-agency transactions was routed through these accounts. This issue eventually created a lot of GL differences.
- There were other security breaches the data center did experience as a result of some inter-bank transactions between some banks due to the same old account numbers being used at these banks

Antivirus Challenges

- Both banks did not switch on their servers and some PCs on daily basis for update. This affected the synchronization with the current update of the antivirus server at the data center.
- The personal laptops connected to the network for antivirus updates occasionally show at the data center as machines that are out of synchronization with the current signature file update.
- There was frequent formatting of servers by system administrators that require fresh installation and updates increasing the work at the data center.

Challenges at the call center and helpdesk operations

- The use of direct lines limited the free transfer of calls within the center. Also banks always demand that they get response to their issues logged on phone. This usually led to the congestion on the phone lines though other calls may come through but the lines are always engaged**.**

4.5 Analysis of organizational environmentalchallenges

Organizational culture

Though organizational culture is hard to explain because it mainly a perception; however for the computerization project to be effective the right kind of culture or environment within the rural banking setup is required. But the interview reveals that the rural banks did not have consistent common grounds between individuals and the new system within their establishment. This is also a clear indication of the internal politics affecting the computerization project.

Politics, internal/external politics

Political challenges have been inherent in the rural banking activities and the computerization project implementation is no different as observed in the interview. Though technological activities in general are political by nature i.e. privacy, security, confidentiality and collection of data to the data center. But it is incumbent on the management and system administrators to recognize and address the political ramifications within the rural banks and also improves on the relationship between their partners APEXBank. Some of the internal control officials with the rural banks were of the opinion that it was the internal politics that has affected the effectiveness and efficiency of the computerization project.

4.6 The benefits of the computerization project to Amanano and Odotobri rural bank

Impact of computerization on the profit of Amanano rural bank

The result of the study as shown in the digram clearly shows that the growth rate from 2008 when they were operating in the manual environment was 39.529 % in 2008, whiles from 2009 to 2010 it dropped to -1.63. statistics from 2010 to 2011 when amanano started the full utilization of the T24 Banking application in their operation, the growth rate increases tremendously to 23.01% with a profit to be transferred into income supplys of GH¢**514,**

285.00. This profit chuck by Amanano has been the best ever in the history of the company since it's establishment in 1983.

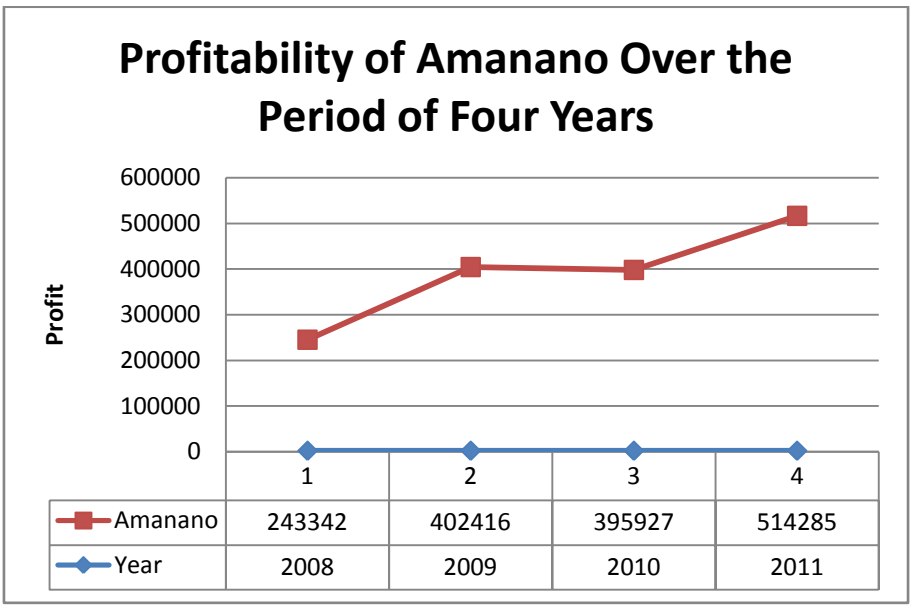
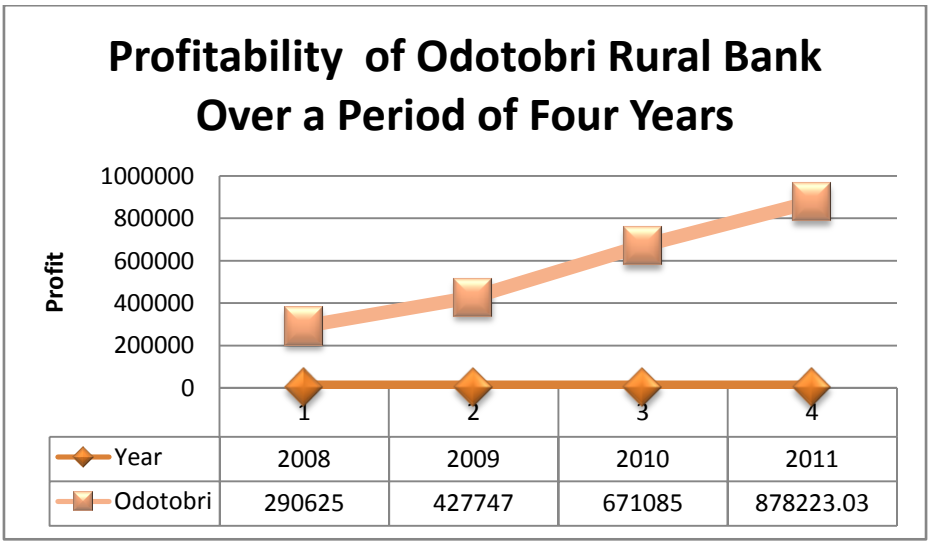


Figure 3.0 Field Work, 2012: impact of computerization on the Profit of Amanano rural bank

Impact of computerization on profit of odotobri rural bank



Field Work, 2012: impact of computerization on the Profit of Odotobri rural bank

In 2011 when odotobri rural bank commenced the utilizaiton of the T24 banking application, their profit has increae from GH¢ 671,085.00 to GH¢ 878,223.00 this corresponds with a growth rate of 23.58%. This confirms the great impact the MCA computerization project is having on their profitability.Though the profit of the bank has increased tremendously as shown in the diagram, but the high cost of installation and the utilization of other services

from the data center have also taken a chunk of the profit. If not so, this additional cost could have also add up to the profit they have been able to make this year. During the interview section with some internal auditors of both banks, it was clearly shown that the computerization has prevented income leakages that were very rampant in the manual environment**.**They stated further that understatement of interest charges has gradually become a thing of the past since for now all such charges i.ecommission on Turn over (COT), service charges and interest on loans are now automated. All this factors have contributed in the tremendous increase in the profitable of the bank.There has also been a drastic reduction in the suppression of cash that is one of the commonly noted fraudulent activities in the rural banks.The computerization project has also reduce the turnaround time of customers at most of the transactional hours. This happens only when the weather is not cloudy and during times when the system is very active and runing .Though customer management has been improved as indicated in the study but retrieval of customer data is most of the time a challenge as a during cloudy weather which causes the system to be very slow. The study has revealed that 84.09% of respondents from both banks believe the computerizaiton of their banks has improve on the efficiency and effectiveness of their operations. This is clear indication of the profit that was made at the end of the year which also shows a great impact of the computerization project on their dialy activities.

5.0 CONCLUSIONS AND RECOMMENDATION

Conclusion

The importance of the computerization project to the rural banks is undeniable. Within the past one year awareness and usage of computers have increased dramatically. The computerization of the rural banks has the capacity to change their mode of operations in the most fundamental ways. Each and every banker within the rural banking establishment has been impacted by some form of technological innovations the MCA computerization project has brought to their organization.

Additionally, the computerization project is gradually changing the way management is approaching the development of their operations and service deliveries.

Finally, the computerization of the banks has provided new ways of approaching the relationships between staff and customers they serve. Considering the crucial role the rural

banks play in our daily lives, the significance of the computerization project and other impacts must not be ignored.

From our research, we conclude that the major challenges in the MCA rural banks computerization and interconnectivity project are Lack of strategic planning for the project which forms the fulcrum of the leadership challenges. However it remains a fact that there are other challenges like Managerial process challenges, organizational environmental challenges, challenges with regards to personnel and technical system challenges that any rural bank and financial institution must expect in the computerizing it's establishment. Apex Bank, Board of director, management and staff are to deal with these challenges to prevent the failure of the project.

Research questions and responses:

I. **What were the challenges (if any) that confront the rural banks computerization and interconnectivity project?**

The challenges confronting the rural banks computerization project implementation were Leadership challenges, Managerial process challenges, organizational environmental challenges, challenges with regards to personnel and technical system challenges having direct impact on the planning processes of the MCA rural banks computerization and interconnectivity project. These challenges have impeded on the progress of the project and have also affected banking operations. It is a clear indication of what the rural banks are experiencing now.

II. **How have these challenges affected banking operations at both the Amanano and Odotobri rural banks respectively?**

These challenges have increase the turnaround time of the customers as a result of the slowness in accessing the T24 banking application during when the weather get cloudy. It has also affected the profitability of the rural banks as a result of the high cost of communication charges or bills from the data center in connection with the utilization of their services, i.e cost of maintaining the infrastructure, bandwidth, electricity bills and paying of data center staff.

III. **What systems and remedies should the Apex Bank put in place to checkmate such challenges in the future?**

- The data center must organize intensive refresher training on T24 banking application for all categories of staff especially the Managers and IT personnel. This will equip them to gain better understanding of the core functionalities of the eMerge T24 banking application to prevent such challenges in the near future. The main areas of concern should be reporting, changing of interest rates, management of loans and deposits, enquiries.
- Apex Bank must train the system administrators on active directory, internetconfiguration, antivirus and the statement printer setup so that systems can run from a centralized location managed effectively.
- Apex Bank must sensitize the Auditors who are in charge of internal control on the security of the network and its components. This will also prevent staff from manipulating the system to their advantage
- Apex bank must organize sensitization workshop for all front line staff at the rural banks to equip them with adequate knowledge on the project and how to manage customer expectations during system downtimes.
- The apex bank must improve on the communication between the data center helpdesk and the rural banks in case the system goes down.
- They must increase the user license in the systems to enable all users uninterrupted access to overcome the challenge of insufficient User license.
- Complains to the data center must be handled quickly and effectively.

Recommendations

1. Strategic planning for the computerization project is an important key to the effectiveness of the whole implementation process. Rural banks which do not make use of a strategic plan for this computerization project run the risk of investing in a project, which, may not prove to be viable in the long term. In addition lack of a plan might foster other challenging issues such as resistance to change and internal conflicts. Failure to engage in a formal planning process for the computerization project may ignore many of the factors which could enhance or hinder the implementation process. Interdepartmental coordination may be ignored, resulting in multiple standards, poor integration of systems, duplication of effort and resources, as well as a failure to meet individual and organizational needs. When

strategic planning is used, procurement of ICT equipment may be planned over time and advanced planning for costs may facilitate investments which support the eventual goals of the rural banks. Planning can also enhance the technological infrastructure through needs assessment and support of the goals of the computerization project throughout the rural banks. Strategic planning is critical to the effective design and implementation of the computerization project within the rural banks. Strategic planning for the computerization project must be viewed by the rural banks, management and board of directors not as an option but as a necessity. To achieve this level of commitment, significant changes in the rural bank environment, including its leadership and management processes may need to be enacted. This perception of the computerization project planning importance is really a top-down view of the goals of the rural banks.

2. The bottom line for rural banks General Managers must be the creation of an organizational culture where the computerization is valued as a necessary and integral part of the operations and success of the organization. An approach to developing this kind of culture is by the introduction of serious ICT training into their system which will incorporate managerial commitment, measurement and reporting of successes, satisfaction with the system and services to enable the rural banks to strive and compete in this current day banking environment after this computerization.

REFERENCES:

1. Abor, J.A. (2005). Technological Innovations and Banking in Ghana: An Evaluation of Customers' Perceptions. University of Ghana, Legon.
2. Agboola, A.A (2002): „Information Technology, Bank Automation, and Attitude of Workers in Nigerian Banks" in Journal of Social Sciences, Kamla-Raj Enterprises, Gali Bari Paharwali, India.
3. Agyei -Mensah, (2009) "Commercial Ranking", Lecture Notes, CSUC, unpublished.
4. Andah and Steel (2003), Rural and Micro Finance Regulation in Ghana: Implications for Development and Performance of the Industry, Africa Region Working Paper Series No. 49

5. Brücher, H., L. Scherngell, et al. (2003). "Change management in e-government." Fachzeits chrift des CC e-Gov der Berner FH: 11-1
6. Emmanuel Asiedu-Mantey, (2011):Rural Banking In Ghana
7. Essinger, James, (1999) "The Virtual Banking Revolution", The Customer, The Bank and the future. 1st ed., International Thomson Business Press, London, UK
8. Harold, B. & Jeff, L. (1995): 'Don't Let Technology Pass You By', ABA Banking Journal, Box 986, Omaha, NE, p.73
9. Laudon, D.P. and Laudon, J.P. (1991): Business Information System: A Problem Solving Approach, New York, HBJ, College Publishers. 21.10.
10. Mantey, (2011), "Rural Banking in Ghana"
11. Mensah, W. A. (1993). "Study of the Rural Finance Sector in Ghana." Unpublished paper.
12. Ranade C. G. (1994). "Rural Finance in Ghana." Accra. Unpublished paper.
13. Woherem, E. W. (2000): Information Technology in the Nigerian Banking Industry, Spectrum, Ibadan.
14. Osei-Bonsu, (2010): Apex Bank to migrate product onto ICT platform-MD, http://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=198631. 31/08/2012:11.13am
15. Osabuohien,(2008) "ICT And Nigerian Banks Reforms: Analysis Of Anticipated Impacts In Selected Banks" Global Journal of Business Research, Vol.2, No.2, 2008
16. Orhan (1997): The impact of information and communication technologies on society. Journal of international affairs December 1997-February 1998 Volume II No.4
17. Wali (2010) Promoting human resources in the public sector: critical role of human capital in the performance of public services in Africa: Regional Workshop Organized by CAFRAD 21-25 June 2010 -Tangier –Morocco
18. Akinuli, O.M. (1999) "Information Technology in Nigeria‟s Banking Industry: Operational Applications, Problems and Future Challenges", *CBN Bullion*, *23(3)*, 71-75.
19. McLean, Ephraim R., and Soden, John V. 1977 Strategic Planning for MIS. New York, NY: John Wiley and Sons, Inc.

20. Sullivan, C. H. (1985) "Systems Planning in the Information Age". Sloan Management Review Winter.
21. Ward, John (1995). Principals of Information Systems Management. New York, NY: Routledge; Lederer and Mendelow, 1988; Walton, 1989
22. M.M. Parker et al. in Information Economics 1988 Prentice hall in Ward (1995)
23. Braithwaite, Timothy (1996) The Power of IT: Maximizing Your Technology Investments. Milwaukee, WI: ASQC Quality Press. p. 69.
24. Walton, Richard, E. (1989) Up and Running: Integrating Information Technology and the Organization. Boston, MA: Harvard Business School Press. p. 31-32.
25. Hansen, Hans R. (1995) "Conceptual Framework and Guidelines for the Implementation of Mass Information Systems", Information & Management, Vol. 28.; Globerson, S. and Maggart, M.J. (1991), "A Conceptual Model of Self-Service", International Journal of Operations and Production, Vol. 11, No. 4.
26. Markus, M. Lynne (1983) "Power, Politics, and MIS Implementation", Communications of the ACM, Vol. 26, No. 6, June. p. 430 Markus, M. Lynne (1983) "Power, Politics, and MIS Implementation", Communications of the ACM, Vol. 26, No. 6, June. p. 430
27. Ibid; and Ginzberg, M.J., (1974) "A Detailed Look at Implementation Research". Report CISR-4, Center for Information Systems Research, Massachusetts Institute of Technology, Cambridge.
28. Keen, Peter G.W. (1980) "Information Systems and Organizational Change". Report CISR-46, Center for Information Systems Research, Massachusetts Institute of Technology, Cambridge.
29. Cooper, Randolph B. (1994) "The Inertial Impact of Culture on IT Implementation" Information and Management, Vol. 27. P. 18; and Smircich, L., (1983) "Concepts of Culture and Organizational Analysis", Administrative Science Quarterly, Vol. 28.
30. Amoako (2012)International Journal of Business and Management Tomorrow Vol. 2 No. 3: The Impact of Information and Communication Technology (ICT) On Banking Operations in Ghana.
31. Ghana Rural Banks (2005) Speech by Paul A. Acquah (BOG) 25th Anniversary of the Association of Rural Banks.