

Effects of Business Process Re-engineering on Implementation of Financial Management Systems: A Case of Masinde Muliro University of Science and Technology

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Abstract

Universities are under pressures from every direction, from reduced government funding to expectations by students and parents to deliver ever-higher quality services in their financial management for accountability purposes. Universities have therefore embarked on implementing Financial Management Systems (FMS) that tracks financial events, summarises financial information and supports adequate management reporting, policy decisions, fiduciary responsibilities and the preparation of auditable financial statements. The purpose of this study was to find out the effects of Business Process Re-engineering (BPR) on implementation of FMS in Kenyan public Universities. A conceptual framework was developed having independent variables as Business Process Re-engineering factor, depended variable as the successfully implemented FMS and moderating variable as compatibility of the financial management modules forming the FMS (fig.1). The research design used was descriptive survey design. The target population was, 115 staff drawn from five functional areas (within finance department) of Masinde Muliro University of Science and Technology. The sample consisted of 60 staff members drawn from five areas with each stratum of 12 members randomly selected. Questionnaires and interview schedules were used as research instruments. Analysis and discussion of data collected was done using correlation and descriptive statistics leading to drawings of summaries and conclusions. The study findings revealed 85% of implementation of FMS is accounted for by integration of general ledger module, budgetary accounting, accounts payable, accounts receivable and payroll systems.

Keywords: Business Process Reengineering (BPR), Financial Management Systems, Masinde Muliro University of Science and Technology (MMUST)

1.0 Introduction

Management of Financial information in the current business environment has become a powerful driver in performance of business processes as it determines organizational growth and sustainability (Siriginidi, 2007). With increased globalization, firms are facing unprecedented competition since they operate in a dynamic environment (Watanabe, Hobo 2003). Firms are in competition to adopt best business processes. This has seen them invest heavily in Financial Management systems in the effort of integrating and coordinating their financial activities for efficiency and effectiveness. As a result, most western countries have implemented integrated information systems known as Financial Management Systems. The introduction of an FMS can be regarded as an organizational reform which deeply affects work processes and institutional arrangements governing the management of public finance (Hove & Wynne 2010). The implementation of an FMS is a complex, risky, resource-intensive process that requires major procedural changes (Hendriks, 2012). To attain strategic goals which are planned in align with the Vision 2030 and the current Jubilee government's Manifesto, the institution should embark on business process re-engineering where Financial Management Systems (FMS) reform (from legacy systems) and review of all systems, functional processes, methods, rules and regulations, legislation, banking arrangements and related processes are done (Rodin-Brown, 2008). The University strategic goals are achieved if the FMS solution supports a wide range of business processes that transcend functional, business, organisational and geographic boundaries. Business process re-engineering is a critical factor affecting successful implementation of any FMS reform and requires close monitoring and changing all manual (analogue) systems to automated (digital) systems. FMS design should, therefore, be preceded by detailed functional analysis that underpins current functional processes, procedures, user profiles and requirements that the new system will support (Rozner, 2008). It will be necessary to establish new, standardised procedures throughout the institution to formalise job descriptions and improve arrangements and systems for both internal and external. In Ghana the design and development of FMS was not satisfying, because of problems with the reporting functionality similar to Malawi. This was because of a lack of clear specifications on the reporting requirements and approval from authorities on the design of various reports (Diamond & Khemani 2006; Hendriks 2012).

The study therefore focuses on the effect of Business Process Re-engineering (BPR) on successful implementation of Financial Management Systems (FMS).

2.0 Financial Management Systems

Financial Management Systems (FMS) is an information system that tracks financial events and summarizes financial information. It supports adequate management reporting, policy decisions, fiduciary responsibilities and the preparation of auditable financial statements (Rozner, 2008). It is the computerisation of public financial management processes, from budget preparation and execution to accounting and reporting, with the help of an integrated system for the purpose of financial management (Lianzuala & Khawlhing 2008). FMS consists of software support modules where information is flowing between them and they share a central database (Clemmons, Simon 2001). These modules are of two types' core modules and non-core modules or systems. The core modules are general ledger, budgetary accounting, accounts receivable and accounts payable while the non-core are payroll systems, budgetary development and asset module. The introduction of an FMS can be regarded as an organizational reform which deeply affects work processes and institutional arrangements governing the management of public finance (Hove & Wynne 2010).

3.0 Business process re-engineering

There should be parallel reforms and improvements to business processes for successful implementation of FMS. According to Diamond and Khemani (2006), he argues that there was little advantage in introducing an FMS that merely follows old processes and practices but requires new procedures to be formalised and unified throughout the institution and that an FMS is effective only if the underlying budgetary and accounting systems are robust and well managed. He gave the following reforms that may be induced by FMS in existing systems:

3.0.1 Structure of the budget and the accounts

The introduction of FMS necessitates unifying the codes and classifications (both the budget classification and the chart of accounts). These should be maintained at a central level. The reporting requirements are the basis for defining the structures of these codes and classifications.

3.0.2 Accounting Principles and main budgeting

Most institutions in developing countries example Kenya use a single –entry accounting system in a manual mode, with the budgeting and accounting system on a cash basis. Off- the shelf systems are normally designed for accrual accounting. With the implementation of an FMS, financial transactions are entered. The implementation of FMS is the computerization of public financial management processes, from general ledgers, budgetary accounting, accounts payable accounts receivables and payroll systems and reporting, with the help of an integrated system for the purpose of financial management (Lianzuala & Khawlhing 2008). These requires reforming and all systems, culture, structural elements, functional processes, methods, rules and regulations, legislation, banking arrangements and related processes from their legacy systems (Rodin-Brown 2008). It will be necessary to establish new, standardized procedures throughout the institution to formalize job descriptions and to improve arrangements and systems for internal and external to suit the new system under implementation. According to Ahmad, 2009 he postulated that the existing organizational structure and processes found in most companies are not compatible with the structure, tools, and types of information provided by FMS. Even the most flexible FMS imposes its own logic on a company's strategy, organization, and culture. Thus, implementing an FMS may force the reengineering of key business processes and/or developing new business processes to support the organization's goals and redesigned processes require corresponding realignment in organizational control to sustain the effectiveness of the reengineering efforts. This realignment typically affects most functional areas and many social systems within the organization. The resulting changes may significantly affect organizational structures, policies, processes, and employees. Clearly, FMS implementations may trigger profound changes in corporate culture. If people are not properly prepared for the imminent changes, then denial, resistance, and chaos will be predictable consequences of the changes created by the implementation. However, if proper business re-engineering techniques are utilized, the company should be prepared to embrace the opportunities provided by the new FMS that will make available more information and make attainable more improvements than at first seemed possible. The organization must be flexible enough to take full advantage of these opportunities.

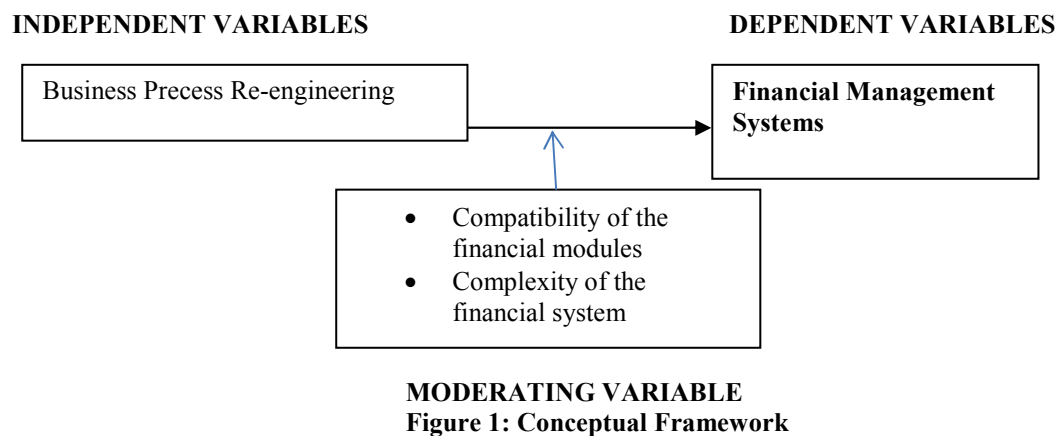
3.1 Complexity of the system

This moderating factor should be considered while implementing the FMS. When the system is simple with fewer transactions the implementation will be successful but if it is complex with many transactions will need keenness on the implementation process to ensure success. In Public Universities, the system become complex if the integration of the Financial Management System incorporates all the financial activities from its satellite campuses. Considering the nature and complexity of the project, it is essential for all participants to be fully aware of the magnitude of the undertaking. Decision-makers must be convinced that the benefits of an FMS

exceed the risks, and participating departments must recognize the need for a new system and determine from their migor resources if it will be worthwhile investing into a complex system (Chêne 2009). Diamond and Khemani (2006) argue that project commitment at the highest levels of the political system, as well as bureaucracy, and continuous participation from the direct users of the system and other stakeholders in all phases of the project, is necessary for success.

3.2 System Compatibility (integration)

The implementation of an FMS is carried out in a modular way, to avoid too much strain on the capacity of organizations, it is important to keep a strategic and comprehensive view in the overall process of its planning and development. International experience in implementing FMS indicated that these projects often lead to temporary disruptions of the normal functions in the budget and accounts departments. This disruption may last for a period of 10-12 months, depending on the absorptive capacities of the organizations' involved. According to Chene, 2009 he eluded that integration of several modules may bring incompatibility problems hence affecting the successful implementation of the FMS. Incompatibility majorly arise when different modules of; general ledger, budgetary accounting, accounts payable, accounts receivables and payroll system are procured from different manufactures without checking the matching specifications. Conceptual framework is as shown in figure 1



MODERATING VARIABLE
Figure 1: Conceptual Framework

The study applied the conceptual framework as presented in figure 1 determining factor were taken to be independent variable, which is Business Process Re-engineering. The dependent variable was taken to be successfully implemented Financial Management Systems (FMS) that supports adequate management reporting, policy decisions, fiduciary responsibilities and the preparation of auditable financial statements while the moderating variables were compatibility of the system and complexity of the financial system in terms of number of financial transactions dealt with.

4.0 Research Methodology

The researcher employed descriptive survey and correlation design. The survey method is relevant to the study, since, the design enables the researcher to observe and measure the variables needed (Fraenken&Wallen, 2009) and correlation design was appropriate for this study because it enabled researchers to analyse the relationships among a large number of variables in a single study (Borg and Gall, 1983). This study was conducted through a case study of Masinde Muliro University of Science and Technology. The target population was 115 staff the sample consisted of 60 staff members drawn from five areas with each stratum of 12 members randomly selected. The study used questionnaires and interview schedules as research instruments. Reliability of the instruments were ensured by piloting the questionnaire. Validity of the research instruments were ensured through the advice of the specialist in the Department of Commerce and Economics Studies in the School of Human Resource Development whose views were incorporated in redrafting the final instruments. Both qualitative and quantitative data were collected and analysed. Analysis and discussion of data collected was done using descriptive statistics leading to drawings of summaries and conclusions.

The following was the research question used in the study:-

Does Business Process Re-engineering affect successful implementation of Financial Management Systems in MMUST?

5.0 Results

The findings of this research were guided by the objective:

To find out whether business process re-engineering affects successful implementation of Financial Management Systems in MMUST. Respondents' were asked to rate the degree of their agreement as to whether they strongly agree, agree, neutral, disagree or strongly disagree to the various statements. The findings are as shown in the Table 1

Table 1: Effect of change of processes, culture and structures on successful implementation of FMS

	Frequency	Percent
Very important	17	41.5
Important	19	46.3
Neutral	3	7.3
Little importance	2	4.9
Total	41	100.0

The findings in Table 1 shows that; 41.5% of the respondents indicated that change management was very important in the implementation of FMS, 46.3% of the respondents indicated that it was important 7.3% of the respondents were neutral while 4.9% of the respondents indicated that there was little importance in considering change management towards FMS implementation. The findings imply that 87.8% of the respondents agreed that it is important to manage change: both structural change and cultural change in systems implementation. The resulting changes may significantly affect organizational structures, policies, processes, and employees this may trigger profound changes in corporate culture. If people are not properly prepared for the imminent changes, then denial, resistance, and chaos will be predictable consequences of the changes created by the implementation (Motwani, 2000). These findings agree with Ahmad (2009) who alluded that change management strategies are essential for adapting and deploying FMS in organizations to achieve the desirable outcomes. Besides Motwani (2000) in his study compared one successful and one failed FMS implementations, and found that a project that is supported by top management without appropriate organizational readiness and adequate change management strategies in place is more likely to fail.

5.1 Compatibility of financial modules

The respondents were required to ascertain whether there was integration within and between the financial modules of the Financial Management Systems. The response was analyzed in the tables below.

Table 2. Integration of General ledger module

	Frequency	Percent
Fully integrated	7	17.1
Partly integrated	10	24.4
Not really	22	53.7
not sure	2	4.9
Total	41	100.0

Findings of Table 2 indicates that; 17.1% of the respondents shows that the general ledger is fully integrated, 24.4% of the respondents indicated that it is partly integrated, 53.7% indicated that the department is not integrated while 4.9% of the respondent were not sure. These findings imply that, general ledger function is partly integrated. Majority indicated that the general ledger module was partly operational since not an updated record for the clients are kept.

Table 3. Integration of Budgetary Accounting

	Frequency	Percent
Fully Integrated	5	12.2
Partly Integrated	27	65.8
Not Really	8	19.5
Not Sure	1	2.4
Total	41	100.0

Findings of Table 3 shows that; 12.2% of the respondents indicated that the Budgetary Accounting is fully integrated, 65.8% of the respondents indicated that the department is partly integrated, 19.5% of the respondents indicated that the department is not integrated and 2.4% of the respondents were not sure. The findings imply that the budgetary accounting function is partly integrated. Majority indicated that budgetary process at the University is almost up to – date since the main, supplementary and departmental budgets are made before the financial year commences.

Table 4. Integration of accounts payable

	Frequency	Percent
Fully integrated	3	7.3
Partly integrated	9	22.0
Not really	25	60.9
not sure	4	9.8
Total	41	100.0

Findings of Table 4 show that: 7.3% of the respondents indicate that the accounts payable was fully integrated, 22% of the respondents indicated that it was partly integrated, 60.9% indicated that it was not really integrated while 9.8% of the respondents were not sure. This implies that accounts payable was not integrated. The majority indicated that the accounts payable module at the University was not operating effectively and efficiently since the obligations were not made online and that the overdue days for the financial transactions were determined manually.

Table 5. Integration of accounts receivables

	Frequency	Percent
Fully Integrated	5	12.2
Partly Integrated	26	63.4
Not Really	7	17.1
Not Sure	3	7.3
Total	41	100.0

Findings of Table 5 show that: 12.2% of the respondents indicate that the accounts receivable was fully integrated, 63.4% of the respondents indicated that accounts receivable is partly integrated, 17.1% indicates that accounts receivable is not really integrated, 7.3% of the respondents were not sure. This implies that the department is partly integrated. The part integration may imply that most of the financial transactions are still handled manually where parties or students pay fees into the bank and bring the banking slips for updating their accounts by the accountants.

Table 6. Integration of Payroll system

	Frequency	Percent
Fully integrated	6	14.6
Partly integrated	26	63.4
Not really	6	14.6
Not sure	3	7.3
Total	41	100.0

Findings of table 6 shows that: 14.6% of the respondents indicated that the payroll system was fully integrated, 63.4% of the respondents indicated that the payroll system was partly integrated, 14.6% of the respondents shows that the payroll system is not integrated while 7.3% of the respondents' were not sure. Majority indicated that the payroll system is partly integrated since the employee remunerations can be processed automatically but the posting to the individual bank accounts is done manually.

These therefore indicate that a functional FMS existed at MMUST that integrated several functional areas (modules) within and between finance departments (Chen, 2011). FMS provide seamless integration of processes across functional areas with improved workflow, standardization of various business practices and access to real time up-to-date financial information by Universities (Ehie and Madsen, 2005). This integration has enabled the tracking of financial events and summarises financial information, producing financial statements to be audited.

6.0 Summary

The study established the effects of Business Process Re-engineering (BPR) on FMS implementation in institution of higher learning. The conceptual framework developed guided the study. Analysis and discussion of data collected was done using regression, correlation and descriptive statistics leading to drawings of summaries and conclusions. The findings revealed that 87.8% of the respondents indicated that changes in the management processes, structural and cultural systems are critical to the successful implementation of Financial Management system while the moderating variables' findings revealed that 85% of the implementation of Finance Management Systems within finance department is accounted for by the integration of general ledger module, budgetary accounting, accounts payable, accounts receivable and payroll systems and that the

integration between the modules was enhanced hence forming an effective and efficient Financial Management System (FMS).

7.0 Conclusions

It is evident that Business process Re-engineering brings on board change management in structures, culture processes and systems. It is therefore important towards successful Financial Management Systems implementation since it allows the legacy and manual system to be converted into an automated system. On the other hand compatibility of the modules in the FMS was critical for the successful implementation. Proper integration enabled smooth running and operation of the FMS and that the complexity of the system in terms of numbers of transactions should be monitored and be dealt with accordingly since according to the findings they affect the successful implementation of FMS. The modules accounted for 85% of implementation of Finance Management Systems in the finance department. That the complexity of the University system also affected that FMS implementation since the campuses and banks were not integrated to the main Finance Management System

8.0 Recommendations

The researcher recommends that Institutions of Higher Learning (IHL) in the process of implementing FMS; to track their financial transactions to produce the auditable statements on a timely basis within the Universities, to access, and consider the effect of Business Process Re-engineering and its moderating factors: integration and complexity of the system on the successful implementation of FMS. Besides they should not forget integration with banks.

9.0 Suggestions for further research

Considering the above findings, the researcher proposed that it would be worthwhile to conduct further research within Private Universities in Kenya to establish any similarity because results in public University may not generalize to private universities due to different operational dynamics.

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