

Effects of Electronic Finance on Performance of Government Financial Institutions in Rwanda: A Case Study of Rwanda Social Security Board

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Abstract: An E-finance is the provision of financial services and markets using electronic communication and computation. These are the use of electronic payments systems, the operations of financial services firms and the operation of financial markets. The general objective was to assess the effect of electronic finance on performance of government financial institutions in Rwanda; specifically, in RSSB as one of the pilot government financial institution in Rwanda. To achieve this the study was guided by the following specific objectives; to assess the effect of early warning systems as part of e-finance on performance of government financial institution in Rwanda, to determine the effect of real time operational financial system of e-finance on performance of government financial institution, to investigate the effect of business processes automation of e-finance on performance of government financial institution and to determine the effect of financial process improvement and performance of government financial institutions in Rwanda. The target population of the study was 150 respondents from RSSB main branch. The sample size of 110 respondents was determined using Yamane's formula. Stratified random sampling was used to determine the sample size. The study used both primary and secondary data, where questionnaires, interview and annual reports of RSSB were used. Primary data for the study was collected using structured questionnaires that were administered to the respondents. Quantitative data obtained from close ended questions was analyzed by using descriptive statistics. Narrative data obtained from interviews and open-ended questions in the questionnaire were analyzed using qualitative approaches. Data collected was analyzed through SPSS version 21. Data analysis involved statistical computations for averages, percentages, and correlation and regression analysis. Descriptive and inferential statistics and content analysis was used for specific data. From the findings, it was revealed that early warning system, Real time operational financial system, Business processes automation and Financial process improvement to a constant zero, performance of government institutions would be at 0.455. A unit increase on early warning system would lead to increase in performance of government institutions by a factor of 0.016, a unit increase in Real time operational financial system would lead to increase in performance of government institutions by a factor of 0.182, a unit increase in Business processes automation would lead to increase performance of government institutions by a factor of 0.153 and unit increase in Financial process improvement would lead to increase performance of government institutions by a factor of 0.204. The study recommends that RSSB through the government should allocate adequate finances to support in strategy implementation to improve the quality of their services to the Rwanda citizens. Future researchers can conduct a comparative study in another parastatal body in Rwanda. Investigations can be done on similar variables then this will give room for the researchers to compare findings to establish areas that are similar and those which are unique after which a reliable conclusion can be drawn.

Keywords: Agency Banking Services, Financial Performance of Commercial Banks

1. Introduction

Globally, Electronic finance is a multi-channel model that delivers the traditional banking activities of deposit taking and lending using the bank teller assistance in a brick and mortar building to click and mortar retailer with bank customers processing transactions at their own convenience. E-banking offers services such as balance enquiry, funds transfer and bill payments, loan and credit card applications and brokerage, (Hannington, 2013). Electronic banking uses various channels to deliver banking services, these include; ATMs, internet banking, mobile banking and agency banking among others. Commercial banks faced by an ever-dynamic competitive environment are in constant pursuit of adoption, innovation and or invention of e-banking strategies while also expanding business beyond geographical boundaries to improve their competitiveness and achieve performance goals such as profit maximization, customer satisfaction, and firm growth among others (Sherah, Fei, & Yi, 2010).

2. Statement of the Problem

A fundamental assumption of most research in operations improvement and operations learning has been that technological innovation has a direct bearing on the performance improvement (Catherine, 2010). However, from a Strategic management point of view, financial institutions should have effective systems in place to counter unpredictable events that can sustain their operations while minimizing the risks involved through technological innovations. Only financial institutions that are able to adapt to their changing environment and adopt new ideas and business methods have guaranteed survival (Johnet *al.*, 2009). Some of the forces of change which have impacted the performance of financial institutions mainly include technological advancements such as use of mobile phones and the internet, (Okiro & Ndungu, 2013).

Despite the many advantages associated with Rwanda Social Security Board Vis a vis reduction in transaction costs, improvement on delivery of financial products and services is fundamental. Many financial institutions in Rwanda have not yet adopted this technology very well (MINECOFIN, 2014). Even those that have adopted this technology for

instance Rwanda Social Security Board the effectiveness on the performance is not well understood. Many of the customers have cited issues of insecurity with use of the system. This exposes the organization to theft and leakage of financial reports which could in effect impact on the performance of the organization (Johnson, 2014). In addition, the presence of strong institutions is critical for an industry's success, it was reported that Rwandan financial institutions lack strong institutional capacity. The recent survey of the National Bank of Rwanda show that over 67% of Rwandan banking have no management tool when addressing strategic decision making, and more than 52% of Rwanda's financial institutions operate using a manual management information system (MIS) to meet their daily business information needs (BNR, 2013). Though many studies have been conducted both locally and internationally and none is focused on the effects of electronic finance in, Rwanda Social Security Board. This means there is an information gap which requires this kind of study. Thus, rendering to the question; what are the effects of electronic finance system on the performance of government financial institutions in Rwanda?

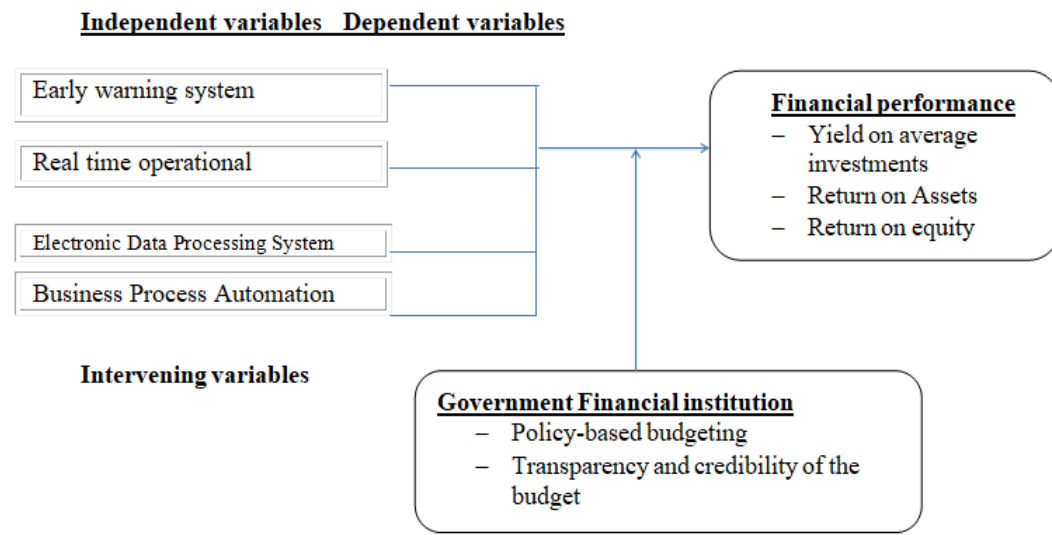
3. Objectives of the Study

3.1 General objectives

The general objective of the study was to assess the effects of electronic finance system on the performance of government financial institutions in Rwanda.

3.2 Specific objectives

- 1) To assess the effect of early warning system as part of e-finance on performance of government financial institution in Rwanda
- 2) To determine the effect of real time operational financial system of e-finance on performance of government financial institution
- 3) To investigate the effect of business processes automation of e-finance on performance of government financial institution.
- 4) To determine the effect of financial process improvement and performance of government financial institutions in Rwanda.



4. Research Methodology

- **Research Design:** The study adopted descriptive research design
- **Target Population:** The target population of this study comprise of 150 staffs and managers of Rwanda Social Security Board (RSSB).
- **Sample size:** A sample size of 110 respondents has been selected to represent the entire population
- **Data Collection Instruments:** Data were collected using questionnaires

5. Research Findings

Table 1: Correlation between early warning system and performance of government financial institution.

		Early warning system	Performance
Early warning system	Pearson Correlation	1	.352**
	Sig. (2-tailed)		.000
	N	99	99
Performance	Pearson Correlation	.352**	1
	Sig. (2-tailed)	.000	
	N	99	99

** . Correlation is significant at the 0.01 level (2-tailed).

Table 1 shows that there is a statistically significant relationship between early warning system and performance of government financial institution ($r=.352^{**}$, $P<0.01$). This implies that increasing the extent to which the RSSB carries out early warning system would result into increased performance. These findings are consistent with those of Teeratansirikool (2013) that showed a positive significant relationship between early warning system and firm

performance. The findings also agree with those of a study conducted by Ndumbaro (2013).

Table 2: Respondent's rating of real time operational financial system of e-finance and performance

Statements	Strongly Agree %	Agree %	Not sure%
In financial Government organization is real time operational financial system effective	29(29%)	40(40%)	31(31%)
Are the systems working	32 (32%)	52(53%)	15(15%)
In financial Government organization a high degree of team-member controls foster e-finances	43(43%)	44 (44%)	12 (12%)
In financial institutions evaluation process based on the monitoring and evaluation of e-finances supports high team performance	60 (61%)	36(36%)	3(3%)
In financial Government organization personnel control exercise at all level of management foster to performance	58 (59%)	30(30%)	11(11%)

Table 2 indicates that 29% of the respondents strongly agreed with the statement that in financial Government organization is real time operational financial system effective, 40% just agree while 31% were not sure of the statement. Also 32% of the respondents strongly agreed with the statement that the systems were working, 53% agreed while 15% were not sure. Further, the table shows that 43% of the respondents strongly agreed that the financial Government organization a high degree of team-member controls foster e-finances, 44% agreed while 12% were not sure. Additionally, 61% of the study respondents strongly agreed that in financial institutions evaluation process based on the monitoring and evaluation of e-finances supports high team performance, 36% agreed while 3% were not sure of the statement. Lastly, 59% of the respondents strongly agreed with the statement that in financial Government organization personnel control exercise at all level of management foster to performance, 30% just agree while 11% were not sure of the statement.

Table 3: Correlation between real time financial system and performance of government financial institution.

		Real time financial system	Performance
Real time financial system	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	99	
Performance	Pearson Correlation	.598**	1
	Sig. (2-tailed)	.000	
	N	99	99

** . Correlation is significant at the 0.01 level (2-tailed).

Table 3: shows that there is a statistically significant relationship between Real time operational finance and performance of government financial institution ($r=.598^{**}$, $P<0.01$). This implies that increasing the extent to which the RSSB carries out Real time operational finance would result into increased performance.

Table 4: Respondent's rating of Business processes automation of e-finance and performance

Statements	Strongly Agree %	Agree %	Not sure%
In financial Government organization the Business automation exists in its e-finance	33(33%)	56 (57%)	10(10%)
In financial Government organization the Business automation are working properly	33(33%)	48(49%)	18(18%)
Finance offices have the plan for automating business in this area	49(50%)	44(44%)	6(6%)
Finance and contribution departments responsible for e-finances	35(36%)	44(44%)	20(20%)
In financial Government organization do you have indicates of performance vis-à-vis to business automation in e-finance	58 (59%)	30(30%)	11(11%)

Table 4 indicates that 33% of the respondents strongly agreed with the statement that in financial Government organization the Business automation exists in its e-finance, 57% just agree while 10% were not sure of the statement. Majority (49%) of the respondents agreed with the statement that in financial Government organization the Business automation are working properly, 33% strongly agreed while 18% were not sure. Further, the table shows that 50% of the respondents strongly agreed that the finance offices have the plan for automating business in this area, 44% agreed while 6% were not sure. Additionally, 36% of the study respondents strongly agreed that finance and contribution departments responsible for e-finances, 44% agreed while 20% were not sure of the statement. Lastly, 59% of the respondents strongly agreed with the statement that financial Government organization do you have indicated of performance vis-à-vis to business automation in e-finance, 30% just agree while 11% were not sure of the statement. These findings are consistent with Gica & Balint (2012) who argued that use of tools and techniques helps in increasing planning efficiency and effectiveness which is associated to the firm level of overall performance.

Table 5: Correlation between Business process automation and performance of government financial institution

		Business process automation	Performance
Business process automation	Pearson Correlation	1	.227*
	Sig. (2-tailed)		.024
	N	99	99
Performance	Pearson Correlation	.227*	1
	Sig. (2-tailed)	.024	
	N	99	99

** . Correlation is significant at the 0.01 level (2-tailed).

Table 5 shows that there is a statistically significant relationship between business process automation and performance of government financial institution ($r=.227^{**}$, $P<0.01$). This implies that increasing the extent to which the RSSB carries out business process automation would result into increased performance.

Table 6: Respondent's rating of Business processes automation of e-finance and performance

Statements	Strongly Agree %	Agree%	Not sure%
In financial Government organization managers same opinion of risk-taking for finance improvement	33(33%)	56 (57%)	10(10%)
In financial Government organization the degree to which employees are encouraged to be risk seeking for improving e-finance and hence supports performance	33(33%)	48(49%)	18(18%)
RSSB can gain benefits from improving finance processes	49(50%)	44(44%)	6(6%)
In financial Government organization do e-finance affect cost savings	35(36%)	44(44%)	20(20%)
The e-finance in your organization increase the timeliness and quality of finance processes improvement	58 (59%)	30(30%)	11(11%)

Table 6 indicates that 33% of the respondents strongly agreed with the statement that in financial Government organization managers same opinion of risk-taking for finance improvement, 57% just agrees while 10% were not sure of the statement. Majority (49%) of the respondents agreed with the statement that in financial Government organization the degree to which employees are encouraged to be risk seeking for improving e-finance and hence supports performance, 33% strongly agreed while 18% were not sure. Further, the table shows that 50% of the respondents strongly agreed that that RSSB can gain benefits from improving finance processes, 44% agreed while 6% were not sure. Additionally, 36% of the study respondents strongly agreed that financial Government organization do

Table 8: Correlation and the coefficient of determination

	Performance of government financial institution	Early warning system	Real time operational financial system	Business processes automation	Financial process improvement
Performance of government financial institution (r) (p) Sig. (2 tailed)	1.000				
Early warning system(r) (p) (2 tailed)	0.894 0.018	1.000			
Real time operational financial system(r) (p) Sig. (2 tailed)	0.493 0.031	0.316 0.047	1.000		
Business processes automation (r) (p) Sig. (2 tailed)	0.661 0.024	0.163 0.019	0.216 0.047	1.000	
Financial process improvement (r) (p) Sig. (2 tailed)	0.402 0.046	0.161 0.029	0.233 0.0464	0.462 0.014	1.000

According to the Table9, there is a positive relationship between Performance of government financial institution and Early warning system, Real time operational financial system, Business processes automation and Financial process improvement(0.894, 0.661, 0.493, and 0.402) respectively. The positive relationship indicates that there is a correlation between the effectiveness of electronic finance on performance of government financial institutions in Rwanda. This notwithstanding, all the factors had a significant p-value (p<0.05) at 95% confidence level. The significance values for relationship effectiveness of electronic finance on performance of government financial

e-finance affect cost savings, 44% agreed while 20% were not sure of the statement. Lastly, 59% of the respondents strongly agreed with the statement that the e-finance in your organization increase the timeliness and quality of finance processes improvement, 30% just agree while 11% were not sure of the statement.

Table 7: Correlation between financial process improvements and performance of government financial institution

		Financial process improvements	Performance
Financial process improvements	Pearson Correlation	1	.227*
	Sig. (2-tailed)		.024
	N	99	99
Performance	Pearson Correlation	.577*	1
	Sig. (2-tailed)	.024	
	N	99	99

**. Correlation is significant at the 0.01 level (2-tailed).

Table7 shows that there is a statistically significant relationship between Financial process improvements and performance of government financial institution ($r=.577^{**}$, $P<0.01$). This implies that increasing the extent to which the RSSB carries out financial process improvements would result into increased performance.

institutions in Rwanda and Early warning system, Real time operational financial system, Business processes automation and financial process improvement were 0.018, 0.031, 0.024 and 0.046 respectively. This implies that Real time operational financial system was the most significant factor.

Table 10: Coefficient results showing the relationship between the combined factors

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.455	.231		1.973	.106
Early warning system	.016	.009	.444	1.815	.009
Real time operational financial system	.182	.050	1.231	3.616	.036
Business processes automation	.153	.017	1.075	3.159	.025
Financial process improvement	.204	.240	.230	.850	.028

From the data in the above table the established regression equation was $Y = 0.455 + 0.016 X_1 + 0.182 X_2 + 0.153 X_3 + 0.204 X_4$. From the above regression equation, it was revealed that early warning system, Real time operational financial system, Business processes automation and Financial process improvement to a constant zero, performance of government institutions would be at 0.455. A unit increase on early warning system would lead to increase in performance of government institutions by a factor of 0.016, a unit increase in Real time operational financial system would lead to increase in performance of government institutions by a factor of 0.182, a unit increase in Business processes automation would lead to increase performance of government institutions by a factor of 0.153 and unit increase in Financial process improvement would lead to increase performance of government institutions by a factor of 0.204.

6. Conclusions

From the findings of the study, it is concluded that early warning systems as part of e-finance on performance of government financial institution in Rwanda have a significant effect on the performance of financial institutions in Rwanda. This study concludes that there is a positive relationship between early warning system and performance. This study concludes that increasing the extent to which the RSSB carries out early warning system would result into increased performance.

From this study it is concluded that there is a positive relationship between Real time operational financial system of e-finance and performance at RSSB. It was also found that there is a positive effect of Real time operational financial system of e-finance and performance of government financial institutions in Rwanda. From the obtained data, it was also that there is evidence of a significant effect of gender, age and number of years worked on the perception of employees about the effect of training and development strategies on performance of financial institutions in Rwanda. From the research, it is concluded that there is a statistically significant relationship between Real time operational finance and performance implying that increasing the extent to which the RSSB carries out Real time operational finance would result into increased performance.

From this research, it was concluded that there is a positive correlation Business processes automation of e-finance and performance of government financial institutions in Rwanda. It was found that Business processes automation of e-finance have a positive effect on government financial institutions in Rwanda. Therefore the study concludes that there is a statistically significant relationship between business process automation and performance of government financial institution implying that increasing the extent to which the RSSB carries out business process automation would result into increased performance.

7. Recommendations

- 1) The study recommends that RSSB through the government should allocate adequate finances to support in strategy implementation to improve the quality of their services to the Rwanda citizens.
- 2) The study recommends that the government should carry out regular training and development programs to improve employee skills and knowledge and encourage them to participate in implementation of strategic plans. This will create a positive culture and minimize resistance to change.
- 3) The study also recommends that the top management executives should act as role models by setting good examples that can inspire and encourage the employees to work hard towards realizing strategic goals. They should be careful in the manner in which they present themselves to the employees and how they make decision since they are held accountable and responsible in the manner in which they conduct themselves.
- 4) Rwanda Social Security Fund should consider adopting a flexible organizational structure whereby decisions and functions of the organization can be decentralized to enhance flexibility and efficiency that contributes positively toward improved performance.
- 5) The study also recommends that RSSB should formulate strategic policies that can provide a clear direction to develop and implement an effective performance management system that can integrates all the stakeholders of organization to ensure everyone including the end-users is part of the strategic plan to ensure that the interests of all the stakeholders are well represented.

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