

**EFFECT OF THE BUSINESS PROCESS REENGINEERING FACTORS  
AND INFORMATION TECHNOLOGY CAPABILITY ON  
ORGANIZATION PERFORMANCE**

**By**

**KABIRU JINJIRI RINGIM**

**Thesis Submitted to  
Othman Yeop Abdullah Graduate School of Business,  
Universiti Utara Malaysia,  
in Fulfillment of the Requirement for the Degree of Philosophy  
June 2012**

## **PERMISSION TO USE**

In presenting this thesis in partial fulfillment of the requirements for a postgraduate degree from Universiti Utara Malaysia (UUM), I agree that the Library of this university may make it freely available for inspection. I further agree that permission for copying of this thesis in any manner, in whole or in part, for scholarly purpose may be granted by my supervisor(s) or, in their absence, by the Dean of Othman Yeop Abdullah Graduate School of Business where I did my thesis. It is understood that any copying or publication or use of this thesis or parts of it for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the Universiti Utara Malaysia (UUM) in any scholarly use which may be made of any material in my thesis.

Request for permission to copy or make other use of materials in this thesis in whole or in part should be addressed to:

Dean of Othman Yeop Abdullah Graduate School of Business  
Universiti Utara Malaysia  
06010 UUM Sintok  
Kedah Darul Aman

## ABSTRACT

The main objective of this study is to examine the effects of the business process reengineering (BPR) factors on the Nigerian banks organisational performance. Additionally, this study also investigates the moderating effect of information technology (IT) capability in the relationship of BPR factors and the organisational performance. BPR factors are operationalised by change management, BPR strategy alignment, customer focus, management commitment, IT investment, and adequate financial resource. The IT capability dimensions include IT knowledge, IT operations and IT objects. Data was sent and collected through a hand-delivery method. A proportionate stratified random sampling was used for sample selection. 560 questionnaires were sent to banks' managers but 417 of them were returned; giving a response rate of 74%. The findings were as follows: first, the findings show that fully supported relationships were found between IT capability and organisation performance. Second, the results showed that BPR factors such as adequate financial resources and management commitment were significantly related to overall organisational performance. Specifically, adequate financial resource's dimension was significantly related to cost reduction, customer service management and operations efficiency. Next, management commitment was found to be significantly related to customer service management and operation efficiency. Meanwhile, IT investment was significantly associated with customer service management. Other dimensions of BPR factors such as change management, customer focus, and BPR strategy alignment were found insignificant to the banks' performance. Third, upon investigating the moderating effects of IT capability on the relationship between BPR factors and organisational performance, the results revealed mixed supports for the interaction effects of IT capability attributes. The outcome of this study provides important insights to both managers and researchers for further understanding on the effects of BPR factors and IT capability on organisational performance. The necessary suggestions on new area of research were recommended for future researchers.

**Keywords:** Business process reengineering factors, Information technology capabilities, Organisational performance, Banks, Nigeria.

## ABSTRAK

Objektif utama kajian ini ialah untuk mengkaji kesan faktor-faktor perekayasaan proses perniagaan (BPR) terhadap prestasi organisasi bank-bank Nigeria. Selain itu, kajian ini juga menyiasat kesan moderator keupayaan teknologi maklumat (IT) di dalam hubungan antara faktor-faktor BPR dengan prestasi organisasi. Faktor-faktor BPR dioperasikan melalui pengurusan perubahan, strategi penjajaran BPR, berfokuskan pelanggan, pengurusan komitmen, pelaburan IT dan sumber kewangan yang mencukupi. Dimensi keupayaan IT termasuk pengetahuan IT, operasi IT dan objek IT. Data telah dihantar dan dikumpulkan melalui pendekatan penghantaran secara serahan tangan. Persampelan rawak strata berkadar telah digunakan dalam pemilihan sampel. Sebanyak 560 soal selidik telah dihantar kepada pengurus-pengurus bank, tetapi hanya 417 yang telah dipulangkan, yang menjadikan kadar respons sebanyak 74%. Hasil kajian adalah seperti berikut: pertama, keputusan-keputusan menunjukkan sokongan penuh terhadap hubungan di antara keupayaan IT dan prestasi organisasi. Kedua, keputusan menunjukkan faktor-faktor BPR seperti sumber kewangan yang mencukupi dan komitmen pengurusan mempunyai hubungan yang signifikan kepada prestasi organisasi secara menyeluruh. Secara terperinci, dimensi sumber kewangan yang mencukupi mempunyai hubungan yang signifikan terhadap pengurangan kos, pengurusan perkhidmatan pelanggan, dan kecekapan operasi. Seterusnya, komitmen pengurusan didapati mempunyai hubungan yang signifikan kepada pengurusan perkhidmatan pelanggan dan kecekapan operasi. Manakala pelaburan IT didapati mempunyai hubungan yang signifikan dengan pengurusan perkhidmatan pelanggan. Dimensi-dimensi lain kepada faktor-faktor BPR seperti pengurusan perubahan, berfokuskan pelanggan, dan strategi penjajaran BPR adalah tidak signifikan kepada prestasi bank. Ketiga, setelah meneliti kesan moderator dalam hubungan di antara faktor-faktor BPR dengan prestasi organisasi, keputusan menunjukkan sokongan yang bercampur dalam kesan interaksi terhadap sifat-sifat keupayaan IT. Hasil kajian ini dapat memberikan pandangan penting kepada pengurus dan penyelidik untuk pemahaman lanjut tentang kesan faktor-faktor BPR dan keupayaan IT terhadap prestasi organisasi. Cadangan-cadangan yang diperlukan untuk penyelidikan lanjutan telah diusulkan untuk penyelidik-penyelidik yang di masa akan datang.

**Kata kunci:** Faktor-faktor perekayasaan proses perniagaan, Keupayaan teknologi maklumat, Prestasi organisasi, Bank-bank, Nigeria

## ACKNOWLEDGEMENTS

In the name of Allah, Most Gracious, Most Merciful. Praise and peace be upon His beloved our Prophet Muhammad (SAW), his family and his companions from whom, and by the will of God. We escape darkness into enlightenment. It was in this spirit that I set out to undertake the current study, and the quest for self-actualization provided the additional push that kept me going and finally sees this thesis come to its expected conclusion, Alhamdulillah.

I am greatly indebted to so many wonderful people for their contributions and assistance in so many ways. Specifically, I would like to thank my supervisors Dr. Mohd Rizal Razalli and Dr. Norlena Hasnan, who had assisted, guided and renders their best supervisory know how throughout the entire process of completing my thesis.

I would also like to acknowledge the support and contribution of others who have contributed directly or indirectly in one way or another, to the completion of this thesis. I am sorry for not being able to detail them here, but same, I seek the magnanimity of Allah to bestow on all of them with His blessing and bountiful - jazakumullahukhairan kathira.

A special dedication to my wife, Binta Bala and lovely children Ayman Muhammad, Nana-Aisha and Ummita-Suwaiba and to my brothers and sisters in Islam for their love, cares, constant assurances, patience and understanding. Last but not least, I am presenting this thesis as present to my parents' spirits in their graves. Amin!

## TABLE OF CONTENTS

	Page
<b>PERMISSION TO USE</b>	<b>ii</b>
<b>ABSTRACT</b>	<b>iii</b>
<b>ABSTRAK</b>	<b>iv</b>
<b>ACKNOWLEDGEMENTS</b>	<b>v</b>
<b>TABLE OF CONTENTS</b>	<b>vi</b>
<b>LIST OF TABLES</b>	<b>xiii</b>
<b>LIST OF FIGURES</b>	<b>xvi</b>
<b>LIST OF ABBREVIATIONS</b>	<b>xvii</b>
<b>CHAPTER 1 INTRODUCTION</b>	<b>1</b>
1.1 Background of the study	1
1.2 Problem statement	5
1.3 Research questions	8
1.4 Research objectives	8
1.5 Significance of the study	9
1.5.1 Theoretical contributions	9
1.5.2 Practical contributions	10
1.6 Scope of the study	11
1.6.1 Definition of variables	12
1.6.2 Banks and financial institutions	14
1.6.2.1 Commercial bank	14
1.6.2.2 Microfinance bank	15
1.6.2.3 Mortgage bank	15
1.7 Outline of the study	16
<b>CHAPTER 2 LITERATURE REVIEW</b>	<b>19</b>
2.1 Introduction	19
2.2 Organizational performance	19
2.3 Bank performance	20
2.3.1 Overall performance of Nigerian banks	21
2.3.2 Operating cost performance of Nigerian banks	22
2.3.3 Customer service management performance of Nigerian banks	24
2.3.4 Previous studies on bank performance	24

2.3.5	Bank process performance improvement method	30
2.3.6	Suitability of reengineering as radical performance improvement method	32
2.3.7	Organizational performance measurement	33
2.4	BPR factors	39
2.4.1	Change management	44
2.4.1.1	Reward and motivation	46
2.4.1.2	Effective communication	46
2.4.1.3	Creating effective organizational culture	47
2.4.1.4	Stimulating receptivity to change	48
2.4.1.5	Employee's empowerment	48
2.4.1.6	Human involvement	48
2.4.1.7	Training and education	49
2.4.2	BPR Project management	49
2.4.3	Top management commitment	50
2.4.4	Customer focus	52
2.4.5	IT infrastructure	52
2.4.6	Process redesigns	53
2.4.7	Financial resources	55
2.4.8	Less bureaucratic (flatter) structure	56
2.5	BPR failure factors	57
2.5.1	Lack of proper strategy	58
2.5.2	Unrealistic objectives	58
2.5.3	No clear concept of a process	59
2.5.4	Wrong scope of process objectives	59
2.5.5	Non recognition of BPR benefit	59
2.5.6	Over dependence on IT systems	60
2.5.7	Opposition and lack of commitment from top management	60
2.5.8	Previous studies on BPR factors and performance in banks	60
2.5.9	Different between this study and previous study on BPR factors and performance in banking industry settings	70
2.6	IT capabilities	73

2.6.1	Definition and concept of IT capability	73
2.6.2	The role of IT capability in improving performance	75
2.6.3	The contradictory role of IT as an enabler in BPR	77
2.6.4	IT capability measurement	79
	2.6.4.1 IT knowledge	79
	2.6.4.2 IT operations	80
2.6.5	IT service capability maturity model	85
2.6.6	The key process areas on the IT service capability maturity model (IT services CMM)	87
	2.6.6.1 Initial level	88
	2.6.6.2 Repeatable level	88
	2.6.6.3 Defined level	91
	2.6.6.4 Managed level	96
	2.6.6.5 Optimizing level	97
2.6.7	IT capability as the moderating variable	98
2.7	Underlying theories	102
	2.7.1 Resource-based view (RBV) theory	103
	2.7.2 How the RBV relates to this study	109
	2.7.3 IT capability as dynamic capability	110
	2.7.4 Complementarity theory	112
2.8	Chapter Summary	112
<b>CHAPTER 3 CONCEPTUAL FRAMEWORK</b>		<b>115</b>
3.1	Introduction	115
3.2	Conceptual framework	115
3.3	BPR factors, IT capability and organizational performance	119
3.4	Statement of hypothesis's development	120
3.5	Chapter Summary	124
<b>CHAPTER 4 METHODOLOGY</b>		<b>125</b>
4.1	Introduction	125
4.2	Research design	125
	4.2.1 Types of research design	126
	4.2.2 Sampling design	127



4.2.3	Sampling techniques	129
4.2.4	Proportionate stratified random sampling	130
4.2.5	Estimating expected response rate	131
4.3	Data collection strategy	131
4.4	Measurement instruments and operationalization of variables	133
4.4.1	BPR factors	135
4.4.1.1	Change management	136
4.4.1.2	BPR project management	137
4.4.1.3	Top management commitment	137
4.4.1.4	Customer focus	138
4.4.1.5	IT infrastructure	139
4.4.1.6	Effective process redesigns.	140
4.4.1.7	Adequate financial resources	140
4.4.1.8	Less bureaucratic (flatter) structure	141
4.4.2	IT capability	142
4.4.2.1	IT knowledge	142
4.4.2.2	IT operations	143
4.4.3	Organizational performance	144
4.4.3.1	Non-financial performance measures	144
4.4.3.2	Financial performance measures	145
4.5	Preliminary investigation on BPR implementation in Nigerian banks	148
4.6	Validity test of instrument measures	149
4.7	Reliability test analysis of construct	151
4.8	Data analysis method	152
4.8.1	Cleaning and screening the data	153
4.8.2	Descriptive analysis	153
4.8.3	Goodness of measure	153
4.8.4	Principal component analysis (PCA)	154
4.8.5	Correlation analysis	154
4.8.6	Multiple regression analysis	154
4.8.7	Hierarchical regression analysis	155
4.9	Chapter Summary	156

<b>CHAPTER 5 DATA PRESENTATION AND ANALYSIS</b>	<b>157</b>
5.1 Introduction	157
5.2 Response rate	157
5.3 Respondent and organizational background	159
5.4 Goodness of measures: factor analysis of the research instrument	161
5.4.1 Dependent variable – organization performance (OP)	164
5.4.2 Moderating Variable: IT capability (IT Cap)	166
5.4.3 Independent variables: BPR factors	169
5.4.4 Common method variance (CMV) test	175
5.5 Measuring the reliability of the research instrument	176
5.6 Construct Reliability and Validity	178
5.6.1 Convergent Validity	181
5.6.2 Discriminant Validity	182
5.6.3 Face Validity	182
5.6.4 Nomological Validity	183
5.7 Modified framework and restatement of hypotheses	184
5.8 Preliminary analysis	188
5.8.1 Missing data	189
5.8.2 Assessment of outliers	189
5.8.3 Presentation of descriptive statistics for independent variables	190
5.8.4 Bivariate relationship between BPR factors, IT Capability and Organizational Performance	192
5.8.5 Multivariate relationship between IT capability and organizational performance	193
5.8.6 Multivariate relationship between BPR factors and organizational performance	193
5.9 Multiple regression's analysis tests for assumptions	194
5.9.1 Normality	194
5.9.2 Linearity	195
5.9.3 Multicollinearity	196
5.9.4 Homoscedasticity	198
5.10 Results of multiple regression (Hypotheses testing)	199

5.10.1	Multiple regression analysis results and hypotheses test between BPR factors and overall performance.	200
5.10.2	Multiple regression analysis results and hypotheses test between BPR factors and operations cost reduction performance	201
5.10.3	Multiple regression analysis results and hypotheses test between BPR factors and customer service management performance	203
5.10.4	Multiple regression analysis results and hypotheses test between BPR factors and business operations efficiency performance	205
5.10.5	Multiple regression analysis results between IT capability and overall performance	209
5.10.6	Multiple regression analysis results between IT capability and cost reduction performance	210
5.10.7	Multiple regression analysis results between IT capability and customer service management performance	212
5.10.8	Multiple regression analysis results between IT capability and business operations efficiency performance	213
5.10.9	Moderating effect of IT capability on relationship between BPR factors and organizational performance	215
5.10.10	Interacting effects of IT capability attributes with BPR factors on overall performance of banks	220
5.10.11	Interacting effects of IT capability attributes with BPR factors on operations cost reduction performance of banks	221
5.10.12	Interacting effects of IT capability attributes with BPR factors on customer service management performance of banks	223
5.10.13	Interacting effects of IT capability attributes with BPR factors on business operations efficiency performance of banks	224
5.11	Chapter Summary	227
<b>CHAPTER 6 DISCUSSION AND CONCLUSION</b>		<b>229</b>
6.1	Introduction	229
6.2	Recapitulation of study	229
6.3	Overall discussion of findings	231

6.3.1	Relationship between BPR factors and organizational performance	231
6.3.1.1	BPR factors and overall performance	235
6.3.1.2	BPR factors and operation's cost reduction	241
6.3.1.3	BPR factors and customer service management	242
6.3.1.4	BPR factors and business operation's efficiency	245
6.3.2	Relationship between IT capability and organizational performance	246
6.3.3	Moderating effects of IT capability	248
6.3.4	BPR factors - IT capability- overall performance	250
6.3.5	BPR factors - IT capability-operations cost reduction performance.	256
6.3.6	BPR factors - IT capability-customer service management performance	256
6.3.7	BPR factors - IT capability-business operations efficiency performance	258
6.4	Implications of the study	260
6.4.1	Managerial implications	260
6.4.2	Theoretical implications	265
6.5	Limitations of the study	270
6.6	Directions for future research	271
6.7	Conclusion	273
	<b>REFERENCES</b>	<b>276</b>
	<b>APPENDIX 1 QUESTIONNAIRE</b>	<b>299</b>
	<b>APPENDIX 2 DEMOGRAPHIC DATA FREQUENCIES</b>	<b>309</b>
	<b>APPENDIX 3 RESULTS OF FACTOR ANALYSIS</b>	<b>314</b>
	<b>APPENDIX 4 RELIABILITY TEST</b>	<b>330</b>
	<b>APPENDIX 5 ASSUMPTION OF NORMALITY</b>	<b>339</b>
	<b>APPENDIX 6 BIVARIATE CORRELATION</b>	<b>344</b>
	<b>APPENDIX 7 MULTIPLE REGRESSION ANALYSIS</b>	<b>346</b>
	<b>APPENDIX 8 HIERARCHICAL REGRESSION IT CAPABILITY – BPR FACTORS &amp; OVERALL PERFORMANCE</b>	<b>358</b>
	<b>APPENDIX 9 POPULATION FRAME OF NIGERIAN BANKS AND RANDOM SAMPLE SELECTION</b>	<b>367</b>
	<b>APPENDIX 10 RESEARCH PROCESS</b>	<b>410</b>
	<b>APPENDIX 11 LIST OF PUBLICATION FROM THE WORK</b>	<b>412</b>

## LIST OF TABLES

	Page
Table 1.1 Definition of Major Variables	13
Table 2.1 Summary of Selected Previous Studies on Bank Financial and Non-financial Performance	26
Table 2.2 Summary of Selected Studies on Organizational Performance Dimension	38
Table 2.3 Summary of the BPR Success Factors and Causes of Failure	57
Table 2.4 Summary of Studies on BPR Factors and Performance in Banks and Financial Services Setting	61
Table 2.5 Summary of Some Selected Previous Studies on BPR in Organizations from Another Sector	65
Table 2.6 Summary of Some Selected Previous Studies on IT and performance	82
Table 2.7 Five Levels of the IT Service Capability Maturity Model	87
Table 2.8 Summary of Various Relevant Theories of the Firm Performance and their Implication	104
Table 3.1 Summary of Statement of Direct Relationship Hypotheses Development	121
Table 3.2 Summary of Statement of Indirect Relationship Hypotheses Development	122
Table 4.1 Proportionate stratified random sampling	130
Table 4.2 Summary of Measurement Instrument Variables, Sources, and Number of Items	146
Table 4.3 Summary of the pilot test reliability analysis of constructs	152
Table 4.4 Summary of data analysis against each research objective	155
Table 5.1 Response Rate of the Questionnaires	158
Table 5.2 Results of the Factor Analysis for Organization Performance	165
Table 5.3 Results of the Factor Analysis for IT Capability	168

Table 5.4 Results of the Factor Analysis for Business Process Re-engineering Factors (BPR)	171
Table 5.5 Summary of Reliability Analysis of Major Variables	177
Table 5.6 Constructs Validity and Reliability	179
Table 5.7 Discriminant Validity	183
Table 5.8 Summary of Revised Hypotheses	186
Table 5.9 Descriptive Statistics for Major Variables	191
Table 5.10 Pearson's Correlation between the Constructs	192
Table 5.11 Tolerance and VIF Values	198
Table 5.12 Multiple Regression Result between BPR Factors and Overall Organizational Performance	201
Table 5.13 Multiple Regression Result between BPR Factors and Operations Cost Reduction Performance	203
Table 5.14 Multiple Regression Result between BPR Factors and Customer Service Management Performance	205
Table 5.15 Multiple Regression Result between BPR Factors and Business Operation Efficiency Performance	207
Table 5.16 Summary of hypothesis testing on the direct effect of BPR factors on organisational performance	207
Table 5.17 Summary of Hypotheses Testing for the Direct Relationship between BPR Factors, IT Capability and Organisational Performance	208
Table 5.18 Multiple Regression Result between IT Capability and Overall Organizational Performance	210
Table 5.19 Multiple Regression Result between IT Capability Dimensions and Operation Cost Reduction	211
Table 5.20 Multiple Regression Result between IT Capability Dimensions and Customer Service Management	213
Table 5.21 Multiple Regression Result between IT Capability Dimensions and Business Operations Efficiency	214
Table 5.22 Summary of hypothesis testing on the direct effect of IT capability on organisational performance	215

Table 5.23 Hierarchical Regression Results: the Moderating Effect of IT Capability on the Relationship between BPR Factors and Overall Performance	221
Table 5.24 Hierarchical Regression Results: the Moderating Effect of IT Capability on the Relationship between BPR Factors and Cost Reduction	222
Table 5.25 Hierarchical Regression Results: the Moderating effect of IT Capability on the Relationship between BPR Factors and Customer Service Management	224
Table 5.26 Hierarchical Regression Results: the Moderating Effect of IT Capability on the Relationship between BPR Factors and Business Operations Efficiency	225
Table 5.27 Summary of hypothesis testing on the in- direct effect of BPR factors, IT capability and organisational performance	226
Table 5.28 Summary of Hypotheses Testing for the Interaction between BPR Factors, IT Capability and Organisational Performance	228

## LIST OF FIGURES

	Page
Figure 2.1 Model Framework of Khong & Richardson (2003)	72
Figure 2.2 Model Framework of Cheng & Chiu (2008)	72
Figure 2.3 Graphical Presentation of a Moderated model	101
Figure 2.4 Graphical Presentation of a Mediated model	102
Figure 2.5 Conceptual Framework	113
Figure 3.1 Research Model	118
Figure 5.1 The modified research model to the study	185
Figure 5.2 Residual plot – BPR Factors and Organizational Performance	196
Figure 5.3 Framework for identifying Moderator variables (Adopted from Sharma, Durand & Gur-Arie, 1981)	217
Figure 5.4 The moderators identified for the study based on typology of specification variables by Sharma et al. (1981)	218
Figure 6.1 The moderating effect of IT capability on the relationship between management commitment and overall performance	252
Figure 6.2 The moderating effect of IT capability on the relationship between customer focus and overall performance	254
Figure 6.3 The moderating effect of IT capability on the relationship between change management and overall performance	255
Figure 6.4 The moderating effect of IT capability on the relationship between change management and operation's cost reduction Performance	256
Figure 6.5 The moderating effect of IT capability on the relationship between IT investment and customer service management performance	257
Figure 6.6 The moderating effect of IT capability on the relationship between management commitment and customer service management performance	258
Figure 6.7 The moderating effect of IT capability on the relationship between management commitment and business operations efficiency performance	259



## LIST OF ABBREVIATIONS

24/7	Online –Real Time (24 Hours in a day, 7 days in a week)
AFR	Adequate Financial Resources
ATM	Automatic Teller Machine
BPI	Business Process Improvement
BPR	Business Process Reengineering
BSC	Balance Scorecard
CBN	Central Bank of Nigeria
CIMA	Chartered Institute of Management Accountant
CIO	Chief Information Officer
CM	Change Management
CSF	Critical Success Factor
CSM	Customer Service Management
EAGLE	Efficiency, Accountability, Goal orientations, Leadership, Effectiveness and staff motivation
EPR	Effective Process Redesign
EPS	Earnings per Share
FOREX	Federal Mortgage Bank of Nigeria
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IS	Information System
IT	Information Technology
ITC	Information Technology Capability
ITSCMM	Information Technology Service Capability Maturity Model
KBV	Knowledge Based View
KPI	Kay Performance Indicator
LAN	Local Area Network
LBS	Less Bureaucratic Structure
MFB	Microfinance Bank
MMPF	Multi-Model Performance Framework
NDIC	Nigerian Deposit Insurance Corporation
ONFP	Organisational Non-Financial Performance
OFR	Organisational Financial Performance
OP	Organisational Performance
OPS	Operations
PMI	Primary Mortgage Institution
POS	Point of Sale
RBV	Resource-based View
ROE	Return on Equity
ROI	Return on Investment
SLA	Service Level Agreement
SMS	Short Message Services
SPSS	Statistical Package of Social Science
SWIFT	Society for Worldwide Interbank Financial Telecommunication
WAN	Wide Area Network

# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 Background of the study**

The progressive globalization of financial markets requires market participants to make changes to their operational processes beyond local to global competitiveness. This trend has led many banks in developing countries to improve customer service quality, speed, reduce operating costs, and enhance profitability performance (Randle, 1995). Innovative banking services and personalized portfolio management are evolving as the market consolidates due to mergers and acquisitions of up-to-date strategy. As a result, the focus is no longer on cutting costs alone, but rather on simultaneously improving services to customers. In other words, the processes must not only be more efficient, but also more customer-friendly as well. Central Bank of Nigeria (CBN) initiated business process reengineering (BPR) project tagged EAGLES (Efficiency, Accountability, Goal orientations, Leadership, Effectiveness and Staff motivation). The objective is to enhance the operations and quality of banks, which include: industry remedial programmes to fix the key causes of the crisis; risk-based supervision; reforming the regulatory framework; enhanced customer protection as well as internal transformation of the bank (CBN, 2009).

On the internal transformation aspect, the CBN in partnership with PricewaterhouseCoopers conducted a comprehensive assessment of the bank's core and non-core operations that required fundamental restructuring. The identified

The contents of  
the thesis is for  
internal user  
only

## REFERENCES

- Abdolvand, N., Albadvi, A., & Ferdowsi, Z. (2008). Assessing readiness for business process reengineering. *Business Process Management Journal*, 14(4), 497-511.
- Abdulkadir, A. (1989). The role of banks in achieving a self-reliant economy. *Business Times*, 8-9.
- AbuBakar, A. R., Hashim, F., Ahmad, H., Isa, F. M., & Dzakaria, H. (2009). Distinctive Capabilities and Strategic thrust of Malaysia's institutions of Higher Learning. *International Journal of Marketing Studies*, 1(2), 158-164.
- Adam, M. M., & J, M. (1993). Measuring the organizational impact of information technology investment: An exploratory study. *Journal of Management Information Systems*, 10(1), 97.
- Adeyinka, S.O. (2011). Customer service and its effect on the banking business in Nigeria. *Jorind*, 9(2), 359-365.
- Adolphus, J. T. (2007). CAMEL Analysis: Prudential Regulation and Banking System Soundness in Nigeria. *The IUP Journal of Bank Management*, VI (3), 43-60.
- Agboola, A. (2007). Information and communication technology (ICT) in banking operations in Nigeria – An evaluation of recent experiences. *African Journal of Public Administration and Management*, XVIII (1), 1-102.
- Agboola, A. A. (2008). Optimizing the Use of Information and Communication Technology (ICT) in Nigerian Banks. *Journal of Internet Banking and Commerce*, 13(1), 1-16.
- Aggarwal, S. (1998). Reengineering: A break through or little new? *Journal of Socio- economic Planning Science*, 32(2), 155-167.
- Ahadi, H. R. (2004). An examination of the role of organizational enablers in business process reengineering and the impact of information technology. *Information Resource Management Journal*, 17(4), 65-72.
- Ahangar, R. G. (2011). The relationship between intellectual capital and financial performance: An empirical investigation in an Iranian company. *African Journal of Business Management*, 5(1), 88-95.
- Ahmad, H., Francis, A., & Zairi, M. (2007). Business process reengineering: critical success factors in higher education. *Business Process Management Journal*, 13(3), 451-467.
- Ahmed, Z., Zbib, I., Arokiasamy, S., Ramayah, T., & Chiun, L.M. (2006). Resistance to change and ERP implementation success: The moderating role of change management initiatives. *Asian Academy of Management Journal*, 11(2), 1-17.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park: Sage Publications.
- Akhtar, M. H. (2010). Are Saudi banks productive and efficient? *International Journal of Islamic and Middle Eastern Finance and Management accounting*, 3(2), 96-112.
- Allen, P. H. (1994). Making consolidation work. *The Bankers Magazine*, 177, 32-37.
- Allison, P. (1999). *Multiple regressions: A primer*. CA: Pine Forge Press.

- Al-Mashari, M., Irani, Z., & Zairi, M. (2001). Business process reengineering: a survey of international experience. *Business Process Management Journal*, 7(5), 437-455.
- Al-Mashari, M., & Zairi, M. (1999). Business process reengineering implementation processes: an analysis of key success and failure factors. *Business Process Management Journal*, 5(1), 87-112.
- Al-Mashari, M., & Zairi, M. (2000). Revisiting BPR: a holistic review of practice and development. *Business Process Management Journal*, 6(1), 10-42.
- Altinkemer, K., Ozcelik, Y., & D.O, Z. (2011). Productivity and Performance Effects of Business Process Re-engineering: Afirm-Level Analysis. *Journal of Management Information Systems*, 27(4), 129-161.
- Amit, R., & Shoemaker, H. J. P. (1993). Strategic assets and organisational rent. *Strategic Management Journal*, 14, 33-46.
- Anandh, S., Bharadwaj, V., Sambamurthy, R., & Zmud, W. (1999). *IT Capabilities: Theoretical perspectives and Empirical operationalization*. Paper presented at the 19th International Conference on Information Systems., Helsinki.
- Anayo, E. H. (2005). *Business Process Reengineering and Customer Service Delivery in Standard Trust Bank Limited*. Unpublished MBA, University of Nigeria, Nsukka, Enugu.
- Anderson, E.W., Fornell, C., & Lehmann, D.R. (1994). Customer satisfaction, market share, and profitability: findings from Sweden. *Journal of Marketing*, 58, 3, 53-66.
- Anonymous. (1994). Manufacturing expert answers top 10 questions about reengineering. *Managing Office Technology*, 39, 22-24.
- Arby, M. F. (2007). Structure and Performance of Commercial Banks in Pakistan. *MPRA*, 4983.
- Aregbeyen, O. (2011). Business Reengineering and Organizational Performance in Nigeria: A Case Study of First Bank Nigeria Plc. *International Business Management*, 5(3), 151-158.
- Ariyachandra, T., & Frolick, M. (2008). Organizations recognize the value of BPM as a way of attaining strategic alignment and as a means of creating and implementing business strategy. *Industrial Engineering*, 26, 60-61.
- Armstrong, C., & Sambamurthy, V. (1999). Information technology assimilation in firms: The influence of senior leadership and IT infrastructure. *Information System Research*, 10(4), 304-327.
- Ascari, A., Rock, M., & Dutta, S. (1995). Reengineering and organizational change: Lessons from a comparative analysis of company experiences. *European Management Journal*, 13(1), 1-30.
- Asika, N. (1991). *Research methodology in the behavioural sciences*. Lagos: Longman Nigeria Plc, Nigeria.
- Attaran, M. (2004). Exploring the relationship between information technology and business process reengineering. *Information & Management Journal*, 41(5), 585-596.
- Aulakh, P. S., & Gencturk, E. F. (2000). International principal agent relationships control, governance and performance. *Industrial Marketing Management*, 29, 521-538.
- Babbie, E. (2004). *The practice of social research* (10th ed.). Belmont. California:

Wad worth Publishing.

- Baines, A. (1996). *Re-engineering revisited*. *Work Study*, 45, 21-23.
- Bandara, W., Gable, G., & Rosemann, M. (2005). Factors and measures of business process modelling: Model building through a multiple case study. *European Journal of Information Systems*, 14(4), 347-360.
- Bandara, W., Idulska, M., Chong, S., & Sadiq, S. (2007). Major issues in business process management: An expert perspective. *BP Trend*, October.
- Banker, R., & Kauffman, R. J. (1991). *Re-use and productivity in integrated computer-aided software engineering: An empirical study*. *MIS Quarterly*, 15, 374-401.
- Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
- Barney, J. B. (2001). Is resource based view a useful perspective for strategic management research? Yes. *Academy of Management Review*, 26(1), 41-56.
- Barney, J., Wright, M., & Ketchen, D.J. (2001). The resource-based view of the firm: Ten years after 1991. *Journal of Management*, 27, 625-641.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research; Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Bart, C., Bontis, N., & Taggar, S. (2001). A model of the impact of mission statements on firm performance. *Management Decision*, 39(1), 19-35.
- Bartlett, M. (1954). A note on multiplying factors for various chi square approximations. *Journal of the Royal Statistical Society*, 16(series B), 296-298.
- Barua, A., Lee, B., & Whinston, A. (1996). The calculus of reengineering. *Information Systems Research*, 7(4), 409-428.
- Barua, A., & Whinston, A. B. (1998). Complementarity based decision support for managing organizational design dynamics. *Decision Support Systems*, 22(1), 45-58.
- Bashein, Barbara J., M. Lynne Markus, & Patricia Riley. (1994). Preconditions for BPR Success and How to Prevent Failures, *Information Systems Management*, (Spring), 7-13.
- Berman, S. L., Wicks, A. C., Kotha, S., & Jones, T. M. (1999). Does stakeholder orientation matter? The relationship between stakeholder management models and a firm financial performance. *Academy of Management Journal*, 42(5), 488-506.
- Berrington, C., & Oblich, R. (1995). Translating reengineering into bottom-line results. *Industrial Engineering*, 24-27.
- Bharadwaj, A. (2000). A resource-based perspective on information technology capability and firm performance: An empirical investigation. *MIS Quarterly*, 24, 169-196.
- Bharadwaj, A., Bharadwaj, S., & Konsynski, B. (1998). Information technology effect on firm performance as a measured by Tobin's Q. *Management Science*, 45(7), 1008-1024.
- Bharadwaj, A., Sambamurthy, V., & Zmud, R. W. (1999). *IT Capabilities: Theoretical perspectives and Empirical operation*. Paper presented at the 19th International Conference on Information System, Helsinki Finland.

- Bhatt, G. D. (2000). Exploring the relationship between information technology infrastructure and business processes reengineering. *Business Management Journal*, 6(2), 139-163.
- Bhatt, G. D., & Grover, V. (2005). Types of Information Technology Capabilities and their role in competitiveness Advantage: An Empirical Study. *Journal of Management Information Systems*, 22(2), 253-277.
- Bi, X., & Zhang, H. (2008). *Empirical Research on Relationship between Information Technology Capability and Firm Performance: the Evidence from Listed Companies and Information Power 500 in China*. Paper presented at the International Conference on Computer Science and Software Engineering, China.
- Biazzo, S. (2002). Process mapping techniques and organization analysis: lessons from sociotechnical system theory. *Business Process Management Journal*, 8(1), 42-52.
- Biemer, P.P., & Lyberg, L. (2003). Introduction to Survey Quality. *John Wiley*
- Bontis, N. (1998). Intellectual capital: an exploratory study that develops measures and models. *Management decision*, 48(9), 63-67.
- Bontis, N., Chua, C. K., & Richardson, S. (2000). Intellectual capital and business performance in Malaysian industries. *Journal of Intellectual Capital*. 1, 85-100.
- Bou-Wen, L. (2007). Information Technology capability and value relation: evidence from the US banking industry. *Technology in Society Journal*, 29, 93-106.
- Boyle, R. (1995). Avoiding common pitfalls of reengineering. *Management accounting*, 77(4), 24-38.
- Brandon, Bransford., Guimaraes., & Tor. (1999). Empirically assessing the impact of BPR on banking firms. *Journal of Bank cost and Management Accounting*.
- Breyfogle, F. (2003). *Implementing Six Sigma. Smarter Solutions Using Statistical Methods*. New Jersey. NJ: Wiley, Hoboken.
- Broadbent, M., Weill, P., & St.Clair, D. (1999). *The implication of information technology infrastructure for business process redesign*. MIS Quarterly, 23.
- Brown, R. M., Gatian, A. W., & Hicks, J. O. J. (1995). Strategic information systems and financial performance. *Journal of Management Information System*, 11(4), 215-248.
- Bruss L., Roos H (1993). *Operations, readiness and culture: don't reengineer without considering them*. Inform 57-64.
- Brynjolfsson, E. (1993). *The productivity paradox of information technology*. Communication of the ACM, 42(4), 541-558.
- Brynjolfsson, E., & Yang, S. (1996). Information Technology and Productivity: A Review of the Literature Advances in Computers. In (M. V. Zelkowitz ed. 43, 179-214): Elsevier
- Calomiris, C. W. (1999). Gauging the efficiency of bank consolidation during a merger wave. *Journal of Banking and Finance*. Elsevier, 23(2-4), 615-621.
- Cambridge Small Business Research Centre. (1992). *The state of British enterprises: Growth, Innovation and Competitive Advantage in Small and Medium sized firms*: University of Cambridge.
- Cameron, K. S. (1986). Effectiveness as paradox: Consensus and conflict in

- conceptions of organizational effectiveness. *Management Science*, 32(5), 539-553.
- Canato, A., & Corrocher, N. (2004). Information and communication technology: Organizational challenges for Italian banks. *Accounting, Business and Financial History*, 14(3), 355-370.
- Caron, J. R., Jarvenpaa, S. L., & Stoddard, D. B. (1994). Business reengineering at Cigna Corporation: Experiences and lessons learned from the first five years. *MIS Quarterly*, 18, 233-250.
- Carr, D. (1993). *Managing for effective business process redesign*. Cost Management (fall), 16-21.
- Casolaro, L., & Gobbi, G. (2007). Information technology and productivity changes in the Banking industry. *Economics Notes*, 36(1), 43-76
- Catell, R. (1966). *The scree test for number of factors*. *Multivariate Behavioural Research*, 1, 245-276.
- Cavana, R. Y., Dalahaye, B., & Sekaran, U. (2001). *Applied Research: Qualitative and quantitative methods*. Australia: John Wiley and sons.
- CBN. (2008). Central Bank of Nigeria *Annual Report and Account* as at 31st December. Abuja: Central Bank of Nigeria.
- CBN. (2009). Central Bank of Nigeria *Annual Report and Account* as at 31st December. Abuja: Central Bank of Nigeria.
- CBN/BSD. (2008). Central Bank of Nigeria: Banking Supervision Department *Annual Report*. Abuja: Banking Supervision Department Central Bank of Nigeria.
- Chan, Y. E. (2000). Information technology value; the great divide between qualitative and quantitative and individual and organisational measure. *Journal of Management Information System*, 16(4), 225-261.
- Chen, T. (1999). Critical success factors for various strategies in the banking industry. *International Journal of Bank Marketing*, 2, 83-91.
- Cheng, M. Y., Tsai, M. H., & Xiao, Z. X. (2006). *Construction management process reengineering: Organizational human resource planning for multiple projects*. *Automation in Construction*, 15, 785-799.
- Cheng, T., & Chiu, I. (2008). Critical Success Factors of Business Process Re-engineering in the Banking Industry. *Knowledge and Process Management*, 15(4), 258-269.
- Chesbrough, H. and Rosen bloom, R.S. (2002). The role of the business model in capturing value from innovation: Evidence from Xerox Corporation's technology spin-off companies. *Industrial and Corporate Change* 11(3), 529- 555.
- Chowdhury, T. A., & Kashfia, A. (2009). Performance Evaluation of Selected Private Commercial Banks in Bangladesh. *International Journal of Business and Management*, 4(4), 86-97.
- Christensen, C. M., & Overdorf, M. (2000). *Meeting the challenges of disruptive change*. *Harvard Business Review*, 78, 67-75.
- Chun, M., & Mooney, J. (2009). CIO roles and responsibilities: Twenty-five years of evolution and change. *Information & Management*, 46(6), 323-334.
- CIMA. (1982). *Cost Accounting*. Tokyo: McGraw Hill, Inc.
- Clark, C. E., Cavanaugh, N. C., Brown, C. V., & Sambamurthy, V. (1997). *Building change readiness capabilities in the IS organization: Insights from*



- the Bell Atlantic*. MIS Quarterly, 44, 158.
- Clemons, E. K., Thatcher, M. E., & Row, M. C. (1995). Identifying sources of reengineering failures: A study of the behavioural factors contributing to reengineering risks. . *Journal of Management Information Systems*, 12(2), 9-36.
- Coakes, S. J., & Steed, L. G. (2003). *SPSS: Analysis without anguish*. Sydney: John Wiley & Sons.
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for behavioural science* (2nd ed.). Erlbaum.
- Cohen, W. M. & Levinthal, D.A. (1990). *Absorptive capacity: A new perspective on learning and innovation*. Administrative Science Quarterly, 35, pp. 128-152.
- Conner, K.R. (1991). A historical comparison of the resource-based theory and five schools of thought within industrial organization economics: do I have a new theory of the firm. *Journal of Management*, 17(1), 121-54.
- Cooper, D. R., & Schindler, P. S. (2003). *Business research methods* (8th ed.). Boston: MA: McGraw Hill.
- Cooper, R., & Markus, M. (1995). Human reengineering. *Sloan Management Review, Summer*, 39-50.
- Coskun, S., Basligil, H., & Baracli, H. (2008). A weakness determination and analysis model for business process improvement. *Business Process Management Journal*, 14(2), 243-261.
- Cramer, D. (2003). *Advanced Quantitative Data Analysis*. Open University Press: Maidenhead, Philadelphia
- Currie, W. L., & Willcocks, L. (1996). The New Branch Columbus project at Royal Bank of Scotland: the implementation of large-scale business process re-engineering. *Journal of Strategic Information Systems*, 5(3), 213-236.
- Davenport, H. T., & Short, J. E. (1990). The New Industrial Engineering: Information Technology and Business Process Redesign. *Sloan Management Review*, 11-26.
- Davenport, T. (1993). *Process Innovation: Reengineering Work through Information Technology*. Harvard Business School Press.
- Davenport, T. H., & Beers, M. C. (1995). Managing information about processes. *Journal of Management Information Systems*, 12(1), 57-80.
- Davenport, TH., & DeLong, DW., Beers, MC. (1998). Successful knowledge management projects. *Sloan Management Review*, winter, 43-57.
- David-west, O. (2005). *Information technology (IT) integration in banks' consolidation*. Zenith Bank Economics Quarterly, 3, 1-61.
- Dawe, R. (1996). *Systems are people to transportation and distribution*. Harvard Business Review, 37, 86-90.
- Dawis, R. V. (1987). Scale construction. *Journal of Counselling Psychology*, 34(4), 481-489.
- DeBandt, & Davis, E. P. (2000). Competition, contestability and market structure in European banking sectors on the eve of EMU. *Journal of Banking and Finance*, 24(6), 1045-1066.
- Deming, W. E. (1986). *Out of the Crisis*. MIT Press Cambridge, MA.
- Deming, W. E. (2000). *The New Economics: for Industry, Government, and Education*. Cambridge, MA. MIT Press.

- Demirguc-Kunt, A., & Huizingha, H. (1999). Determinants of bank interest margins and profitability: some international evidence. *World Bank Economic Review*, 13, 379-408.
- Dess, G. G., & Robinson, R. B. (1984). Measuring organizational performance in the absence of objective measures: The case of the privately held firm and conglomerate business unit. *Strategic Management Journal*, 5(3), 365-374.
- Devaraj, S., & Kohli, B. (2000). Information Technology Payoff in the health-care industry. *Journal of Management Information Systems*, 16(4), 41-67.
- Devaraj, S., & Kohli, R. (2003). Performance impacts of information technology: Is actual usage of the missing link? *Management Science*, 49(3), 273.
- Dewett, T., & Jones, G. (2001). The role of information technology in the organization: a review, model and assessment. *Journal of Management*, 27, 313-346.
- Dillman, D. A. (2000). *Mail and internet surveys: The tailored design method* (2 ed.). New York: John Wiley and sons.
- Dixon, J., Arnold, P., Heineke, J., Kim, J., & Mulligan, P. (1994). Business process reengineering: improving in new strategic directions. *California Management Review*, 93-108.
- Dos Santos, B., & Preffers, K. (1995). Reward to investors in innovative information technology applications: first movers and early followers in ATMs. *Organization Science*, 6(3), 241-259.
- Douglas, T.J., & Judge, W.Q. (2001). Total quality management implementation and competitive advantage: The role of structural control and exploration. *Academy of Management Journal*, 44(1), 158
- Dyer, J., & Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage', *Academy of Management Review*, 23(4), 660-679
- Earl, M. J., Sampler, J. L., & Short, J. E. (1995). Strategies for business process reengineering: Evidence from field studies. *Journal of Management Information Systems*, 12(1), 31-56.
- El Sawy, O. A., & Bowles, G. (1997). Redesigning the customer support process for the electronic economy: Insights from Storage Dimensions. *MIS Quarterly*, 21(4), 457-483.
- Fahy, J. (2000). The resource-based view of the firm: Some stumbling block on the road to understanding sustainable competitive advantage. *Journal of European Industrial Training*, 24(2 3/4), 94-104.
- Fahy, J., & Smithee, A. (1999). Strategic Marketing and resources based view of the firm. *Academy of Management Review*, 99(10), 1-21.
- Famodimu, S. O. (2000). *Constraint of Community banks operations: Response to solicited information on operation and problems of community banks in Nigeria, 2010*. Retrieved January 10, 2010, from <http://www.communitybank.com.ng>
- Farooq, A. M. (2003). *Structure and Performance of Commercial Banks in Pakistan*: Munich Personal RePEc Archive, MPRA.
- Feeny, D. F., & Willcocks, L. P. (1998). Redesigning the information system function around core capabilities. *Long Range Planning*, 31(3), 354-367.
- Ferketich, S. (1991). *Aspect of items analysis*. Research in Nursing Health, 14, 165-168.

- Floyd, S. W., & Wooldridge, B. (1990). Path Analysis of the Relationship between competitive strategy, information technology and financial performance. *Journal of Management Information Systems*, 7(1), 47-64.
- Flury, B., & Riedwyl, H. (1988). *Multivariate Statistics: A practical approach*. London: Chapman and Hall.
- Flynn, B., Schroeder, R., & Sakakibara, S. (1994). A framework for quality management research and an associated measurement instrument. *Journal of Operations Management*, 11, 339-366.
- Folan, P., & Browne, J. (2005). A review of performance measurement: towards performance management. *Computers in Industry*. 56, 663-680.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error, *Journal of Marketing Research*, 18(1), 39-50.
- Foss, N. J. (1998). The resource based perspective: An assessment and diagnosis of problems.
- Fowler, S. W., Wilcox King, A., Marsh, S. W., & Victor, B. (2000). Beyond products: new strategic imperatives for developing competencies in dynamic environments. *Journal of Engineering and Technology Management*, 17(3-4), 357-377.
- Frazier, P. A., Barron, K. E., & Tix, A. (2004). Testing Moderator and Mediator Effects in Counselling Psychology Research. *Journal of Counselling Psychology*, 51(1), 115-134.
- Freeman, E. R. (1984). *Strategic Management—A Stakeholder Approach*. London: Pitman.
- Frieder, L., & Gregory, W. T. (1996). Bank valuations: Meeting customer and investor need. *The Bankers*, 179, 49-54.
- Ganesh, D. B., & Ali, F. E. (2010). An empirical examination of the relationship between information technology (IT) infrastructure, customer focus, and business advantages. *Journal of Systems and Information Technology*, 12(1), 4-16.
- Garland, R. (1991). *The midpoint on a rating scale: Is it desirable?* *Marketing Bulletin*, 66-70.
- Gatian, A. W., Brown, R. M., & Hicks, J. O. J. (1995). Organizational innovativeness, competitive strategy and investment success. *Journal of Strategic Information Systems*, 4(1), 43-59.
- Gianni, P.J., & Grupe, F.H. (1997). Reengineering through simulation modeling. *Information Systems Management*, 14(3), 61-67
- Gill, T. G. (1995). High-tech hidebound: case studies of information technologies that inhibited organizational learning. *Accounting, Management and Information Technologies*, 5, 41-60.
- Golafshani, N. (2003). Understanding Reliability and Validity in Qualitative research. *The Qualitative Report*, 8(4), 597-607.
- Gold, A.H., Malhotra, A., & Segars, A.H. (2001). Knowledge management: an organizational capabilities perspective. *Journal of Management Information Systems*, 18(1), 185-214.
- Goll, E. O., & Cordovano, M. F. (1993). Construction time again. *CIO*, 7, 32-36.
- Gomes, C. F., Yasin, M. M., & Lisboa, J. V. (2004). A literature review of manufacturing performance measures and measurement in an organizational

- context: a framework and direction for future research. *Journal of Manufacturing Technology Management*, 15(6), 511-530.
- Gottschalk, P. (2002). *The Chief Information Officer: A Study of Managerial Roles in Norway*. Paper presented at the 35th Hawaii International Conference on System Sciences, Hawaii, USA.
- Grant, R. M. (1991). The resource based theory of competitive advantage: implication for strategy formulation. *California Management Review*, 33, 37-40.
- Grey, C., & Mitev, N. (1995). Re-engineering organizations: a critical appraisal. *Personnel Review*, 24, 6-18.
- Gritzuk, M. (2000). *Water department reengineering save money*. American City and County, 115(11), 68.
- Guha, S., Kettinger, W., & Teng, T. (1993). Business process reengineering: building a comprehensive methodology. *Information System Management*. 13-22.
- Guimaraes, T., & Bond, W. (1996). Empirically assessing the impact of business process re-engineering on manufacturing firms. *International Journal of Operation Production Management*, 16(5), 5-28.
- Hagel, J. (1993). Keeping CPR on track. *The McKinsey Quarterly*, 1, 59-72.
- Hair, J., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Uppersaddle River, New Jersey: Pearson Education International.
- Hall, G., Rosenthal, J., & Wade, J. (1993). *How to make reengineering really work*. *Harvard Business Review*, 7, 119-131.
- Hammer, M. (1990). Re-engineering work: Don't automate; obliterate. *Harvard Business Review*, 68, 104-112.
- Hammer, M. (2002). Process management and the future of six sigma. *Sloan Management Review*, 43(2), 26-32.
- Hammer, M., & Champy, J. (1993). *Reengineering the Corporation* (1st ed.). USA: Harper Collins Inc.
- Hammer, M., & Stanton, S. A. (1995). *The Reengineering Revolution*. New York USA: Harper Collins Inc.
- Hansen, G., & Wernerfelt, B. (1989). Determinant of firm performance in relative importance of economic and organizational factors. *Strategic Management Journal*, 36(10), 1246-1255.
- Harman, H.H. (1967). *Modern Factor Analysis*. University of Chicago Press: Chicago
- Harrington, H. J. (1991). *Business Process Improvement - The breakthrough strategy for Total Quality, Productivity and Competitiveness*. New York: McGraw-Hill.
- Harrison, J. S., & Freeman, J. S. (1999). Stakeholders, social responsibility, and performance: empirical evidence and theoretical perspectives. *Academy of Management Journal*, 42(42), 479-485.
- Harry, M., & Schroeder, R. (2006). *Six Sigma: The Breakthrough Management Strategy Revolutionizing the World's Top Corporations*. New York, NY: Doubleday.
- Hasnan, N. (2006). *Developing a balanced Scorecard model for evaluation of project management and performance*. Unpublished PhD Thesis, University

- of Birmingham (UK).
- Heijden, H. V. D. (2000). *Measuring IT core capabilities for electronic Commerce results from a confirmatory factor analysis*. Paper presented at the 21st International Conference of Information Systems.
- Hendricks, K.B., & Singhal, V.R. (2001). Firms characteristics, total quality management and financial performance. *Journal of Operations Management*, 19, 269-285.
- Henri, J. F. (2004). Performance Measurement and Organizational effectiveness: Bridging the gap. *Managerial Finance*, 30(6), 93-123.
- Herzog, N., Polajnar, A., & Tonchia, S. (2007). Development and validation of business process reengineering (BPR) variables; a survey research in Slovenian companies. *International Journal of Production Research*, 45(24), 5811-5834.
- Heygate, R. (1993). *Immoderate redesign*. The McKinsey Quarterly, 4, 73-87.
- Hillman, A. J., & Keim, G. D. (2001). Shareholder value, stakeholder management, and social issues: What's the bottom line? *Strategic Management Journal*, 22(2), 125.
- Hinterhuber, H. (1995). Business process management: the European approach. *Business Change and Reengineering*, 2(4), 63-73.
- Hitt, M. A., Ireland, R. D., & Hoskisson, R. E. (2001). *Strategic Management: Competitiveness and globalization*. (4th. (concepts and cases) ed.). Singapore: South-Western College Publishing.
- Hoffman, T. (1993). *Reengineering pays off a Cigna*, Computerworld, 27(32), 70
- Holland, D., & Kumar, S. (1995). *Getting past the obstacles to successful reengineering*. Business Horizons, 38, 79-85.
- Hong, K. K., & Kim, Y. G. (2002). The critical success factors for ERP implementation: An organizational fit perspective. *Information & Management*, 40, 25-40.
- Huang, S. M., Oua, C. S., Chen, C. M., & Lin, B. (2006). An empirical study of relationship between IT investment and firm performance: A resource-based perspective. *European Journal of Operational Research*, 173(984-999).
- Huang, Y.-H., Li, E. Y., & Chen, J. S. (2009). Information synergy as the catalyst between information technology capability and innovativeness: empirical evidence from the financial service sector. *Information Research*, 14(1), 1-23.
- Hughes, G. D. (1969). Some confounding effect of forced-choice scales. *Journal of Marketing Research*, VI, 223-226.
- Hunter, L. W., Bernhardt, A., Hughes, K. L., & Skuratowicz, E. (2001). It's not just the ATMs: Firm Strategies, work restructuring and workers earning in retail banking. *Industrial and Labour Relations Review*, 54(2A), 402-424.
- Ibenta, S. N. O. (2010). The Effect of Banking reforms on the soundness of the Nigerian banking system. A Quarterly *Journal of Association of National Accountants of Nigeria*, 18(1), 1-59.
- Idowu, P., Alu, A., & Adagunodo, R. (2002). The effect of information technology on the growth of the banking industry in Nigeria. *The Electronic Journal of information systems in Developing Countries*, 10(2), 1-8.
- Idris, F. (2011). Total quality management (TQM) and sustainable company performances: Examining the relationship in Malaysian firms. *International*

- Journal of Business and Society*, 12(1), 31-52.
- Igbaria, M., Livari, J., & Maragahh, H. (1995). Why do individual use computer technology? A Finnish case study. *Information and Management*, 29(5), 227-238.
- Imai, M. (1986). *Kaizen: The Key to Japan's Competitive Success*. New York: McGraw-Hill.
- Irechukwu, G. (2000). *Enhancing the Performance of Banking Operations through Appropriate Information Technology*, In: Information Technology in Nigerian Banking Industry. Ibadan: Spectrum Books.
- Ittner, C.D., & Larcker, D.F. (1998). Are nonfinancial measures leading indicators of financial performance? An analysis of customer satisfaction. *Journal of Accounting Research*, 36(3), 1-35.
- Jackson, N. (1997). *Business process reengineering: 96 Management Services*. Harvard Business Review, February, 34-36.
- Janson, R. (1992). How reengineering transforms organisations to satisfy customers. *National Productivity Reviews*, 45-53.
- Jarrar, Y., & Aspinwall, E. (1999). Integrating total quality management and business process re-engineering: is it enough? *Total Quality Management*, 10(4/5), 584-593.
- Jelinek, G. A., Mountain, D., O'Brien, D., Rogers, I. R., Wilkes, G., & Wenban, J. (1999). Reengineering an Australian emergency department: can we measure success? *Journal of Quality in Clinical Practice*, 19, 133-138.
- Jobber, D. (1989). An examination of the effects of questionnaire factors on response to an industrial mail survey. *International Journal of Research in Marketing*, 6, 129-140
- Johannessen, J., Olaisen, J., & Olsen, B. (1999). Strategic use of information technology for increased innovation and performance. *Information Management & Computer Security*, 7(1), 5-22.
- Juran, J. M. (1991). *Strategies for world class quality*. Quality Progress, 24(3), 81-85.
- Juran, J. M., & Gryna, F. M. (1993). *The Quality Planning & Analysis*. New York, NY: McGraw-Hill.
- Kaiser, H. (1970). A second generation little jiffy. *Psychometrika*, 35, 401-415.
- Kaiser, H. (1974). An index of factorial simplicity. *Psychometrika*, 39(31-36).
- Kamal, R., & Agrawal, D. (1997). Reengineering the direct marketing organization structure: a business process view. *Journal of Direct Marketing*, 11(2), 59-76.
- Kaplan, R. B., & Murdock, L. (1991). *Core process redesign*. The McKinsey Quarterly, 28(2), 27-43.
- Kaplan, R. S., & Norton, D. P. (1992). The Balanced Scorecard--Measures That Drive Performance. *Harvard Business Review*, 20, 71-79.
- Karimi, J., Somers, T. M., & Gupta, Y. P. (2001). Impact of information technology management practices on customer service. *Journal of Management Information Systems*, 17(4), 125-158.
- Kaynak, H. (2003). The relationship between total quality management and their effects on performance. *Journal of Operations Management*, 21, 405-435.
- Keen, P. G. W. (1991). *Shaping the future; Business design through information technology*. Cambridge: Harvard Business Press.

- Kemal Altinkemer, Yasin Ozcelik, & Zafer D. Ozdemir. (2011). Productivity and Performance Effects of Business Process Reengineering: A Firm-level Analysis. *Journal of Management Information Systems*, 27(4), 129-161.
- Khalifa, K. (2000). Building Strong Management and Responding to Change Banking Institutions in Developing Markets. *Journal of Social Science*, 5(2), 1-35.
- Khalifa, M., & Liu, V. (2003). Determinants of successful knowledge management programs. *Electronic Journal of Knowledge Management*, 1(2), 103-112.
- Khong, K. W., & Richardson, S. (2003). Business process reengineering in Malaysian banks and finance companies. *Managing Service Quality*, 13(1), 54-71.
- Kim, S., Cha, J., Cichy, R. F., Kim, M., & Tkach, J. L. (2011). Effects of the size of the board of directors and board involvement in strategy on a private club's financial performance. *Emerald Group Publishing Limited*, 1-35
- Kintana, M., Alonso, A., & Olaverri, M. (2003). *High performance work systems and firm's operational performance: Moderating role of Technology*. Retrieved 3/11/2011, 2011
- Klein, M. M. (1994). *The most fatal reengineering mistakes information strategy*. *The Executives*, 10, 21-28.
- Knock, T.W. (1992). *Bank Management*. The Dryden Press: Orlando, Florida, USA
- Konsynski, B., & McFarlan, W. (1990). *Information partnership shared data and shared scale*. *Harvard Business Review*, 68, 114-120.
- Kosmidou, K. (2008). The determinants of banks' profits in Greece during the period of EU financial integration. *Managerial Finance*, 34(3), 146-159.
- Kotler, P. (2003). *Marketing Management* (11th ed.). New Jersey: Prentice-Hall.
- Kotnour, T. (2001). Building knowledge for and about large scale organisational transformation. *International Journal of Operations & Production Management*, 21(8), 1053-1075.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological measurement*, 30, 601-610.
- Kricka, L. J., Parsons, D., & Coolen, R. B. (1997). Healthcare in the United States and the practice of laboratory medicine. *Clinical Chimica Acta*, 267(1), 5-32.
- Krosnick, J. A. (1991). Response strategies for coping with the cognitive demands of attitude measures in survey. *Applied Cognitive Psychology*, 5, 213-236.
- Krosnick, J. A., & Fabrigar, L. R. (1991). Designing rating scales for effective measurement in surveys. In B. Lyberg, P. Collins, M. De Leeuw, E. Dippo, C. Schwarz, N. (Ed.), *Survey measurement and process quality*. (Trewin ed.). New York: John Wiley & sons, Inc.
- Kutucuoglu, K. Y., Hamali, J., Sharp, J. M., & Irani, Z. (2002). Enabling BPR in maintenance through a performance measurement system framework. *International Journal of Flexible Manufacturing Systems*. 14 (1), 33-52.
- Kuwaiti, M. E., & Kaya, J. M. (2000). The role of performance measurement in business. *International Journal of Operation Management*, 20(12), 1411-1426
- Lapre', M. A., & Van Wassenhove, L. N. (2002). Learning across lines: the secret to more efficient factories. *Havard Business Review*, 107-112.

- Laudon, D. P., & Laudon, J. P. (2001). *Management Information Systems: Organization and Technology in the Network Enterprises*. (4th ed.). U.S: Prentice Hall International.
- Lee, H., & Choi, B. (2003). Knowledge management enablers, processes, and organizational performance: an integrative view and empirical examination. *Journal of Management Information Systems*, 20(1), 179-228
- Leonard-Barton, D. (1992). Core capability and core rigidity: A paradox in managing new product development. *Strategic Management Journal*, 13(Summer Special), 111-125.
- Li, E. Y., Chen, J. S., & Huang, Y. H. (2006). A framework for investigating the impact of IT capability and organizational capability on firm performance in the late industrializing context. *International Journal of Technology Management*, 36(123), 209-229.
- Ligus, R. G. (1993). Methods to help reengineer your company for improved agility. *Journal of Industrial Engineering*.
- Lim, J., Richardson, V. J., & Roberts, T. L. (2004). *Information technology investment and firm performance: A meta-analysis*. Paper presented at the 37th Hawaii international conference on system sciences. Hawaii, USA.
- Lin, B. (2007). Information technology capability and value creation: Evidence from the US banking industry. *Technology in Society*, 29, 93-106.
- Lin, C. Y., & Chen, M. Y. (2007). Does innovation lead to performance? An empirical study of SMEs in Taiwan. *Management Research News*, 30(2), 115-132.
- Litwin, M. S. (1995). *How to measure survey reliability and validity*. Thousand Oaks, CA: Sage.
- Liu, Y. M., Liu, H. J., & Hu, J. H. (2008). IT Competence as Moderator between IT Investment and Firm Performance. *Tsinghua Science and Technology*, 13(3), 329-336.
- Loveman, G. (1990). *An assessment of the Productivity impact on Information technologies*. Sloan Management Review, MIT working paper.
- Lowenthal, J. N. (1994). *Reengineering the Organization: A Step-by-Step Approach to Corporate revitalization*. *Quality Progress*, 27(2), 61-63.
- Lucas, H.C., & Olson, M. (1994). The impact of information technology on organizational flexibility. *Journal of Organizational Computing* 4(2), 155-176.
- Lucas, H. C., Berndt, D. J., & Truman, G. (1996). *A reengineering framework for evaluating a financial imaging system*. *Communications of the ACM*, 39(5), 86-96.
- Lyles, M. A., & Salk, J. E. (1998). Knowledge acquisition from foreign parents in international joint ventures: an empirical examination in the Hungarian context. *Journal of International Business Studies*, 27(5), 877-904.
- MacDonald, J. (1995). Together TQM and BPR are winners. *TQM Magazine*, 7, 21-25.
- Madubueze, J. A. (2007). Mega-Banking in Nigeria's Business environment: Emerging issues. *The Nigerian Banker: Journal of the Institute of Bankers of Nigeria* (March).
- Magal, S. R., Carr, H. H., & Watson, H. J. (1998). Critical success factors for information centre managers. *MIS Quarterly*, 12, 413-425.



- Mahmood, M. (1993). Associating organizational strategic performance with information technology: An exploratory research. *European Journal of Information Systems*, 2(3), 185-200.
- Mahmood, M., & Mann, G. L. (1993). Measuring the organizational impact of information technology investment: An exploratory study. *Management Information System*, 10(1), 97-123.
- Mahoney, J. T., & Pandian, R. (1992). The resources based view within the conversation of strategic management. *Strategic Management Journal*, 13(5), 363-380.
- Malhotra, N. (1999). *Marketing Research: An applied orientation* (3rd ed.). New Jersey: Prentice Hall.
- Malhotra, Y. (1996). *Enterprise architecture: an overview*. Retrieve from <http://www.brint.com/papers/enterarch.htm>
- Manganelli, L. R. (1993). *Define reengineer computer*. World Cow, 27, 86-87.
- Marshall, J., Alderman, N., Wong, C., & Thwaites, A. (1995). The impact of management training and development on small and medium sized enterprise. *International Small Business Journal*, 13(4), 73-90.
- Martin, W. (1988). *The information society*. London: Eastern Press.
- Maskell, B. (1992). Performance measures of world class manufacturing. *Management Accounting*, 32-33.
- Mata, F. J., Fuerst, W. L., & Barney, J. B. (1995). Information technology and sustained competitive advantage: A resource-based analysis. *MIS Quarterly*, 19, 487-506.
- Mathews, R. (1995). *Does re-engineering really work?* Progressive Grocer, 74(2), 32-8.
- Maull, R.S., Tranfield, D.R., & Maull, W. (2003). Factors characterising the maturity of BPR programmes. *International Journal of Operations Production Management*. 23, 596-624.
- McAdam, R. (2003). Radical change: a conceptual model for research agendas. *Leadership & Organization Development Journal*, 24(4), 226-235.
- McAdam, R., & Bailie, B. (2002). Business performance measures and alignment impact on strategy: The role of business improvement models. *International Journal of Operations and Production Management*, 22, 972-996.
- McAdam, R., & Donaghy, J. (1999). Business process reengineering in public sector. *Journal of Business Process Management*, 15(1), 33-49.
- McDermott, J., & David, S. (1995). Outlook for Banking: Change drives needed consolidation. *Bank Management*, 71(1), 35-38.
- McKenna, S. (2005). Organizational Commitment in the small Entrepreneurial Business in Singapore. *Cross Cultural Management*. 12(2), 16-37.
- Melville, N., Kraemer, K. L., & Gurbaxani, V. (2004). Review: Information technology and organizational performance: An integrative model of it business value. *MIS Quarterly*, 28, 283.
- Menor, L. J., Roth, A. V., & Mason, C. H. (2001). Agility in retail banking: A numerical taxonomy of strategic service groups. *Manufacturing and Service Operations Management*, 3(4), 273-292.
- Meyers, L.S., Gamst, G., & Guarino, A.J. (2006). *Applied multivariate research: Design and interpretation*. Thousand Oaks, CA: Sage Publications.
- Meyer, H., & Utter back, J. (1992). *Core competencies, product families and*

- sustained business success*. Working paper Sloan, 3, 410-492.
- Meyer, J.P., & Allen, N.J. (1997). *Commitment in the workplace*. Thousand Oaks: Sage Publication
- Milgrom P, Roberts J. (1995). Complementarities of fit: strategy, structure, and organizational change. *Journal of Accounting and Economic*.9, 179–208.
- Millman, B. (1994). Executives: *Reality about reengineering*. Training Development, 48, 11-12.
- Mills, J., Platts, K., & Bourne, M. (2003). Applying resource-based theory: Methods, outcomes and utility for managers. *International Journal of Operations & Production Management*, 23(2), 148-166.
- Mitra, S., & Chaya, A. (1996). Analyzing cost-effectiveness of organizations: the impact of information technology spending. *Journal of Management Information Systems*, 13(2), 29-57.
- Moran, J.W. & Brightman, B.K. (2000). Leading organisational change. *Journal of Workplace Learning*, 12(2), 66-74.
- Motwani, J., Kumar, A., Jiang, J., & Youssef, M. (1998). Business process reengineering, a theoretical framework and an integrated model. *International Journal of Operation and Production Management*, 18(9-10), 964-977.
- Mumford, E. (1995). *Creative chaos or constructive change business reengineering versus socio-technical design*. In G. Burke & J. Peppard (Eds.), *Examining Business process reengineering: current perspectives and research directions*. 192-216: Kogan.
- Murnane, R. J., Levy, F., & Autor, D. (1999). *Technological change, computers and skill demands: Evidence from the back office operations of a large bank*: Harvard University Graduate School of Education.
- Murphy, G. B., Trailer, J. M., & Hill, R. C. (1996). Measuring performance in entrepreneurship research. *Journal of Business Research*, 36(1), 15-23.
- Murray, M. A., & Lynn, M. P. (1997). Business process re-engineering/information system development to improve customer service quality. *Business Process Management*, 3(1), 9-16.
- NDIC. (2009). *Memorandum Submitted to the Committee on Banking and Currency of the House of Representatives, National Assembly Investigating Unethical Practices in the Banking Sector*. Abuja - Nigeria: Nigeria: Nigeria Deposit Insurance Corporation.
- Neely, A. (1999). The performance measurement revolution: Why now and what next? *International Journal of Operations and Production Management*, 19(2), 205-228.
- Neely, A., Gregory, M., & Platts, K. (2005). Performance measurement system design: A literature review and research agenda. *International Journal of Operation and Production Management*, 25(12), 1228-1263.
- Neely, A., & Kennerly, M. (2002). A framework of the factors affecting the evolution of performance measurement systems. *International Journal of Production Management*, 22(11), 1222-1245.
- Newman, J., & Kozar, K. A. (1994). A multimedia solution to productivity gridlock: A re-engineered jewelry appraisal system at Zale Corporation. *MIS Quarterly*, 18(1), 21-30.
- Newman, K. (1997). Reengineering for service quality: the case of Leicester Royal

- Infirmiry. *Total Quality Management*8, 255-264.
- Niessink, C., & Van Vliet. (2004). *The IT Service Capability Maturity Model*. Retrieved March 24, 2011, from <http://www.itservicecmm.org>.
- Nissen, M. E. (1998). Redesigning reengineering through measurement-driven inference. *MIS Quarterly*, 22(4), 509-534.
- Nissen, M. E. (2001). An experiment to assess the performance of a redesign knowledge system. *Journal of Management Information Systems*, 17(3), 25-43.
- Norusis, M. J. (1999). *Guide to data analysis*. New Jersey: Prentice Hall.
- Nubi, T. O. (2006). *Assessment of the effectiveness of mortgage finance for housing procurement in selected cities of Nigeria*. Unpublished PhD, University of Lagos, Nigeria, Lagos.
- Nunnally, J. C. (1978). *Psychometric Theory* (2 ed.). New York: McGraw Hill.
- Nura, A.A., Osman, N H. (2012). A Toolkit on effective decision making measurement in organizations. *International Journal of Humanities and Social Science*, 2(4), 296-303.
- Nwosu, E. (2009, Sept. 6,). *A Paradigm on Stabilisation of Nigerian Banks*. The Guardian, Nigerian Newspaper.
- Ogubunka, U. M. (2010). Analytical Review of cost trend in the Nigerian banking industry. *The Nigerian Banker: Journal of the Institute of Bankers of Nigeria*, ISSN 0197-6679(March), 1-18.
- Ojeka, S.A., & Ikpefan, O.A. (2011). Electronic commerce automation and online banking in Nigeria: Challenges and benefits, School of Doctoral Studies *European Union Journal*, 39-50
- Ojo, A. T. (2002). *The future of Community bank in Nigerian banking sector*. First bank quarterly review.
- Okpara, G. C. (2009). A synthesis of the Critical factors affecting performance of the Nigerian Banking system. *European Journal of Information Systems*, ISSN1450-2887(17), 35-43.
- O'Neill, P., & Sohal, A. S. (1999). Business Process reengineering a review of recent literature. *Technovation*, 19(9), 571-581.
- Osubo. (2005). *The effect of Babnk Consolidation on the Performance of Banks in Nigeria*. Retrieved 27 -10- 2010, from: <http://www.articlesbase.com/banking-articles/the-effect-of-bank-consolidation-on-the-performance-of-banks-in-nigeria-1841090.html>
- Ovia, J. (2005). *Leapfrogging Nigeria through Information Technology*. Zenith Bank Economic Quarterly, 14, 1-61.
- Oxelheim, L. (1993). *The global race for foreign direct investsment*. Paper presented at the 1991 Elof Hasson Symposium.
- Ozcelik, Y. (2010). Do business process reengineering projects payoff: Evidence from the United States. *International Journal of Project Management*, 28, 7-13.
- Pallant, J. (2001). *SPSS Survival Manual: A Step by step guide to data analysis using SPSS for windows* (3rd ed.). England: McGraw Hill Open University Press.
- Pande, P., Neumann, R., & Cavanagh, R. (2000). *The Six Sigma Way - How GE, Motorola and Other Top Companies are Honing Their Performance*. New York, NY: McGraw-Hill.

- Pavlous, P. A. (2004). *IT enabled dynamic capabilities in new product development: Building a competitive advantage in turbulent environments*. Unpublished Dissertation, University of Southern California.
- Peppard, J. (1996). Broadening visions of business process re-engineering. *Omega*, 24(3), 255-270.
- Peppard, J., & Fitzgerald. (1997). The transfer of culturally grounded management techniques the case of business process reengineering in Germany. *European Management Journal*, 15(4), 446-460.
- Perera, S., Harrison, G., & Poole, M. (1997). Customer-focused manufacturing strategy and the use of operations-based non-financial performance measures: A research note. *Accounting, Organizations and Society*, 22(6), 557-572.
- Pereira, Z. L., & Aspinwall, E. (1997). Total quality management versus business process reengineering. *Total Quality Management*, 8, 33-39.
- Peter, O. N., & Amrik, S. S. (1998). Business process reengineering: application and success – an Australian study. *International Journal of Operations & Production Management*, 18(9/10), 852-864.
- Phonkhwang, W. J. (2008). *Information needs and uses of Thai Nursing*. Unpublished PhD, University of North Carolina., North Carolina.
- Podsakoff, P.M., & Organ, D.W. (1986). Self-reports in organisational research: Problems and prospects. *Journal of Management*, 12(4), 531-544.
- Powell, T. C., & Dent-Micallef, A. (1997). Information Technology as Competitive Advantage: The Role of Human, Business, and Technology Resources. *Strategic Management Journal*, 18(5), 375-405.
- Priem, R. L., & Butler, J. E. (2001). Is resource-based view a useful perspective for strategic management research? *Academy of Management Review*, 26(1), 22-40.
- Quinn, J. B., Baily, M. N., Herbert, G. R., & Willett, D. (1994). Information technology: Increasing productivity in services: Executive commentary. *The Academy of Management Executive*, 8(3), 28.
- Rai, A., & Paper, D. (1994). Successful reengineering through IT investment information strategy. *The Executives*, 10, 15-20.
- Ramberg, J. S. (1995). TQM: Thought Revolution or Trojan horse? *OR/MS Today*, 2, 18-24.
- Randle, W. M. (1995). Delivering the future: Redefining the role of banks in new competitive environment. *Bank Management*, 71(1), 45-58.
- Ranganathan, C., & Dhaliwal, J. S. (2001). A survey of business process reengineering practices in Singapore. *Information and Management*, 39(2), 125-134.
- Rashmi, J., & Anithashree, C. S. (2010). Benchmarking the redesign of business process reengineering curriculum: A continuous process improvement (CPI). *Benchmarking International Journal*, 17(1), 77-94.
- Ravinchandran, T., & Lertwongsatien, C. (2002). *Impact of information systems, Resources and capabilities on firm performance: A resource-based perspective*. Paper presented at the 23rd International Conference on Information Systems, Barcelona, Spain.
- Ray, G., Barney, J. B., & Mahanna, W. A. (2004). Capabilities, Business process and Competitive advantage: Choosing the dependent variable in empirical

- tests of the resource-based view. *Strategic Management Journal*, 25(1), 23-37.
- Razalli, M.R. (2008). *The consequence of service operations practice and service responsiveness on Hotel performance: Examination of Hotels in Malaysia*. Unpublished PhD Thesis, Universiti Sains Malaysia, (USM).
- Reinartz, W.J., & Kumar, V. (2002). The mismanagement of customer loyalty. *Harvard Business Review*, 80, 7, 86-94
- Riahi-Belkaoui, A. (2003). Intellectual capital and firm performance of US multinational firms-a study of the resource-based and stakeholder views. *Journal of Intellectual Capital*, 4(2), 215-226.
- Riddle, J. E. (1995). Reengineering Ryder to meet rising customer expectations. *National Productivity Review*, 15, 51-62.
- Rigby, D. (1993). The secret history of process reengineering. *Planning Review Journal* (March/April), 24-27.
- Riggins, F. J., & Mukhopadhyay, T. (1994). Interdependent benefits from interorganizational systems: Opportunities for business partner reengineering. *Journal of Management Information Systems*, 11(2), 37-57.
- Ringim, K. J., Razalli, M. R., & Hasnan, N. (2011). Effect of Business Process Reengineering Factors on Organizational Performance of Nigerian banks: Information Technology Capability as the Moderating Factor. *International Journal of Business and Social Science*, 2(13), 198-201.
- Rochart, J. F. (1979). Chief executives define their own data needs. *Harvard Business Review*. 57, 81-92.
- Rohm, C. (1993). The principal insurers a better future. *National Productivity Review*, 12(1), 55-64.
- Ronald, R., Nigel, M., & Edward, L. (2010). Information technology infrastructure, organizational process redesign, and business value: An empirical analysis. *Decision Support Systems*, 49, 417-429.
- Roscoe, J. T. (1975). *Fundamental Research Statistics for the Behavioural Sciences*, (2 ed.). New York: Holt, Reinhart & Winston.
- Ross, J. (1998). IT infrastructure management. Paper presented at the '98 annual conference of information systems management. London Business School Centre for Research in Information Management, London.
- Ross, J., Beath, C., & Goodhue, D. (1996). Develop long-term competitiveness through information technology assets. *Sloan Management Review*, 38(1), 31-42.
- Ross, J. W., & Feeny, D. F. (1999). The Evolving Role of the Chief Information Officer. *Sloan Working Paper*, School of Management, Massachusetts Institute of Technology.
- Russ, F.A., & McNeilly, K.M. (1995). Links among satisfaction, commitment, and turnover intentions: The moderating effect of experience, gender, and performance. *Journal of Business Research*, 34, 57-65.
- Ryan, T.J. (1995). Levi's ups ante on reengineering its QR program to \$850 million, *MDNR* 25(47), 2-4.
- Sager, M. (1998). Competitive Information Systems in Australian retail Banking. *Information and Management*, 15, 59-67.
- Shah, M. H., & Siddiqui, F. A. (2006). Organizational critical success factors in adoption of e-banking at the Woolwich bank. *International Journal of*

- Information Management*, 26(6), 442-456.
- Said, J., Hui, W. S., Taylor, D., & Othman, R. (2009). Customer-Focused Strategies and Information Technology Capabilities: For Service Quality of Malaysian Local Authorities. *International Review of Business Research Papers*, 5(3), 241-256.
- Salimifard, K., Abbaszadeh, M., & Ghorbanpur, A. (2010). Interpretive Structural Modeling of Critical Success Factors in Banking Process Re-engineering.
- Salkind, N.J. (2003). Exploring Research. ISBN-10: 0130983527 USA
- Sanchez, R., Heene, A., & Thomas, H. (1996). *Introduction: Towards the Theory and Practice of Competence-based Competition*. Oxford: Pergamon Press.
- Santhanam, R., & Hartono, E. (2003). Issues in Linking Information Technology Capability to Firm Performance. *MIS Quarterly*, 27(1), 125-153.
- Santos, B. D., & Sussman, L. (2000). Improving the return on IT investment: the productivity paradox. *International Journal of Information Management*, 29(6), 429-440.
- Sanusi, S. L. (2010). *The Nigerian Banking Industry: what went wrong and the way forward*. Retrieved April, 2010 from: [www.cenbank.org/documents/speeches.asp](http://www.cenbank.org/documents/speeches.asp)
- Sarker, S., Sarker, S., & Sidorova, D. (2006). A. Understanding business process change failure: An actor-network perspective. *Journal of Management Information Systems*, 23(1), 51-86.
- Scharitzer, D., & Kollarits, H.C. (2000). Satisfied customers: profitable customer relationships: pharmaceutical marketing: how pharmaceutical sales representatives can achieve economic success through relationship management. *Total Quality Management*, 11, 7, S956-65.
- Scherr, A. L. (1993). A new approach to business processes. *IBM System Journal*, 32(1), 80-98.
- Sekaran, U. (2003). *Research methods for business* (4th ed.). New York: John Wiley & Sons, Inc.
- Shao, Z., Feng, Y., Choudrie, J., & Liu, Y. (2010). *The Moderating effect of a chief information officer's competence on IT investment and firm performance*. Paper presented at the Pacific Asia Conference on Information Systems, Taipei Taiwan.
- Shao, Z., Feng, Y., Hu, J. H., & Liu, H. J. (2008). *A conceptual Model for studying the influence of charismatic Leadership on ERP implementation life style*. Paper presented at the 42nd Hawaii International Conference on System Science, Hawaii USA.
- Sheehy, B. (1997). *Quality comes back*. Executive Excellence, 14, 7-8.
- Shin, N., & Jemella, D. F. (2002). Business process reengineering and performance improvement: The case of Chase Manhattan Bank. *Business Process Management Journal*, 8(4), 1463-7154.
- Shu, W., & Strassmann, P. A. (2005). Does information technology provide banks with profit? *Information and Management*, 42(5), 781-787.
- Sidikat, A., & Ayanda, A. M. (2008). Impact Assessment of Business Process Reengineering on Organisational Performance. *European Journal of Social Sciences*, 7(1), 132-147.
- Siha, S. M., & Saad, G. H. (2008). Business process improvement: empirical assessment and extensions. *Business Process Management Journal*, 14(6),

778-802.

- Sinan, A., & Peter, W. (2007). *IT Assets, Organizational Capabilities and Firm Performance: Do Resource Allocations and Organizational Differences Explain Performance Variation?* Sloan Management Review, CISR Working Paper 360, 1-30.
- Sindhu, S., & Pookboonmee, R. (2001). Barriers to research utilization of Thai nurses. *Journal of Nursing Research*, 74-84.
- Singh, M. D., & Kant, R. (2008). Knowledge management barriers: an interpretive structural modelling approach. *International Journal of Management Science and Engineering Management*, 3(2), 141-150.
- Siyanbola, O. T. (2011). Restructuring as an Effective Change Management Tool in Nigerian Commercial Banks. *Global Business and Management Research: An International Journal*, 3(3 & 4), 247-257.
- Smaltz, D., Agarwal, R., & Sambamurthy, V. (2006). The antecedents of CIO Role effectiveness in organization: An empirical study in the Healthcare sector. *IEEE Transactions on Engineering Management*
- Smith, M. (2003). Business process design: correlates of success and failure. *The quality Management Journal*, 10(2), 38-49.
- Smith, M., & Chang, C. (2010). Improving customer outcomes through the implementation of customer relationship management Evidence from Taiwan. *Asian Review of Accounting*, 18(3), 200-285.
- Soffer, P., Golany, B., & Dori, D. (2005). Aligning an ERP system with enterprise requirements: An object-process based approach. *Computers in industry*, 56, 639-662.
- Sohmen, V. S. (1998). Principles of business process reengineering, TQM and the learning organization. *Transaction of AACE International*, PM (4), 1-4.
- Soludo, C. (2009). *Global Financial and economic crisis: How vulnerable is Nigeria?* Retrieved 25th May, 2009
- Song, M., Benedetto, C. A., & Nanson, R. W. (2007). Capabilities and financial performance: The moderating effect of strategic type. *Journal of Academic Marketing Science*, 35(1), 18-34.
- Stainton, J. (1995). Successful reengineering at work: The western Provident case study. *Management Services*, 12-15.
- Stoddard, D. B., & Jarvenpaa, S. L. (1995). Business process redesign: Tactics for managing radical change. *Journal of Management Information Systems*, 12(1), 81-107.
- Storey, D., & Westhead, P. (1994). *Management Development in Small and Medium sized Enterprises with Growth potential*. London: Cofederation of British Industry.
- Sun, H. (2000). Current and future patterns of using advanced manufacturing technologies. *The International Journal of Technological Innovation and Entrepreneurship*, 20(11), 631-641.
- Sung, T. K., & Gibson, D. V. (1998). Critical Success Factors for Business Reengineering and Corporate Performance: The Case of Korean Corporations. *Technological Forecasting and Social Change*, 58(3), 297-311.
- Szanto, B. (2005). The unconventional challenges of Information Technology. *Technovation*, 25(5), 469-476.

- Tabachnick, G. B., & Fidell, S. L. (2007). *Using Multivariate Statistics* (5th ed.). New York: Pearson Educational Inc.
- Talwar, R. (1993). Business re-engineering - a strategy-driven approach. *Long Range Planning*, 26(6), 22-40.
- Tang, K. H., & Zairi, M. (1998). Benchmarking quality implementation in a service context: a comparative analysis of financial services and institutions of higher education Part 1: financial service sector. *Total Quality Management*, 9(6), 407-420.
- Tangem, S. (2004). Performance measurement: from philosophy to practice. *International Journal of Productivity and Performance Management*. 53(8), 726-737.
- Tanko, M. (1995). *An Assessment of the Role of Community Banks in Rural Development in Nigeria*. Retrieved March 02, 2011, from SSRN e-Library
- Tanswell, A. (1993). Business restructuring: the key to radical change. *Professional Engineering*, 6, 24-25.
- Tarawneh, M. (2006). A comparison of Financial Performance in the Banking Sector: Some Evidence from Omani Banks. *International Journal of Finance and Economics*, ISSN 1450-2887(3), 102-111.
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509.
- Teng, J., V., Grover, & Fiedler, K. D. (1994). Business Process Reengineering: Charting a Strategic Path for the Information Age. *California Management Review*.
- Tennat, C., & Wu, Y. (2005). *The application of Business process reengineering in the UK*. The TQM Magazine, 17, 537-545.
- Terziovski, M., Fitzpatrick, P., & O'Neill, P. (2003). Successful predictors of business process reengineering (BPR) in financial services. *International Journal of Production Economics*, 84(1), 35-50.
- Thomas, M. (1994). What you need to know about business process re-engineering. *Personnel Management Review*, 26, 28-31.
- Thong, J., Yap, C., & Seah, K.-L. (2000). Business Process Reengineering in the public sector: The ease of the housing development board in Singapore. *Journal of Management Information Systems*, 17(1), 245-270.
- Thurstone, L. L. (1947). *Multiple factor analysis*. Chicago: University of Chicago Press.
- Tippins, M. J., & Sohi, R. S. (2003). IT Competency and firm performance: Is organizational learning a missing link? *Strategic Management Journal*, 24, 745-761.
- Tomasko, R. M. (1993). *Rethinking the corporation: The Architecture of change*. New York: Amacom.
- Tower, S. (1994). *Business process reengineering: a practical handbook for executives*. Cheltenham: Stanley Thomas Ltd.
- Tower, S. (1996). Reengineering: middle managers are the key asset. *Management Services*. 17-18.
- Tuominen, M., Rajala, A., Moller, K., & Anttila, M. (2003). Assessing innovativeness through organizational adaptability: a contingency approach. *International Journal of Technology Management*, 25(6/7), 643-658.
- Umble, E. J., Haft, R. R., & Umble, M. M. (2003). Enterprises resources planning



- implementation procedures and critical success factors. *European Journal of Operational Research*, 146(2), 241-257.
- Vakola, M., Rezugui, Z., & Wood-Harper, T. (2000). The condor business process reengineering model. *Managerial Auditing Journal*, 15(112), 42-46.
- Valiris, G., & Glykas, M. (1999). Critical review of existing BPR methodologies. *Business Process Management Journal*, 5(1), 65-86.
- Vandenbosch, B., & Huff, S. (1997). Searching and scanning: How executives obtain information from executive information systems. *MIS Quarterly*, 24, 169-196.
- Venkatraman, N. (1994). IT-enabled business transformation: from automation to business scope redefinition. *Sloan Management Review*, 35(2), 73-87.
- Venkatraman, N., & Zaheer, A. (1990). Electronic Integration and Strategic Advantage: A Quasi-Experimental Study in the Insurance Industry. *Information System Research*, 1(4), 377-393.
- Vergidis, K., Turner, C. J., & Tiwari, A. (2008). Business Process perspectives: Theoretical developments vs. real-world practice. *International Journal of Production Economics*, 114(1), 91-104.
- Vetiva Research. (2010). *Quarterly Companies Report on Nigerian Stock Market. Lagos: Vetiva Capital Management.*
- Wade, M., & Hulland, J. (2004). The Resource-Based View and Information Systems Research: Review, Extension and Suggestions for Future Research. *MIS Quarterly*, 28, 81-90.
- Waggoner, D. B., Neely, A., & Kennerly, M. (1999). The forces that shape organizational performance measurement systems: an interdisciplinary review. *International Journal of Production Economics*, 60(61), 53-60.
- Weaver, M. (2006). *Formulae for calculating sample size, a statistics consultant at researcher support centre, school of Nursing. North Carolina: Chapel Hill.*
- Weber, Y., & Pliskin, N. (1996). The effect of information systems, integration and organisational culture on a firm's effectiveness. *Information Management Journal*, 30(2), 81-90.
- Weerakoon, T. S. (2002). *Organizational performance—a stakeholder concept.* Paper presented at the International Research Conference on Quality Management Proceeding.
- Wei, K. K., & Nair, M. (2006). The effect of customer service management on business performance in Malaysian banking industry: an empirical analysis. *Asia Pacific Journal of Marketing and Logistics*, 18(2), 111-128.
- Weill, P., & Broadbent, M. (1998). (Ed.). (1998). *Leveraging the new infrastructure: How market leaders' capitalize on information technology.* Cambridge, MA: Harvard Business School press.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171-189.
- West, S.G., Aiken, L.S., & Krull, J.L. (1996). Experimental personality designs: Analysing categorical by continuous variable interactions. *Journal of Personality*, 64(1), 2-48.
- Willcocks, L., & Smith, G. (1995). IT-enabled business process reengineering: organizational and human resource dimensions. *Journal of Strategic Information Systems*, 4(3), 279-301.
- Willcocks, L. P., & Sykes, R. (2000). The role of the CIO and IT function in ERP.

- Communication of the ACM, 43, 32-38.
- William Y.C. Wang, Chanb, H. K., & David, J. P. (2010). Aligning business process reengineering in implementing global supply chain systems by the SCOR model. *International Journal of Production Research*, 48(19), 5647-5669.
- Willmott, H. (1994). *Business Process Reengineering and Human Resource Management*. Retrieved 6th January 2012, from <http://www.dspace.dial.pipex.com/town/close/hr22/hcwhome>
- Wood, P.T. (1996). *Real world reengineering: Supporting organizational change*, *National Productivity Review*, 15(2), 67-81.
- World Bank. (2000). *Financial management and social policy department*. Lagos - Africa: World Bank.
- Wu, J. H., Chen, Y. C., & Sambamurthy, V. (2008). *The Impacts of BTM Capability and CIO Role Effectiveness on Firms' Information Technology Assimilation: An Empirical Study*. Paper presented at the 29th International Conference on Information Systems (ICIS), Paris, France.
- Wu, L. L. (2002). A model for implementing BPR based on strategic perspectives: an empirical study. *Information & Management*, 39(4), 313-324.
- Xie Weihong, Wang Yongjian, Jiang Luan, & Guangyu, Z. (2010). A Study on the relationship between IT Capability, Organizational structure and Enterprise performance. *IEEE International Forum on Information Technology and Applications*, 978-0-7695(4115-0/10), 373-376.
- Xin James He. (2005). Comparative study of BPR in China. *Communication of the IIMA*, 5(1), 25-30.
- Yavas, U., & Yasin, M. M. (2001). Enhancing organizational performance in banks: a systematic approach. *Journal of Services Marketing*, 15(6), 444-453.
- Yongmei, L., Hongjian, L., & Junhua, H. (2008). Information technology capability as moderator between information technology investment and firm's performance. *Tsinghua Science and Technology*, 13(1007-021412/26 329-336).
- Yunus, M. L. (1998). *The community banking system in Nigeria*. Senegal: Senegal: Urban Management Programme.
- Zahedi, F. (1987). Reliability of information system based on the critical success factors. *MIS Quarterly*, 33, 187-203.
- Zaheer, A., & Venkatraman, N. (1994). Determinant of electronic integration in the insurance industry: An empirical test. *Management Science*, 40(5), 549-566.
- Zairi, M., & Sinclair, D. (1995). Business process re-engineering and process management: a survey of current practice and future trends in integrated management. *Management Decision*, 33(3), 3-16.
- Zikmund, G. W. (2000). *Business research methods* (7 ed.).
- Zirger, B., & Maidique, M. (1990). A model of new product development: An empirical test. *Management Science*, 36(3), 867-883.
- Zucco, N. (1996). *Reengineering in Australian banks - achieving a quantum leap in performance* (An internal study paper). Australia: KPMG.