

The copyright © of this thesis belongs to its rightful author and/or other copyright owner. Copies can be accessed and downloaded for non-commercial or learning purposes without any charge and permission. The thesis cannot be reproduced or quoted as a whole without the permission from its rightful owner. No alteration or changes in format is allowed without permission from its rightful owner.



**DETERMINANTS OF ACCOUNTING INFORMATION  
TECHNOLOGY USAGE IN NIGERIAN BANKING SECTOR**

**SHAMSUDEEN LADAN SHAGARI**



**DOCTOR OF PHILOSOPHY  
UNIVERSITI UTARA MALAYSIA  
October, 2018**

**DETERMINANTS OF ACCOUNTING INFORMATION TECHNOLOGY  
USAGE IN NIGERIAN BANKING SECTOR**

**By**

**SHAMSUDEEN LADAN SHAGARI**



**Thesis Submitted to  
Tunku Puteri Intan Safinaz School of Accountancy,  
Universiti Utara Malaysia,  
In Fulfilment of the Requirement for the Degree of Doctor of Philosophy**



**TUNKU PUTERI INTAN SAFINAZ**  
**SCHOOL OF ACCOUNTANCY**  
**COLLEGE OF BUSINESS**  
**Universiti Utara Malaysia**

**PERAKUAN KERJA TESIS / DISERTASI**  
*(Certification of thesis / dissertation)*

Kami, yang bertandatangan, memperakukan bahawa  
*(We, the undersigned, certify that)*

**SHAMSUDEEN LADAN SHAGARI**

calon untuk Ijazah **DOCTOR OF PHILOSOPHY**  
*(candidate for the degree of)*

telah mengemukakan tesis / disertasi yang bertajuk:  
*(has presented his/her thesis / dissertation of the following title):*

**DETERMINANTS OF ACCOUNTING INFORMATION TECHNOLOGY USAGE IN NIGERIAN BANKING  
SECTOR**

seperti yang tercatat di muka surat tajuk dan kulit tesis / disertasi.  
*(as it appears on the title page and front cover of the thesis / dissertation).*

Bahawa tesis/disertasi tersebut boleh diterima dari segi bentuk serta kandungan dan meliputi bidang ilmu dengan memuaskan, sebagaimana yang ditunjukkan oleh calon dalam ujian lisan yang diadakan pada:

**24 Oktober 2017.**

*(That the said thesis/dissertation is acceptable in form and content and displays a satisfactory knowledge of the field of study as demonstrated by the candidate through an oral examination held on:*

**24 October 2017.**

Pengerusi Viva <i>(Chairman for Viva)</i>	:	<b>Assoc. Prof. Dr. Shamharir Abidin</b>	Tandatangan <i>(Signature)</i>	
Pemeriksa Luar <i>(External Examiner)</i>	:	<b>Prof. Dr. Norzaidi Mohd Daud</b>	Tandatangan <i>(Signature)</i>	
Pemeriksa Dalam <i>(Internal Examiner)</i>	:	<b>Dr. Yurita Yakimin Abdul Talib</b>	Tandatangan <i>(Signature)</i>	

Tarikh: **24 October 2017**  
*(Date)*

Nama Pelajar : **Shamsudeen Ladan Shagari**  
(Name of Student)

---

Tajuk Tesis / Disertasi : **DETERMINANTS OF ACCOUNTING INFORMATION TECHNOLOGY  
(Title of the Thesis / Dissertation) USAGE IN NIGERIAN BANKING SECTOR**

---

Program Pengajian : **Doctor of Philosophy**  
(Programme of Study)

---

Nama Penyelia/Penyelia-penyelia : **Dr. Akilah Abdullah**  
(Name of Supervisor/Supervisors)

---



Tandatangan

Nama Penyelia/Penyelia-penyelia : **Dr. Rafeah Mat Saat**  
(Name of Supervisor/Supervisors)

---



Tandatangan

## PERMISSION TO USE

In presenting this thesis in fulfilment of the requirements for a postgraduate degree from Universiti Utara Malaysia, I agree that the Universiti Library may make it freely available for inspection. I further agree that permission for the 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 Tunku Puteri Intan Safinaz School of Accountancy. It is understood that any copying or publication or use of this thesis or parts thereof 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 Universiti Utara Malaysia for any scholarly use which may be made of any material from my thesis.

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

Dean of Tunku Puteri Intan Safinaz School of Accountancy, College of Business  
Universiti Utara Malaysia  
06010 UUM Sintok  
Kedah Darul Aman



UUM  
Universiti Utara Malaysia

## ABSTRACT

Banks in Nigeria have increased their investment in the Information System (IS) as a fundamental e-banking tool, capable of yielding significant contributions to their financial income especially in cost efficiency. However, investment in Accounting Information Technology (AIT) is less effective due to many users complain of persistent systems failures, technical issues, lack of system stability, fraud and security challenges. Therefore, the main purpose of this study is to investigate the determinants of AIT usage in the Nigerian banking sector. Specifically, the study examines the influence of system quality, information quality, service quality, internal control quality, training and top management support on AIT usage. It also investigates the moderating effect of an external consultant involvement on the relationship between the system quality and usage of AIT. A cross-sectional survey was employed for data collection. A questionnaire was distributed to 571 samples, and 257 valid responses were obtained from regional or branch managers, and account managers of the banks. Partial Least Square path modeling was used in analyzing the relationship between the determinants and AIT usage as well as the moderating effect of an external consultant involvement between system quality and AIT usage. The findings from the direct relationship reveals that system quality, information quality, and internal control quality has a significant positive relationship with AIT usage, but service quality, training, and top management support has insignificant negative relationship. Furthermore, the result of the moderating effect reveals that the external consultant involvement significantly moderates the relationship of the system quality, information quality, and service quality with AIT usage. The outcomes of this study provides another insight to the banks' management with specific factors that they can leverage to improve the usage of the AIT thereby realizing the expected benefit of their investment.

**Keywords:** AIT usage, external consultant involvement, internal control quality, Nigerian Banks

## ABSTRAK

Bank di Nigeria telah meningkatkan pelaburan dalam Sistem Maklumat (IS) sebagai alat e-perbankan asas yang mampu memberikan sumbangan penting kepada hasil kewangan terutamanya berkaitan kecekapan kos. Walau bagaimanapun, pelaburan dalam Teknologi Maklumat Perakaunan (AIT) kurang berkesan kerana banyak aduan daripada pelanggan mengenai kegagalan sistem yang berterusan, isu teknikal, ketidakstabilan sistem dan penipuan serta ancaman keselamatan. Oleh itu, tujuan utama kajian ini ialah untuk meneliti penentu penggunaan AIT dalam sektor perbankan Nigeria. Secara khususnya, kajian ini meneliti pengaruh kualiti sistem, kualiti maklumat, kualiti perkhidmatan, kualiti kawalan dalaman, latihan, dan sokongan pengurusan atasan terhadap penggunaan AIT. Kajian turut mengkaji kesan penyederhana penglibatan perunding luar terhadap hubungan antara kualiti sistem dan penggunaan AIT. Kaedah kajian rentas digunakan untuk pengumpulan data. Soal selidik telah diagihkan kepada 571 sampel dan hanya 257 maklum balas diperoleh daripada pengurus cawangan dan pengurus akaun bank. Model persamaan kuasa dua terkecil separa digunakan untuk menganalisis hubungan antara penentu dan penggunaan AIT serta kesan penyederhana penglibatan perunding luaran di antara kualiti sistem dan penggunaan AIT. Penemuan hubungan langsung menunjukkan bahawa kualiti sistem, kualiti maklumat dan kualiti kawalan dalaman mempunyai hubungan positif yang signifikan dengan penggunaan AIT, tetapi kualiti perkhidmatan, latihan, dan sokongan pengurusan atasan menunjukkan hubungan yang negatif dan tidak signifikan. Tambahan pula, dapatan kesan penyederhana menunjukkan penglibatan perunding luar menyederhana secara signifikan antara kualiti sistem, kualiti maklumat dan kualiti perkhidmatan dengan penggunaan AIT. Hasil kajian ini memberikan gambaran yang lebih lanjut kepada pihak pengurusan bank tentang faktor khusus yang boleh dimanfaatkan untuk meningkatkan penggunaan AIT demi mencapai manfaat yang diharapkan.

**Kata kunci:** Penggunaan AIT, penglibatan perunding luar, kualiti kawalan dalaman, bank Nigeria

## ACKNOWLEDGEMENT

In the name of Allah (S.W.T) the most gracious and the most merciful. All praise is indeed due to Allah (S.W.T), complete blessings and salutation upon all the messengers. May peace and tranquillity be upon the seal of the prophet, Muhammad (SAW), His families, and all His companions.

I wish to acknowledge the support of individuals who are instrumental to the successful completion of my Ph.D. journey. First, I would like to express my gratitude to my supervisors; Dr. Akilah Abdullah and Dr. Rafeah Mat Saat for their guidance and patience throughout the Ph.D. My appreciation goes to my examiners during my and VIVA VOCE who offered valuable suggestions that resulted in the successfully conclusion of this thesis.

I am equally grateful to the management of Bauchi State University for granting me study leave to pursue my Ph.D. program and my colleagues, particularly those in the faculty of social and management science Bauchi. I would like to thank all the participants of my survey instruments for their time and willingness to response to the questionnaires.

Finally, I am indebted to acknowledge the support, prayers, and motivation of my beloved parents. I am indeed grateful to my wife, children, and all my family members for their prayers, love, and understanding through these years of hard work. Special thanks go to my friend Sirajo Aliyu and all others who have contributed immensely to the success of this thesis. I ask Allah (SWA) to reward you with the highest level of Paradise and make the knowledge acquired beneficial to mankind.

## TABLE OF CONTENTS

<b>TITLE PAGE</b> .....	<b>i</b>
<b>CERTIFICATION OF THESIS WORK</b> .....	<b>ii</b>
<b>PERMISSION TO USE</b> .....	<b>iv</b>
<b>ABSTRACT</b> .....	<b>v</b>
<b>ABSTRAK</b> .....	<b>vi</b>
<b>ACKNOWLEDGEMENT</b> .....	<b>vii</b>
<b>TABLE OF CONTENTS</b> .....	<b>viii</b>
<b>LIST OF TABLES</b> .....	<b>xii</b>
<b>LIST OF FIGURES</b> .....	<b>xiii</b>
<b>LIST OF APPENDICES</b> .....	<b>xiv</b>
<b>LIST OF ABBREVIATIONS</b> .....	<b>xv</b>
<b>CHAPTER ONE INTRODUCTION</b> .....	<b>1</b>
1.1 Background of the Study.....	1
1.2 Motivation .....	7
1.3 Problem Statement .....	8
1.4 Research Questions .....	13
1.5 Objectives of the study.....	13
1.6 Significance of the Study .....	14
1.6.1 Theoretical contribution.....	14
1.6.2 Methodological Contributions .....	15
1.6.3 Practical Contributions.....	16
1.7 Scope of the Study .....	17
1.8 Operational Definition of Key Terms .....	19
1.9 Organization of the Chapters .....	20
<b>CHAPTER TWO LITERATURE REVIEW</b> .....	<b>22</b>
2.1 Introduction.....	22
2.2 Banks and Accounting Information Technology .....	22
2.3 Accounting Information Technology.....	25
2.3.1 Definition of Accounting Information Technology .....	28
2.3.2 Importance of Accounting Information Technology .....	32
2.3.3 Importance of Accounting Information Technology to the Banking Sector.....	35
2.4 Determinants of AIT Usage .....	37
2.4.1 System Quality .....	54
2.4.2 Information Quality .....	56
2.4.3 Service Quality.....	59
2.4.4 Internal Control Quality .....	62
2.4.5 Training.....	64
2.4.6 Top Management Support.....	67
2.4.7 External Consultant Involvement.....	68
2.5 Theoretical Framework .....	71

2.6 Summary .....	74
<b>CHAPTER THREE HYPOTHESES DEVELOPMENT.....</b>	<b>75</b>
3.1 Introduction .....	75
3.2 Theories of Accounting Information Technology.....	75
3.2.1 The Theory of Reason Action.....	76
3.2.2 The Unified Theory of Acceptance and Use of Technology (UTAUT) ....	77
3.2.3 The Task-Technology Fit Theory (TTF) .....	79
3.2.4 DeLone and McLean IS Success Model .....	81
3.2.5 Resource Based View .....	85
3.3 Hypotheses Development.....	90
3.3.1 Accounting Information Technology Usage.....	90
3.3.2 System Quality and AIT Usage .....	91
3.3.3 Information Quality and AIT Usage .....	94
3.3.4 Service Quality and AIT Usage .....	96
3.3.5 Internal Control Quality and AIT Usage .....	98
3.3.6 Training and AIT Usage .....	101
3.3.7 Top Management Support and AIT Usage .....	103
3.3.8 External Consultant Involvement and AIT Usage .....	105
3.4 Summary .....	109
<b>CHAPTER FOUR METHODOLOGY.....</b>	<b>111</b>
4.1 Introduction .....	111
4.2 Philosophical Approach to Information Technology Research .....	111
4.3 Research Design.....	114
4.4 Population of the Study.....	115
4.5 Sampling Technique.....	117
4.6 Sampling Size .....	119
4.7 Unit of Analysis .....	120
4.8 Operational Definitions and Measurement of Instruments .....	121
4.9 Questionnaire Design .....	125
4.10 Pre-Test .....	134
4.11 Pilot Test .....	135
4.12 Data Collection Procedure .....	136
4.13 Data Analysis .....	138
4.13.1 Descriptive Statistics.....	138
4.13.2 Independent Sample t-test for Non-Response Bias.....	138
4.13.3 Other Data Screening Analyses .....	139
4.13.4 Partial Least Square Model Evaluation.....	140
4.13.4.1 Measurement Model Evaluation.....	141
4.13.4.2 Structural Model Evaluation.....	143
4.14 Summary .....	145
<b>CHAPTER FIVE DATA ANALYSIS AND FINDINGS.....</b>	<b>146</b>

5.1 Introduction .....	146
5.2 Distribution of Survey Instrument and Response Rate .....	146
5.3 Accounting Information Technology Subsystem.....	147
5.4 Respondents' Demographic Information .....	148
5.5 Data Screening and Preliminary Analysis .....	150
5.5.1 Identification and Treatment of Missing Values.....	151
5.5.2 Identification and Treatment of Outliers.....	153
5.5.3 Normality Test .....	154
5.5.4 Multicollinearity Test.....	156
5.6 Descriptive Statistics of the Latent Constructs .....	158
5.7 Independent Sample t-test for Early and Late Responses .....	160
5.8 Common Method Bias .....	162
5.9 PLS Path Model Result .....	163
5.9.1 Indicator Reliability .....	165
5.9.2 Internal Consistency Reliability .....	165
5.9.3 Convergent Validity .....	166
5.9.4 Discriminant Validity.....	168
5.10 Model Fit Evaluation .....	171
5.11 PLS Structural Model Results.....	172
5.11.1 Evaluation of the Significance of Path Coefficients .....	173
5.11.2 Evaluation of Coefficient of Determination ( $R^2$ ).....	177
5.11.3 Evaluation of Effect Sizes of Exogenous Variables ( $f^2$ ) .....	177
5.11.4 Evaluation of Predictive relevance ( $Q^2$ ).....	179
5.11.5 Testing the Moderation Effect .....	180
5.11.6 Determination of the effect Size ( $f^2$ ) of the Moderator .....	186
5.12 Summary .....	187
<b>CHAPTER SIX DISCUSSION, IMPLICATION AND FUTURE RESEARCH</b> .....	<b>189</b>
6.1 Introduction .....	189
6.2 Determinants of Accounting Information Technology .....	189
6.2.1 System Quality .....	190
6.2.2 Information Quality .....	192
6.2.3 Service Quality.....	194
6.2.4 Internal Control Quality .....	195
6.2.5 Training.....	197
6.2.6 Top Management Support.....	199
6.3 Discussion of Findings of Moderating Hypotheses .....	201
6.3.1 System Quality * External Consultant Involvement * AIT Usage .....	202
6.3.2 Information Quality * External Consultant Involvement * AIT Usage...203	
6.3.3 Service Quality * External Consultant Involvement* AIT Usage .....	204
6.4 Discussion of Research Objectives .....	205
6.5 Theoretical, Methodological, and Practical Contributions .....	206
6.5.1 Theoretical Contributions .....	206
6.5.1.1 Specific Contribution to DeLone and McLean Model .....	209

6.5.1.2 Specific Contribution to Resource Based View Theory.....	210
6.5.2 Methodological Implications and Contributions.....	211
6.5.3 Practical Implications and Contributions.....	213
6.6 Limitations and Recommendation for Future Research.....	217
6.7 Conclusion .....	219
<b>REFERENCES.....</b>	<b>221</b>



## LIST OF TABLES

Table 1.1 Operationalization of Key Terms.....	19
Table 3.1 Summary of Research Hypotheses .....	110
Table 4.1 List of Banks, Branches, Sample Size Proportion .....	116
Table 4.2 Decision Rule to Distinguish between a Reflective and Formative Construct .....	122
Table 4.3 Modification of the Instruments.....	126
Table 4.4 Pilot Study for Reliability Analysis .....	136
Table 4.5 Rule of thumb for selecting Covariance-SEM and PLS-SEM.....	140
Table 5.1 Questionnaire Response Rate .....	147
Table 5.2 Accounting Information Technology Subsystem .....	147
Table 5.3 Demographic Profile of the Respondents .....	148
Table 5.4 Missing Values Analysis Particular of Respondents .....	151
Table 5.5 Accounting Information Technology Usage.....	152
Table 5.6 System Quality .....	152
Table 5.7 Information Quality .....	152
Table 5.8 Service Quality.....	152
Table 5.9 Internal Control Quality .....	152
Table 5.10 Training.....	152
Table 5.11 Top Management Support.....	152
Table 5.12 External Consultant Involvement.....	153
Figure 5.1 Histogram for Normal Distribution .....	155
Table 5.13 Skewness and Kurtosis .....	156
Table 5.14 Pearson Correlations (Multicollinearity) .....	157
Table 5.15 Multicollinearity Test using Tolerance and VIF.....	158
Table 5.16 Descriptive Statistics of the Latent Constructs .....	159
Table 5.17 Independent Sample t-test for Non-Response Bias.....	161
Table 5.18 Indicators Loadings, Composite Reliability, and Average Variance Extracted of Latent Constructs.....	166
Table 5.19 Discriminant Validity.....	170
Table 5.20 Goodness of Fit (GoF) .....	172
Table 5.21 Structural Model Evaluation – Direct Effect .....	175
Table 5.22 Effect Size ( $f^2$ ) .....	178
Table 5.23 Model Predictive Relevance .....	179
Table 5.24 Structural Model Evaluation – Indirect Effect.....	182
Table 5.25 Effect Size of the Moderator .....	187

## LIST OF FIGURES

Figure 3.2 The DeLone and McLean Model (1992).....	82
Figure 3.3 Updated DeLone and McLean Model 2003 .....	84
Figure 5.1 Measurement Model of the Latent Constructs.....	164
Figure 5.2 Structural Model of the Direct Effect .....	174
Figure 5.3 Structural Model for Indirect Effect .....	181
Figure 5.5 Interaction Effect of System Quality and External Consultant Involvement on Accounting Information Technology Usage.....	184
Figure 5.6 Interaction Effect of Information Quality and External Consultant Involvement on Accounting Information Technology Usage.....	185
Figure 5.7 Interaction Effect of Service Quality and External Consultant Involvement on Accounting Information Technology Usage.....	186



## LIST OF APPENDICES

Appendix A Determining sample size for a given population.....	304
Appendix B Research Questionnaire .....	312
Appendix C Summary of Literature .....	314



## LIST OF ABBREVIATIONS

The followings abbreviations are used in this study:

AIT	Accounting Information Technology
AITU	Accounting Information Technology Usage
ACC	Accuracy
ATM	Automated Teller Machine
AVE	Average Variance Explain
BIS	Business Intelligent System
CBN	Central Bank of Nigeria
CL	Completeness
EOU	Ease of Use
EFF	Efficiency
E-Banking	Electronic Banking
EFT	Electronic Fund Transfer
E-PURSE	Electronic Purse
ERP	Enterprise Resource Planning
EXCO	External Consultant Involvement
GoF	Goodness of Fit
GDP	Gross Domestic Product
HRIS	Human Resource Information System
ICT	Information and Communication Technology
InfQty	Information Quality
IS	Information System
IT	Information Technology
INCO	Internal Control Quality
LAN	Local Area Network
NSE	Nigerian Stock Exchange
PLS	Partial Least Square
RBV	Resources Based View
SEC	Security
ServQty	Service Quality
SPSS	Statistics Package for Social Sciences
SEM	Structural Equation Modeling
SysQty	System Quality
TMS	Top Management Support
TL	Timeliness
TR	Training
UK	United Kingdom
US	United States
VIF	Variance Inflation Factor
WAN	Wide Area Network

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

The use of information technology (IT) has been widely recognized to enhance management decision making and capability. Greenstein-Prosch, McKee, and Quick (2008) consider IT to include all the software and hardware products, information system operations and management processes, the human resources and skills needed to develop and utilize these products and processes to produce information. Accounting information technology (AIT) is considered a key part of the information needed for decision making in organizations. Negash and Gray (2003) conceptualized AIT as the addition of IT in the accounting operations of organizations. It is designed to generate and deliver information to managers at the right time, in the right place and the right format for effective decision making.

Accounting information technology is a set of interdependent activities, documents, and technology designed to collect, process and reports information to a wide group of internal and external decision makers in organizations (Hurt, 2013). Accounting information technology has the ability to integrate different organizational components and accounting procedures such as IT tools, accounting models, human resources, and data (Tokic, Spanja, & Blazevic, 2011). Consequently, this translates them into meaningful information for effective decision making by the management. The use of AIT in banks has facilitated the basic accounting functions of collecting, organizing, recording, and storing of accounting data used for decision making. The successful implementation AIT enables banks to transform data into information for

The contents of  
the thesis is for  
internal user  
only

## REFERENCES

- Aali, M, Sargazi, M., & Tayyar, S.H. (2014). The necessary factors and conditions in utilization of strategic information systems. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 3(7), 48-58.
- Abbasi, S., Zamani, M., & Valmohammadi, C. (2014). The effects of ERP systems implementation on management accounting in Iranian organizations. *Education, Business and Society: Contemporary Middle Eastern Issues*, 7(4), 245-256. <http://dx.doi.org/10.1108/EBS-03-2014-0020>
- Abiola, J. (2014). An assessment of information and communication technology effectiveness in the banking sector: Lessons from Nigeria. *International Journal of Liberal Arts and Social Science*, 2(1), 1-14.
- Abdallah, A. A. (2013). The impact of using accounting information systems on the quality of financial statements submitted to the income and sales tax department in Jordan. *European Scientific Journal*, 1, 41-48.
- Abdelhak, D., & Dalel, H. (2009). Computerized information systems in the Jordanian banking sector: An empirical study. *Laboratoire finances, Banques et Management*, 3-17.
- Abdullah, F., Suhaimi, R., Saban, G., & Jamil, H. (2011). Bank service quality (BSQ) index. *International Journal of Quality & Reliability Management*, 28(5), 542-555. <http://dx.doi.org/10.1108/0265671111111 32571>
- Abdulghafoor, R.K., Ahmed, F.K., & Aslam, M.K. (2011). Impact of training and development on organizational performance. *Global Journal of Management and Business Research*, 11(7), 63-68.

- Abubakar, M., Gatawa, N. M., & Birnin-Kebbi, H. S. (2013). Impact of information and communication technology on banks performance: A study of selected commercial banks in Nigeria (2001-2011). *European Scientific Journal*, 9(7), 213-238.
- Abu-Musa, A. A. (2007). Evaluating the security controls of CAIS in developing countries: An empirical investigation. *Information Management and Computer Security*, 15(2), 128-148. Retrieved from <http://www.emeraldinsight.com/0968-5227.htm>
- Abu-Rumman, M.A. (2013). The impact of management information systems of human resources on the training need in Al-Balqa Applied University. *Business Management and Strategy*, 4(1), 53-70. doi:10.5296/bms.v4i1.3501
- Abu-Shanab, E., & Pearson, M. (2009). Internet banking in Jordan: An Arabic instrument validation process. *International Arab Journal of Information Technology*, 6(3), 235-244.
- Abu Taber, T. A., Ajloun, A. A., & Ahmad, A. (2014). The effectiveness of accounting information systems in Jordanian private higher education institutions. *International Journal of Accounting and Financial Reporting*, 4(1), 28-42.
- Ackfeldt, A.L., & Coote, L. V. (2005). A study of organizational citizenship behaviors in a retail setting. *Journal of Business Research*, 58(2), 151-159. doi: 10.1016/S0148-2963(03)00110-3

- Acklesh, P., Peter, G., & Jon, H. (2013, 5<sup>th</sup> May). *On effective accounting information systems in a dynamic business environment*. Paper presented at the International Symposium on Accounting Information Systems, Paris, France. Available at <https://eprints.qut.edu.au/63392/>
- Adams, A., Adegoke, A., & Afolabi, B. (2013). The effects of ICT on the growth of Nigerian banking industry: (A case study of five quoted banks in Nigeria). Available from <http://ssrn.com/abstract=2325163> or <http://dx.doi.org/10.2139/ssrn.2325163>
- Adela, J.W. Chen, M.B., & Richard T.W. (2008). Information systems and ecological sustainability. *Journal of Systems and Information Technology*, 10(3), 186-201. <http://dx.doi.org/10.1108/13287260810916907>
- Adewale, A.A., & Afolabi, B.A. (2013). The Effects of ICT on the growth of Nigerian banking industry: A study of five quoted banks in Nigeria. Retrieved from <http://ssm.com/abstract=2325163>.
- Adewole, J.O. (2013). The impact of automatic teller machines on the cost efficiency of Nigeria. *Journal of Internet Banking and Commerce*, 18(3), 1–21.
- Adewuyi, I.D. (2011). Electronic banking in Nigeria: Challenges of the regulatory authorities and the way forward. *International Journal of Economic Development Research and Investment*, 2(1), 149-156.
- Adomi, E., Ayo, B., & Nakpodia, E. (2007). A better response rate for questionnaires: Attitudes for librarians in Nigerian university libraries. *Library Philosophy and Practice*, 1-3.

- Adrian Bradshaw, A., Cragg, P., & Pulakanam, V. (2013). Do IS consultants enhance IS competences in SMEs? *The Electronic Journal of Information Systems Evaluation*, 16(1), 1-23. Retrieved from [www.ejise.com](http://www.ejise.com)
- Aduda, J., & Kingoo, N. (2012). The relationship between electronic banking and financial performance among commercial banks in Kenya. *Journal of Finance and Investment Analysis*, 1(3), 99-118.
- Afolabi, S. O. (2012). The impact of e-commerce, accounting information technology and globalization on selected firms in Nigeria. *International Journal of Economic Development Research and Investment*, 3(1), 33-39.
- Agbola, A. (2005). Information and communication technology (ICT) in banking operations in Nigeria – An evaluation of recent experiences. Retrieved from <http://unpan1.un.org/intradoc/groups/public/documents/aapam/unpan026533.pdf>
- Agbolade, O.K. (2011). Information and communication technology and banks profitability in Nigeria. *Australian Journal of Business and Management Research*, 1(4), 102-107.
- Agbonifoh, B., & Yomere, G. (1999). *Research methodology in the management and social sciences*. Benin, Nigeria: Uniben Press, Benin.
- Aggarwal, C. C., & Yu, P. S. (2001). *Outlier detection for high dimensional data*. Paper presented at the ACM Sigmod Record.
- Agourram, H., & Robson, B. (2006). Defining information systems success in Canada. *Information Management & Computer Security*, 14 (4), 300-311. doi 10.1108/09685220610690781

- Agwu, M. E., Atuma, O., Aigbiremolen, M. O., & Iyoha, F. O. (2014). The impact of information communication technologies in the strategic management of financial institutions. *International Review of Management and Business Research*, 3(3), 1588-1602. Retrieved from [www.irnbrjournal.com](http://www.irnbrjournal.com)
- Ahmad, M., & Zaatreeh, Z. (2008). A framework for evaluating the effectiveness of information systems at Jordan banks: An empirical study. *Journal of Internet Banking and Commerce*, 13(1), 1–14.
- Ahmad, M., Ayasra, A., & Zawaideh, F. (2013). Issues and problems related to data quality in AIS implementation. *International Journal of Latest Research in Science and Technology*, 2(2), 17-20. Retrieved from <http://www.mnkjournals.com/ijlrst.htm>
- Ahmad, N., & Mhamed, B. (2014). The impact of effective training on organizational performance in Dubai's public sector. *Policy Brief* 37, 1-11.
- Aier, S., Bucher, T., & Winte, R. (2011). Critical success factors of service orientation in information systems engineering derivation and empirical evaluation of a causal model. *Business & Information Systems Engineering*, 2(2011), 77-88. doi 10.1007/s12599-011-0148-6
- Ajami, S., & Bertiani, Z.M. (2012). Training and its impact on hospital information system (HIS) success. *Information Technology & Software Engineering*, 2(5), 1-7. doi:10.4172/2165-7866.1000112
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs: Prentice-Hall.

- Ajzen, I. (2006). Constructing a TPB Questionnaire: Conceptual and Methodological Considerations. Retrieved from <http://www.people.umass.edu/aizen>.
- Akkaya, G.C., & Uzar, C. (2012). The role of information systems in strategic financial management. *Journal of GSTF Business Review*, 1(4), 97-101. doi: 10.5176/2010-4804\_1.4.132
- Alabar, T.T., & Agema, R.J. (2014). Information and communication technology and customer satisfaction in the Nigerian banking industry. *Journal of Advanced Management Science*, 2(4), 333-338. doi: 10.12720/joams.2.4.333-338
- Alboali, S., Hamid, E., & Moosavi, S.A. (2013). The study of contingency components roles in the design of municipals' accounting systems: A case study." *Journal of Business and Management Sciences*, 1(5), 96-104. doi: 10.12691/jnms-1-5-3.
- Albuquerque, J.P., Prado, E.P.V., & Machado, G.R. (2011). Ambivalent implications of health care information systems: A study in the Brazilian public health care system. *SAO Paulo*, 51(1), 58-71.
- Alkhaffaf, M. (2012). The role of information systems in decision making: The case of Jordan Bank. *Computer Engineering and Intelligent Systems*, 3(10), 19-27.
- Alshbiel, M.O.A., & Ahmad, A.A.B. (2013). The risks of communication between department of internal control & computer and its impact on the efficiency of the accounting information systems in the commercial banks. *Interdisciplinary Journal of Contemporary Research in Business*, 4(11), 297-303. Retrieved from [www.ijcrb.webs.com](http://www.ijcrb.webs.com)

- Al-Ahmad, W., & Al-Oqaili, A. (2013). Towards a unified model for successful implementation of outsourcing and reversibility of information systems. *Journal of King Saud University – Computer and Information Sciences*, 25, 229–240. Retrieved from [www.sciencedirect.com](http://www.sciencedirect.com), <http://dx.doi.org/10.1016/j.jksuci.2013.03.003>
- Al-Eqab, M., & Adel, D. (2013). The impact of IT sophistications on the perceived usefulness of accounting information characteristics among Jordanian listed companies. *International Journal of Business and Social Science*, 4(3), 145–155.
- Al-Eqab, M., & Ismail, NA. (2011). Contingency factors and accounting information system design in Jordanian companies. *IBIMA Business Review*, 1-13. Retrieved from <http://www.ibimapublishing.com/journals/IBIMABR/ibimabr.html>. doi: 10.5171/2011.166128.
- Alexander, J.M., Clark, J.G., Warren, J., & Dietrich, G.B. (2008). The impact of information systems on end user performance: examining the effects of cognitive style using learning curves in an electronic medical record implementation. *Communications of the Association of Information Systems*, 22(9), 165-184.
- Al-Jabri, I.M., & Sohail, M.S. (2012). Mobile banking adoption: Application of diffusion of innovation theory. *Journal of Electronic Commerce Research*, 13(4), 379-391.

- Al-khozendar, T., Assumpcao, R.O., & Campeanu, M. (2014). *Building effective information systems*. Social Protection and Labour, Learning forum World Bank.
- Ali, B.M., & Younes, B. (2013). The impact of ERP system on user performance: An exploratory study. *Journal of Theoretical and Applied Information Technology*, 52(3), 325–342.
- Al-Frijat, Y.S. (2013). The impact of accounting information systems used in the income tax department on the effectiveness of tax audit and collection in Jordan. *Journal of Emerging Trends in Economics and Management Sciences (JETEMS)*, 5(1), 19-25.
- Alhakbani, I.A., & Alnuem, M.A. (2012). Consultancy services to ERP systems: Case studies from Saudi Arabia. *Journal of Theoretical and Applied Information Technology*, 37(1), 116-124. Retrieved from [www.jatit.org](http://www.jatit.org)
- Al-Hawari, M., & Ward, T. (2006). The effect of automated service quality on Australian banks' financial performance and the mediating role of customer satisfaction. *Marketing Intelligence & Planning*, 24(2), 127-47.
- Al-Hiyari, A., Al-Mashregy, M.H., Nik-Mat, N.K., & Mohammed, J. (2013). Factors that affect accounting information system implementation and accounting information quality: A survey in University Utara Malaysia. *American Journal of Economics*, 3(1), 27-31. doi: 10.5923/j.economics.20130301.06

- Al-Kassawna, R.O. (2012). Study and evaluation of government electronic accounting information systems - A field study in the Hashemite Kingdom of Jordan. *Research Journal of Finance and Accounting*, 3(4), 88-102. Retrieved from [www.iiste.org](http://www.iiste.org)
- Al-khozendar, T., Assumpcao, R.O., & Campeanu, M. (2014). *Building effective information systems*. Social Protection and Labour, Learning forum World Bank.
- Almbaidin, T.H. (2014). The effectiveness of accounting information systems in Jordanian banks: From the management perspective. *International Bulletin of Business administration*, 14, 135-147. Retrieved from <http://www.eurojournals.com/IBBA.htm>
- Al-Oleemat, N.H. (2014). Impact of computerized accounting information systems' effectiveness in increasing the efficiency of human capital: Field study in the financial department in the public Jordanian Universities. *Interdisciplinary Journal of Contemporary Research in Business*, 6(5), 18-43.
- Al-Qudah, G.M.A. (2011). The impact of accounting information systems on effectiveness of internal control in Jordanian commercial banks "Field Study". *Interdisciplinary Journal of Contemporary Research in Business*, 2(9), 365–377.
- Alrabei, A.M.A. (2014). The impact of accounting information system on the Islamic banks of Jordan: An empirical study. *European Scientific Journal*, 10(4), 184-198.

- Al-Rabei, A.M., Abu-Taber, T.A., Alaryan, L.A., & Abu-Haija, A.A. (2015). The role of accounting information systems in enhancing human resources management cycle in Jordanian Islamic banks an empirical study. *Australian Journal of Basic and Applied Sciences*, 9(20), 437-441. Retrieved from [www.ajbasweb.com](http://www.ajbasweb.com)
- Alrawi H.A., & Thomas, S.S. (2007). Application of contingency theory of accounting information to the UAE banking sector. *Asian Academy of Management Journal*, 12(2), 33-55.
- Alshawaf, A., & Khalil, O.E.M. (2008). IS success factors and IS organizational impact: Does ownership type matter in Kuwait. *International Journal of Enterprise Information Systems*, 4(2), 13-33.
- Al-Swalhah, A. (2014). The role of accounting information systems (AIS) in rationalized administrative decision- making (field study) Jordanian banks. *Interdisciplinary Journal of Contemporary Research in Business*, 6(2), 8-17. Retrieved from [ijcrb.webs.com](http://ijcrb.webs.com)
- Al-Tarawneh, M., & Tarawneh, H. (2012). The effect of applying human resources information system in corporate performance in the banking sector in Jordanian firms. *Intelligent Information Management*, 4, 32-38. Retrieved from <http://dx.doi.org/10.4236/iim.2012.42005>
- Alves, M.C. (2010). Information technology roles in accounting tasks – a multiple-case study. *International Journal of Trade, Economics and Finance*, 1(1), 103-107.

- Alzoubi, A. (2011). The effectiveness of the accounting information system under the enterprise resources planning (ERP) a study on Al Hassan qualified industrial zone's (QIZ) companies. *Research Journal of Finance and Accounting*, 2(11), 10-19.
- Al-Zwyalif, I.M. (2013). IT governance and its impact on the usefulness of accounting information reported in financial statements. *International Journal of Business and Social Science*, 4(2), 83-94.
- Amaefule, L.I., & Iheduru, N.G. (2014). Electronic accounting system: A tool for checkmating corruption in the Nigerian public sector and a panacea for the nation's poor economic development status. *Sky Journal of Business Administration and Management*, 2(4), 019-028.
- Amah, E., & Ahiauzu, A. (2013). Employee involvement and organizational effectiveness. *Journal of Management Development*, 32(7), 661-674. doi 10.1108/JMD-09-2010-0064
- Amenuveve, G. J. (May, 2014). Information systems impact on commercials banks performance in Ghana. Retrieved from <http://www.km4dev.org/forum/topics/information-systems-impact-on-banks-performance-in-ghana>
- Amidu, M., Effah, J., & Abor, J. (2011). E-accounting practices among small and medium enterprises in Ghana. *Journal of Management Policy and Practice*, 12(4), 146-155.
- Amiri, A., & Salari, H. (2013). Effect of accounting information system (AIS) on software qualitative. *International Journal of Business and Management Invention*, 2(4), 6-11.

- Amran, A. M., Abdul Rahman, R., Yusof, S.N., & Mohamed, I.S. (2014). The current practice of Islamic microfinance institutions' accounting information system via the implementation of mobile banking. *Procedia - Social and Behavioral Sciences*, 145(2014), 81- 87. doi: 10.1016/j.sbspro.2014.06.013
- Analoui, F. (1999). Eight parameters of managerial effectiveness: A study of senior managers in Ghana. *Journal of Management Development*, 18(4), 362-389.
- Andrei-Coman, N., & Uta, T. (2011). Particularities of the accounting information system in the scientific academic institution from Romania. *Procedia Social and Behavioral Sciences*, 15, 2449-2453. doi:10.1016/j.sbspro.2011.04.126
- Andres, H., & Zmud, R. (2002). A contingency approach to software project coordination. *Journal of Management Information Systems*, 18(3), 41-70.
- Anggadini, D.S. (2015). The effect of top management support and internal control of the accounting information systems quality and its implications on the accounting information quality. *Information Management and Business Review*, 7(3), 93-102.
- Anggadini, D.S. (2013). The accounting information quality and the accounting information system quality through the organizational structure: A survey of the Baitulmal Wattamwil (BMT) in West Java Indonesia. *International Journal of Business and Management Invention*, 2(10), 12–17.
- Ankrah, E. (2012). Technology and service quality in the banking industry in Ghana. *Information and Knowledge Management*, 2(8), 52-60. Retrieved from [www.iiste.org](http://www.iiste.org)

- Apulu, I., Latham, A., & Moreton, R. (2011). Factors affecting the effective utilization and adoption of sophisticated ICT solutions. *Journal of Systems and Information Technology*, 13(2), 125-143. Retrieved from <http://dx.doi.org/10.1108/13287261111135972>
- Argyropoulou, M. (2013). *Information systems' effectiveness and organizational performance* (Unpublished doctoral dissertation). Brunel University, Brunel.
- Armstrong, J. S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, 14(3), 396-402.
- Arshah, R.A., Desa, M.I., & Hussin, A.C. (2009). Determining important criteria and factors for information systems integration success. 484-493. Retrieved from <https://pdfs.semanticscholar.org/23ee/bbbc5a25d945771f21b6918f1da9cfd94553.pdf>
- Aryani, Y. A. (2013, January). Enterprise Resource Planning Implementation and Accounting Information Quality. In *International Conference on Accounting and Finance (AT). Proceedings* (p. 66-75). Global Science and Technology Forum.
- Asmild, M., Paradi, J.C., Reese, D.N., & Tam, F. (2007). Measuring overall efficiency and effectiveness using DEA. *European Journal of Operational Research*, 178(1), 305-21. doi:10.1016/j.ejor.2006.01.014
- Ashraf, G., & Abdkadir, S. (2012). A review on the models of organizational effectiveness: A look at Cameron's model in higher education. *International Education Studies*, 5(2), 80-87. <http://dx.doi.org/10.5539/ies.v5n2p80>

- Ask, U., Magnusson, J., & Frisk, E. (2012). Improving effectiveness and efficiency in large Swedish firms through AIS. *Research project proposal for the Marianne and Marcus Wallenberg Foundation*. Retrieved from [https://www.cfa.handels.gu.se/digitalAssets/1438/1438614\\_mmw-project.pdf](https://www.cfa.handels.gu.se/digitalAssets/1438/1438614_mmw-project.pdf)
- Astuty, W. (2015). An analysis of the effects on application of management accounting information systems and quality management accounting information. *Information Management and Business Review*, 7(3), 80-92.
- Awais, M.B., & Sundram, V.P.K. (2015). *Business Research: Quantitative and Qualitative Methods*. Kuala Lumpur: Pearson Malaysia Sdn Bhd. Malaysia.
- Awosejo, O.J., Ajala E.B., Pretorious, P., & Zuva, T. (2013). The role of accounting information systems in accounting firm. *International Journal of Computer Science Applications & Information Technologies*, 1(2), 21- 31. Retrieved from [www.arpublishation.org](http://www.arpublishation.org)
- Ayanda, A. M., Veronica, M.O., & Ayodele, G.R. (2011). A study on customers' perception of information technology in the Nigerian banking industry. *International Journal of Management & Business Studies*, 1(4), 7-10. Retrieved from [www.ijmbs.com](http://www.ijmbs.com)
- Aydin, B., & Ceylan, A. (2009). The role of organizational culture on effectiveness, *Ekonomika a Management*, 33-49.
- Ayo, C.K. (2010). An empirical investigation of the level of user's acceptance of e-banking in Nigeria. *Journal of Internet Banking and Commerce*, 15(1), 102-145.

- Babbie, E. (1990). *Survey research methods* (2<sup>nd</sup> ed.). Belmont, California: Wadsworth Inc.
- Bach, C., Belardo, H., Bajwa, H. Kantharaju, P., & Prasanth, P. (2011). Factor analysis in measuring information systems effectiveness. *Proceedings of the 2011 ASEE Northeast section annual conference*. University of Hartford. Retrieved from <https://scholarworks.bridgeport.edu/xmlui/handle/123456789/1255>
- Bacha, E. (2012). The impact of information systems on the performance of the core competence and supporting activities of a firm. *Journal of Management Development, 31*(8), 752-763.
- Bagozzi, R.P. (2007). The legacy of the technology acceptance model and a proposal for a paradigm shift. *Journal of the Association for Information Systems, 8*(4), 244-254.
- Balasubramanian S., Jagannathan, M.E.V., & Natarajan, T. (2014). Information systems success in the context of internet banking: Scale development. *Journal of Internet Banking and Commerce, 19*(3), 1-15. Retrieved from <http://www.arraydev.com/commerce/jibc/>
- Ballantine, J., Levy, M., & Powell, P. (1998). Evaluating information systems in small and medium-sized enterprises: Issues and evidence. *European Journal of Information Systems, 7*, 241-251. Retrieved from <http://www.stockton-press.co.uk/ejis>

- Balqaa, M.A. (2012). The impact of using information technology on accounting systems used in Jordanian telecommunications companies. *The Journal of American Academy of Business Cambridge*, 18(1), 318–326.
- Bamel, U.K., Rangnekar, S., Stokes, P., & Rastogi, R. (2015). Managerial effectiveness: An Indian experience. *Journal of Management Development*, 34(2), 202-225. doi 10.1108/JMD-10-2012-0129
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
- 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.
- Bartuseviciene, I., & Sakalyte, E. (2013). Organizational assessment: Effectiveness vs. efficiency. *Social Transformations in Contemporary Society*, 1, 45-53.
- Basel, J.A., Baker, R., & Omar, W.A. (2016). The critical success factor of accounting information systems and its impact on organizational performance of Jordanian commercial banks. *International Journal of Economic, Commerce, and Management*, 4(4), 658-676.
- Bates, S. R., & Jenkins, L. (2007). Teaching and learning ontology and epistemology in political science. *Politics*, 27(1), 55-63. doi: 10.1111/j.1467-9256.2007.00279.x

- Baumgartner, H., & Weijters, B. (2012). Commentary on common method bias in marketing: causes, mechanisms and procedural remedies. *Journal of Retailing*, 88(4), 556-562.
- Bawaneh, S. (2014). Information security for organizations and accounting information systems a Jordan banking sector case. *International Review of Management and Business Research*, 3(2), 1174-1188.
- Beadles, N.A., Lowery, C.M., & Johns, K. (2005). The impact of human resource information systems: An exploratory study in the public sector. *Communications of the IIMA*, 5(4), 39-46.
- Belfo, F., & Trigoa, A. (2013). Accounting information systems: Tradition and future directions. *Procedia Technology*, 9, 536-546. doi: 10.1016/j.protcy.2013.12.060
- Bentley, Y., Cao, G., & Lehaney, B. (2013). The application of critical systems thinking to enhance the effectiveness of a university information system. *System Practice Action Research*, 26, 451-465. doi:10.1007/s11213-012-9253-9
- Berry, A.J., Coad, A.F., Harris, E.P., Otley, D.T., & Stringer, C. (2009). Emerging themes in management control: A review of recent literature. *The British Accounting Review*, 41 (2009) 2–20. doi:10.1016/j.bar.2008.09.001
- Bere, A. (2014). The impact of information systems usage on productivity: A retrospective analysis and an empirical study in Cape Town tourism of South Africa. *African Journal of Hospitality, Tourism and Leisure*, 3(1), 1-10. Retrieved from <http://www.ajhtl.com>

- Bighrissen, B., Ettamiri, E., & Cherkaoui C. (2012). Towards the success of ERP systems: Case study in two Moroccan companies. *Journal of Enterprise Resource Planning Studies*, 2012, 1-17. doi: 10.5171/2012.731113
- Bilbao-Osorio, B., Dutta, S., & Lanvin, B. (2013, April). *The global information technology report 2013*. Geneva, Switzerland: World Economic Forum. Retrieved from <https://pdfs.semanticscholar.org/8d3e/e24a48accf626fc8632568fa09210769f62e.pdf>
- Biloslavo, R., Bagnoli, C., & Figelj, R.R. (2013). Managing dualities for efficiency and effectiveness of organisations. *Industrial Management & Data Systems*, 113(3), 423-442. doi 10.1108/02635571311312695
- Bhatt, G.D., & Grover, V. (2005). Types of information technology capabilities and their role in competitive advantage: An empirical study. *Journal of Management Information Systems*, 22(2), 253-77.
- Bhattacharjee, A. (2001). An empirical analysis of the antecedents of electronic commerce service continuance. *Decision Support Systems*, 32(2), 210-214.
- Bhatti. T.R. (2005). Critical success factors for the implementation of enterprise resource planning (ERP): Empirical validation. *The Second International Conference on Innovation in Information Technology (IIT'05)*, (pp.1-10).
- Bodnar, G.H., & Hopwood, W.S. (2010). *Accounting information systems* (10<sup>th</sup> ed.). Upper Saddle River, New Jersey: Prentice Hall.

- Bonollo, E., Lazzine, S., & Merli, M.Z. (2015). Innovation in accounting information systems in public sector. evidence from Italian public universities. *Lecture Notes in Information Systems and Organisation*, 199-216. doi 10.1007/978-3-319-26488-2\_15
- Boonmak, S. (2008). *Strategically involved, accounting information systems change the way businesses compete*. AAA IS Section Mid-Year Meeting. Chulalongkorn University. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.616.8023&rep=rep1&type=pdf>
- Bradley, J., & Lee, C. C. (2007). ERP training and user satisfaction: A case study. *International Journal of Enterprise Information Systems*, 3(4), 33-49. Retrieved from <http://www.igi-pub.com>
- Bruno, E., Iacoviello, G., & Lazzini, A. (2015). *The adequacy of information systems for supporting the asset quality review process in banks. Evidence from an Italian Case Study*. *Lecture Notes in Information Systems and Organisation*, 59-75. Retrieved from [http://dx.doi.org/10.1007/978-3-319-26488-2\\_5](http://dx.doi.org/10.1007/978-3-319-26488-2_5)
- Bryman, A., & Bell, E. (2007). *Business research methods* (2nd ed.). New York: Oxford University Press.
- Budiarto, D.S. (2014). Accounting information system (AIS) alignment and non-financial performance in small firms. *International Journal of Computer Network (IJCN)*, 6(2), 15–21.
- Burton-Jones, A., & Grange, C. (2013). From use to effective use: A representation theory perspective. *Information Systems Research*, 24(3), 632-658.

- Cenfetelli, R. T., Benbasat, I., & Al-Natour, S. (2008). Addressing the what and how of online services: Positioning supporting services functionality and service quality for business to consumer success. *Information Systems Research* 19(2), 161-181.
- Cenfetelli, R. T., & Schwarz, A. (2011). Identifying and testing the inhibitors of technology usage intentions. *Information Systems Research*, 22(4), 808-823.
- Central Bank of Nigeria (CBN) (2009). Banking Supervision Reports. Retrieved from: <https://www.cbn.gov.ng/documents/bsdreports.asp>
- Central Bank of Nigeria (CBN) (2015). Report of the technical committee on electronic banking.
- Chalu, H. (2012). Analysis of stakeholder factors influencing the effectiveness of accounting information systems in Tanzania's local authorities. *Business Management Review*, 16(1), 18-48.
- Chang, C.S., Chen, S.Y., & Lan, Y.T. (2012). Motivating medical information system performance by system quality, service quality, and job satisfaction for evidence-based practice. *Medical Informatics and Decision Making*, 12(135), 1-12. Retrieved from <http://www.biomedcentral.com/1472-6947/12/135>
- Chang, I. C., Hwang, H. G., Hung, W. F., & Li, Y. C. (2007). Physicians' acceptance of pharmacokinetics-based clinical decision support systems. *Expert Systems with Applications*, 33(2), 296-303.
- Chang, R.D., Wen, Y.D., & Paper, D. (2003). The effect of task uncertainty, decentralization and AIS characteristics on the performance of AIS: An empirical case study of Taiwan. *Information & Management*, 40, 691-703.

- Chevers, D. A., Duggan, E., & Moore, S. (2012). The Contribution of Process, People and Perception to Information Systems Quality and Success: A Jamaican Study. *The Electronic Journal of Information Systems in Developing Countries*, 5(4), 1-22. Retrieved from <http://www.ejisdc.org>
- Chiemeke, S., & Ewwiekpaefe, A. (2011). A Conceptual framework of a modified unified theory of acceptance and use of technology (UTAUT) Model with Nigerian factors in E-commerce adoption. *Educational Research*, 2(12), 1719-1726.
- Chin, W. W. (1998). Issues and opinion on structural equation modelling. *Management Information Systems Quarterly*, 22(1), 1-11.
- Chin, W. W. (2010). Bootstrap cross-validation indices for PLS path model assessment. In V. E. Vinzi, W. W. Chin, J. Henseler & H. Wang (Eds.), *Handbook of partial least squares* (pp. 83-97). Verlag Berlin Heidelberg: Springer.
- Chin, W. W., Marcolin, L. B., & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, 14(2), 189-217.
- Ching-Sheng, C., Su-Yueh, C., & Yi-Ting, L. (2012). Motivating medical information system performance by system quality, service quality, and job satisfaction for evidence-based practice. *Medical Informatics and Decision Making*, 12(135), 1-2.

- Chiu, C. M., & Wang, E. T. G. (2008). Understanding Web-based learning continuance intention: The role of subjective task value. *Information and Management, 45*(3), 194-201.
- Chiu, C. M., Huang, H. Y., & Yen, C. H. (2010). Antecedents of trust in online auctions. *Electronic Commerce Research and Applications, 9*(2), 148-159.
- Cho, V. (2007). A study of the impact of organizational learning on information system effectiveness. *International Journal of Business and Information, 2*(1), 127-158.
- Choi, W., Rho, M., Park, J., Kim, K., Kwon, Y., & Choi, I. (2013). Information system success model for customer relationship management system in health promotion centers. *Health Care Information Research, 19*(2), 110. Retrieved from <http://dx.doi.org/10.4258/hir.2013.19.2.110>
- Chow, W., & Ha, W. (2009). Determinants of the critical success factor of disaster recovery planning for information systems. *Information Management & Computer Security, 17*(3), 248-275. Retrieved from <http://dx.doi.org/10.1108/09685220910978103>
- Coe, L. (1998). Five small secrets to systems success. In E.J. Garrity & G.L. Sanders, *Information Systems Success Measurement* (pp. 152-165). Hershey, PA: Idea Group Publishing.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

- Coltman, T., Devinney, T. M., Midgley, D. F., & Venaik, S. (2008). Formative versus reflective measurement models: Two applications of formative measurement. *Journal of Business Research*, 61(12), 1250-1262.
- Coman, M., & Coman M.D. (2013). The integration of ICT in the accounting information system of small and medium-sized enterprises. *Valahian Journal of Economic Studies*, 4(18), 7-14.
- Conway, J., & Lance, C. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology*, 25, 325-334.
- Corina, M., & Nicolae, M. (2012). Quality of accounting information to optimize the decisional process. *Annals of Faculty of Economics*, 1(2), 694-699. Retrieved from <http://steconomiceuoradea.ro/anale/volume/2012/n2/105.pdf>
- Cragg, P.B., King, M., & Hussin, H. (2002). IT alignment and firm performance in small manufacturing firms. *Journal of Strategic Information Systems*, 11(2), 109-132.
- Creswell, J. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3<sup>rd</sup> ed.). Los Angeles, California: Sage Publications.
- Dada, D. (2006). The failure of e-government in developing countries: A literature review. *The Electronic Journal on Information Systems in Developing Countries*, 26 (1), 1-10. Retrieved from <http://www.ejisdc.org>
- Dadmand, F. (2014). Evaluating information systems success in University: An empirical test of DeLone and McLean model. *Spectrum. A Journal of Multidisciplinary Research*, 3(2), 8-27.

- Dameri, R., Garelli, R., & Ricciardi, F. (2013). *The didactic challenge of accounting information systems and ERPs for business schools: A proposal for the Italian universities*. Lecture Notes in Information Systems and Organisation, 337-349. Retrieved from [http://dx.doi.org/10.1007/978-3-642-35761-9\\_21](http://dx.doi.org/10.1007/978-3-642-35761-9_21)
- Dandago, K.I., & Farouk, B.K.U. (2012). Impact of investment in information technology on the return on assets of selected banks in Nigeria. *International Journal of Arts and Commerce* 1(5), 234-244.
- Dandago, K.I., & Rufai, A.S. (2014). Information technology and accounting information system in the Nigerian banking industry. *Asian Economic and Financial Review*, 4(5), 655-670.
- Das, D. (2011). 4C Model: A new approach to determine and measure organizational effectiveness. Retrieved from <http://dx.doi.org/10.2139/ssrn.1879413>
- Daoud, H., & Triki, M. (2013). Accounting information systems in an ERP environment and Tunisian firm performance. *The International Journal of Digital Accounting Research*, 13, 1–35.
- Dauda, Y., & Akingbade, W.A. (2011). Technology innovation and Nigeria banks performance: The assessment of employee's and customer's responses. *American Journal of Social and Management Sciences*, 2(3), 329–340. doi:10.5251/ajsms.2011.2.3.329.340
- Dauda, S.Y., & Lee, J. (2015). Technology Adoption. A conjoint analysis of consumers' preference for future online banking services. *Information Systems*, 53(2015), 1-5.

- David, N. (2004). The role of sophisticated accounting system in strategy management. *The International Journal of Digital Accounting Research*, 4(8), 125-144.
- Dawson, J. F. (2014). Moderation in management research: What, why, when, and how. *Journal of Business and Psychology*, 29(1), 1-19.
- Dehghanzade, H., Moradi, M.A., & Raghieb, M. (2011). A survey of human factors' impacts on the effectiveness of accounting information systems. *International Journal of Business Administration*, 2(4), 166–174.
- Del Gobbo, R. (2013). *Accounting information systems and knowledge management systems: An integrated approach for strategic control*. Lecture Notes in Information Systems and Organisation, 139-149. Retrieved from [http://dx.doi.org/10.1007/978-3-642-35761-9\\_8](http://dx.doi.org/10.1007/978-3-642-35761-9_8)
- DeLone, W. H., & McLean, E. R. (1992). Information systems success: The quest for the dependent variable. *Information Systems Research*, 3(1), 60-95.
- DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information Systems*, 19(4), 9-30.
- DeLone, W., & McLean, E. (2016). Information Systems Success Measurement. *Foundations And Trends® In Information Systems*, 2(1), 1-116. <http://dx.doi.org/10.1561/29000000005>
- Deutsch, H. (2013). Assessing holistic organizational effectiveness, execution and health. A Global outlook at holistic organizational effectiveness survey.

- De Loo, I., Bots, J., Louwink, E., Meeuwsen, D., Van Moorsel, P., & Rozel, C. (2012). The effects of ERP-implementations on the non-financial performance of small and medium-sized enterprises in the Netherlands. *Electronic Journal Information Systems Evaluation Volume, 16*(2), 103-116. Retrieved from [www.ejise.com](http://www.ejise.com)
- D'Souza, S.C., & Sequeira, A.H. (2011). Information system and quality management in healthcare organizations: A empirical study. *Journal of Technology Management for Growing Economies, 2*(1), 47-60.
- Devadasan, S.R., Kathiravan, N., Sakthivel, M., Kulandaivelu, K., & Sundararaj, K. (2003). Financial accounting of ISO 9001:1994 based on quality information system. *The TQM Magazine, 15*(4), 275-285. Retrieved from <http://dx.doi.org/10.1108/09544780310486182>
- Dezdar, S., & Ainin, S. (2010). ERP Implementation success in Iran: Examining the role of system environment factors. *World Academy of Science, Engineering and Technology 6*, 449-455.
- Dezdar, S., & Ainin, S. (2011). Examining ERP implementation success from a project environment perspective. *Business Process Management Journal, 17*(6), 919-939. Retrieved from <http://dx.doi.org/10.1108/14637151111182693>
- Diamond, J., & Khemani, P. (2005). *Introducing financial management information systems in developing Countries*. International Monetary Fund Working Paper, 1-32.

- Dogarawa, A. B. (2005) *The impact of E-banking on customer satisfaction*. Zaria, Department of Accounting. Ahmadu Bello University.
- Dong, L. (2008). Exploring the impact of top management support of enterprise systems implementations outcomes. *Business Process Management Journal*, 14(2), 204-218. Retrieved from <http://dx.doi.org/10.1108/14637150810864934>
- Dong, L., Neufeld, D., & Higgins, C. (2009). Top management support of enterprise systems implementations. *Journal of Information and Technology*, 24(1), 55-80. Retrieved from <http://dx.doi.org/10.1057/jit.2008.21>
- Draginja, U., Knevi, S., Barjaktarovi, S., & Rako-evi (2012). Accounting information system in banking planning and control. *Management*, 42–53.
- Duarte, P. A. O., & Raposo, M. L. B. (2010). *A PLS model to study brand preference: An application to the mobile phone market handbook of partial least squares* (pp. 449-485). New York: Springer.
- Duggan, E., & Reichgelt, H. (2006). *Measuring information systems delivery Iuality*, Hershey, PA: Idea Group, Inc.
- Dutta, S., & Mia, I. (2012). *The global information technology report*. Geneva, Switzerland: World Economic Forum. Retrieved from [http://www3.weforum.org/docs/WEF\\_GITR\\_Report\\_2013.pdf](http://www3.weforum.org/docs/WEF_GITR_Report_2013.pdf)
- Edison, G., Manuere, F., Joseph, M., & Gutu, K. (2012). Evaluation of factors influencing adoption of accounting information system by small to medium enterprises in Chinhoyi. *Interdisciplinary Journal of Contemporary Research in Business*, 4(6), 1126–1141.

- Ein-Dor, P., Segev, E., Blumenthal, D., & Millet, I. (1984). Perceived importance, investment and success of MIS, or the MIS zoo. *Systems Objectives Solutions*, 4, 61-67.
- Ekwueme, C.M., Egbunike, P.A., & Okoye, A. (2012). An empirical assessment of the operational efficiency of electronic banking: Evidence of Nigerian banks. *Review of Public Administration & Management*, 1(2), 108–138.
- Elbannan, M. A. (2009). Quality of internal control over financial reporting, corporate governance and credit ratings. *International Journal of Disclosure and Governance*, 6(2), 127-149.
- El-Dalabeeh, A., & Al-Shbiel, S.O. (2012). The role of computerized accounting information systems in reducing the costs of medical services at King Abdullah University Hospital. *Interdisciplinary Journal of Contemporary Research in Business*, 4(6), 893-900.
- Eldlimi, M.A, Ab.Aziz, M.R., & Ibrahim, M.F. (2011). *Implementing management information system in Libyan Islamic financial institutions*. Retrieved from <http://nuradli.com/iecons2013/4D-3.pdf>
- Elliot, S., Li, G., & Choi, C. (2013). Understanding service quality in a virtual travel community environment. *Journal of Business Research*, 66(8), 1153-1160. doi:10.1016/j.jbusres.2012.03.011
- Elnaga, A., & Imran, A. (2013). The effect of training on employee performance. *European Journal of Business and Management*, 5(4), 137-147. Retrieved from [www.iiste.org](http://www.iiste.org)

- Emeka-Nwokeji, N.A. (2012). Repositioning accounting information system through effective data quality management: A framework for reducing costs and improving performance. *International Journal of Scientific & Technology Research*, 1(10), 86–94.
- Elpez, I., & Fink, D. (2006). Information systems success in the public sector: Stakeholders' perspectives and emerging alignment model. *Issues in Informing Science and Information Technology*, 3(2), 219-231.
- Falk, R. F., & Miller, N. B. (1992). *A primer for soft modeling*. Akron, OH, US: University of Akron Press.
- Fengyi, L., Olivia, R.L., & Sheng S.W. (2005). An integrated framework for e-chain bank accounting systems. *Industrial Management & Data Systems*, 105(3), 291-306. Retrieved from <http://dx.doi.org/10.1108/02635570510590129>
- Ferneley, E., & Sobreperéz, P. (2006). Resist, comply or workaround? An examination of different facets of user engagement with information systems. *European Journal of Information Systems*, 15(4), 345-356.
- Fleischman, G., Walker, K., & Johnson, E. (2010). A field study of user versus provider perceptions of management accounting system services. *International Journal of Accounting & Information Management*, 18(3), 252–285. Retrieved from <http://dx.doi.org/10.1108/18347641011068992>
- Floropoulos, J., Spathis, C., Halvatzis, D., & Tsipouridou, M. (2010). Measuring the success of the Greek taxation information system. *International Journal of Information Management*, 30(1), 47-56.

- Flynn, B.B., Sakakibara, S., Schroeder, R.G., Bates, K.A., & Flynn, E.J. (1990). Empirical research methods in operations management. *Journal of Operations Management*, 9(2), 250-84.
- 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., & Knudsen, T. (2003). The resource-based tangle: Towards a sustainable explanation of competitive advantage. *Managerial and Decision Economics*, 24(4), 291-307.
- Francis, P. L. (2013). Impact of information technology on accounting systems. *Asia-pacific Journal of Multimedia Services Convergent with Art, Humanities, and Sociology*, 3(2), 107-120. Retrieved from <http://dx.doi.org/10.14257/AJMAHS.2013.12.07>
- Funmilola, O.F., Sola, K.T., & Olusola (2013). Impact of job satisfaction dimensions on job performance in a small and medium enterprise in Ibadan, South Western, Nigeria. *Interdisciplinary Journal of Contemporary Research in Business*, 4(11), 509–521.
- Gable, G., Sedera, D., & Chan, T. (2008). Re-conceptualizing information systems success: the IS-impact measurement model. *Journal of Association for Information Systems*, 9(7), 377-408.
- Gallivan, M.J., Spitler, V.K., & Koufaris, M. (2005). Does information technology training really matter? A social information processing analysis of co-workers' influence on it usage in the workplace. *Journal of Management Information*

*Systems*, 22(1), 153-192. Retrieved from <http://dx.doi.org/10.1080/07421222.2003.11045830>

Galogi, S.I., Ahmed, F., & Johari, H. (2012). Leadership self-efficacy and managerial job performance in Nigerian commercial banks. *American Journal of Economics, Special Issue*, 116-119. doi: 10.5923/j.economics.20120001.26

Galy, E., & Saucedo, M.J. (2013). Post-implementation practices of ERP systems and their relationship to financial performance. *Information & Management*, 51, 310-319. Retrieved from <http://dx.doi.org/10.1016/j.im.2014.02.002>

Ganesamurthy, K., & Amilan, S. (2012). Critical success factors of CRM in banks. *International Journal of Applied Services Marketing Perspectives*, 1(1), 43-48.

Ganly, D. (2008). *Address five key factors for successful ERP implementations*.

Gartner Group. Retrieved from <https://www.gartner.com/doc/1603415/address-key-factors-successful-erp>

Geisser, S. (1974). A predictive approach to the random effect model. *Biometrika*, 61(1), 101-107. doi: 10.1093/biomet/61.1.101

Gelinas, U.J., Dull, R.B., & Wheeler, P.R. (2012). *Accounting information systems* (9<sup>th</sup> ed.). Boston, Massachusetts: South-Western Centage Learning.

Gelinas, U. J., Sutton, S. G., & Hunton, J. E. (2005). *Accounting information systems* (6<sup>th</sup> ed.). Mason, Ohio: Thomson South-Western.

Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: A guide for non-statisticians. *International Journal of Endocrinology and Metabolism*, 10(2), 486-489. doi: 10.5812/ijem.3505.

- Ghasemi, M., Shafeiepour, V., Aslani, M., & Barvayeh, E. (2011). The impact of information technology (IT) on modern accounting systems. *Procedia - Social and Behavioral Sciences*, 28, 112-116. doi:10.1016/j.sbspro.2011.11.023
- Goldfinch, S. (2007). Pessimism, computer failure, and information systems development in the public sector: Perspectives on performance and accountability in public administration. *Public Administration Review*, 67(5), 917–929.
- Gorla, N., Somers, T. M., & Wong, B. (2010). Organizational impact of system quality, information quality, and service quality. *The Journal of Strategic Information Systems*, 19(3), 207-228. doi:10.1016/j.jsis.2010.05.001
- Gorla, N., & Somers, T. M. (2014). The impact of IT outsourcing on information systems success. *Information & Management*, 51(3), 320-335. Retrieved from <http://dx.doi.org/10.1016/j.im.2013.12.002>
- Gounaris, S.P., Panigyrakis, G.G., & Chatzipanagiotou, K.C. (2007). Measuring the effectiveness of marketing information systems: An empirically validated instrument. *Marketing Intelligence & Planning*, 25(6), 612-631. doi 10.1108/02634500710819978
- Grabski, S.V., & Leech, S.A. (2007). Complementary controls and ERP implementation success. *International Journal of Accounting Information Systems*, 8(1), 17-39.

- Grande, E.U., Estebanez, R.P., & Colomina, C.M. (2011). The impact of accounting information systems (AIS) on performance measures: Empirical evidence in Spanish SMEs. *The International Journal of Digital Accounting Research*, 11, 25-43. doi: 10.4192/1577-8517-v11\_2
- Granlund, M. (2010). Extending AIS research to management accounting and control issues: A research note. *International Journal of Accounting Information Systems*, 12(1), 3–19. doi:10.1016/j.accinf.2010.11.001
- Gravetter, F., & Wallnau, L. (2007). *Statistics for the behavioral sciences* (7<sup>th</sup> ed.). Belmont, CA: Thomson Wadsworth.
- Green, S. B., & Salkind, N. J. (2010). *Using SPSS for Windows and Macintosh: Analyzing and understanding data* (5<sup>th</sup> ed.). Upper Saddle River, New Jersey: Prentice Hall Press.
- Greenstein-Prosch, McKee, & Quick. (2008). *A comparison of the information technology knowledge of United States and German auditors*. IJDAR. Retrieved from [http://dx.doi.org/10.4192/1577-8517-v8\\_3](http://dx.doi.org/10.4192/1577-8517-v8_3)
- Goldfinch, S. (2007). Pessimism, computer failure, and information systems development in the public sector: Perspectives on performance and accountability in public administration. *Public Administration Review*, 917–929.
- Gorla, N., & Somers, T. M. (2014). The impact of IT outsourcing on information systems success. *Information & Management*, 51(3), 320-335. Retrieved from <http://dx.doi.org/10.1016/j.im.2013.12.002>
- Gorla, N., Somers, T. M., & Wong, B. (2010). Organizational impact of system

- quality, information quality, and service quality. *The Journal of Strategic Information Systems*, 19(3), 207-228. doi:10.1016/j.jsis.2010.05.001
- Gounaris, S.P., Panigyrakis, G.G., & Chatzipanagiotou, K.C. (2007). Measuring the effectiveness of marketing information systems: An empirically validated instrument. *Marketing Intelligence & Planning*, 25(6), 612-631. doi 10.1108/02634500710819978
- Grabski, S., & Leech, S. (2007). Complementary controls and ERP implementation success. *International Journal of Accounting Information Systems*, 8(1), 17-39. Retrieved from <http://dx.doi.org/10.1016/j.accinf.2006.12.002>
- Grande, E.U., Estebanez, R.P., & Colomina, C.M. (2011). The impact of accounting information systems (AIS) on performance measures: Empirical evidence in Spanish SMEs. *The International Journal of Digital Accounting Research*, 11, 25-43. doi: 10.4192/1577-8517-v11\_2
- Granlund, M. (2010). Extending AIS research to management accounting and control issues: A research note. *International Journal of Accounting Information Systems*, 12(2011), 3–19. doi:10.1016/j.accinf.2010.11.001
- Guarino, N., Oberle, D., & Staab, S. (2008). What is an Ontology. In S. S. R. Studer (Ed.), *Handbook on ontologies: International handbooks on information systems*. Karlsruhe, Germany: Springer.
- Gul, F.A. (1991). The effect of management accounting systems and environmental uncertainty on small business managers' performance. *Accounting and Business Research*, 22(85), 57-61.

- Gupta, S., Bostrom, R.P., & Huber, M. (2010). End user training methods: What we now, need to know. *The DATA BASE for Advances in Information Systems*, 41(4), 9-39.
- Hair, J. F., Black, W., Babin. B.J., & Anderson, R. (2010). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson Prentice Hall.
- Hair, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2013). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks, CA: Sage Publications, Incorporated.
- Hair, J. F., Money, A. H., Samouel, P., & Page, M. (2007). *Research methods for business*. Chichester, UK: John Wiley & Sons.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *The Journal of Marketing Theory and Practice*, 19(2), 139-152.
- Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40(3), 414-433.
- Hair, J. F., Tatham, R. L., Anderson, R. E., & Black, W. (2006). *Multivariate data analysis* (Vol. 6). Upper Saddle River, NJ: Pearson Prentice Hall.
- Hall, J.A. (2010). *Accounting information systems* (7<sup>th</sup> ed.). Singapore. South-Western Cengage Learning.
- Hamdan, M.W. (2004). The impact of accounting information systems (AIS) development life cycle on its effectiveness and critical success factors. *European Scientific Journal*, 8(6), 19–32.

- Haque, A., & Anwar, S. (2012). Linking top management support and it infrastructure with organizational performance: mediating role of knowledge application. *Canadian Social Science*, 8(1), 121-129. doi 10.3968/j.css.1923669720120801.1559
- Harash, E., Al-Timimi, S., & Radhi, A.H. (2014). Influence of accounting information systems (AIS) on performance of small and medium enterprises (SMEs) in Iraq. *Journal of Business & Management*, 3(4), 48-57. doi: 10.12735/jbm.v3i4p48
- Haron, H., Gui, A., & Lenny, M. (2014). Factors influencing information technology project success: A case of University information system development division of Bina Nusantara University. *Organizational Innovation Strategies*, 55-65.
- Harris Interactive (2006). New survey reveals online transaction issues have negative impact on customers and businesses, TeaLeaf. Retrieved from <http://www.tealeaf.com/news/newsreleases/2006/0925.php>
- Hayale, T.H., & Abu-Khadra, H.A. (2006). Evaluation of the effectiveness of control systems in computerized accounting information systems: An empirical research applied on Jordanian Banking sector. *Journal of Accounting Business & Management*, 13, 39-68.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.

- Heeks, R., & Kenny, C. (2002). *ICTs and development: Convergence or divergence for developing countries? Information and communication technologies and development: New opportunities, perspectives and challenges*. Paper presented at IFIP WG9.4 Conference, Bangalore, India.
- Heeks, R. (2003). *Most e-government for development project fail. How can risk be reduced?* Igovernment working paper series, 14. Manchester, England: University of Manchester. Retrieved from <http://unpan1.un.org/intradoc/groups/public/documents/NISPAcee/UNPAN015488.pdf>
- Heidarkhani, A., Khomami, A.A., Jahanbazi, O., & Alipoor, H. (2013). The role of management information systems (MIS) in decision-making and problems of its implementation. *Universal Journal of Management and Social Sciences*, 3(3), 78-89.
- Henry, G. T. (1990). *Practical sampling*. London: SAGE Publications.
- Hien, L.T., Nguyen, T.L., & Cuong, P.H. (2014). Key determinants of information system effectiveness – An empirical case in Lac Hong University. *International Journal of Information Technology and Business Management*, 32(1), 1-14. Retrieved from [www.jitbm.com](http://www.jitbm.com)
- Henseler, J., & Chin, W. W. (2010). A comparison of approaches for the analysis of interaction effects between latent variables using partial least squares path modeling. *Structural Equation Modeling*, 17(1), 82-109.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, 20, 277-319.

- Henseler, J., Dijkstra, T. K., Sarstedt, M., Ringle, C. M., Diamantopoulos, A., Straub, D. W., & Ketchen Jr., D.J., Hair, J.F., Hult, G.T.M., & Calantone, R. J. (2014). Common beliefs and reality about PLS comments on Rönkkö and Evermann (2013). *Organizational Research Methods*. 1094428114526928. Retrieved from <http://orm.sagepub.com/content/early/2014/04/09/1094428114526928.full>.
- Holloway, B. B., & Beatty, S. E. (2003). Service failure in online retailing: A recovery opportunity. *Journal of Service Research*, 6(1), 92-105.
- Hong, S.J., Thong, J.Y.L., & Tam, K.Y. (2005). Understanding continued information technology usage behavior: A comparison of three models in the context of mobile internet. *Decision Support System*, 42(2006), 1819-1834. doi:10.1016/j.dss.2006.03.009
- Hongjiang, X., Nord, J.H., Nord, G.D., & Binshan, L. (2003). Key issues of accounting information quality management: Australian case studies. *Industrial Management & Data Systems*, 103(7), 461-470. Retrieved from <http://dx.doi.org/10.1108/02635570310489160>
- Hood, K. L., & Yang, J. (1998). Impact of banking information systems security on banking in China: The case of large state owned banks in Shenzhen economic special zone – an introduction. *Journal of Global Information Management*, 6(3), 5-16.

- Hou, C.K. (2012). Examining the effect of user satisfaction on system usage and individual performance with business intelligence systems. An empirical study of Taiwan's electronic industry. *International Journal of Information Management*, 32, 560-573.
- Hsieh, J.J.P., Rai, A., & Petter, S. (2012). Impact of user satisfaction with mandated CRM use on employee service quality. *MIS Quarterly*, 36(4), 1065-1080.
- Hsieh, J. P. A., Rai, A., Petter, S., & Zhang, T. (2012). Impact of user satisfaction with mandated CRM use on employee service quality 11. *MIS Quarterly*, 36(4), 1065-1080. Retrieved from <http://www.misq.org>
- Hsueh-Ju, C., Shaio, Y.H., An-An, C., & Fu-Chuan, P. (2012). The ERP system impact on the role of accountants. *Industrial Management & Data Systems*, 112(1), 83-101. Retrieved from <http://dx.doi.org/10.1108/02635571211193653>
- Hsu, F.M., & Chen, T.Y. (2007). Understanding information systems usage behavior in e-government: The role of context and perceived value. In *Proceedings of the 11<sup>th</sup> Pacific-Asia Conference on Information Systems* (pp. 477-490).
- Hurt, R.L. (2013). *Accounting information systems: Basic concepts and current issues* (3<sup>rd</sup> ed.). New York: McGraw-Hill.
- Hussin, H, King, M., & Craig, P. (2002). IT alignment in small firm. *European Journal of Information Systems*, 11, 108-127.
- Hyung, S.L., & Jae, W.K. (2010). Student user satisfaction with web-based information systems in Korean Universities. *International Journal of Business and Management*, 5(1), 62-68.

- Iacobucci, D., & Churchill, G. (2009). *Marketing research: methodological foundations* (10<sup>th</sup> ed.). Boston, MA: Cengage Learning.
- Ibrahim, S.S., & Muhammad, A. (2013). Information and communication technology and bank performance in Nigeria: A panel data analysis. *Munich Personal RePEc Archive (MPRA)*, 49062, 1–21. Retrieved from <http://mpa.ub.uni-muenchen.de/49062/>
- Ifinedo, P. (2008). Impacts of business vision, top management support, and external expertise on ERP success. *Business Process Management Journal*, 14(4), 551-568. Retrieved from <http://dx.doi.org/10.1108/14637150810888073>
- Ifinedo, P., & Nahar, N. (2006). *Prioritization of prioritization of enterprise resource planning (ERP) systems success measures: Viewpoints of two stakeholder groups*. Paper presented at the ACM Symposium on Applied Computing. Available at <https://dl.acm.org/citation.cfm?id=1141636>
- Ifinedo, P. (2011). Examining the influences of external expertise and in-house computer/IT knowledge on ERP system success. *Journal of Systems and Software*, 84(12), 2065-2078. Retrieved from <http://dx.doi.org/10.1016/j.jss.2011.05.017>
- Igbaria, M., Zinatelli, N., Cragg, P., & Angele, L.M. (1997). Personal computing acceptance factors in small firms: A structural equation model. *MIS Quarterly*, 21(3), 279-305. Retrieved from <http://www.jstor.org/stable/249498>
- Ige, K.A., & Odetayo, T.A. (2014). Managing risk through accounting information system for effective organization (a case study of some selected construction companies in Ibadan, Nigeria). *Global Journal of Contemporary Research in*

- Accounting, Auditing and Business Ethics (GJCRA)*, 1(1), 1-12. Retrieved from [www.globalbizresearch.org](http://www.globalbizresearch.org)
- Ignatiadis, I., & Nandhakumar, J. (2009). The effect of ERP system workarounds on organizational control: An interpretivist case study. *Scandinavian Journal of Information Systems*, 219(2), 59-90.
- Inghirami, I. (2013). Defining Accounting Information Systems Boundaries. *Lecture Notes In Information Systems And Organisation*, 185-201. Retrieved from [http://dx.doi.org/10.1007/978-3-642-35761-9\\_11](http://dx.doi.org/10.1007/978-3-642-35761-9_11)
- Ikem, O.C., Chidi, O.F., & Titus, I.T. (2014). Financial challenges of small and medium-sized enterprises (SMES) in Nigeria: The relevance of accounting information. *Review of Public Administration & Management*, 1(2), 248-276.
- Imeokparia, L. (2013). Information technology and financial reporting by deposit money bank in Nigeria: An empirical study. *Research Journal of Finance and Accounting*, 4(11), 39-47. Retrieved from <http://www.iiste.org>
- Irick, M. L. (2008). Task-technology fit and information systems effectiveness. *Journal of Knowledge Management Practice*, 9(3), 1-5.
- Iskandar, D. (2015). Analysis of factors affecting the success of the application of accounting information system. *International Journal of Scientific & Technology Research*, 4(02), 155-162. Retrieved from [www.ijstr.org](http://www.ijstr.org)
- Ishaq, M. I. (2012). Perceived value, service quality, corporate image and customer loyalty: Empirical assessment from Pakistan. *Serbian Journal of Management*, 7(1), 25-36. doi:10.5937/sjm1201025I

- Israel, G. D. (2009). *Determining sample size*. Gainesville, Florida: University of Florida.
- Ismail, N.A., & King, M. (2005). Firm performance and AIS alignment in Malaysian SMEs. *International Journal of Accounting Information Systems*, 6(4), 241-259. doi:10.1016/j.accinf.2005.09.001
- Ismail, N.A., & King, M. (2007). Factors influencing the alignment of accounting information systems in small and medium sized Malaysian manufacturing firms. *Journal of Information Systems and Small Business*, 1(1-2), 1-19.
- Ismail, N. A. (2009). Factors influencing AIS effectiveness among manufacturing SMES: Evidence from Malaysia. *The Electronic Journal of Information Systems in Developing Countries*, 38(10), 1-19.
- Itah, A.J., & Emeka, E.E. (2014). Impact of cashless banking on banks' profitability (Evidence from Nigeria). *Asian Journal of Finance & Accounting*, 6(2), 362-376. doi:10.5296/ajfa.v6i2.6268
- Ives, B., & Learmonth, G. (1984). The information system as a competitive weapon. *Communications of the ACM*, 27(12), 1193-1201.
- Ives, B., & Mason, R. O. (1990). Can information technology revitalize your customer service? *Academy of Management Executive* 4(4), 52-69.
- Ives, B., Olson, M., & Baroudi, J. J. (1983). The measurement of user information satisfaction. *Communications of the ACM*, 785-793.
- Jagero, N., Komba, H.V., & Mlingi, M.N. (2012). Relationship between on the job

- training and employee's performance in courier companies in Dar es Salaam, Tanzania. *International Journal of Humanities and Social Science*, 2(22), 114-120. Retrieved from [www.ijhssnet.com](http://www.ijhssnet.com)
- Jang, H. Y., & Noh, M. J. (2011). Customer acceptance of IPTV service quality. *International Journal of Information Management*, 31(6), 582-592. doi:10.1016/j.ijinfomgt.2011.03.003
- Jankowicz, A. D. (2005). *Business research projects*. Cengage Learning Business Press.
- Jarvis, C. B., MacKenzie, S. B., & Podsakoff, P. M. (2003). A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of Consumer Research*, 30(2), 199-218.
- Jawabreh, O.A.A., & Alrabei, A.M.A. (2012). The impact of accounting information system in planning, controlling and decision-making processes in Jodhpur Hotels. *Asian Journal of Finance & Accounting*, 4(1), 173-188. doi:10.5296/ajfa.v4i1.1435
- Jeffers, P.I., Muhanna, W.A., & Nault, B.R. (2008). Information technology and process performance: An empirical investigation of the interaction between IT and Non-IT resources. *Decision Science*, 39(4), 703-735.
- Jia, R., & Reich, B. H. (2013). IT service climate, antecedents and IT service quality outcomes: Some initial evidence. *The Journal of Strategic Information Systems*, 22(1), 51-69. Retrieved from <http://dx.doi.org/10.1016/j.jsis.2012.10.001>
- Jiang, J.J., Klein, G., & Crampton, S.M. (2000). A note on SERVQUAL reliability

and validity in information system service quality measurement. *Decision Sciences*, 31(3), 725-744.

Josiah, A., & Nancy, K. (2012). The relationship between electronic banking and financial performance among commercial banks in Kenya. *Journal of Finance and Investment Analysis*, 1(3), 99-103.

Jun, M., & Cai, S. (2001). The key determinants of internet banking service quality: a content analysis. *International Journal of Bank Marketing*, 19(7), 276-291.

Jung, W., & Olfman, L. (2005). *An experimental study of the effects of contextual data quality and task complexity on decision performance*. Paper presented at the Information Reuse and Integration Conference, Las Vegas, 15-17 August. Available at <https://ieeexplore.ieee.org/abstract/document/1506465/?anchor=references>

Kaka, E.U., & John, A.A. (2010). Information and communication technology (ICT) and banking industry. In *Proceedings of the 1st International Technology, Education and Environment Conference* (pp.673-677). African Society for Scientific Research (ASSR).

Kallweit, K., Spreer, P., & Toporowski, W. (2014). Why do customers use self-service information technologies in retail? The mediating effect of perceived service quality. *Journal of Retailing and Consumer Services*, 21(3), 268-276. Retrieved from <http://dx.doi.org/10.1016/j.jretconser.2014.02.002>

Kamhawi, E. (2007). Critical factors for implementation success of ERP systems. *International Journal of Enterprise Information Systems*, 3(2), 34-49. Retrieved from <http://dx.doi.org/10.4018/jeis.2007040103>

- Kan, L., Ying, L., Caidong, G., & Liang, Z. (2012). Problems and solutions of popularization of accounting computerization. *Physics Procedia*, 33, 1155-1159. doi: 10.1016/j.phpro.2012.05.190
- Kanellou, A., & Spathis, C. (2013). Accounting benefits and satisfaction in an ERP environment. *International Journal of Accounting Information Systems*, 14, 209-234. Retrieved from <http://dx.doi.org/10.1016/j.accinf.2012.12.002>
- Kankanhalli, A., Teo, H., Tan, B., & Wei, K. (2003). An integrative study of information systems security effectiveness. *International Journal Of Information Management*, 23(2), 139-154. Retrieved from [http://dx.doi.org/10.1016/s0268-4012\(02\)00105-6](http://dx.doi.org/10.1016/s0268-4012(02)00105-6)
- Kanungo, S., Duda, S., & Srinivas, Y. (1999). A structured model for evaluating information systems effectiveness. *Systems Research and Behavioral Science*, 16(6), 495-518.
- Karikari, A.F., Boateng, P.A., & Ocansey, E.N. (2015). The role of human resource information system in the process of manpower activities. *American Journal of Industrial and Business Management*, 5, 424-431. Retrieved from <http://dx.doi.org/10.4236/ajibm.2015.56042>
- Karim, A.J. (2011). The significance of management information systems for enhancing strategic and tactical planning. *Journal of Information Systems and Technology Management*, 8(2), 459-470. doi: 10.4301/S1807-17752011000200011
- Katang, A. (2014). Investment opportunities in the Nigerian ICT sector. Retrieved from <http://newtelegraphonline.com/nigeria-loses-n320bn-on-ict-yearly/>

- Kathivaran, N., Devadasan, S.R., Sakthivel, M., Kulandaivelu, K., & Sundararaj, G. (2003). Financial accounting based on quality information system. *The TQM Magazine*, 15(4), 275-285. doi.org/10.1108/09544780310486182
- Kayser, F.J., & Abdur Razzaque, M. (2014). Service quality and satisfaction in the banking sector. *International Journal of Quality & Reliability Management*, 31(4), 367-379. Retrieved from <http://dx.doi.org/10.1108/IJQRM-02-2013-0031>
- Keh, H.T., Chu, S., & Xu, J. (2006) Efficiency, effectiveness and productivity of marketing in services. *European Journal of Operational Research*, 170(1), 265-276.
- Kettinger, W.J., & Lee, C. (1995). Exploring a Gap model of information service quality. *Information Resources Management Journal*, 8(3), 5-16.
- Khalil, O. E., & Elkordy, M. M. (2001). The relationship of some personal and situational factors to IS effectiveness: Empirical evidence from Egypt. In N.G. Shaw (Ed.), *Strategies for managing computer software upgrades* (pp. 22-34). London: Idea Group Publishing
- Khalil, M.A., & Zainuddin, Y. (2015). Intrinsic motivation as a mediator on accounting information system adoption. *Pertanika Journal of Social Sciences & Humanities* 23(S), 33-46. Retrieved from <http://www.pertanika.upm.edu.my/>
- Khassawneh, A.L. (2014). The influence of organizational factors on accounting information systems (AIS) effectiveness: A study of Jordanian SMES. *International Journal of Marketing and Technology*, 4(10), 36-46.

- Khatab, A. (2002). Analysis of factors affecting the efficiency and effectiveness of accounting information systems in Jordanian commercial banks. Mafrq: Al-Bayt University.
- Kofarnaisa, F.U., & Yazid A.S. (2015). The relationship between strategic information systems and strategic performance: The case of Islamic banks in Malaysia. In *Proceedings of ICIC2015 – International Conference on Empowering Islamic Civilization in the 21st Century* (pp. 301-312). Retrieved from <https://pdfs.semanticscholar.org/06b1/285387625cb55f256edfac56fa3e21a8c596.pdf>
- Koh, S, Gunasekaran, A., & Cooper, J. (2009). The demand for training and consultancy investment in SME-specific ERP systems implementation and operation. *International Journal of Production Economics*, 122, 241-254
- Komala, A.R. (2012). The influence of the accounting managers' knowledge and the top managements' support on the accounting information system and its impact on the quality of accounting information: A case of Zakat institutions in Bandung. *Journal of Global Management*, 4(1), 1-22.
- Krejcie, R.V., & Morgan, D.W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607-610.
- Krishnamurthy, R., SivaKumar, M. A. K., & Sellamuthu, P. (2010). Influence of service quality on customer satisfaction: Application of SERVQUAL model. *International Journal of Business and Management*, 5(4), 117-124.
- Kumar, M., Talib, S. A., & Ramayah, T. (2013). *Business research methods*. Kuala Lumpur: Oxford Fajar/Oxford University Press.

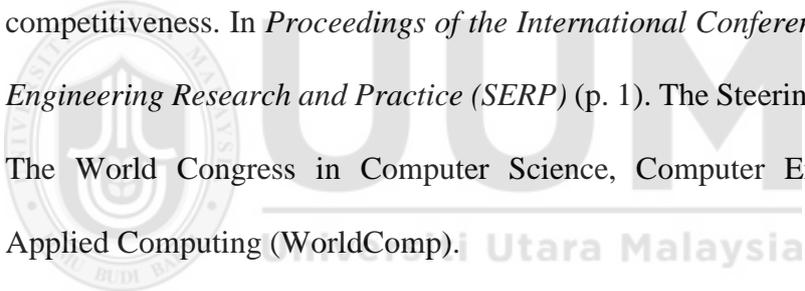
- Kumar, S., & Gulati, R. (2010). Measuring efficiency, effectiveness and performance of Indian public sector banks. *International Journal of Productivity and Performance Management*, 59(1), 51-74. doi 10.1108/17410401011006112
- Kurien, P., Rahman, W., & Purushottam, V.S. (2004). The case for re-examining IT effectiveness. *Journal of Business Strategy*, 25(2), 29-36. doi 10.1108/02756660410525380
- Kurti, I., Barolli, E., & Sevrani, K. (2013). Critical success factors for business IT alignment: A review of current research. *Romanian Economic and Business Review*, 8(3), 79-97.
- Kuster, I., & Canales, P. (2008). Some determinants of salesforce effectiveness. *Team Performance Management*, 14(7/8), 296-326. Retrieved from <http://dx.doi.org/10.1108/13527590810912304>
- Kwan, L. C. (2006). *Factors affecting the effectiveness of WebSAMS in Hong Kong secondary schools* (Unpublished doctoral dissertation). Hong Kong Baptist University, Hong Kong. Retrieved from <http://libproject.hkbu.edu.hk/trsimage/hp/03007189.pdf>
- Lambert, D. M., & Harrington, T. C. (1990). Measuring nonresponse bias in customer service mail surveys. *Journal of Business Logistics*, 11(2), 5-25.
- Lam, T.H., Than, L.N., & Pham, H.C. (2014). Key determinants of information system effectiveness: An empirical case in Lac Hong University. *International Journal of Information Technology and Business Management*, 32(1), 1-14.

- Lazhar, E. (2012). A typology of situations of accounting systems integration. *Accounting and Management Information Systems, 11*(3), 455-483.
- Leary, D.E. (2009). The impact of Gartner's maturity curve, adoption curve, strategic technologies on information systems research, with applications to artificial intelligence, ERP, BPM and RFID. *Journal of Emerging Technologies in Accounting American Accounting Association, 6*(1), 1-22.
- Leon, A. C., Davis, L. L., & Kraemer, H. C. (2012). Role and interpretation of pilot studies in Clinical research. *Journal of Psychiatry Res, 45*(5), 626–629.
- Li, L. (2010). *A critical review of technology acceptance literature*. Accounting, Economics and Information Systems. College of Business, Grambling State University. Grambling, LA. Retrieved from [http://www.swdsi.org/swdsi2010/sw2010\\_precedings/papers/pa104.pdf](http://www.swdsi.org/swdsi2010/sw2010_precedings/papers/pa104.pdf)
- Li, Y., & Tan, C. H. (2013). Matching business strategy and CIO characteristics: The impact on organizational performance. *Journal of Business Research, 66*(2), 248-259. Retrieved from <http://dx.doi.org/10.1016/j.jbusres.2012.07.017>
- Likeson-Leckey, G.Y., Osei, K.A., & Harvey, S.K. (2011). Investments in information technology (IT) and bank business performance in Ghana. *International Journal of Economics and Finance, 3*(2), 133-142. doi:10.5539/ijef.v3n2p133
- Lin, H. F. (2007). The role of online and offline features in sustaining virtual communities: An empirical study. *Internet Research, 17*(2), 119–138.
- Lin, H.F. (2010). An application of fuzzy AHP for evaluating course website quality. *Computer Education, 54*(4), 877-88.

- Liska, A. E. (1984). A critical examination of the causal structure of the Fishbein-Ajzen attitude-behaviour model. *Social Psychology Quarterly*, 47, 61-74.
- Little, T. D., Bovaird, J. A., & Widaman, K. F. (2006). On the merits of orthogonalizing powered and product terms: Implications for modeling interactions among latent variables. *Structural Equation Modeling*, 13(4), 497-519. doi: 10.1207/s15328007sem1304\_1
- Lowry, P. B., & Gaskin, J. (2014). Partial least squares (PLS) structural equation modeling (SEM) for building and testing behavioural causal theory: When to choose it and how to use it. *IEEE Transactions on Professional Communication*, 57(2), 123-146. doi: 10.1109/TPC.2014.2312452
- Madapusi, A., & Ortiz, D.A.C. (2014). The influence of technical competence factors in ERP system implementations. *Journal of Applied Business and Economics*, 16(2), 27-39.
- Maditinos, D., Chatzoudes, D., & Tsairidis, C. (2012). Factors affecting ERP system implementation effectiveness. *Journal of Enterprise Information Management*, 25(1), 60-78. <http://dx.doi.org/10.1108/17410391211192161>
- Malhotra, N. K., Kim, S. S., & Agarwal, J. (2004). Internet users' information privacy concerns (IUIPC): The construct, the scale, and a causal model. *Information Systems Research*, 15(4), 336-355. doi: 10.1287/isre.1040.0032
- Mamic, I.S., & Oluic, A. (2013). Information technology and accounting information systems quality in Croatian middle and large companies. *Journal of Information and Organizational Sciences*, 37(2), 117-128.

- Mancini, D., Dameri, R., & Bonollo, E. (2015). *Looking for synergies between accounting and information technologies*. Lecture Notes in Information Systems and Organisation, 1-12. Retrieved from [http://dx.doi.org/10.1007/978-3-319-26488-2\\_1](http://dx.doi.org/10.1007/978-3-319-26488-2_1)
- Manstead, A. S. R. (2004). Attitudes and behaviour. *International Encyclopaedia of the Social and Behavioural Sciences*, 909-913.
- Manteghia, N., & Jahromi, S.K. (2012). Designing accounting information system using SSADM1 case study: South fars power generation management company (S.F.P.G.M.C). *Procedia Technology* 1, 308-312. doi: 10.1016/j.protcy.2012.02.065
- Marciniak, R., Amrani, R.E.L., Rowe, F., & Adam, F. (2014). Does ERP integration foster cross-functional awareness? Challenging conventional wisdom for SMEs and large French firms. *Business Process Management Journal*, 20(6), 865-886. Retrieved from <http://dx.doi.org/10.1108/BPMJ-05-2013-0056>
- Margi, L., Powel, P., & Yetton, P. (2011). Contingent dynamics of IS strategic alignment in small & medium sized enterprises. *Journal of Systems & Information Technology*, 13(2), 106-124.
- Mario, S., & Bozidar, J. (2012). The impact of the accounting information system usage on companys' e-business efficiency. *DAAAM International*, 23(1), 1067–1070.

- Martins, C., Oliveira, T., & Popovic, A. (2014). Understanding the internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application. *International Journal of Information Management*, 34(1), 1-13.
- Martins, E. P., & Garland Jr, T. (1991). Phylogenetic analyses of the correlated evolution of continuous characters: A simulation study. *Evolution*, 45(3), 534-557.
- Mashhour, A., & Zakaria, Z. (2008). A framework for evaluating the effectiveness of information systems at Jordan Banks: An empirical study. *Journal of Internet Banking and Commerce*, 13(1), 1-14. Retrieved from <http://www.arraydev.com/commerce/jibc/>
- Mata, F. J., Fuerst, W. L., & Barney, J. B. (1995). Information technology and sustained competitive advantage: A resource-based analysis. *Management Information System Quarterly*, 19, 487-505.
- Mathiassen, L., Tuunanen, T., Saarinen, T., & Rossi, M. (2007, November). A contingency model for requirements development. *Journal of the Association for Information Systems*, 8(11), 569-597.
- Massey, C.L. (2000). Towards effective knowledge management systems: Helping consultants identify their world view. In *Proceedings of the 1<sup>st</sup> International Conference on Systems Thinking in Management*, (pp. 408-413).
- May, J., Dhillon, G., & Caldeira, M. (2012). Defining value-based objectives for ERP systems planning. *Decision Support Systems* 55, 98-109. Retrieved from <http://dx.doi.org/10.1016/j.dss.2012.12.036>

- Meade, A.W., Watson, A.M., & Kroustalis, C.M. (2007). *Assessing common methods bias in organisational research*. Paper presented at the 22nd Annual Meeting of the Society for Industrial and Organisational Psychology, New York.
- Medena, J.M., Mora, A., & Abrego, M. (2015). Enterprise technology in support for accounting information systems. An innovation and productivity approach. *Journal of Information Systems and Technology Management*, 12(1), 29-44. doi: 10.4301/S1807-17752015000100002
- Medina, J. M., Loera, Y., González, K., & Mora, A. (2013, January). Training users of accounting information systems for their satisfaction, decision-making, and competitiveness. In *Proceedings of the International Conference on Software Engineering Research and Practice (SERP)* (p. 1). The Steering Committee of The World Congress in Computer Science, Computer Engineering and Applied Computing (WorldComp). 
- Meiryani (2014). Influence of top management support on the quality of accounting information system and its impact on the quality of accounting information. *Research Journal of Finance and Accounting*, 5(11), 124–132.
- Meng, F. (2014). Design of accounting information system of modern enterprises under informatization environment. In *Proceedings of the 2nd International Conference on Education Technology and Information System (ICETIS 2014)* (pp. 254-257).

- Metrejean, E., & Stocks, M. H. (2011). The role of consultants in the implementation of enterprise resource planning systems. *Academy of Information and Management Sciences Journal*, 14(1), 1-24.
- Miller, G. J., & Yang, K. (Eds.). (2007). *Handbook of research methods in public administration*. Boca Raton, Florida: CRC Press.
- Ming-Lang, T., Ru-Jen, L., & Hui-Ping, C. (2011). Evaluating the effectiveness of e-learning system in uncertainty. *Industrial Management & Data Systems*, 111(6), 869-889. Retrieved from <http://dx.doi.org/10.1108/02635571111144955>
- Mingers, J. (2001). Combining IS research methods: Towards a pluralist methodology. *Information Systems Research*, 12(3), 240-259.
- Mitakos, T., Almaliotis, L., & Demerouti, A. (2010). An auditing approach for ERP systems examining human factors that influence ERP user satisfaction. *Informatica Economica*, 14(1), 78–92.
- Mitchell, G., & Sevilla, C. (2011). *Defining organizational effectiveness*. Transnational NGO Initiative Practitioner Brief Series, 1-3. Retrieved from [https://www.maxwell.syr.edu/uploadedFiles/moynihan/tngo/Policy%20Brief%20\\_1%20GM%20Leaders%20Defining%20Effectiveness.pdf](https://www.maxwell.syr.edu/uploadedFiles/moynihan/tngo/Policy%20Brief%20_1%20GM%20Leaders%20Defining%20Effectiveness.pdf)
- Mndzebele, N. (2012). The usage of accounting information systems for effective internal controls in the Hotels. *International Journal of Advanced Computer Technology (IJACT)*, 1-3.

- Moalagh, M., & Ravasan, A. Z. (2013). Developing a practical framework for assessing ERP post-implementation success using fuzzy analytic network process. *International Journal of Production Research*, 51(4), 1236-1257. Retrieved from <http://dx.doi.org/10.1080/00207543.2012.698318>
- Molavi, M., & Emamverdi, G. (2014). Any relationship between applications of accounting information & effectiveness of managers' functions at governmental organizations. *Switzerland Research Park Journal*, 103(1), 594–603.
- Mohammed, I.S., Ridzwan, I.U., Daud, N.M., Baharin, Z., & Ismail, S.W. (2012). Assessing drivers for organizational commitment towards the security controls implementation in the Malaysian online service in computer-based accounting system. *Advances In Natural and Applied Sciences*, 6(8), 1223-1237. Retrieved from <https://www.researchgate.net/publication/285079268>
- Montesdioca, G., & Macada, A. (2015). *Quality dimensions of the DeLone-McLean Model to measure user satisfaction: An empirical test on the information security context*. Paper presented at the 2015 48<sup>th</sup> Hawaii International Conference on System Sciences. Retrieved from <http://dx.doi.org/10.1109/hicss.2015.593>
- Morgan, G., & Smircich, L. (1980). The case for qualitative research. *Academy of Management Review*, 5(4), 491-500.
- Morris, M. G., & Venkatesh, V. (2010). Job characteristics and job satisfaction: Understanding the role of enterprise resource. *Management Information Systems Quarterly*, 34(1), 143-161.

- Morufu, O., & Taibat, A.(2012). Banker's perception of electronic banking in Nigeria: A review of post consolidation experience. *Research Journal of Finance and Accounting*, 3(2), 1-11.
- Moohebat, M.R., Asemi, A., & Jazi, M.D. (2010). A comparative study of critical success factors (CSF) in implementation of ERP in developed and developing countries. *International Journal of Advancements in Computing Technology*, 2(5), 99-110. doi:10.4156/ijact.vol2. issue5.11
- Moolanazir, M., & Abdolkarimi, E. (2012). The effects of task, organization and accounting information systems characteristics on the accounting information systems performance in Tehran Stock Exchange. *International Journal of Innovation, Management and Technology*, 3(4), 443-448.
- Moussa, N.B. (2014). An empirical investigation of the contribution of internal and external actors in the success of organizational fit and user performance: The moderating effect of users' absorptive capacity. *International Review of Management and Business Research*, 3(4), 1836-1847. Retrieved from [www.irnbrjournal.com](http://www.irnbrjournal.com)
- Mouzhi, G., & Helfert, M. (2013). Impact of information quality on supply chain decisions. *Journal of Computer Information Systems*, 7(2), 58-74.
- Mudashiru, A., Idawo, K.A., Babatunde, Y., & Bolarinwa, S.A. (2013). Accounting information system as an aid to decision making in food and beverages companies in Nigeria. *Australian Journal of Business and Management Research*, 3(9), 26-33.
- Muhindo, A., Mzuza, M.K., & Jian, Z. (2014). Impact of accounting information

- systems on profitability of small scale businesses: A case of Kampala city in Uganda. *International Journal of Academic Research in Management (IJARM)*, 3(2), 185-192. Retrieved from [www.elvedit.com](http://www.elvedit.com)
- Muhratala, T.O., & Ogundeji, M. (2013). Computerized accounting information systems and perceived security threats in developing economies: The Nigerian case. *Universal Journal of Accounting and Finance*, 1(1), 9-18. doi: 10.13189/ujaf.2013.010102
- Nabizadeh, S.M., & Omrani, S.A. (2014). Effective factors on accounting information system alignment: A step towards organizational performance improvement. *International Journal of Scientific and Research Publications*, 4(9), 1-5. Retrieved from [www.ijsrp.org](http://www.ijsrp.org)
- Negash, S., Ryan, T., & Igbaria, M. (2003). Quality and effectiveness in Web-based customer support systems. *Information & Management*, 40, 757-768.
- Nelson, R.R. (2005). Project retrospectives: Evaluating project success, failure and everything in between. *MIS Quarterly Executive*, 4(3): 361–372.
- Nelson, R.R., Todd, P.A., & Wixom, B.H. (2005). Antecedents of information and system quality: An empirical examination within the context of data warehousing. *Journal of Management Information Systems / Spring*, 21(4), 199-235.
- Neogy, T.K. (2014). Evaluation of efficiency of accounting information systems: a study on mobile telecommunication companies in Bangladesh. *Global Disclosure of Economics and Business*, 3(1). 40-55.

- Nevo, S., Wade, M. R., & Cook, W. D. (2007). An examination of the trade-off between internal and external IT capabilities. *The Journal of Strategic Information Systems*, 16(1), 5-23. Retrieved from [www.elsevier.com/locate/jsis](http://www.elsevier.com/locate/jsis)
- Nicolaou, A.I. (2000). A contingency model of perceived effectiveness in accounting information systems: Organizational coordination and control effects. *International Journal of Accounting Information Systems*, 1, 91-105.
- Nigerian Stock Exchange (2013). Corporate governance issues in quoted companies. *Security and Exchange Commission*. Retrieved from <http://www.nsec>
- Ndawula, S. (2010, Nov.). *E-fraud: Top Stan Chart Bank staff Knifed for Stealing Shs 500 Million*. Kampala RedPaper.
- Nnenna, O.M. (2012). The use accounting information as an aid to management in decision making. *British Journal of Science*, 5(1), 52-62.
- Nour, Y., & Mensi, S. (2013, March). *Accounting information system of Tunisian SMEs: Complexity, determinants and impact on financial performance*. Paper presented at the ERF 19th Annual Conference, Kuwait. Retrieved from <http://erf.org.eg/wp-content/uploads/2014/07/766.pdf>
- Nurhayati, N. (2014). Influence of organizational commitment and knowledge management on successful implementation of accounting information systems. *International Journal of Economics, Commerce and Management*, 2(12), 1-16.
- Nyang'au, R.N., Okibo, B.W., & Nyang'au, A. (2015). Constraints affecting

adoption of computerized accounting systems in Nyeri county, Kenya. *International Journal of Economics, Commerce and Management*, 3(5), 1536-1554. Retrieved from <http://ijecm.co.uk/>

Nzomo, S. (2013). *Impact of accounting information systems on organizational effectiveness of automobile companies in Kenya*. (Unpublished master's thesis). University of Nairobi, Kenya. Retrieved from <http://chss.uonbi.ac.ke/sites/default/files/chss/RESEARCH%20PROJECT%20-%20SAMUEL%20NZOMO%20-%20D61-63152-2011.pdf>

O'cass, A., & Carlson, J. (2012). An empirical assessment of consumers' evaluations of web site service quality: Conceptualizing and testing a formative model. *Journal of Services Marketing*, 26(6), 419-434. doi 10.1108/08876041211257909

Obeidat, B. Y. (2012). Relationship between innovation diffusion and human resource information system (HRIS). *Perspectives on Innovations, Economics and Business*, 12(3), 41-58.

Ogah, I.J. (2013). An evaluation of the relevance of accounting systems as a management decision tool in Union Bank of Nigeria Plc. *Greener Journal of Business and Management Business Studies*, 3(1), 38-45. Retrieved from [www.gjournals.org](http://www.gjournals.org)

Oladipupo, A. O., & Okafor, C. A. (2013). Relative contribution of working capital management to corporate profitability and dividend payout ratio: Evidence from Nigeria. *International Journal of Business and Finance Management Research*, 11-20. Retrieved from [bluepenjournals.org/ijbfmr](http://bluepenjournals.org/ijbfmr)

- Olaopa, T. (2015, August 19). PMB demands detailed report on NITEL Sale. *Leadership Newspaper*. Retrieved from <http://leadership.ng/news/454798/pmb-demands->
- Olawoyin, O. (2017). Nigeria: Banks Lost N2.19 Billion to Fraudsters through Electronic Platforms in 2016. *Premium Times*, p. A single page. Retrieved from <http://allafrica.com/stories/201705310175.html>
- Olson, K. (2006). Survey participation, nonresponse bias, measurement error bias, and total bias. *Public Opinion Quarterly*, 70(5), 737-758.
- Olumoye, M.Y. (2013). Impact of information systems on management decision-making in the Nigerian insurance sector. *International Journal of Scientific & Technology*, 2(12), 123-128.
- Olusola, A. J., Olugbenga, O. M., Zacchaeus, S. A., & Oluwagbemiga, O. E. (2013). Effect of accounting information on investment in Nigerian poultry agriculture sector. *Research Journal of Finance and Accounting*, 4(19), 124–134.
- Oluwatolani, O., Joshua, A., & Philip, A. (2011). The impact of information technology in Nigeria's banking industry. *Journal of Computer Science and Engineering*, 7(2), 63-67.
- Onyango, J.W., & Wanyoike, D.M. (2014). Effects of training on employee performance: A survey of health workers in Siaya country, Kenya. *European Journal of Material Sciences*, 1(1), 11-15. Retrieved from [www.ea-journals.org](http://www.ea-journals.org)
- Onyemenam, C.T. (2013). Fraud in Nigeria banks- Analysis and solutions. Retrieved from <http://articlesng.com/fraud-nigeria-banks-analysis-solutions/>

- Organ, D. W., & Ryan, K. (1995). A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behaviour. *Personnel Psychology, 48*, 775-802.
- Orlikowski, W. J. (2000). Using technology and constituting structures: A practice lens for studying technology in organizations. *Organization Science, 11*(4), 404-428.
- Ortiz de Guinea, A., Kelley, H., & Hunter, M. Information systems effectiveness in small businesses: Extending a Singaporean model in Canada. In *Strategic use of information technology for global organizations* (pp. 245-274). Retrieved from <http://dx.doi.org/10.4018/978-1-59904-292-3.ch010>
- Osuala, E. C. (2005). *Introduction to research methodology* (3<sup>rd</sup> ed.). Nigeria: AFP.
- Ozkan, S. (2006). *PB-ISAM: A process-based framework for information systems effectiveness assessment in organisational contexts* (Unpublished doctoral dissertation). Middle East Technical University, Ankara, Turkey. Retrieved from <http://etd.lib.metu.edu.tr/upload/12607059/index.pdf>
- Ozkan, S., Cakir, M., & Bilgen, S. (2008). A maturity based qualitative information systems effectiveness evaluation of a public organization in Turkey. *Journal of Cases on Information Technology, 10*(3), 58-71.
- Pallant, J. (2011). *SPSS survival manual: A step by step guide to data analysis using SPSS*. Crows Nest, Australia: Allen & Unwin.
- Pan, K., Nunes, M., & Peng, G. (2011). Risks affecting ERP post-implementation: Insights from a large Chinese manufacturing group. *Journal of Manufacturing Technology Management, 22*(1), 107-130.

- Papadopoulos, A., & Brooks, G. (2011). The investigation of credit card fraud in Cyprus: reviewing police “effectiveness”. *Journal of Financial Crime*, 18(3), 222-234. Retrieved from <http://dx.doi.org/10.1108/13590791111147442>
- Pather, S., Erwin, G., & Remenyi, D. (2003, September). Measuring e-commerce effectiveness: A conceptual model. In *Proceedings of the 2003 annual research conference of the South African institute of computer scientists and information technologists on Enablement through technology* (pp. 143-152). South African Institute for Computer Scientists and Information Technologists.
- Pather, S., & Remenyi, D. (2004, December). *Some of the philosophical issues underpinning research in information systems: From positivism to critical realism*. Paper presented at the 2004 Annual Research Conference of the South African Institute of Computer Scientists and Information Technologists on IT Research in Developing Countries, Cape Town, South Africa.
- Petter, S., DeLone, W., & McLean, E.R. (2008). Measuring information systems success: models, dimensions, measures, and interrelationships. *European Journal of Information Systems*, 17, 236-263.
- Petter, S., DeLone, W., & McLean, E.R. (2013). Information systems success: The quest for the independent variables. *Journal of Management Information Systems / Spring*, 29(4), 7-61. doi: 10.2753/MIS0742-1222290401

- Piercy, N.F., Cravens, D.W., & Morgan, N.A. (1997). Sources of effectiveness in the business-to-business sales organization. *Journal of Marketing Practice: Applied Marketing Science*, 3(1), 45-71. Retrieved from <http://dx.doi.org/10.1108/EUM0000000004320>
- Pitt, L.F., & Watson, R.T. (1995). Service quality: A measure of information systems effectiveness. *MIS Quarterly*, 19(2), 173-190.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioural research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879-903.
- 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.
- Quintero, J.M.M., Pedroche, E.G., & Ramos, M.G. (2009). The impact of the human element in the information systems quality for decision making and user satisfaction. *The Journal of Information Systems and Technology Management*, 6(1), 25-44.
- Qintao, F., & Xian-Jun, Z. (2012). Accounting conservatism, aggregation, and information. *Contemporary Accounting Research*, 29(1). 38–56. doi:10.1111/j.1911-3846.2011.01069.x
- Rahayu, K.S. (2012). The factors that support the implementation of accounting information system: A survey in Bandung and Jakarta's taxpayer offices. *Journal of Global Management*, 4(1), 25–52.

- Ramdany, (2015). Influence the quality of accounting information systems and the effectiveness of internal control on financial reporting quality. *Research Journal of finance and accounting*, 6(6), 143-152. Retrieved from [www.iiste.org](http://www.iiste.org)
- Ramezan, M. (2009). Measuring the effectiveness of human resource information systems in national Iranian oil companies and empirical assessment. *Iranian Journal of Management Studies*, 2(2), 129-145.
- Ramezanehghad, R.H., Yosefi, B., Sajjadi, N., & Malekakhlagh, E. (2011). Compressive review of organizational effectiveness in sport. *Sport Management International Journal*, 7(1), 5-21. doi: <http://dx.doi.org/10.4127/ch.2011.0052>
- Rachmawati, R., & Lasniroha, T. (2014, March). The effect of management accounting information systems, management accounting information quality, services quality to user satisfaction and implications on decision making process. *International Conference on Trends in Multidisciplinary Business and Economics Research*, (pp. 66-74).
- Radu, F., Bordeianu, D.G., & Paraschivescu, M.D. (2012). Aspects of the accounting information system in the context of the entity's management process. *Economy Trans disciplinarily Cognition*, 15(1), 143-149. Retrieved from [www.ugb.ro/etc](http://www.ugb.ro/etc)

- Rajeshwaran, N., & Gunawardana, K.D. (2013). An empirical investigation of the security control of computerized accounting information systems (CAIS) in the selected listed companies in Sri Lanka. 1-21. Retrieved from <http://www.sjp.ac.lk/research>
- Ramli, A. (2013). The impact of external factors on accounting information system (AIS) usage. *Journal of Entrepreneurship and Business*, 1(1), 32-41.
- Ramli, I., & Iskandar, D. (2014). Control authority, business strategy, and the characteristics of management accounting information systems. *Procedia - Social and Behavioral Sciences* 164, 384-390. doi: 10.1016/j.sbspro.2014.11.092
- Rapina, (2014). Factors influencing the quality of accounting information system and its implications on the quality of accounting information. *Research Journal of Finance and Accounting*, 5(2), 148–154. Retrieved from [www.iiste.org](http://www.iiste.org)
- Rapina (2015). Factors that affect accounting information systems and accounting information (survey on local bank in Bandung-Indonesia). *Australian Journal of Basic and Applied Sciences*, 9(9), 78-86. Retrieved from [www.ajbasweb.com](http://www.ajbasweb.com)
- Ravichandran, T., & Rai, A. (2000). Quality Management in Systems Development: An organizational system perspective. *MIS Quarterly*, 24(3), 381. Retrieved from <http://dx.doi.org/10.2307/3250967>

- Raza, H. (2014). Training and development impact and organizational performance: Empirical evidence from oil and gas sector of Pakistan. *Journal of Management and Business*, 16(1), 67-72. Retrieved from [www.iosrjournals.org](http://www.iosrjournals.org)
- Redman, T. (1998). The impact of poor data quality on the typical enterprise. *Communications of the ACM*, 41(2), 79-82.
- Redshaw, B. (2000). Evaluating organisational effectiveness. *Industrial and Commercial Training*, 32(7), 245-248. Retrieved from <http://dx.doi.org/10.1108/00197850010379794>
- Reddy, G.S., Srinivasu, R., Rikkula, S.R., & Rao, V.S. (2009). Management information system to help managers for providing decision making in an organization. *International Journal of Reviews in Computing*, 1-6. Retrieved from [www.ijric.org](http://www.ijric.org)
- Ringim, K.J., Razalli, M.R., & Hasnan, N. (2012). Critical success factors for business process management for small and medium banks in Nigeria. *Business and Management Review*, 2(1), 83-91. Retrieved from <http://www.businessjournalz.org/bmr>
- Ringle, C. M., Wende, S., & Will, A. (2005). *SmartPLS 2.0 (beta)*. Hamburg, Germany.
- Rini, I., & Nunuy, N.A. (2014, August). Organizational commitment, it infrastructure and accounting information system's quality. *Proceedings of 7th Asia-Pacific Business Research Conference*, Bayview Hotel, Singapore.
- Rivera, J., & Meulen, R.V.D. (2014). Gartner Says Worldwide IT Spending on Pace

to Grow 2.1 Percent in 2014. Retrieved from <http://www.gartner.com/newsroom/id/2783517>

Rodriguez, C.S., & Spraakman, G. (2012). ERP systems and management accounting: A multiple case study. *Qualitative Research in Accounting & Management*, 9(4), 398-414. Retrieved from <http://dx.doi.org/10.1108/11766091211282689>

Rodsutti, M.C., & Swierczek, F.W. (2002). Leadership and organizational effectiveness in multinational enterprises in Southeast Asia. *Leadership & Organization Development Journal*, 23(5), 250-259. Retrieved from <http://dx.doi.org/10.1108/01437730210435965>

Rogers, E.M., & Shoemaker, F.F. (1971). *Communication of innovations: A cross-cultural approach* (2<sup>nd</sup> ed.). New York: The Free Press. Retrieved from <https://teddykw2.files.wordpress.com/2012/07/everett-m-rogers-diffusion-of-innovations.pdf>

Romney, M.B., & Steinbart, P.J. (2012). *Accounting information systems* (12<sup>th</sup> ed.). Upper Saddle River, New Jersey: Prentice Hall.

Rondeau, P.J., Ragu-Nathan, T.S., & Vonderembse, (2010). The impact of IS planning effectiveness on IS responsiveness, user training, and user skill development within manufacturing firms. *International Management Review*, 6(1), 42-110.

Roy, M.H., & Dugal, S.S. (2005). Using employee gainsharing plans to improve organizational effectiveness. *Benchmarking: An International Journal*, 12(3), 250-259. Retrieved from <http://dx.doi.org/10.1108/14635770510600366>

- Rushmer, R.K. (1997). How do we measure the effectiveness of team building? Is it good enough? Team management systems - a case study. Team performance management: *An International Journal*, 3(4), 244-260. Retrieved from <http://dx.doi.org/10.1108/13527599710190984>
- Sabherwal, R., Jeyaraj, A., & Chowa, C. (2006). Information system success: Individual and organizational determinants. *Management Science*, 52(12), 1849-1864.
- Sadeh E., Chettiar, V.A., & Malarvizhi, C.A. (2013). Integration of EFQM framework and quality information systems. *Total Quality Management*, 24(2), 188-209. Retrieved from <http://dx.doi.org/10.1080/14783363.2012.756744>
- Saeidi, H. (2014). The impact of accounting information systems on financial performance – A case study of TCS – India. *Indian Journal of Fundamental and Applied Life Sciences*, 4(S4), 412-417. Retrieved from [www.cibtech.org/sp.ed/jls/2014/04/jls.htm](http://www.cibtech.org/sp.ed/jls/2014/04/jls.htm)
- Saeidi, H., Bhavani, G.V.P., & Hamid, S. (2014). The role of accountants in relation to accounting information systems and difference between users of AIS and users of accounting. *Management Research Report*, 2(5), 862-872. doi: [dx.doi.org/14.9831/1444-8939.2014/2-5](http://dx.doi.org/14.9831/1444-8939.2014/2-5)
- Saganuwan, M.U., Ismail, W.K.W., & Ahmad, U.N.U. (2013). Technostress: Mediating accounting information system performance. *Information Management and Business Review*, 5(6), 270–277.
- Saha, P., Nath, A. K., & Salehi-Sangari, E. (2012). Evaluation of government e-tax

websites: An information quality and system quality approach. *Transforming Government: People, Process and Policy*, 6(3), 300-321. doi.org/10.1108/17506161211251281

Sajady, H., Dastgir, M., & Nejad, M.S. (2008). Evaluation of the effectiveness of accounting information systems. *International Journal of Information Science and Technology*, 6(2), 49-59.

Salehi, M., Rostami, V., & Mogadam, A. (2010). Usefulness of accounting information system in emerging economy: Empirical evidence of Iran. *International Journal of Economics and Finance*, 2(2), 186-195. Retrieved from [www.ccsenet.org/ijef](http://www.ccsenet.org/ijef)

Salkind, N.J. (1997). *Exploring research* (3<sup>rd</sup> ed.). Upper Saddle River, New Jersey: Prentice Hall.

Salman, A. A., & Amusa, O.I. (2011). Business planning, information preference, and information use as factors in banking operations in Nigeria. Retrieved from <http://www.webpages.uidaho.edu/~mbolin/salman-amusa.htm>

Salleh, N.A.M., Jusoh, R., & Isa, C.R. (2010). Relationship between information systems sophistication and performance measurement. *Industrial Management & Data Systems*, 110(7), 993-1017. doi 10.1108/02635571011069077

Sambasivam, Y., & Assefa, K.B. (2013). Evaluating the design of accounting information system and its implementation in Ethiopian manufacturing industries. *Research Journal of Science and IT Management*, 2(7), 16–29. Retrieved from [www.theinternationaljournal.org](http://www.theinternationaljournal.org)

- Schniederjans, D., & Yadav, S. (2013). Successful ERP implementation: an integrative model. *Business Process Management Journal*, 19(2), 364-398. doi 10.1108/14637151311308358
- Sedera, D., Gable, G.G., & Chan, T. (2003). Measuring enterprise systems success: A preliminary model. In *Proceedings Americas Conference on Information Systems*, Tampa, Florida. Retrieved from <http://core.ac.uk/download/pdf/10878986.pdf>
- Seddon, P.B. (1997). A specification and extension of the DeLone and McLean model of IS success. *Information systems Research*, 8(3), 240-253.
- Seddon, P. B., Graeser, V., & Willcocks, L. P. (2002). Measuring organizational IS effectiveness: An overview and update of senior management perspectives. *ACM SIGMIS Database*, 33(2), 11-28.
- Sekaran, U. (2003). *Research methods of business: A skill-building approach* (4<sup>th</sup> ed.). New York: John Wiley & Sons, Inc.
- Sekaran, U., & Bougie, J. (2009). *Research methods for business: A skill building approach* (5<sup>th</sup> ed.): New York: John Wiley & Sons, Inc.
- Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill building approach*, (5<sup>th</sup> ed.). West Sussex: John Wiley and Sons Ltd.
- Sekaran, U., & Bougie, R. (2013). *Research methods for business: A skill building approach* (6<sup>th</sup> ed.). West Sussex: John Wiley & Sons Ltd.
- Seliem, A. A., Ashour, A. S., Khalil, O. E., & Millar, S. J. (2003). The Relationship

of some organizational factors to information systems effectiveness: A contingency analysis of Egyptian data. *Journal of Global Information Management (JGIM)*, 11(1), 40-71. doi:10.4018/jgim.2003010103

Setia, P., Venkatesh, V., & Joglekar, S. (2013). Leveraging digital technologies: How information quality leads to localized capabilities and customer service performance. *MIS Quarterly*, 37(2), 565-590.

Shaheen, A., Naqvi, M.H., & Atif, M. (2013). Employees training and organizational performance: Mediation by employees' performance. *Interdisciplinary Journal of Contemporary Research in Business*, 5(4), 490-503. Retrieved from [ijcrb.webs.com](http://ijcrb.webs.com)

Sharkasi, O., & Wynn, M.G. (2011). Deployment evaluation of accounting information systems in Libyan commercial banks. *The African Journal of Information Systems*, 3(3), 87-106. Retrieved from <http://digitalcommons.kennesaw.edu/ajis/vol3/iss3/2>

Sharkey, U., Scott, M., & Acton, T. (2010). The influence of quality on e-commerce success: an empirical application of the DeLone and McLean IS success model. *International Journal of e-Business Research*, 6(1), 1-18. doi: <http://dx.doi.org/10.4018/jebr.2010100905>

Sharma, S., Durand, R. M., & Gur-Arie, O. (1981). Identification and analysis of moderator variables. *Journal of Marketing Research*, 18(3), 291-300.

- Shatat, A.S.A., Yusof, Z.M., & Abdulaziz, J. (2013). The impact of information system success on business intelligence system effectiveness. *Journal of Theoretical and Applied Information Technology*, 50(3), 512-522. Retrieved from [www.jatit.org](http://www.jatit.org)
- Shazali, I. (2015, October 26<sup>th</sup>). National Mirror. *Nigeria Electronic Frauds Hit N6.2Bn*. Retrieved from <http://nationalmirroronline.net/new/nigeria-electronic-frauds-hit-n6-2bn/>.
- Shih, Y., & Lin, W.S. (2011). Effect of outsourcing of information systems on user satisfaction. An empirical evidence of Taiwanese hospitals. *International Journal of Management*, 28(3/1), 704-715.
- Shiri, S. (2012). Effectiveness of human resource information system on HR functions of the organization - A cross sectional study. *US-China Education Review, A* 9, 830-839.
- Srinivasan, A., & Kaiser, K.M. (1987). Relationship between selected organizational factors and system development. *Communication ACM*, 30(6), 556-562.
- Slater, D. (1998). The hidden costs of enterprise software: IT budgeting. *CIO*, 11, 48-55.
- Soteriou, A., & Zenios, S. A. (1999). Operations, quality, and profitability in the provision of banking services. *Management Science*, 45(9), 1221-1238.
- Soudani, S.N. (2012). The usefulness of accounting information systems for effective organizational performance. *International Journal of Economic and Finance*, 4(5), 136-145. doi:10.5539/ijef.v4n5p136

- Sisaye, S., & Birnberg, J. (2010). Extent and scope of diffusion and adoption of process innovations in management accounting systems. *International Journal of Accounting & Information Management*, 18(2), 118-139. Retrieved from <http://dx.doi.org/10.1108/18347641011048110>
- Spacek, M. (2000). Is your IT project stuck in analysis/paralysis mode? *Strategic Finance*, 81(7), 24-28.
- Spanos, Y. E., & Lioukas, S. (2001). An examination into the causal logic of rent generation: contrasting Porter's competitive strategy framework and the resource-based perspective. *Strategic Management Journal*, 22(10), 907-934.
- Spathis, C. (2006). Enterprise systems implementation and accounting benefits. *Journal of Enterprise Information Management*, 19(1), 67-82. Retrieved from <http://dx.doi.org/10.1108/17410390610636887>
- Stankovic, A., Mitric, M., & Knezevic, S. (2012, December). Business and financial decisions based on information provided by accounting information systems. *Advanced Research in Scientific Area, International Virtual Conference*, (pp. 660-663). Retrieved from <http://www.arsa-conf.com>
- Stefanoul, C.J., & Athanasaki, M.T. (2012). Management accounting practices in ERP environments: A research agenda. In *Proceeding of the 9th International Conference on Enterprise Systems, Accounting and Logistics (9th ICESAL 2012)* (pp. 142-159). Chania, Crete, Greece.
- Swierczek, F., & Shrestha, P.K. (2003). Information technology and productivity: A comparison of Japanese and Asia-Pacific banks. *Journal of High Technology*, 14, 269-288.

- Tabachnick, B. G., & Fidell, L. (2007). Multivariate analysis of variance and covariance. In *Using multivariate statistics* (3<sup>rd</sup> ed.) (pp. 402-407). Boston, Massachusetts: Allyn & Bacon.
- Tabachnick, B. G., Fidell, L. S., & Osterlind, S. J. (Eds.). (2001). *Using multivariate statistics* (5<sup>th</sup> ed.). Boston, Massachusetts: Pearson.
- Tabibi, S.J., Nasiripour, A.A., Kazemzadeh, R.B., Farhangi, A.A., & Ebrahim, P. (2011). Effective factors on hospital information system acceptance: A confirmatory study in Iranian hospitals. *Middle-East Journal of Scientific Research*, 9(1), 95-101.
- Taif, N.M., Aman, A., & Abulaziz, K.A. (2014, December). Issues in accounting information system and its impact on the information quality. *International Management Accounting Conference* (pp. 348-370).
- Tambovcevs, A., & Tambovceva, T. (2013). ERP system implementation: benefits and economic effectiveness. In *Proceedings of the 2013 international conference on systems, control, signal processing and informatics*, (pp.215-221).
- Tan, C. W., Benbasat, I., & Cenfetell, R. T. (2016). An exploratory study of the formation and impact of electronic service failure. *MIS Quarterly*, 40(1), 1-60.
- Tariq-Khan, M., Ahmed-Khan, N., Ahmed, S., & Ali, M. (2012). Connotation of organizational effectiveness and factors affecting it. *International Journal of Business and Behavioral Sciences*, 2(9), 21-30.

- Taylor, C.M., Comelius, C.J., & Colvin, K. (2014). Visionary leadership and its relationship to organizational effectiveness. *Leadership & Organization Development Journal*, 35(6), 566-583. Retrieved from <http://dx.doi.org/10.1108/LODJ-10-2012-0130>
- Taylor, S., & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research*, 6(2), 144-176. doi: 10.1287/isre.6.2.144
- Tazik, H., & Mohamed, Z.M. (2014). Accounting information system effectiveness, foreign ownership and timeliness of corporate financial report. *Proceedings of 5th Asia-Pacific Business Research Conference* (pp. 1-12). Hotel Istana, Kuala Lumpur, Malaysia.
- Teittinen, H., Pellinen, J., & Jarvenpaa, M. (2012). ERP in action - Challenges and benefits for management control in SME context. *International Journal of Accounting Information Systems*, 14, 278-296. doi:10.1016/j.accinf.2012.03.004
- Tenenhaus, M., Amato, S., & Esposito Vinzi, V. (2004). A global goodness-of-fit index for PLS structural equation modelling. In *Proceedings of XLII Meeting of the SIS Scientific Meeting* (pp. 739-742). Padovia, Italy: CLEUP.
- Thong, J.Y.L., Yap, C.S., & Raman. K.S. (April, 1993). Top management support in small business information systems implementation: How important is it? In *Proceedings of 1993 ACM SIGCPR* (pp. 416-425).
- Thong, J., Yap, C., & Raman, K. (1994). Engagement of external expertise in

information systems implementation. *Journal of Management Information Systems*, 11(2), 209-231. Retrieved from <http://dx.doi.org/10.1080/07421222.1994.11518046>

Tijjani, O.M., & Ogundeji, M.G. (2014). Enterprise resource planning systems implementation: Effects on accounting information processing. *Advances in Economics and Business*, 2(2), 78-84. doi: 10.13189/aeb.2014.020203

Tokic, M., Spanja, M., & Blazevic, I. (2011). Functional structure of entrepreneurial accounting information systems. *International Journal of Engineering*, 9(2), 165-168.

Törn, A. A. (1990). Models of software accumulation. *Journal of Systems and Software*, 12(1), 39-42.

Tona, O., Carlsson, S., & Eom, S. (2012). An empirical test of DeLone and McLean's information system success model in a public organization. In *AMCIS 2012 Proceedings*. Paper 10. Retrieved from <http://aisel.aisnet.org/amcis2012/proceedings/StrategicUseIT/10>

Truitt, D.L. (2011). The effect of training and development on employee attitude as it relates to training and work proficiency. *SAGE Open*, 1-13. doi: 10.1177/2158244011433338

Tsai, W., Shaw, M., Fan, Y., Liu, J., Lee, K., & Chen, H. (2011). An empirical investigation of the impacts of internal/external facilitators on the project success of ERP: A structural equation model. *Decision Support Systems*, 50(2), 480-490. Retrieved from <http://dx.doi.org/10.1016/j.dss.2010.11.005>

- Tsolas, I.E. (2010). Modeling bank branch profitability and effectiveness by means of DEA. *International Journal of Productivity and Performance Management*, 59(5), 432-451. Retrieved from <http://dx.doi.org/10.1108/17410401011052878>
- Ubeda-Gacia, M., Marco-Lajara, B., Sambater-Sempere, V., & Garcia-Lilo, F. (2013). Does training influence organisational performance? *European Journal of Training and Development*, 37(4), 380-413. doi 10.1108/03090591311319780
- Ugboma, E. (2004). Assuring information systems' effectiveness through data integrity: essential guidelines for information systems databases. In *Proceedings of ISECON*, 21.
- Umble, E.J., Haft, R.R., & Umble, M.M. (2003). Enterprise resource planning: Implementation procedures and critical success factors. *European Journal of Operational Research* 146, 241-257. Retrieved from [www.elsevier.com/locate/dsw](http://www.elsevier.com/locate/dsw)
- Upadhaya, B., Munir, R., & Blount, Y. (2014). Association between performance measurement systems and organisational effectiveness. *International Journal of Operations & Production Management*, 34(7), 853-875. Retrieved from <http://dx.doi.org/10.1108/IJOPM-02-2013-0091>
- Urhuogo, I., Vann, V., & Chandan, H.C. (2012). Information systems maintenance: The application of total quality management construct. *Journal of Business Studies Quarterly*, 3(3), 1-15.

- Usman, B.K., & Dandago, K.I. (2015). Impact of investment in information technology on financial performance of Nigerian banks: Is there a productivity paradox? *Journal of Internet Banking and Commerce*, 1-11. Retrieved from <http://www.icommercecentral.com/ArchiveJIBC/currentissueinternet-banking-and-commerce.php>
- Vaughan, P. J. (2001). System implementation success factors; it's not just the technology. University of Colorado at Boulder. Retrieved from [http://spot.colorado.edu/~vaughan/SystemImplementationSuccessFactors\\_files/frame.htm](http://spot.colorado.edu/~vaughan/SystemImplementationSuccessFactors_files/frame.htm)
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.
- Wade, M. R. (2002). *Exploring the role of information systems in online success: A resource-based analysis*. The University of Western Ontario (Canada).
- Wade, M., & Hulland, J. (2004). Review: The resource-based view and information systems research: Review, extension, and suggestions for future research. *MIS Quarterly*, 28(1), 107-142.
- Waal, B.M.E., & Batenburg, R. (2011). What makes end-user training successful? A mixed method study of a business process management system implementation. *International Journal of Knowledge and learning*, 8(1/2), 166-183. doi: 10.1504/IJKL.2012.047569
- Wand, Y., & Wang, R. Y. (1996). Anchoring data quality dimensions in ontological foundations. *Communications of the ACM*, 39 (11), 86-95.

- Wang, E., & Chen, J. 2006. Effects of internal support and consultant quality on the consulting process and ERP system quality. *Decision Support Systems*, 42(2), 1029-1041.
- Wang, R. Y., & Strong, D. M. (1996). Beyond accuracy: What data quality means to data consumers. *Journal of Management Information Systems*, 12(4), 5-34.
- Wang, S. (2012). Discussion on the bottleneck of comprehensive accounting information: Accounting information standard. *Procedia Engineering* 29, 2225-2229. doi:10.1016/j.proeng.2012.01.292
- Warren, C. S., Reve, J. M., & Fess, P. E. (1999). *Financial and managerial accounting* (6<sup>th</sup> ed.). Stamford, Connecticut: International Thomson Publishing.
- Wedyan, L., Gharaibeh, A., Abu-dawleh, A., & Abu Hamatta, H. (2012). The affect of applying accounting information system on the profitability of commercial banks in Jordan. *Journal of Management Research*, 4(2), 112-138. Retrieved from <http://dx.doi.org/10.5296/jmr.v4i2.1427>
- Wetzels, M., Odekerken-Schröder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS Quarterly*, 33(1), 177-195.
- Wiechetek, L. (2012). Effectiveness of information systems implementation the case of the polish small and medium enterprises. In *Proceeding of the Management, Knowledge and Learning, International Conference*, (pp. 193-202).
- Wilkin, C.L., & Chenhall, R.H. (2010). A review of it governance: A taxonomy to inform accounting information systems. *Journal of Information Systems*, 24(2), 107-146. doi: 10.2308/jis.2010.24.2.107

- Williamson, O. E. (1979). Transaction-cost economics: the governance of contractual relations. *Journal of Law and Economics*, 233-261.
- Wixom, B.H., & Todd, P.A. (2005). A theoretical integration of user satisfaction and technology acceptance. *Information System Research*, 16(1), 85-102. <https://doi.org/10.1287/isre.1050.0042>
- Wold, H. (1982). Soft modelling: The basic design and some extensions. In K. G. Jöreskog (Ed.), *Systems under indirect observation, Part II* (pp. 36-37). Amsterdam: North Holland Publishing.
- Wona, C. M.S., Mi, J.R., Jiyun, P., Kwang, J.K., Young, D.K., & Young, C. (2013). Information system success model for customer relationship management system in health promotion centers. *Health Care Informatics Research*, 19(12), 110-120. Retrieved from <http://dx.doi.org/10.4258/hir.2013.19.2.110>
- Wongsim, M., & Gao, J. (2011). Exploring information quality in accounting information systems adoption. *Communications of the IBIMA*, 2011. doi: 10.5171/2011.683574
- Woznica, J., & Healy, K. (2009). The level of information systems integration in SMEs in Irish manufacturing sector. *Journal of Small Business and Enterprise Development*, 16(1), 115-128.
- Xu, D., Benbasat, I., & Cenfetelli, R.T. (2013). Integrating service quality with system and information quality: An empirical test in the e-service context. *MIS Quarterly*, 37(3), 777-794. Retrieved from <http://www.misq.org>
- Xue, M., Hitt, L.M., & Chen, P. (2011). Determinants and outcome of internet banking adoption. *Management Science*, 57(2), 291-307.

- Yan, Z., Yan, L., Weiwan, W., & Jian, C. (2010). What leads to post-implementation success of ERP? An empirical study of the Chinese retail industry. *International Journal of Information Management*, 30, 265-276. doi:10.1016/j.ijinfomgt.2009.09.007
- Yang, M. (2008). *Next generation information system for the banking and finance sector: A guide to ADN Planning*.
- Yap, C., Soh, C., & Raman, K. (1992). Information systems success factors in small business. *Omega*, 20(5-6), 597-609. Retrieved from [http://dx.doi.org/10.1016/0305-0483\(92\)90005-r](http://dx.doi.org/10.1016/0305-0483(92)90005-r)
- Yoon, Y. K., & Im, K. S. (2008). Evaluating IT outsourcing customer satisfaction and its impact on firm performance in Korea. *International Journal of Technology Management*, 43(1-3), 160-175.
- Youn, S., Yang, M., Kim, J.H., & Hong, P. (2014). Supply chain information capabilities and performance outcomes: An empirical study of Korean steel suppliers. *International Journal of Information Management* 34, 369–380. doi.org/10.1016/j.ijinfomgt.2014.01.008
- Yunus, A. D., & Waidi, A. A. (2011). Technology innovation and Nigeria banks performance: The assessment of employee's and customer's responses. *American Journal of Social and Management Sciences*, 2(3), 329-340.
- Zakaria, W.Z.W., Rahman, S.F., & Elsayed, M. (2011). An analysis of task performance outcomes through e-accounting in Malaysia. *Journal of Public Administration and Governance*, 1(2), 124-139. doi: 10.5296/jpag.v1i2.946
- Zelbst, P.J., Green, K.W., Sower, V.E., & Reyes, P.M. (2012). Impact of RFID on

manufacturing effectiveness and efficiency. *International Journal of Operations & Production Management*, 32(3), 329-350. Retrieved from <http://dx.doi.org/10.1108/01443571211212600>

Zimmermann, G.P.M., & Gastaud, A.C.M. (2015). *Quality dimensions of the DeLone-McLean model to measure user satisfaction: An empirical test on the information security context*. Paper presented at the 2015 48th Hawaii International Conference on System Sciences. doi 10.1109/HICSS.2015.593

Zhang, L., Lee, M. K., Zhang, Z., & Banerjee, P. (2003, January). Critical success factors of enterprise resource planning systems implementation success in China. In *System Sciences, 2003. Proceedings of the 36th Annual Hawaii International Conference on* (pp. 10-21). IEEE.

Zhang, Z., Lee, M.K.O., Huang, P., Zhang, L & Huang, X. (2005). A framework of ERP systems implementation success in China: An empirical study. *International Journal of Production Economics*, 98, 56–80.

Zheng, W., Yang B., & McLean, G.N. (2010). Linking organizational culture, structure, strategy, and organizational effectiveness: Mediating role of knowledge management. *Journal of Business Research*, 63(7), 763-771. Retrieved from <http://dx.doi.org/10.1016/j.jbusres.2009.06.005>

Zhu, K., & Kraemer, K. L. (2005). Post-adoption variations in usage and value of e-business by organizations: Cross-country evidence from the retail industry. *Information Systems Research*, 16(1), 61-84. doi10.1287/isre.1050.0045

Zoran, C., Otilija, S., & Sofija, A. (2010, January). Integrative research model for assessing the diffusion of e-business at the firm level at Vojvodina. In *Fifth International Conference of the School of Economics and Business in Sarajevo (ICES2010). Proceedings* (p. 1AM). University of Sarajevo, School of Economics and Business.



## Appendix A

### Determining sample size for a given population

Population size	Sample size	Population size	Sample size	Population size	Sample size
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361

<b>110</b>	86	550	226	7000	364
<b>120</b>	92	600	234	8000	367
<b>130</b>	97	650	242	9000	368
<b>140</b>	103	700	248	10000	370
<b>150</b>	108	750	254	15000	375
<b>160</b>	113	800	260	20000	377
<b>170</b>	118	850	265	30000	379
<b>180</b>	123	900	260	40000	380
<b>190</b>	127	950	274	50000	381
<b>200</b>	132	1000	278	75000	382
<b>210</b>	136	1100	285	1000000	384



**UUM**  
Universiti Utara Malaysia

## APPENDIX B



# RESEARCH QUESTIONNAIRE



## The Determinants of Accounting Information Technology Usage in Nigerian Banking Sector

The questionnaire will take fifteen minutes to complete. Your objective response would be highly appreciated as it will contribute immensely in generating reliable evidence that can assist managers and other decision makers in the Nigerian banking sector, in order to understand the factors that results to accounting information technology failures. Please, be rest assured that your response will be treated with utmost confidentiality as it will exclusively use for academic purpose.

## PART A

Please indicate the extent of your agreement with each of the following statement by circling the appropriate option using the scale below. Please note that AIT stands for **Accounting Information Technology**.

**1- Strongly Disagree (SD), 2- Disagree (D), 3- Not Sure (NS), 4- Agree (A), 5- Strongly Agree (SA).**

		SD	D	NS	A	SA
		1	2	3	4	5
1	The AIT assists our bank in achieving a competitive advantage.					
2	The use of AIT helps in satisfying our customers.					
3	The use of AIT does not facilitate effective integration between departments in our bank.					
4	The use of AIT does not assist in reducing cost.					
5	The use of AIT issues periodic report on all the organization activities for decision making.					
6	The use of AIT allows our bank to save a lot of time.					
7	The use of AIT enables us to manage our task effectively.					
		SD	D	NS	A	SA
		1	2	3	4	5
8	User login is required to access the online banking facilities.					
9	Auto logout is enabled after a period of inactivity online.					
10	The antivirus software does not prevent the systems from being attacked by virus.					
11	Our AIT is not regularly examined and maintained by IT unit staff.					
12	The user interface of our bank information systems is easy to use.					
13	The tutorials or instructions provided by our AIT help me to use the system easily.					
14	The user interface design by our AIT is user friendly.					
15	I understand every function of the AIT.					
16	I am not familiar with the interface of our AIT.					

17	The user interface items of our AIT are easy to understand.					
18	Our AIS greatly facilitates my work efficiency.					
19	The processing speed of the AIT assists me in accomplishing my work very fast.					
		<b>SD</b>	<b>D</b>	<b>NS</b>	<b>A</b>	<b>SA</b>
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
20	Our AIT does not provide me with accurate information.					
21	Our AIT does not provide me with relevant information.					
22	Our AIT does not provide me with the necessary information in a timely manner.					
23	The information contained in our website is timely and regularly updated.					
24	The information from our AIT improves the quality of my work.					
25	Our AIT does not provide sufficient information related to my task.					
26	Our AIT provides me with comprehensive information to complete my task.					
		<b>SD</b>	<b>D</b>	<b>NS</b>	<b>A</b>	<b>SA</b>
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
27	When I have problem, the official of the bank IT units show a sincere interest in solving it.					
28	The employees of the bank IT units does not have the knowledge to maintain the system and solve the problems well.					
29	The employees of the bank IT units have never given me personal attentions.					
		<b>SD</b>	<b>D</b>	<b>NS</b>	<b>A</b>	<b>SA</b>
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
30	Our AIT does not improve the controls of breaking through or trespassing of the system.					
31	Our AIT regulates the access of employees to the system according to their level of authorization.					
32	Our AIT contributes in segregating the discrepant tasks among employees in the bank.					

33 Our AIT does not enable the linkage across all branches  
of the banks properly and appropriately.

34 Our AIT is in-effective in safeguarding against internal  
and external threats.

35 Our AIT does not provide the document needed to follow  
up work and evaluate performance.

36 Our AIT provides appropriate method that ensures proper  
data entry and processing in order to obtain the required  
output.

37 Our AIT provides a library and archive to all files,  
programs and data which can be stored in separate tools.

<b>SD</b>	<b>D</b>	<b>NS</b>	<b>A</b>	<b>SA</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

38 The AIT training programs provided by my bank are not  
useful.

39 The AIT training programmes provided covers specific  
needs.

40 The AIT training programmes provided does not cover  
our needs.

41 The AIT training programmes are organised regularly

42 The AIT training programmes are not educative.

43 The AIT training programs are cost effective.

44 The AIT training programmes help me learn the various  
system uses.

<b>SD</b>	<b>D</b>	<b>NS</b>	<b>A</b>	<b>SA</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

45 Top management does not provide the resources needed  
for the implementation of our AIT systems.

46 Every departments are of equal importance.

47 I am not satisfied with the changes that the top  
management decides on AIT issues such as financial  
support.

48 Top management encourage the sharing of information in  
our bank.

<b>SD</b>	<b>D</b>	<b>NS</b>	<b>A</b>	<b>SA</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

- 49 Our consultant is effective in performing information requirement analysis.
- 50 Our consultant is effective in recommending suitable AIT solution.
- 51 Our consultant does not response rapidly in case of emergency.
- 52 Our consultant facilitates internal relationship.
- 53 Our consultant does not provides adequate technical support if needed.
- 

**PART B**

**Accounting Information Technology**

*Among the following Accounting Information Technology subsystems, Please tick the applications presently implemented in your Bank (You may tick one or more boxes if appropriate).*

Transaction Processing System	<input type="checkbox"/>
General Ledger System	<input type="checkbox"/>
Financial Reporting System	<input type="checkbox"/>
Management Reporting System	<input type="checkbox"/>

*Please indicate your demographic background by ticking the appropriate option:*

1- Age:

Below 30 years	<input type="checkbox"/>
30-39 years	<input type="checkbox"/>
40-49 years	<input type="checkbox"/>
50-59 years	<input type="checkbox"/>
60 years and above	<input type="checkbox"/>

2- Gender:

Male	<input type="checkbox"/>
Female	<input type="checkbox"/>

3- Highest Qualification:

Diploma	<input type="checkbox"/>
Degree	<input type="checkbox"/>
	<input type="checkbox"/>

Masters

PhD

4- Working Experience:

Below 5 years

5-9 years

10-14 years

15 years and above

5- Job Position (Please specify).....

**Thank you for taking your precious time to complete this questionnaire. Your support in providing this information is highly appreciated**

For enquiries relating to this research, please contact any of the following:

Main Supervisor  
Dr. Akilah Abdullah  
Shagari  
School of Accountancy  
Universiti Utara Malaysia  
06010 UUM Sintok, Kedah  
Email: [akilah@uum.edu.my](mailto:akilah@uum.edu.my)  
[shagareez@gmail.com](mailto:shagareez@gmail.com)  
HP: +60174637234



Co. Supervisor  
Dr Rafeah Mat Saat

PhD. Candidate  
Shamsudeen Ladan

School of Accountancy  
Universiti Utara Malaysia  
06010 UUM Sintok, Kedah

School of Accountancy  
Universiti Utara Malaysia  
06010 UUM Sintok, Kedah

Email: [rafeah@uum.edu.my](mailto:rafeah@uum.edu.my)

Email:

HP: +60122860470

HP: +60143251744/  
+234703850361

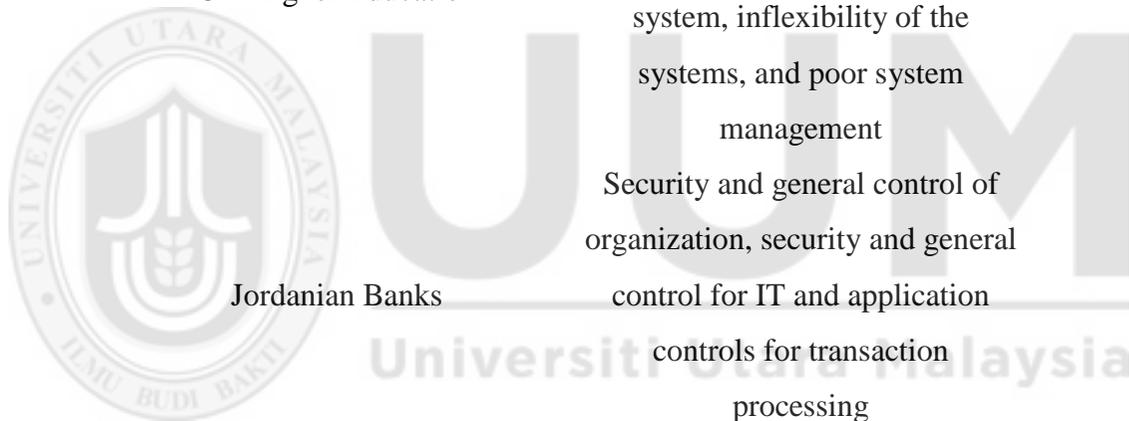
## *APPENDIX C*

### **Summary of Determinants of Accounting Information Systems**

<b>Author</b>	<b>Context</b>	<b>Independent Variables</b>	<b>Moderator/Mediator</b>
Abdallah (2013)	Jordanian tax authority	Information quality	
Ahmad et al. (2013)	Jordanian organizations	Information quality	
Abu Taber et al. (2014)	Jordanian Private Higher Institutions	Human Resources, Hardware, Software, and Databases	
Hien et al. (2014)	Hong University	Information quality, system quality and service quality	Use and user satisfaction
Daoud and Triki (2013)	Tunisian Organizations	Information quality, accounting practices used, and systems quality	Accounting staff competency
Al-Oleemat (2014)	Jordanian Public Universities	Knowledge, Creativity, and Skills	
Anggadini (2015)	Indonesian Organizations	Top management support and Internal control	Accounting Information system quality

Gorla et al. (2010)	In Hong Kong Organizations	information quality, system quality, service quality	
El-Dalabeeh, & Al-Shbiel, (2012)	Saudi Hospital	Human resource, hardware equipment, software, databases and procedures	
Alzoubi, (2011)	Jordanian organizations	Quality of accounting information, and internal control	
Elpez and Fink (2006)	Western Australian organizations	Information quality, system usability, expenditure control, interaction with IT infrastructure, accountability and user acceptance	
Awosejo et al. (2013)	South African Financial institutions	Perceived usefulness and Perceived ease of use	Intention to Use
Bach et al. (2011)	Financial Service firms in South Africa	Information quality, system quality and service quality	Intention to use and user satisfaction

Balqaa (2012)	Jordanian Communication companies	Hardware, software, network, and databases Low data quality, Lack of system specification, lack of communication within the system, inflexibility of the systems, and poor system management
Bentley et al. (2013)	UK Higher Education	Security and general control of organization, security and general control for IT and application
Bawaneh, (2014)	Jordanian Banks	controls for transaction processing Age, users' involvement and tenure in office, organizational level, and education
Khalil and Elkordy (2001)	In Egyptian Banks	



Hayale and Abu-Khadra (2006)	Jordanian Banks	Effective control system and perception of User	
Chang (2003)	Taiwan Organizations	Timeliness, scope and aggregate	Decentralization and task uncertainty
Coman and Coman (2013)	SMEs in Romania	Information Quality and System Usage	
Kanungo et al. (1999)	Indian Institute of Technology	Facilitating information retrieval, improving product, services quality, and system integration	
Khassawneh (2014)	Jordanian SME's	AIS sophistication, managers tenure, firm size and internal experts	
Moolanazir and Abdolkarimi (2012)	Tehran Stock Exchange	Task uncertainty, user satisfaction, AIS characteristics and decentralization	

Nabizadeh and Omrani (2014)	SMEs in India	External and internal consultant, firm size and managerial knowledge
Ramezan (2009)	Iranian Oil sector	System quality, information quality and system use
Shatat (2013)	Jordanian Banks	Information quality, system quality and service quality
Shih and Lin (2011)	Taiwan Hospital	System quality, information quality and service quality ICT infrastructure, cost of
Nyang'au, Okibo, and Nyang'au (2015)	In Kenyan's Organizations	adoption, users' perception of the system and human resource proficiency
Seddon et al. (2002)	In European and US Organizations	Systems quality and information quality
Pather et al. (2003)	South African Organizations	User satisfaction and measuring service quality

Malik (2001)	Indian automobile industry	Products, process, and environment perspectives
Chalu (2012)	Tanzanian local authority	Management support, external auditors, specialization and councilor's involvement
Ortiz et al. (2007)	Canadian SME's	Managerial support and vendor support
Kankanhalli et al. (2003)	In Singapore	organizational size, top management support
Cho (2007)	Hong Kong Organizations	Management support and training
Hamdan (2004)	Organizational context	Top management support, training and users' involvement, with AIS effectiveness
Saliem et al. (2003)	Egyptian Organizations	Management supports and user involvement
Rahayu (2012)	Indonesian public organizations	Management commitment and data quality

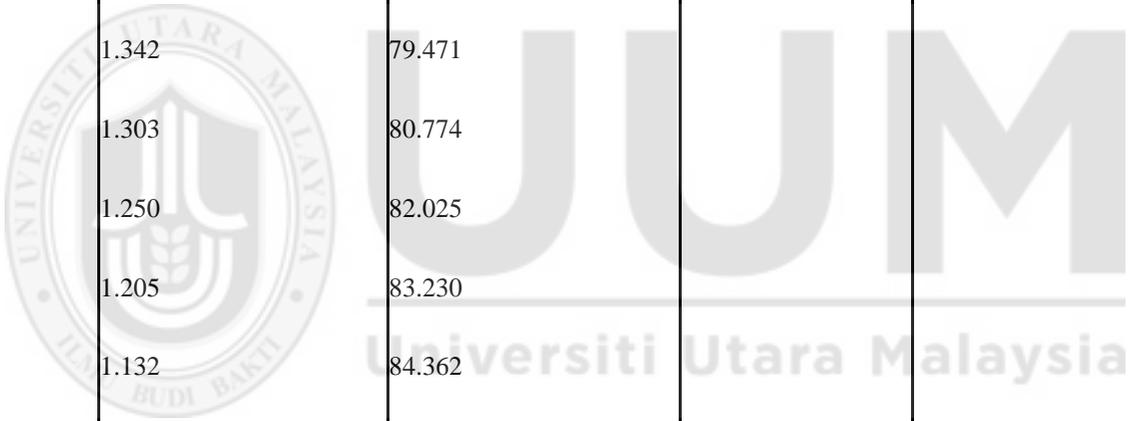
Ismail (2009)	SMEs in Malaysia	Managerial accounting knowledge, the effectiveness of accounting firm, vendors, AIS sophistication, managers AIS knowledge, government agencies and consultant effectiveness
Harash et al. (2014)	SMEs in Iraq	Reliability, relevance, and timeliness
Mamic and Oluic (2013)	Croatian large organizations	speed, accuracy and quality information
Tona et al. (2012)	Sweden Public Organizations	System quality and information quality, User satisfaction, individual impact
Lam et al. (2014)	Vietnam University	System quality and service quality

**Total Variance Explained**

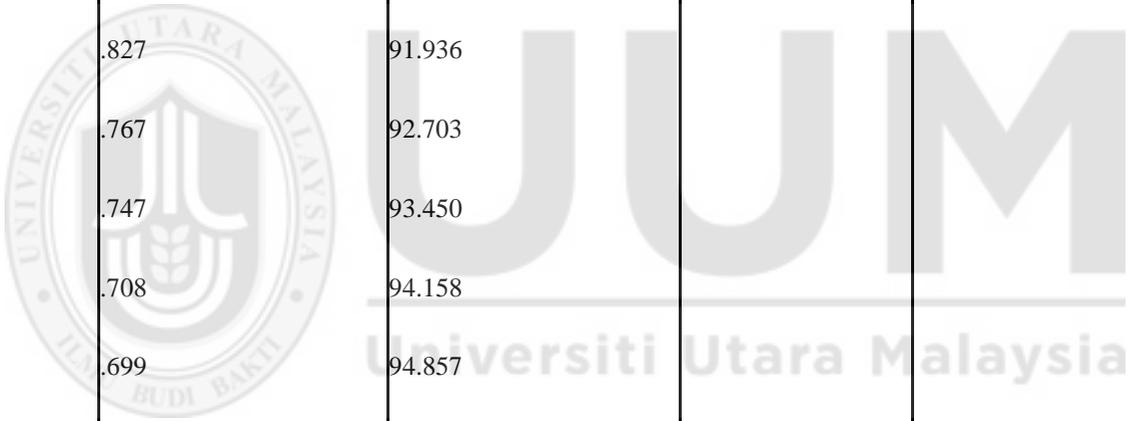
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.850	18.585	18.585	9.850	18.585	18.585
2	2.845	5.368	23.953	2.845	5.368	23.953
3	2.204	4.159	28.112	2.204	4.159	28.112
4	2.046	3.861	31.973	2.046	3.861	31.973
5	1.940	3.660	35.633	1.940	3.660	35.633
6	1.876	3.540	39.173	1.876	3.540	39.173
7	1.670	3.151	42.325	1.670	3.151	42.325
8	1.568	2.958	45.282	1.568	2.958	45.282
9	1.488	2.807	48.090	1.488	2.807	48.090

10	1.343	2.534	50.624	1.343	2.534	50.624
11	1.313	2.478	53.102	1.313	2.478	53.102
12	1.227	2.315	55.417	1.227	2.315	55.417
13	1.170	2.207	57.623	1.170	2.207	57.623
14	1.124	2.120	59.743	1.124	2.120	59.743
15	1.093	2.063	61.806	1.093	2.063	61.806
16	1.006	1.899	63.705	1.006	1.899	63.705
17	.989	1.866	65.570			
18	.961	1.814	67.384			
19	.937	1.768	69.153			
20	.842	1.589	70.741			
21	.837	1.579	72.320			

22	.813	1.534	73.854			
23	.782	1.476	75.329			
24	.762	1.438	76.767			
25	.722	1.362	78.130			
26	.711	1.342	79.471			
27	.691	1.303	80.774			
28	.663	1.250	82.025			
29	.639	1.205	83.230			
30	.600	1.132	84.362			
31	.570	1.076	85.438			
32	.553	1.044	86.482			
33	.535	1.009	87.491			



34	.522	.984	88.475			
35	.492	.928	89.404			
36	.455	.859	90.263			
37	.449	.846	91.109			
38	.438	.827	91.936			
39	.407	.767	92.703			
40	.396	.747	93.450			
41	.375	.708	94.158			
42	.371	.699	94.857			
43	.363	.684	95.541			
44	.347	.654	96.196			
45	.297	.561	96.757			



46	.282	.532	97.289			
47	.254	.480	97.769			
48	.245	.463	98.232			
49	.218	.410	98.643			
50	.213	.403	99.045			
51	.189	.357	99.403			
52	.175	.330	99.733			
53	.142	.267	100.000			

Extraction Method: Principal Component Analysis.