EFFECT OF ENTREPRENEURIAL ORIENTATION AND BUSINESS MODEL INNOVATIONONTHE PERFORMANCE OF MICROFINANCE BANKS: MEDIATING ROLE OF IT-ENABLED DYNAMIC CAPABILITIES

BY

ALIYU DANTSOHOMOHAMMED

DEPARTMENT OF BUSINESS ADMINISTRATION,
FACULTY OFADMINISTRATION,
AHMADU BELLO UNIVERSITY,
ZARIA, NIGERIA

EFFECT OF ENTREPRENEURIAL ORIENTATION AND BUSINESS MODEL INNOVATION ON THE PERFORMANCE OF MICROFINANCE BANKS: MEDIATING ROLE OF IT-ENABLED DYNAMIC CAPABILITIES

BY

Aliyu DantsohoMOHAMMED
P16ADBA9054

A THESIS SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES AHMADUBELLO UNIVERSITY

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE OF DOCTOR OF PHILOSOPHY (PhD) DEGREE IN BUSINESS ADMINISTRATION

DEPARTMENT OF BUSINESS ADMINISTRATION,
FACULTY OFADMINISTRATION,
AHMADU BELLO UNIVERSITY,
ZARIA, NIGERIA

FEBRUARY, 2021

Declaration

I declare that the work in this thesis entitled "EFFECT OF ENTREPRENEURIAL ORIENTATION AND BUSINESS MODEL INNOVATION ON THE PERFORMANCE OF MICROFINANCE BANKS: MEDIATING ROLE OF IT-ENABLED DYNAMIC CAPABILITIES"has been performed by me in the Department of Business Administration. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this thesis was previously presented for another degree or diploma in this or any other Institution.

Aliyu Dantsoho Mohammed

_____ Signature

_____ Date

Dedication

This research work is dedicated to Almighty Allah (SWA)

Certification

This thesis entitled EFFECT OF ENTREPRENEURIAL ORIENTATION AND BUSINESS MODEL INNOVATION ON THE PERFORMANCE OF MICROFINANCE BANKS: MEDIATING ROLE OF IT-ENABLED DYNAMIC CAPABILITIESby Aliyu DantsohoMohammed meets the regulations governing the Award of the Degree of Philosophy (PhD.) in Business Administration of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

Dr. Salisu Umar Chairman, Supervisory Committee	Signature	Date
Dr. M. I. Aminu Member, Supervisory Committee	Signature	Date
Dr. Musa Idris Member, Supervisory Committee	Signature	Date
Dr. Nasiru Abdullahi Head of Department	Signature	Date
Prof. S. A. Abdullahi Dean, School of Postgraduate Studies	Signature	Date

ACKNOWLEDGEMENT

All praise is due to Allah the Most Gracious, Most Merciful. Praise and peace be upon to His beloved Prophet Muhammad (SAW), his family and his companions, and whom, and by the will of God, we escape darkness into enlightenment. My profound gratitude, first of all, goes to Allah for good health and guidance through every stage of my life, this without whom I would never have come this far. I am forever indebted to Allah (SWA) and I have always said*all praise be to Allah.*

I wish to start by acknowledging the effort of members of my supervisory committee in persons of Dr Salisu Umar, Dr Mohammed Ibrahim Aminu and Dr Musa Idris for their selfless supervision and invaluable academic contributions to this thesis despite their tight schedules. It is not much to express my profound gratitude for their esteemed guide and beingmy academic mentors.

I would not forget the contributions ofmy lecturers in the PhD programme whose teaching serves as a foundation for this journey. In this regard, I would like to thank and appreciate Prof. Sheikh Abdallah, Prof. Sani Abdullahi, Prof. Bello Sabo, Prof. O. D. Y.Malachy, Prof. A.M Abu-Abdissamad Dr M. Y. Abubakar,Dr M. S. Badara and all other lecturers in the department who in one way or the other, contributed tremendously to the successful completion of this PhD programme.

My sincere gratitude also goes to my reviewers and examiners at various levels of my presentations in the name of Dr Idris Bugaje, Dr Nasiru Abdullahi, Dr Ladan Sahnun, Dr L. B. Dogarawa, Prof Usman and all other contributors at various sessions. I also thank the PhD coordinator,Dr Salisu Umar who has contributed at all levels of this study, may Allah reward them for their continuous encouragement and words of advice. I have learned from theirconstructive criticisms and your valuable contribution to improve the work. I am grateful and I pray that Allah increases youknowledge.

To my parents, I forever remain indebted for your kindness and prayers throughout my life. May Allah reward them with the best of rewards in this *Dunya* and *Akhira*. I am indeed overwhelmed and thankful to my loving wife, Bilkisu Muhammad for her care, patience, help and prayers geared towards my success. May her be among the women of Jannah. I am also thankful to my relatives may the almighty Allah bless and protect them and may them be successful in this world and hereafter. This gratitude also goes to the entire Dantsoho's family for your words of advise, support and prayers.

I also appreciate the contributions of all the research respondents who filled the questionnaire for their sincere efforts and sparing their valuable time which without their efforts and contributions it would have been impossible to come out with the findings. This section will not end without appreciating the effort of the departmental librarian Isah Tsalha, his colleagues, and other department's office assistants who provided the researcher with all the necessary assistance at their various capacity to see the completion of this study. Finally, my gratitude goes to some of the international and national contributors in the name of Prof Joe Hair, University of Alabama US, Prof Christian Ringle, Hamburg University of Technology Germany, Prof Marko Sarstedt, Otto-von-Guericke-University Magdeburg Germany, and Dr Faizan Ali, University of South Florida, Dr Kabiru Jinjiri Ringim, University of Darussalam, as well as Dr Nasiru Abdullahi, Dr Mohammed Ibrahim Aminu, from the Ahmadu Bello University, Zaria who havefrequently responded to my emails, text messages and phone calls even at odd times, requesting their clarifications on some recent issues in PLS-SEM approach. Your contribution has been a turning point in my academic career and therefore important to me which I will never forget. Also, I must confess that this place will not be enough to acknowledge many people who contributed to the success of this academic exercise, especially my PhD classmates. I still remember all your objective contributions andwould forever remain grateful for your candid opinions on this thesis.

TABLE OF CONTENTS

Cover Page

Fly Leaf

Title Page.

Declaration……i

Dedication ……ii

Certification……..……iii

Acknowledgement……...iv

Table of Content…….…vii

List of Figures…….……..….x

List of Tables……...…..xi

List of Abbreviations……...xii

List of Appendices……..xiii

Abstract……xiv

TABLE OF CONTENTS

CHAPTER ONE 1

INTRODUCTION 1

1.1 Background to the Study **1**

1.2 Statement of the problem **8**

1.3 Research questions **12**

1.4 Research objectives **13**

1.5 Research hypotheses **14**

1.6 Significance of the Study **15**

1.6.1 Theoretical Significance 15

1.6.2 Practical Significance 16

1.7 Scope of the Study **17**

1.8 Operational Definition of Variables **18**

CHAPTER TWO 21

LITERATURE REVIEW 21

2.1 Introduction **21**

2.2 Concept of Performance **21**

2.2.1 Models of Organisational Performance 24

2.2.2 Dimensions and Measurement of Performance 25

2.2.3 The Performance of MFB in Nigeria 36

2.3 Concept of Entrepreneurial Orientation (EO) **39**

2.3.1 Unidimensional versus Multidimensional Argument of EO 41

2.3.2 Role of Entrepreneurial Orientation 44

2.3.3 Dimensions of Entrepreneurial Orientation 47

2.4 Concept of Business Models (BMs) **54**

2.4.1 From Business Model to Business Model Innovation (BMI) 57

2.4.2 Definition of Business Model Innovation 59

2.4.3 Dimensions of Business Model Innovations 61

2.4.4 Roles of Business Model Innovations 66

2.5 Concept of Dynamic Capabilities **70**

2.5.1 Different Perspective on Dynamic Capabilities 75

2.5.2 Importance of IT-enabled Dynamic Capabilities 77

2.5.3 Dimensions of Dynamic Capabilities (DCs) 81

2.6 Review of Empirical Studies **88**

2.6.1 Entrepreneurial Orientation and Performance 88

2.6.2 Business Model Innovation and Organisational Performance 105
2.6.3 Dynamic Capabilities and Firm Performance 116
2.6.4 IT-enabled Dynamic Capabilities as Mediating Variable 127
2.7 Research Model 131
2.8 Theoretical Framework 137
2.8.1 Resource Based-View 137
2.8.2 Dynamic Capabilities Perspective 140
CHAPTER THREE 143
RESEARCH METHODOLOGY 143
3.1 Introduction 143
3.2 Research Design 143
3.3 Research Philosophy 144
3.4 Population of Study 145
3.5 Power Analysis and Sample Size 146
3.6 Determination of the Sample Size 148
3.6.1 Sampling procedure 151
3.6.2 Target Respondents 151
3.7 Variables Measurement 153
3.7.1 Entrepreneurial Orientation (EO) 154
3.7.2 Business Model Innovations (BMI) 155
3.7.3 IT-enabled Dynamic Capabilities (DCs) 155
3.7.4 Organisational Performance 156
3.7.5 Hierarchical Component Models (HCM) 157
3.7.6 Research Instrument 158
3.8 Validity and Reliability 159
3.8.1 Validity 160
3.9 Pilot Study 161
3.10 Source and Methods of Data Collection 165
3.11 Methods of Data Analysis 166
CHAPTER FOUR 169
DATA PRESENTATION AND ANALYSIS 169
4.1 Introduction 169
4.2 Response Rate 170
4.3 Non-Response Bias 171

4.5 Common Method Bias 174
4.6 Preliminary Analysis 176
4.6.1 Data Coding and Screening 177
4.5.7 Normality 178
4.6 Profile of the Respondents 179
4.8 PLS-SEM Path Modeling 181
4.8.1 The Measurement Model 183
4.8.2 Specification of the Higher-Order Constructs 192
4.8.3 Estimation of the Higher-Order Constructs 195
4.8.4 Validation of the Formative Models 205
4.9. The Structural Model 207
4.9.1 Coefficient of Determination for Direct Relationships 210
4.9.2 Assessment of the Effect Size for Direct Relationship 212
4.9.3 Predictive Relevance of the Direct Relationship 213
4.9.4 Predictive Accuracy of Model (Qpredict) 214
4.9.5 The Importance Performance Analysis (IPMA) 216
4.10 Testing Hypotheses for Mediation relationships 218
4.10.1 Coefficient of Determination for Mediating Relationships 224
4.10.2 Assessment of the Effect Size for Mediating Relationship 225
4.10.3 Assessment of the Magnitude of Mediating Effect 230
4.10.4 Fitness of the Model 231
4.10.5 Predictive Relevance of the Model 232
4.10.6 Predictive Accuracy using PLSPredict 233
4.10.7 The Important Performance Analysis (IPMA) 236
4.11 Discussion of Findings 241
4.11.1 The effect of EO and BMI on Organisational Performance 243
4.11.2 Mediating role of IT-enabled DCs 250
4.12 Contributions of the Study 254
4.12.1 Theoretical Contributions 254
4.12.2 Managerial Contributions 256
4.12.3 Methodological Contributions 257
CHAPTER FIVE 259
SUMMARY, CONCLUSION AND RECOMMENDATIONS 259
5.1 Summary of findings 259

5.2 Conclusion **262**
5.3 Recommendations **263**
5.4 Limitations and Directions for future studies **267**
REFERENCES 268
APPENDIX I. RESEARCH INSTRUMENT 318
APPENDIX II. COMMON METHOD BIAS 324
APPENDIX III SMARTPLS OUTPUTS 328
APPENDIX II. POPULATION FRAME OF NIGERIAN MICROFINANCE BANKS (MFB) as at 13th Feb., 2019 331

List of Figures

Figure 2.1 Research Model.....…..……..……..…….....132

Figure 3.1 The Output of a Priori Power Analysis……144

Figure 3.2 Procedure for Testing Mediation……..…146

Figure 4.1 Discriminant Validity ……..……....189

Figure 4.1 Extended Repeated indicator……....197

Figure 4.2EmbeddedTwo Stage…….....……..…….....199

Figure 4.3Disjoint Two……...……..…201

Figure 4.4Bootstrapping Direct Relationships……..212

Figure 4.5Importance Performance Map Analysis for direct relationship……220

Figure 4.6Procedure for mediator analysis:……..…….....222

Figure 4.7PLS Algorithm for mediation model..……..224

Figure 4.8Bootstrapping for the mediation……225

Figure 4.9Importance Performance Map Analysis Graphic……..236

Figure 4.10Importance-Performance Map analysis at construct level……..237

Figure 4.11 Importance-Performance Map analysis at indicator level……..238

List of Tables

Table 1.1 Definition of Variables……..…….……19

Table 2.1Different Views on the Role of Dynamic Capabilities Construct……75

Table 3.1Summary of Measures and Measurement Scale ……156

Table 3.2Pilot Test: Construct Reliability and Validity……159

Table 3.3Pilot Test: Discriminant Validity……159

Table 3.4Pilot Test: VIF and Significance for Formative Construct/Indicators……...……174

Table 4.1Questionnaire Distribution and Response Rate…..……168

Table 4.2Test of Non-response Bias: Independent-Samples T-Test..……...…170

Table 4.3Respondents Profile…….…….....192

Table 4.4Indicator Reliability……197

Table 4.5Discriminant validity using HTMT criteria..…….……..…210

Table 4.6Measurement Model: VIF and Indicators Significance Testing Result ……..…214

Table 4.7Structural Model: Test of Significance for Direct Relationships...……215

Table 4.8Coefficient of Determination for Direct Relationships: R-Squared...…….216

Table 4.9Effect Size for Direct Relationships: F-Square ……...……...218

Table 4.10Predictive relevance of Direct Relationship Model ……218

Table 4.11Structural Model: Bootstrapping Results for Indirect Effect model.……...…….....225

Table 4.12Test of Significance for Mediating Relationship...……226

Table 4.13Effect Size for Mediating Relationships: F-Square...……228

Table 4.14Result of the Magnitude of Mediating Effect……228

Table 4.15The overall Model fit…….……230

Table 4.16Predictive Relevance of the model..……..……233

Table 4.17Prediction Summary……..……234

List of Abbreviations

Business Models (BMs)…….

Business Model Innovation (BMI)..…….

Central Bank Nigeria (CBN)……...……..

Entrepreneurial Orientation (EO)…….

Dynamic Capabilities (DCs) ……..……..

Hierarchical Components Model (HCM)……...

IT-enabled Dynamic Capabilities (IT-enabled DCs)……

Microfinance Bank (MFB)……

National Deposit Insurance (NDIC)…….

Organisational Performance (Org-Perf.)……...

Resource Based-View (RBV)……

Small and Medium Enterprises Development Agency of Nigeria (SMEDAN)……

ABSTRACT

Performance of microfinance banks (MFB) has become an important issue among the scholars, practising managers and policymakers due to the important role of the MFB inthe nation's economic growth and development.Since they can serve as an alternative source of funds for the active poor and unbanked people. In spite of all these, the MFB in Nigeria has been reporting poor performance by days and this undermined the government efforts of breaking the cycle of the predominant poverty, unemployment, and economic stagnation right from the grassroots level. This study was set to examine the effect of entrepreneurial orientation and business model innovation on the performance of microfinance banks throughthe mediating role of IT-enabled dynamic capabilities. Cross-sectional research design was used to collect data from the respondents. The population of the study consists of microfinance banks through which the study used to draw the sample size. A PLS-SEM approach was used with aid of SmartPLS 3.2.8 to analyse the data. The result shows that both entrepreneurial orientation and business model innovation were significantly and positively related to the performance of MFB in Nigeria. The result also indicates that IT-enabled DCs mediates the effect of entrepreneurial orientation (EO), business model innovation (BMI) on organisational performance of microfinance banks. However, individually, the linear model has shown that among the three dimensions of EO,only proactiveness and innovativeness have a direct significant effect on organisational performance of MFB. The result did not indicate a significanteffect of competitive aggressiveness onthe performance of MFB. On the other hand, value creation, value proposition and value capture were significantly related to the organisational performance of MFB. At the mediation model, it was found that IT-enabled DCs mediates the effect of all the six antecedent constructs of proactiveness, innovativeness, competitive aggressiveness as well as value creation, value

delivery and value capture on organisational performance of MFB in Nigeria. The finding of this study reveals that a high level of EO and BMI leads to a high level of organisational performance of MFB in Nigeria and IT-enabled DCs serves as a good mediator. This study recommends that MFB managers to continue to pursue initiatives that promote entrepreneurship and business model innovation in order to increase both breadth and depth of outreach to active poor and unbanked people thereby increasing their performance.This is the first study to combine the effect of EO, BMI and IT-enabled DCs on organisational performance of MFB. It is,therefore, contributes to the development of literature in this direction.

CHAPTER ONE
INTRODUCTION

1.1 Backgroundto the Study

Performance is fast becoming a key instrument in both entrepreneurship, innovation and strategic management studies (Teece, 2007; Teece, 2017; 2018)as several researchers are using it as a dependent variable in their studies (Richard, Devinney, Yip& Johnson, 2009; Santos & Brito, 2012; Omotayo, Anthonia, Hezekiah, Odunayo, Opeyemi& Odion, 2020). It is,therefore, one of the most important constructs in achieving organisational aims and objectives (Richardet al., 2009). To this end, organisational performance is thus the heart of understanding organisation's health and stability since it allows managers to measure input against the output (Ringim, Razalli, & Hasnan, 2012) which leads to a better decision making in terms of resource allocation and overall efficiency. However, despite its relevance in entrepreneurshipand strategic management studies, research into organisational performance has been suffering from problems such as disagreement of on a single definition, selection of specific indicators and little consideration of its dimensions (Crook, Ketchen, Combs& Todd, 2008; Richard, *et al.,* 2009; Santos & Brito, 2012; Taouab & OIssor, 2019). These limitations have made it difficult for the researchers to measure organisational performance comprehensively in their research models (Glick, Washburn, & Miller, 2005*;* European Union bank [Eubank], 2010;Al-mutari, Elnihewi, Fadzil&Mohamed, 2014; Idroes, 2015; Jianu, Jianu & Turlea, C. 2017; Taouab & OIssor, 2019; Omotayo, et al., 2020).

The first serious discussion and analysis of organisational performance began during the 1950s with scholars such as Georgopoulos and Tannenbaum (1957) who described performance in terms of efficiency where organisations achieve their goals without excessive effort from their

members. Several decades after that, a significantvolume of literature has been documented on organisational performance (Camelia & Luminita, 2013). These studies showed that from 1970s to date, conceptual discussion on organisational performance focused on areas such as flexibility, adaptability, profitability, market penetration, growth and development (Jenatabadi, 2015; Ray, 2016). Scholars such as Cohen, Fenn and Konar (1995) consider performance to mean improving value-cost, not only in financial terms. Other scholarsalso fall into this category(Barbuta-Misu, 2008; Antony & Bhattacharyya, 2010; Jenatabadi, 2015; Wanke, Barros & Emrouznejad, 2016).

Performance ofBanks has become a central issue for research in the global financial industry due to the importance of banks in facilitating global trade and investments (McKinsey, 2017). Banks encourage savings and investment, provide the capital needed for development; enhance local and international trade as well as providing managerial and financial advice (Sanusi, 2012). Hence, the strategic roles of the banks to thenation's economic growth and development cannot be overemphasised. The real sector, as one of the productive part of the economy, also relies largely on banks to access credit, the same way government and other institutions raise funds through banks to finance their economic activities (Sanusi, 2014). The same goes for micro-entrepreneurs at the grassroots level.

However, empirical evidence suggested that the active poor section of the society across the countriesdo not have access to the financial services from conventional banks (Ferdousi, 2013).And this denial limits the ability ofmost micro-entrepreneurs to realise their full potential (Annual Survey of the Small Medium Enterprise Development Agency of Nigeria [SMEDAN] annual report, 2017). To address these predicaments, the term Microcredit or Microfinance was then introducedas the practice of providing small loans to poor and unbanked people who are not

conventionally being served by the commercial bank (Central Bank of Nigeria [CBN], 2017). This financial innovation was first introduced in Bangladesh between 70s and 80s; by the Nobel laureate Mohammad Yunus and the orgaznization he founded known as Grameen Bank (Ferdausi, 2013). Several decades later, microfinance has not only been used in Bangladesh but in many countries with some modifications based on contextual differences (Ferdousi, 2013; Sinha & Navin, 2018). In other words, the microfinance banks subsector has drastically changed from being socially oriented to a more commercialised oriented business of micro-credit or microfinance by adopting more innovative and demand-driven financial services while maintaining institutional capability over time.

Although in some countries, the MFB subsector has grown to reach millions of borrowers (Gul, Podder & Shahriar, 2017), others continue to report poor performance due to its inability to reach a wider customer base, generate a deposit and provide loans to economically active entrepreneurs. For instance, several reports from both the Central Bank of Nigeria [CNB], (2017) and the Nigeria Deposit Insurance Corporation [NDIC], (2018) as key regulatory agencies for the financial institutions in Nigeria repeatedly reported poor performance of the MFB in Nigeria.It is imperative to note that, the recentSmall Medium Enterprise Development Agency of Nigeria [SMEDAN]annual report (2017) indicates that out of the 73,083 loans granted to Micro, Small, and Medium Enterprise (MSMEs) in the period under consideration the MFB subsector only processed 3,414 loans to MSMEs which is exactly 4.7% of the total loans. On the other hand, the commercial banks subsector was able to process about 67, 173 loans which are equivalent to 91.9% of the total loans granted to MSMEs (SMEDAN. 2017), while the remaining 3.4% was granted by development banks and other financiers. This is even more worrisome considering the fact that Nigeria has over 41 million (41,543,028) active micro enterprises (SMEDAN, 2017),

which supposed to get access to financial services through the MFB subsector (CBN, 2017). This revelation from the authorities indicates the inability of the MFBto reach a wider customer base thereby attracting more deposit and granting loans to most economically active enterprises in the Nigerian context (SMEDAN, 2017).

Several reports have shown that the Nigerian MFB subsector suffers from poor performance in terms of shrinking market share, poor customer service delivery, insolvency, competition intensity and higher transaction cost, as well as high levels of non-performing loans (CBN Financial Stability report 2017; CBN Nigerian Microfinance Newsletter, 2017). A similar report also indicates that from 2011 to 2017, the sector continues to decline in performance owing to the closure of 224 MFB in 2011-2012, and another closure of 83 MFBin 2014 (CBN Microfinance Newsletter, 2017). Likewise, another report published by the Nigerian Microfinance Newsletter (2017) shows that the Nigerian MFB subsector has continued to grapple with a lot of performance problems due to nonperforming loans, poor customer service, changing regulations and undue competition from other conventional banks. In what appears like confirming all the preceding performance problems, the CBN Financial Stability Report (2017) also disclosed that, out of the 820 reporting MFB in 2013, only 622 were able to operate through the year-end 2016; due to poor performance. In addition, as at 27th September 2018, the CBN revoked operating licenses of a total of 182 other financial institutions. Out of this, 154 were MFB (CBN Review, 2018),clearly indicating that theperformance problems across theNigerian banking industry is more wearisome in the MFB subsector.

It is against this backdrop that, this study argues that as Nigeria move towards digital economy, the test of strength of bankson the new ecosystem (both entrepreneurial and innovation ecosystems) will be based on how effective an individual MFB is, in opportunity identification

and exploitations processes (Eshima &Anderson, 2017; Teece, 2010) which other scholars say can be best achievedthrough the strategic implementation of BMIconsists of value creation, proposition and value capture(Clauss, 2017; Teece & Linden, 2017). The Nigerian MFBalso must be able to behave proactively, innovatively and compete aggressively in order to improve performance, restore the confidence of customers, shareholders, investors and alike (Miller, 2011; Wales, 2016).

In other words, proactive innovators are organisations that strategically commit themselves toward advanced service strategies as the main pillar for competing in the new ecosystem(Teece, 2016). These organisations (entrepreneurial) have a strong entrepreneurial orientation (EO) that push them to find proactively new ways of bringing value to customers (Teece, 2007, Ramash, 2016), acting innovatively through learning, experimentation and creativity, as well as behaving aggressively in the market; both in the cause of delivering new products and services (Zhang, Li & Xu, 2014). Therefore, both EO and BMI are required as soon as these market changes are perceived and the need to differentiate oneself from competitors arises (Teece, 2010; 2016). Under this, entrepreneurs are capable of capturing the existing markets, take both the customers, employees and the even assets of the less competitive aggressive banks within the ecosystems (Hitt, Ireland,Camp& Sexton, 2001). To overcome these problems and challenges, EO and BMI are thus required for these organisations to compete successfully within the Nigeria banking sector. In this current study, the EO "aspects of decision-making styles, methods, and practices" of the MFB is operationalised to mean bank's strategic orientation concerned with identifying opportunities and creating a set of resources through which opportunities can be explored and exploited using specific capabilities (Wales, 2016). However, as Teece (2012) argues, a business that stands still is at risk of extinction, therefore organisations must employ dynamic capabilities

(DCs) to serve as a buffer zone between possessions of resourcesthat are unique, rare, and non-transferable and changing business environment (Teece, Pisano, & Shuen, 1997; Wade & Hulland 2004; Teece, 2007). Conceptually, DCs are backgrounds of the firm's strategic routines by which the entrepreneurial managerbuild, renew,integrate resources and competencies in order to generate and accumulate performance over time (Eisenhardt & Martin, 2000). According to Tecce, *et al.* (1997) DCs are also coordinative mechanisms that integrate and reconfigure the existing firm resources and competencies so as to produce new capabilities and core competencies to outperform competitors. In this study, borrowing from other scholars (Teece, 2007; Pavlou & Sawy, 2011) IT-DCs comprise five core processes or phases (sensing, learning, integrating, coordinating and reconfiguration)which interrelate in a logical sequential order to improve the performance of theMFB.

Indeed, many studies that include systematic reviews and bibliographic analyses brought together the theoretical and empirical discussion on DCs in relation to organisational performance (Wade & Hulland, 2004; Wang & Ahmed, 2007; Ambrosini & Bowman, 2009; Di Helfat & Martin, 2015;Pezeshkan, Fainshmidt, Frazier, Nair, & Markowski, 2016). Out of the two core tenet of the discussions on DCs and its effect on performance (Helfat & Peteraf, 2014), is one popular view suggesting that DCs contributes to organisational performance, and the value of DCs is higher in technologically disrupted industries (Teece *et al.,* 1997; Tecee, 2010; Teece, 2014; Teece, 2016; 2018) such as the banking sector (Lin, 2007; Ringim et al., 2012; Idroes, 2015). Regrettably, empirical evidence in this perspectiveremains confusing (Fainshmidt, Pezeshkan, Lance, Frazier, Nair& Markowski, 2016).Because the mechanism to which DCs is related to organisational performance remains unresolved where some scholars argue for the direct effect of DCs on performance (Xiao & Dagusputa, 2009; Fainshmidt,*et al.,* 2016), other

claims for the indirect effect of DCs towards organisational performance in both theory and practice (Lin & Wu, 2014; Teece, 2018).

In response to this literature gap, few studies (Lin & Wu, 2015; Aminu, 2015; Najmi, Kadir & Kadir, 2018) have attempted to fill this literature gap by investigating the mediating and moderating role of DCs in relation to performance. For instance, Lin and Wu (2014) empirically examined the connection between organisational resources and performance through the mediating effect of DCs. Aminu (2015) examinedthe relationship between intellectual capital and firm performance through the mediating effect of DCs. Of more recent, Najmi et al. (2018) employed data from 100 hospital management staff to investigate the influence of strategic leadership and knowledge management on the performance through the mediating effect of DCs. However, despite the contribution of these studies toward understanding the effect of DCs on performance,none of these studies (Proeller, Kroll, Krause, & Vogel, 2011; Aminu, 2015; Najmi, *et al.*, 2018) has included BMI and IT-enabled DCs in their research model. But the role of IT capabilities toward organisational performance cannot be overemphasised since it (IT capabilities) serves as a prime enabler of organisational transformations and subsequence performance (Hammer & Champy, 1993). Of more recent, there exists a renewed calls from the prominent scholars (Teece, & Linden, 2017; Teece, 2018) on the need to conduct new empirical studies to further examine how DCs can relate to performance under the different influence of firm's strategic resources (Pavlou & Sawy, 2011). It is against this background that, the study was set to examine the effect of EO, BMI on organisational performance of MFB through themediating role of IT-enabled DCs.

1.2 Statement of the problem

The need to investigate conditions under which entrepreneurial orientation is eitherrelevant or detrimental to performance has been recognisedin the existing literature (Covin& Miles, 1999; George & Bock, 2011). But the majority of those studies examined the direct effects of EO onperformance (Rauch, Wiklund, Lumpkin, & Frese, 2009; Miller, 2011). This is despite the fact that organisational performance is largely dependent upon its business model design characteristics (Zott & Amit, 2010), and DCs enabled this relationship (Teece, 2016, Teece & Linden, 2017; Teece, 2018).

Although, from the meta-analysis of the previous studies (Rauch *et al.*, 2009 Rigtering, 2016); an EO constructs can be said to be a strong predictor of organisational performance. At first sight, the existing literature led to the conclusion that higher EO leads to increased performance and the relationship between EO and firm performance is linear and significant (Rauch et al., 2009; Covin & Wales, 2015). But the truth is that thesignificant effect of EO onorganisational performance does not hold homogeneously for all contexts (Zehira, Can& Karaboga, 2015). More recently, it becomesclearer that the relationship between EO and firm performance is curvilinear which suggest the need to include intervening variables that will determine how EO affects performance (Zehir &Karaboga, 2015). Furthermore, some scholarshave the belief that both EO and BMI can only be used to improve organisational performance over time if it is put under the intervention of DCs so as to address the changeability of business environment (Aminu, 2015: Dantsoho, 2016). But this did not mean to conclude that the link between entrepreneurial orientation and performance is not linear and significant(Andersen, 2010 Linton, 2016). Rather, thecombined creation and exploitation of resources by a firm and its clients are the basis of the Resource Based-View (RBV) approach (Barney, 1991);which critics say the

performance gained through RBV can be distorted when the environment changed (Winter, 2003). Consequently, it can be argued that the MFB' ability to recogniseand exploit business opportunity through both EO and BMI can bestbeachieved over time if it is put under the intervention of a firm's DCs (Teece, et al., 1997; Teece, 2010).

Furthermore, Business model as a concept attracts several criticisms from scholars that see it as a mere conceptual and somehow confusing construct, as the researchers are still battling to define the concept and to have a common language that can be adopted for future studies (Zott,Amit &Massa, 2011). Teece and Linden (2017) declare that the relationship between business model innovation and firm performance is largely known to researchers at the theoretical level. They further, suggests that; studies that provide a better understanding of business model design, innovation, implementation,and changes, will also pinpointthe importanceof Dynamic Capabilities (DCs).And this view has been supported in the work of Andreini and Bettinelli (2017) whoconducted a meta-analytical review of the origins and theoretical development of BMI, and its relations with organisational performance and suggested that future empirical studies could be extended to include BMI enablers by using mediation as the third variable to simultaneously take account of the effects of these variables on organisational performance. It is also in line withcalls from strategic entrepreneurshipscholars that future empirical studies should critically examine the effect of EO, BMI and DCs onperformance (Wales, 2016; Teece & Linden, 2017; Teece, 2018).

Similarly,upon all the presence of several performance measures, what we know about bank performance so far, is largely on financial terms ("European Union bank" 2010; Olson & Zoubi, 2011; Kao& Liu, 2014; Kaur & Gupta, 2015; Ray, 2016; CBN financial stability report, 2017). Likewise, among the few studies that successfully examined the influence of business model

innovation on organisational performance used financial performance as the dependent variable for their studies (Aspara, Hietanen & Tikkanen, 2010; Aspara, Lamberg, Laukia, & Tikkanen, 2013). Although, the current study expects this kind of approach (using financial measures alone) from the previous studies, as these studies(previous) initially perceived BMI as a product of dotcom companies which viewed it, as an opportunity to minimise costs and increase profit margin. But this measurement is inadequate in measuring the overall firm performance (Kaplan & Norton 1996). Recent eventacross the globe(global financial crisis) also show thatfinancial measurement is inadequate in an environment of much higher volatility such as the banking sector (European Central Bank, 2010). Financial indicators do not take into account eitherinstitutions' long-term strategy, nor does it give the overall picture of performance (European central bank, 2010). It is, therefore, appropriateto come up with a more "informed" assessment of organisational performance using other indicators from marketing, customer service and operational efficiency perspectives. In particular, desirable featuresof MFB's performance measures may cover market share, sales growth, and customer service delivery in branches, zero error operational process as well as stability and capabilityto be a forward-looking organisation(Bharadwaj, 2000; Ringim et al., 2012; Elnihewi, Fadzil &Mohamed, 2014). It is, therefore, no surprise that the Nigerian Microfinance banks are underperforming over the period of time (CBN-Financial stability review, 2018).

More so, the concept of DCs theorem has recently been incorporated into Information systems (IS) research with the sole aim of integrating the role of Information Technology (IT) as the prime enabler of organisation performance in rapidly changing business environment (Bhatt & Grover, 2005). From its inception, IT-enabled DCs was defined as the "ability to integrate, build, and reconfigure IT-based resources and competences to adjust to rapidly changing

environments" (Xiao &Dasgupta, 2009). This definition extends IT capability theorem by including DCs perspective to appreciate the role of IT in organisational studies. The concept of IT-enabled DCs provides a solidfoundation in explaining a firm competitive advantage and sustaining superior performance(Dantsoho, 2016). Xiao and Dasgupta (2009) also postulated that, although successful firms may have utilised RBV approachto attain competitive advantage and superior performance but it does not suffice to explain such achievement by them. They argued that firms with superior performance are those who can effectively respond to both market and technological changes by developing and redeploying internal and external competencies so as to improve performance (Teece *et al.*, 1997).

Even though there is still no universally agreed definition of business model innovation (Saebi,Lien & Foss, 2016),several authors defineBMI in relations to "value creation, proposition, and value capture innovation". That is, the patterns and techniques firm deploys to create value, propose such value to potential customers and the mechanisms through which such firm capture part of the value to earn a profit, as well as links between these elements in business model architecture (Clauss, 2017; Foss & Saebi, 2015;Magretta, 2002; Teece, 2010; Wirtz, Gottel & Daiser, 2015). Recently, Teece (2010) has theoretically linked business model designs to EO by documenting that business model indicates "management's hypothesis about what customers want, how they want it, and how the enterprise can be organized to best meet those needs, get paid for doing so, and make a profit". Of more recent, there is a renewedcall for empirical studies to validate this assertion (Teece & Linden, 2017; Teece, 2018). In Nigeria, this study argues that the MFBneed to be pro-active, innovative and compete aggressively to increase performance. In this study, EO sub-dimensions are modified to include proactiveness, innovativeness, and competitive aggressiveness as multi-dimensional. The choice of EO dimensions for this study is

on the fact that high level of EO indicatesa bankwillingness to do things differently from their rivals (Miller, 2011; Wales, 2016), which meanEO plays a vital role of increasing firm exploration and experimentation (Kreiser, 2011) thereby enabling creation and diffusion of knowledge as well as the exploitation ofnew opportunities (Schumpeter, 1912; Teece *et al.*, 1997). This is in line with the suggestion that "EO represents a larger concept thansimply the sum of its dimensions, and that, these dimensions are merely reflections of this larger unobservable construct that represents the firm's strategic posture" (George & Marino 2011: 1002).It is against this background, this study seeks to answer the following research questions and objectives.

1.3 Research questions

1. Is there a relationship between pro-activeness and organisationalperformanceof microfinance banks in Nigeria?
2. Does Innovativeness affect organisational performance of microfinance banks in Nigeria?
3. Is there a relationship between competitive aggressiveness and organisational performance of microfinance banks in Nigeria?
4. Does value creationinnovation affect the organisational performance of microfinance banks in Nigeria?
5. Is therea relationship between value propositioninnovation andorganisational performance of microfinance banks in Nigeria?
6. Does value capture innovation affect the organisational performance of microfinance banks in Nigeria?

7. DoesIT-enabledDCsmediate the relationship between entrepreneurial orientation and organisational performance of microfinance banks in Nigeria?

8. DoesIT-enabledDCsmediate the relationship between business model innovations and organisationalperformance of microfinance banks in Nigeria?

1.4 Research objectives

The main objective of this study is to examine effect of entrepreneurial orientation and business model innovation on Microfinancebanks performance: mediating role IT-enabled DCs, using data from the Nigerian banking sector. Other specific objectives of the study include the following.

1. To determine effect of pro-activeness on organisational performance of microfinance banks in Nigeria.
2. To investigate the effect of innovativeness on organisational performance of microfinance banks in Nigeria.
3. To examine the effect of competitive aggressiveness on organisational performance of microfinance banks in Nigeria.
4. To determine the effect of value creationinnovationon organisational performance of microfinance banks in Nigeria.
5. To investigatethe effect of value propositioninnovationon organisational performance of microfinance banks in Nigeria.
6. To examine the effect of value capturedinnovation on organisational performance of microfinance banks in Nigeria.

7. To determine whether IT-enabled dynamic capabilities mediatesthe effect of entrepreneurial orientation and organisational performance of microfinance banks in Nigeria.
8. To explain whether IT-enableddynamic capabilities mediates the effect ofbusiness model innovations onorganisational performance of microfinance banks in Nigeria.

1.5 Research hypotheses

Based on the above research questions and objectives the following research hypotheses are formulated to guide the study.

1. H_{01}: There is no significant effect of proactiveness on organisational performance of microfinancebanks in Nigeria.
2. H_{02}: There is no significant effect of innovativeness onorganisational performance of microfinancebanks in Nigeria.
3. H_{03}: There is no significant effect of competitive aggressiveness onorganisational performance of microfinancebanks in Nigeria.
4. $H_{04:}$There is no significant effect of value creation innovation onorganisational performance of microfinancebanks in Nigeria.
5. $H_{05:}$There is no significant effect of value proposition innovation onorganisational performance of microfinancebanks in Nigeria.
6. $H_{06:}$There is no significant effect of value capture innovation onorganisational performance of microfinancebanks in Nigeria.
7. $H_{07a:}$ IT-enabledDynamic capabilities does not mediate the effect of proactiveness onorganisational performance of microfinancebanks in Nigeria.

8. H_{07b}: IT-enabledDynamic capabilities does not mediate the effectinnovativeness onorganisational performance of microfinancebanks in Nigeria.
9. H_{07c}: IT-enabledDynamic capabilities does not mediate the effect ofcompetitive aggressiveness on organisational performance of microfinancebanks in Nigeria.
10. H_{08a}: IT-enabledDynamic capabilities does not mediate the effect value creation innovation onorganisational performance of microfinancebanks in Nigeria.
11. H_{08b}: IT-enabledDynamic capabilities does not mediate the effect value propositioninnovation onorganisational performance of banks in Nigeria.
12. H_{08c}: IT-enabledDynamic capabilities does not mediate the effect value capture innovation on organisational performance of microfinancebanks in Nigeria.

1.6 Significance of the Study

The contributions of the study to existing literature are in two folds as follow.

1.6.1 Theoretical Significance

This study was proposed to examine the effect of entrepreneurial orientation (EO) and Business Model Innovations (BMI) on the performance microfinance banks throughmediating role of IT-enabled DCs. It is therefore expected to significantly contribute to the literature in various direction. Firstly, this study is expected to explain the relationships between Resource-Based View (RBV) theory and Dynamic Capabilities (DCs) based IT capability theorem. Secondly, it is set to give a typical nature of relationships between specific EO dimensions and BMI in relation to performance of specific firms and industries which is very rare in the current literature (Wales, 2016). This study thus serves as an extension of previous entrepreneurship studies that single-handedly examines the effect of EOand or BMI, in relation to performance. From the Information Systems (IS) research perspective, this research will serve as a continuation of the

previous studies that looked into the relevance of technological innovations in solving organisational performance deficiencies,particularly in the MFB subsector. Although, previous studies have looked into the relevance of using IT capabilities (including those that are dynamic in nature) to re-engineered business processes so as to address the performance problems of a firm.But existingstudies did not include EO and BMI in their research model, neither considers the mechanism by which IT-enabled DCs link to performance. This study,therefore, is an attempt to bridgethe literature gap in this direction.

This research effortfurther reinforces the suggestion that the influence of DCs on organisational performance has not been adequately explored in developing countries and Nigeria in particular. In other words, previous studies had either neglected or overlooked the role of IT-enabled DCs that are very difficult to understand and imitate by competitors. Consequently, the current study would hence enable comparison and cross country validation of theoretical discussion of the IT-enabled DCs effect on its antecedence and organisational performance using data fromspecific firms and industries. Precisely, the current studyexamines the role of IT-enabled DCs which include things such as sensing business opportunities, learning prevailing conditions in order to gain new market insights that can be integrated with existing knowledge for better coordination, integration and reconfiguration of firm's resources and capabilitiesto improvethe performance of MFB.

1.6.2 Practical Significance

As expected, this studyprovides empirical evidence on the effect of entrepreneurial orientation, and business model innovations onorganisational performance through the mediating role of IT-enabled DCs. By achievingthis, this study could help MFBmanagers to better understand the complexity of the IT investments in different market situations. As managers face a dilemma on

‘next technological investment on the new ecosystem, this study will shed more light on how EO dimensions and BMI can help organisations to redefine their value offering in response to market changes. This, in turn, will help to expanditscustomer base and overall performance within the banking sector.

As the financial inclusion strategy continues to receive increasing recognition among regulatory, managers and scholars,the findings would help policymakersto build a sound MFBsubsector capable of bridging the gap betweenthe banked and unbanked people across the country. This was made possible, by addressing questions such as what types ofIT-enabled DCs are the most helpful for changingfunctional competenciesof MFBto improve performance? Are there specific combinations of EO, BMI, and DCs that can help to ensure efficient MFB?As expected, this studygivesthese valuable insights for managers toselectthe type of resource and capabilitiesthat improve performance.

1.7**Scope of the Study**

This studyis set to examine the effectof Entrepreneurial orientation, Business ModelInnovation on the organisationalperformance of banksin Nigeria through a chain of intermediate variables. Organisational performance as dependent variable shall bemeasured in financial and non-financial dimension. While entrepreneurial orientation was measured in terms of proactiveness, innovativeness, competitive aggressiveness as well as value creation, value proposition and value capture as independent variables. For the intermediate variables,IT-enabled Dynamic capabilities standas mediator.The banking sector was chosen due to several reasons. Firstly, banks play an important role in financing economic activities which include young, and vibrant entrepreneurial firms (Sanusi, 2012; Idroes, 2015). Therefore, even with increasing number of venture capitalist in Nigeria, empirical evidence confirmedthat the banking sector continue to play an important

role in the financing of entrepreneurial activities. Secondly, information intensity and other reforms mainly on e-banking systems which go along with intensive investments in IT capabilities to compliance with regulatory requirements make this study important. The banking industry is also among the early Information Technology (IT) adopters in Nigerian context (Ringim, 2012; Dantsoho, 2016). At the inception,conventional banks are the focus of empirical studies when it comes to IT adoption in Nigeria. However, the government continue to intensify its campaign and policy implementation toward IT standards benchmarking in order to achieve prudent and efficient financial service delivery across the country. Thus, it is long overdueto examine the role of resources and capabilities in performance MFB in Nigeria. This sector is chosen based on the role it plays in financing the economic activities of poor and unbaked people which amount to about 65% of the total population (CBN, 2017). Despite this importance, it is on record that MFB subsector witnessed tremendous growth in its early stage of development as well aspersistent declines in performance with closedown of over 400 MFBbetween the years2011 to 2017 (CBN Microfinance newsletter, 2017).

To this end, management staff arein a better position to rate the perceived performance of their organisationswithin the last three years of operations. These respondents are chosen on the basis that previous studies have shown that organisations are the reflections of their top management, and therefore are important for strategic entrepreneurship studies (Hambrick & Mason, 1984; Teece, 2010).

1.8Operational Definition of Variables

Definitions of the proposed research variables are presented in Table 1.1

Table 1.1
Definition of Variables

Variable:	Operational definition
A. Entrepreneurial orientation	Entrepreneurial is operationalized to mean firm's strategic orientation that deals with opportunities identifications and creating a set of resources through which identified opportunities can be explored and exploited using specificresources and "entrepreneurial aspects of decision-making styles, methods, and practices" of the MFB. In this study EO dimensions thus involve the ability of a firm to proactively identify opportunity, innovate and acts aggressively ahead of its rivals.
Proactiveness	Proactiveness is the propensity to seek first-mover advantage and forward-looking behaviours (Lyon, Lumpkin, & Dess, 2000) that can be used to shape firm's business environment through introductionof a new processes, products or services ahead of rivals.
Innovativeness	Innovativenessis operationalised as creative ideas associatedwith the creation and delivery of services. It thus involves experimentation and creativity in the course of delivering the result ina newproduct, services or IT processes.
Competitive aggressiveness	Refers to "a firm's propensity to directly and intensely challenge its competitors toachieve entry or improve position, that is, to outperform industry rivals in the marketplace" (Lumpkin & Dess, 1996:148). This is study viewed competitive aggressiveness asbank'smoves to achieve superior performance in the market by challenging the status quo to bring in the new innovative products and services to potential customers, market and industries through disruptive innovations.
Business Model Innovations (BMI)	BMI is defined "as a system of interconnected and interdependent activities that determine the way a firm does its business with customers, vendors and alike" (Amit & Zott, 2012). It is,thus, based on the logic of satisfying the perceived marketneeds, along with defining which parties or unit will perform a particular activity and the linkage between these activities. BMI is operationalised to include "three dimensions of value creation value proposition, and value capture"(Schneider &Spieth2015)
Value creation Innovation	Value creation represents the key processes, resources,and partners necessary to createa value proposition to potential customers and clients in the ecosystems.

Value proposition Innovation	Value delivery describes to whom the value proposition is addressed and how it is distributed. It is defined as a means by which a firmestablishes interactions with the customers in order to providesuperior value better than its competitors.
Value capture Innovation	Defines howthe value proposition is transformed into a revenue stream and then captured as profit. It specifically focuses on how the revenues are generating mechanism change that depends onhow the cost structure of the bank reduces.

Variable	Definition
C. IT-enabled Dynamic Capabilities	Operationalise as the firm's ability to focus on building, renewing, integrating, and reconfiguring IT resources and competencies in response to dynamicallychanging business environments. Is structured in five dimensions (Mikalef, 2016) as follows.
1. Sensing	Sensing is defined to mean an "ability to spot, interpret, and pursue opportunities in the environment" (Pavlou & El Sawy, 2011). It is the capacity of a firm to create market intelligence that increasesits ability to identify new market opportunities to build and renew firm processesthrough the use of IT-enabledresources.
2. Learning	Learning capability has to do withthe firm'scapacity to combine existing and new market knowledge. It emphasised using market intelligence to create new knowledge for the firm to compete aggressively. It isthus part of IT knowledge creation (Dantsoho, 2016)
3. Integration	Integrating is conceptualised to meanthe firm's ability to combine individuals' knowledge into single core capabilities and processes to solve a business problem. IT staff with business experience helps to develops reliable and cost-effective solutions and anticipate business needs on IT sooner than competitors.
4. Coordinating	In this study, coordinating capability is proposed to facilitate the reconfiguration of operational capabilities. First, it enables managers to recognize, and organise IT resources for entrepreneurial activities (Collis, 1994). This capability helps managers to assign the right person and resources to the right task (Eisenhardt & Brown, 1999),to improve performance.
5. Reconfiguring	Reconfiguration It is defined as the company's ability to change the existing operating model through creation and renewal of a firm IT resources(Lin & Wu, 2014). That is, IT resources are considered to be flexible if they can effectively manage the external changes by assisting the firm to be responsive to market changes. In the banking sector, IT infrastructure are required to be flexible and less complex so that customer demands could be handled without additional costs.
D. Organisational	Organizational performance isoperationalisedto mean level of bank

performance	performance (increase/decrease) in terms of both financial and non-financial performance aspects.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This section is set to provide a critical review of related literature on both conceptual and past empirical studies of the subject under study. The section is organised into eight sub-sections. In the first stage of the review, sub-section2.1 to 2.5 discussed the theoretical development of the concept of performance, Entrepreneurial Orientation (EO), Business Model Innovations and Dynamic Capabilities (DCs). Sub-section 2.6 reviewed empirical studies on the related literature of these concepts. The review focused on the relationships between EO, BMI, DC and Organisational performance.Sub-section 2.7 presents a proposed research model for the study, sub-section 2.8 discussed the underpinning theories of the study. Lastly, a summary is presented in subsection 2.10.

2.2 Concept of Performance

According to Hannabuss (1987),the concept of performance is pluralistic and universalistic in nature that allows itself to be used from one linguistic environment to another;in both theory and practice. Yet, despite its universalistic nature,the conceptthas been difficult to defineasa single meaningful definition (Otley, 1999). This difficulty may bedue to its ambiguous and integrative nature (Nadia &Albu 2005).As a result, researchers focused on

explaining the conceptby identifying the sources of different levels of inter-firms performance (McGahan & Porter 1997). These definitions range from the economic model, to organisational, social, and then to a global vision. For example, Georgopoulos and Tannenbaum (1957) defined performance in terms of organizational efficiency,where the organisationachieved its strategic goals without extreme effort from the employees.Yachtman and Seashore (1967) define performance as the firm's ability to exploit the business environment with sole aim of accumulating rare and vital resources to its function. Similarly, KPMG (2015); and Hannabus (1987) classifycriteria of evaluating performance in terms of satisfaction, productivity,efficiency and flexibility, as well as adaptability and survival. On the other hand,Alazard and Separi (1998) conceptualised performance as atip to a global vision of firm interdependencies between internal and external parameters, both qualitative and quantitative, human, physical and technical and financial aspects of management.Barbuta-Misu (2008) suggested that in the modern economy firm performance can bedefined as a state of competitiveness achieved through a high level of efficiency and productivity, thereby assuring a durable position of a firm in the market or industry. Therefore, performance means action, success, achievement, competitiveness, or a constant effort to optimise thepresent and protect the future picture of the firm (Camelia & Luminita, 2013) to stakeholders.

Camelia and Luminita, (2013: 1147) also suggested that performanceas a concept has been defined and conceptualisedbased on its historical evolution of the concept and therefore "can be analysed in time." According to these authors; between 1957 and 1979, performance has been defined based on a range of evaluation criteria, such as productivity, adaptability, flexibility, creativity, profitability, market penetration, growth and development, as well as

planning, and quality of staff. Between1981 and 1994 performance wasconsidered to meana standard or benchmarkof achieving strategic objectives. Therefore, an activity is successful if it achieves its goals. Between 1995 and 2000, is a period when performance was defined according to the efficiency and productivity of the firm. Researchers such as Cohen,Fenn and Konar (1995) fall into this category by considering performance to mean everything that contributes to the improvement of the firm's value-cost, and not only in monetary terms. Between 2000 to date, performance is defined according to firm value creation, and the success of a firm lies in its ability to identify thesources of value creation and to exploit them properly. In other words, the value is judgedboth from the products or services point of view and as well as from the organisation as a whole (Antony & Bhattacharyya, 2010; Chaluvadi, Raut & Gardas, 2018). For instance, Hussain, Gunasekaran & Islam (2002) argue that the inadequacies of the traditional accounting measures indicate the need for management to consider proper management tools for nonfinancial measures of firm performance in highly competitive industriesof both manufacturing and financial services.Several scholars (Lin, 2007; Kumar & Gulati, 2009; Ringim, 2012) also agreed that since the liberalisation of banks in the 90s the share deposits, advances, and total assets of banks have declined due to intensive price and non-price competitions due to a technological breakthrough. These proceeding scholarly discussions portray the need for appropriateperformance measurement to succeed.

It can be seen, throughout these periods (1957-to date), a gradual transition wasmade regarding conceptualisation of organisational performance, starting from the economic model of organisation performance (Hansen & Wernerfelt, 1989), to the organisational and social aspect and then to the global perspective (Camelia & Luminita, 2013).Hence,

performance as a research construct evolved altogether with societal development, being a permanentmodification to social and environmental conditions of the period to which theperformance reference is made.In this study definition which focuses on growth and sustainability is adopted.

2.2.1 Models of Organisational Performance

Another way to explain organisational performance is that of using different models. Aminu (2015a) developed from the work of Hansen and Wernerfelt, (1989) to explain this further by documenting that the conceptualisation of the determinants of firm performance emanates from the two major streams of research approach in terms of the economic model,behavioural and sociological model. According to Aminu (2015),the economic tradition model emphasises the importance of external market factors determinants of firm performance, while the behavioural and sociological model assumesthat organizational factors and their fit withinthe business environment are the major factors that determine firm performance. In other words, performance relies upon the structure of the market and the industryin which a firm is operating.

On the other hand, it has been documented that the organizational model suggests that firm performance depends upon the organizational effectiveness and therefore precondition in dealing with the problems of measuringthe organisational performance of a firm (Chakravarthy, 1986), relating to organisational factors such as planning, employees' skillsand reward systems, Aminu (2015; 30) revealedthat "the behaviour of employees can be influenced by management towards achieving organizational performance."However, Hansen and Wernerfelt (1989) claimed that as an organizational model of performance has

been built on multifaceted factors, it can be difficult to assess or measure due to insufficient or available data.

Consequently, organisational performance has been the most important criterion in evaluating organizations, their actions, and environments (Richard, Devinney & Yip,2009). This importance is reflected in the persistent use of organizational performance as a dependent variable among the various studies (Lin, 2007).It is, therefore, the heart of a firm's growth and survival (Singh,Darwish & Potocnik, 2016). But despite this relevance, there is hardly a consensus about its definition, dimensionality and measurement of organisational performance (Santos & Brito, 2012). Although, organisational performance has been defined differently by different authors depending on their research interest and scope, nevertheless, organisational performance can be defined in terms of the level of output (Luper & Kwanum, 2012), firm success in the market or industry (Chelliah, Sulaiman &Yusoff,2010). Organisational performance is also defined as the actual output of an organization measured against its inputs (Ringim *et al.*, 2012), and this measurement allows a firm to focus its attention on areas that need improvement. In anyway, the ultimate goal of these definitions and research in the area iscentred on explaining how performance can be shaped,improved and sustained for organisations to achieved long-term performance.To this end, a good measurement of performance should be the one thatconsiders the goal of the owner or policy designed to promote the industry (Marr & Schiuma, 2003), such as IT standards in the banking sector.

2.2.2 Dimensions and Measurement of Performance

Measurement is the "careful, deliberate, observations of the real world for the purpose of describing objects and events in terms of the attributes composing a variable" (Babbie,1998: 116). In other words, for the variable to be clearly and equally understood by the

differentaudience, it must beprecise, accurate, and 'quasi-invariant' across the researchers (Carton&Hofer, 2010). However, like the concept ofperformance, measurement system being among the emerging researchtopic of interests among the scholars,has not been defined sufficiently(Neely, Gregory, & Platts, 1995). Performance can be examined at different stages in an organisational setting. It can be at the firm process level where process improvement is paramount, or at organisational level where overall performance gain is achieved (Dantsoho, 2016). Performance improvement at process level refers to progressive changes in the business process of an organization from its previous to the newest state, whereas performance improvement at the organisational level is referred to as the ability of the firm to achieve financial, marketing and administrative performance to sustain their market positions. Performance can be measuredfinancially, nonfinancially or a combination of both.

In view of the foregoing, on definitions and characterisations performance, this study adopts that performance represents the degree in which a bank comes to achieving both the internal and external environmental goals and objectives through financial and nonfinancial indicators ofsales volume, debt ratio, ROI, service satisfaction and overall operational efficiency that would automatically lead to high profitability, growth and survival of banks in both market and industry at large.

2.2.2.1 Financial and Non-Financial Measurement

According to Balaboniene and Vecerskiene (2015) for many years organisations have been evaluating their performance through the analysis of their financial performance. In this case, profit measures such as ROI, ROA and EPS indicates the efficiency of the firm's operationis the dominant perspective. Hence, it can be said that financial indicators are the most frequently used

measures of organizational performance. But even at that, before the work of Carton andHofer(2010), there is no single study that successfully proposed and empirically tested ageneralisable multi-dimensional model of organizational performance using financial indicators. Carton and Hofer (2010) claimthat their work was conducted to addressthe lack of or the absence of a comprehensive measurement of organizational performance using financial indicators. Theirmain objectivewas to provide managers and researchers with a better understanding of the implications of selecting the dependent variables that should be used in empirical studies where financial performance is the criterion of research interest.AlthoughVenkatraman and Ramanujam (1987)research worksuccessfully established that growth and profitability were clearly different measures of organisational performance, this study did not go ahead to propose a specific measurement model for multidimensional financial performance. Likewise, studies that used financial performance as dependent variable frequently usereturn on assets, return on capital earning per share as well as equity debt ratio in their findings (Bharadwaj, 2000; Bhatt &Grover, 2005; Lin, 2007). But when measuring organisational performance, it is not always sufficient to exclusively rely solely on quantifiable measures such as return on asset, cash flows, equity debt ratio and overall profitability of the firm while ignoringthe qualitative measures such as market share, customer satisfaction and level of innovation capability, operational efficiency and the likes, because qualitative measures also, can equally provide invaluable insight intothe organisation in terms of growth prospect, and foreseeable challenges particularly in the unstable market such as the banking sector. Therefore, using a single approach cannot give a balanced image of the overall performance of any organisation since these indicators tend to measure the past using historical data.

Furthermore, relying solely on this measure could be problematic given the predicaments associated with the current Nigerian business environment such as changing regulation, intense competition and changing customer preferences due to technological disruptions. For instance, policymakers can set standards as the minimum requirement for operators within the banking sector regardless of their age or size.A competitive landscape can be changed to favour even the smallest bank with flexible infrastructure thereby changing the competitive rule where organisations with large but complex and rigid organisational resources will be vulnerable to disruptions. Similarly, assessing performance using financial terms could be biased against the small and medium participants or will only give a partial picture of actual performance in a research setting that employsa different set of firms (Ketokivi & Schroeder, 2004;Masa'deh, Tayeh, Al-Jarrah, &Tarhini, 2015).

Although financial indicators have been the primary focus of measuring the organisationalperformance of banks (Bharadwaj, 2000; Bhatt & Grover, 2005; Lin, 2007; Idories,2015), other key performance indicators (KPI) such as organisational agility, customer service, marketing performance, resources control and coordination are equally important for survival and success particularly in an unstable business environment such as the banking sector. To this end, an aggregated organisational performance is the onethat includes both financial and non-financial indicators.

2.2.2.2 Subjective Versus Objective Approach Measuring Performance

When it comes to measurement issues, another debate is that of whether to measure organisational performance objectively, subjectively or a combination of both. Richard *et al*. (2009) claimed thatobjective measures are less useful for research focusing on product, services

processes at the different organisational levels. Dess and Robinson (1984) argue that regardless of the way a researcher conceptualizes organisational performance as a dependent variable, the variable is complex and multi-dimensions. In the same vein, the Balanced Scorecard (BSC) approach turns the organisation's mission and strategy into a comprehensive set of performance measurement (Balaboniene & Vecerskiene, 2015). It was developed to assist managers to answer some strategic questions such as how do potential future customers see us on the new ecosystem? What internal processes must we excel in, to increase transparency and interactivity with customers and clients? How can we continue to improve and create value? And how do we look like to shareholders in terms of efficiency and overall performance? (Kaplan & Narton, 1996). As objective measurements depend upon profit and financial data of the firm.On the other hand, subjective measures rely on managerial assessmentsof performance (Tippins & Sohi, 2003; Masa'deh, *et al*.,2015).

Therefore, bank performance can be assessed in terms of profitability, market value, market share, productivity, innovation, quality of product and services, human resources and administrative performance (Dess & Robbinson, 1984), as well as operational performance efficiency, transparency, interactiveness and decisions support (Suri & Sushil, 2015). In addition, inconsistency has been reported in the selection of the measurement of organisational performance among various studies and this createsa problem for theory building (Paauwe & Boselie, 2005; Guest, 2011). Even though, objective measurement could be used to minimise the possibility of "common method variance" (Toby, Wall &Wood, 2005) and managerial bias in self-reporting performance assessment.But accessing"consistent and comparable data" using the objective measurement of performance could be problematic that cut across firms and industries (Santos & Brito, 2012).

This difficulty can occur when all the firms under study are not listed on the Stock exchange, the firms used different elements of financial reporting standards or the rules that did not require all the firms under study to publicly disclose their financial reporting. In the same vein, there is agreement among the researchers about collecting data across the firms with different age and or size in order to meet specific research objectives (Ketokivi & Schroeder, 2004; Ringim, Razalli &Hasanan, 2012; Santos & Brito, 2012; Masa'deh, *et al.*, 2015). For example, Ringim, Razalli, and Hasan, (2011) examined the effects of Business Process Reengineering (BPR) factors on organisational performance banks in Nigeria and among them which were surveyed were DMBs, MFB, PMBs and other development banks. In another study, Ringim*et al.*(2012) adopted the same cluster sampling and randomly selected the 272 respondents among the different types of banks in Nigeria. Zehira, Can, and Karaboga (2015) conducted another cross-sectional study among 991 middle and senior managers of the 331 middle and large scale enterprises in the Turkish manufacturing industry, and the result was positive and significant. In addition, these researchers(Zehira, *et al.*, 2015;Singh, *et al.*, 2016)treatthe organisation as the unit of analysis in their studies.

2.2.2.3 Validation of Subjective measures of performance

Although some researchers rushed to conclude that subjective measures are less suitable for assessing organisational performancein comparison with objective measures on the assumption that subjective measures can lead to the occurrence of a commonmethod bias (Podsakof,MacKenzie Lee & Podsakoff, 2003). Since managers that respond to the questions may tend to overestimate the performance of their organisations (Meier & O'Toole, 2013). This

assertion has been rejected, because, subjective data which were carefully collected is also valid and important (Singh,*et al.,* 2016).

Subjective measures could even be more useful for the research intendto collect data across a range of firms, and therefore the best option toadopt (Shea Cooper, Cieri&Sheehan, 2012; Meier & O'Toole, 2013). For instance, Santos and Brito (2012) are among the scholars that develop and validate the measurement model for organisational performance by collecting data from different range of Brazilian firms. According to these authors, the scales can be used by researchers interested in measuring firm performance across firms and industries using subjective measures. This approach could also help researchers to select performance indicators for specific research problems that specifically cover the relevant dimensions of organisational performance suitable to their empirical study. It is, therefore, appropriate to adopt this approach in the current study. Subjective measures are appropriate for a number of reasons. Firstly, these measures are preferable when the focus is on the inter-firm comparison (Ketokivi & Schroeder, 2004). Secondly, they allow the assessment of non-financial criteria (Richard et al., 2009), which is as well strategically important in the banking sector. Silva and Borsato (2016) also posited that one of the key challenge for research today is that of ensuring all performance indicators are identified and monitored as a whole.

Consequently, using subjective indicators to comprehensively measure organisational performance, stakeholder approach (theory) can be a very good starting point as it helps the firms to capture other performance indicators that are important to some key stakeholders but not captured in the financial terms. This approach (the use of stakeholders' satisfaction) has been adopted by a large number of studies (Venkatraman & Ramanujam, 1986; Kaplan & Norton, 1996; Agle, Mitchell, & Sonnenfield, 1999; Richard *et al.*, 2009 Ringim *et al.,* 2012). A

stakeholder is defined as “any group or individual who can affect or is affected by the achievement of the organization’s objectives” (Freeman, 1984: 46).One of themethodsof identifying and selecting the stakeholders relevant to the firm or problems under study. That is, apart from owners, some important stakeholders groups such as employees, customers, regulators and competitors that should always be present in any analysis of the organisational performance(Clarkson, 1995; Mitchell, 1997).

Therefore,growth measures such as volumes of sales, market share, and customer’s services demonstratethe firm’s ability to enter new marketsand orthe ability to expand its operation in the existing markets.Sales growth is another performanceindicator that is appreciated by previousresearches as a performance indicator and isused by most of the researchers (Tippins &Sohi, 2003). The views of executives on the performance of their organizations are consistent with the objective measurement standards of performance (Glaister et al., 2008). More importantly, in many research settings, it is impossible or impractical to evaluate objective indicators of organizational performance. Because even with such measures, the accuracy of performance measurement cannot be guaranteed (Allen & Helms, 2006). Hence, considering the fact that performance can be measured by using owner satisfaction, customer satisfaction, market growth, values of sales and profitability relative to the firm’s competitors. Therefore, when provided by the owner or manager, subjective measures are as correct, reliable and accurate as objective measures.

Although,the use ofsubjective measures could be a reliable and valid alternative tomeasuring organisational performance (Dess & Robinson, 1984; Bontis 2000; Singh, Darwish, &Potocnik, 2016). However, one of the critical questions that confront the researcher intends to use the subjective measures is that of “how far the reported assessment of objective measures is

internally consistent?" This problem has been addressed by the work of Singh*et al.* (2016) which examines organisational performance using subjective measures by collecting data from the small, medium, and large organisations. The result indicates subjective measurement of performance as reported by respective managers are internally consistent, and therefore can be used in future empirical studies.

2.2.2.4 Formative versus Reflective Measurement of Construct

In another development, Miller *et al.* (2013) bring about three different approaches to theorising performance such as performance as a latent multidimensional construct, as a domain of separate constructs, as well as the performance as an aggregate construct. According to these authors,the first approach of measuring performance assumed that the construct existed at a deeper level than its dimensions and is operationalised as the shared variance among the dimensions. In the second approach which is the domain of separate constructs, assumed that each construct exists separately and are only slightly related as a memberand domain of firm performance. In the third approach, the construct is specified as a compositedimension (that is both shared and non-shared variance).

Based on Miller (2013)'s conceptualisation the underlying multi-dimensional structure of variable is represented by dimensions that capture related concepts to varying degrees of adequacy (Law et al., 1998). In this case, the researcher does not need to describe the different dimensions of performance, nor does it need to provide logic to illustrate the relationship between a particular dimension of performance and other variables of interest in the research. Instead, logical arguments will simply aim to establish the relationships. The focus is on assessing performance as the shared variance of dimensions based on factor andreliability

analyses among other techniques. In this first approach, firm performance will be measured and operationalised using multiple dimensions. However, these dimensions will not be used as separate variables in a separate analysis. Instead, they will be used for shared or overlapping variances to minimize the weakness of any measure; when creating a single higher-order construct (Edwards, 2001; Diamantopoulos, Riefler & Roth, 2008).

Secondly, organizational performance as a "domain of separate constructs" is seen as an alternative to the latent approach. For example, the work of Keats (Keats, 1988) found that different aspects of corporate performance often show very low correlations and therefore seem to represent different aspect of performance construct. This approach shows that corporate performance does not exist as a meaningful general construct. On the contrary, it represents a group of loosely related, different and independent constructs. In the second method, researchers focus their arguments on specific aspects of company performance, establish judgments on different variables, and use them in a separate analysis (Miller,Washburn & Glick,2013). Consequently, researchers adopting this approach would not conceptualise firm performance in a generalterm for their theory development. Alternatively, they may use a more specific construct (such as sales growth orreturn on asset) andoffer a theory that is tightly connected to those specific construct. In this case, sales growth could be used as the criterion variable for the analysis of a particular study and return on assets, for example,it might be used as the outcome variable of another study. Researchers such as Lev,Petrovits andRadhakrishnan (2010) exemplifies the separate constructs approach and test a direct link between charitable contributions and revenues as a measure of economic performance in their research model.

Thirdly, performance as an "Aggregate Construct" is the third approach in Miller *et al.* (2013)'s conceptualisation is based on the belief that performance is a complex concept and multiple

components must be coordinated and aggregated conceptually. Although consistent with the underlying method, the overall method focuses on broadly cast company performance. However, it does not assume that the various observable dimensions are simply a reflection of the underlying structure. Instead, it specifies how different dimensions are combined to define overall performance.An aggregate performance might be conceptualised in the form of customer service quality, sales growth and market share which cover the current state and future expectations of a firm.

The most famous examples of "aggregated approach" in organizational science consist of job characteristic models (Hackman & Oldham, 1980; Chakravarthy, 1986). This has been supported widely by studiesthat involve the use of balanced scorecard (Kaplan & Norton 1996). From this perspective, performance is an overall concept constructed from different dimensions (Miller et al., 2013). In other words, it seems that there is no general potential performance construct. The authors further explained that their follow-up analysis showed convincing evidence that this shared variance did not exist, and they also suggested that popular performance measures are not consistently correlated with other variables in the same way. An important question to ask in this direction is why so many researchers continue to treat performance as a general term particularly in theory building, and then usea separate constructs approach in their empirical studies? One explanation for thiscould be based on Miller *et al*. (2013)'s submission that the process of developing a theoretical model that explains firm performance seems muchmore daring than focusing on narrow performance outcome such as growth, efficiency. In other words, in the cause of theory building a researcher may treat performance in general termso as to remain flexible whenchoosing variables for their studies. Thus, researchers are encouraged to keep their options open when theorising; so that any performance variablesthat happen to be significant can

be used in thefinal empirical results. Thus based on chances, this approach can be used strategically. In other words, beyond their intrinsic interests in theoretical discussion, researchers might be influenced by institutional factors and forced to adopt this practice for legitimacy reasons (Meyer & Rowan, 1977).

On the concluding remark, these authors demonstrated that with inconsistencies in the use, of both latent and separate construct approaches; there is another approach that might be useful when the separateconstructs approach does not fit the purpose of aresearch study, that "theaggregate approach might deliver value if applied carefullyand consistently in both theory development andempirical work" (Miller *et al.*, 2013: 960).Miller *et al*.,further explain that for many strategy theories, the conceptof economic rent is an important outcome variable. Therefore, even if it has not been conceptualised as anaggregate variable, economic rent does seem to fit best in this category. Furthermore, the overall performance can be conceptualisedin different ways depending on the purposes of the study. That is a particular study might be focusedexclusively on current rent, expected future rent or on the combination of current and future expected rentsbased on researcher interests. In this, organisational performance was conceptualised as a formative construct based on financial and nonfinancial indicators that formed the construct (Becker, Klein & Wetzels, 2012).

2.2.3The Performance of MFB in Nigeria

The financial system as a central nervous system of the nation's economy contains a number of separate but co-dependentparts relevant to the effectiveness and efficiency of the financial service industry. According to Sanusi (2012),these parts include financial intermediaries, such as banks and insurance companies, which act as principal agents to assume debts and obtain claims. But for the bankto function effectively and efficiently,it needsrobust and sound payments

systems infrastructureso as to exchange claims securely and market its products and services to potential customers and clients. From these perspectives, the concern to safeguarding and promoting a strong and sound banking system by the Central Bank of Nigeria is featured by the critical role of banks in national economic development(Sanusi, 2012). As a result, technological advancement in terms of hardware, software, and other computing platforms have transformed banking systems and contributed to the internationalization of the financial services industry across the globe. This results in thearrival of a spate of new complex financial products and services (Bikker & Bos, 2008) such as e-wallet, bit-coin, crypto-currency and possibility for banks to extend their customer base beyond the national boundaries due to significant reduction in transaction costs, technological development, customer sophistication, competition and other policies facilitating these developments.

Despite all these, the Internet has brought new problems and risks to the financial sector. Many banks are skeptical of the technological innovations, so they have chosen a multi-channel delivery approach either by complete overhauls of existing processes or combining the traditional banking system with remote distribution channels through the internet and mobile devices (Bikker & Bos 2008; Bikker, 2010).In Nigeria, this development has made even the most established banks more vulnerable to new entrants. This is because, before the commencement of internet and other e-banking services, major banks have been detecting the pace of change with the banking sector but with the advance of the internet and other mobile devices these banks cannot decide for the market (Ringim & Dantsoho, 2016). Therefore, as the merger and acquisition of banks continue to evolve within the banking sector, the focus is no longer on cutting cost alone, but also on simultaneously increasing quality, speed, flexibility, dependability and overall performance.

AlthoughIT has transformed the ways banksoperateand deliver their products and services and by redefining the way they interact with customers and clients there has been a consistent increase in IT investments by Nigerian Banking Institutions. Unfortunately, challenges such as lack of Top management support and commitment,low level of organisational maturity in terms of managing people, processes and technology, cultural resistance to technological change, Non-Standard IT, and cybercrime (CBN-IT standards, 2015), are hindering this development in the Nigerian banking sector. Accordingly, these require a change on the part of banks to go beyond product and service offering to the more strategic organisation by reducing costs, increasing quality, speed, flexibility and dependability. Therefore, the MFB like other organisations must try to improve their operations and overall performance by comparing their effectiveness, and efficiency with other competitors over time.

According to McKinsey (2017), there are two possible solutions to the above problems which are common in the financial service industry of the emergent economies; Nigeria inclusive. The first alternative is to undergo structural reforms by the government to address major challenges affecting them such as consolidationof the bank to increase their capital base, and public-private partnership to maximize the value chain. The second alternative is that of embarking on an individual firm's transformation and innovations. This alternative includes things such as digitisation of the ecosystem to radically reduce costs of transactions by building a scalable IT platform to seamlessly integrate both front and back-office operation. Innovation has to do with disrupting and tapping into new opportunities and channels to widely reach both existing and potential customer. Digitalisation has to do with changing the competitive landscape or Business Model Innovations (BMI). But one of the major challenges of digitalisation in the information intensity in firms such as banksis that these institutions have different internal elements that

include people, process, and technology as well as data and applications. There are also external elements such as suppliers, benders, and regulators that are necessary for achievingsustainable performance.

In this study, performance shall measures the degree of the managers' perception of the organizational performance either in form of increased or decreased inboth financial and non-financial aspects. Financial performance indicators aresales volume and debt ratio achievement in branches, return on asset, return on investment, earning per share as well as financial target achieved by branches that lead to banks profitability and success (Sun, 2000; Bontis, 1998; Bontis, Chua & Richardson, 2000; Kaplan & Norton, 1996). Digital transformation within an organisationis assume to simplify procedures, reducedthe use of papers, costs, and increase speed while communicating between the firm, its customers and strategic partners.The indicators for non-financial performance in this study include cost and cycle reduction, customer satisfaction (Khong & Richardson, 2003), service quality, and process speed (Hammer & Champy, 1993) such as real-time transaction process, zero error processes and excellent customer service delivery to retain relationship (Bontis, Chua & Richardson, 2000; Wu, Tzeng & Chen, 2009; Ringim, 2012). This is in line with global IT standards that demand banks to be entrepreneurially oriented and dynamically capable in dealing with a rapidly changing business environment (CBN-IT standards, 2015).

2.3 Concept of Entrepreneurial Orientation (EO)

EO has been defined differently by different authors. For example, Lumpkin and Dess, (1996)described EO as a firm's strategic orientation, "capturing specific entrepreneurial aspects of decision-making, methods, and practices". Ireland *et al.*(2009) definedEO as a state or quality of the organisation in terms of several behavioural dimensions.Based on Rauch *et al.* (2009)

conceptualisation, EO refers to the firm's policies and practices for entrepreneurial decisions makings. Anderson, Covin and Slevin (2009) also defined EO as a firm-level strategic orientation which captures an organization's strategy-making practices, managerial philosophies, and firm behaviours that are entrepreneurial in nature. According to some scholars (Wales, 2016) EO can be a vital measure of the way a firm is organized to utilise market opportunity thereby improving organisational performance. According to George and Marino(2011),EO emphasizes differences in strategic posture across firms and these differences can be a source of competitive advantage.

Althoughsome scholars have long ago considered EO as a concept to be either an entrepreneurialmindset,style or posture (Mintzberg, 1973, Khandwalla, 1976, Covin & Slevin, 1989). A recent study has added it up, by documenting that an entrepreneurial orientation could be seen asa direction of thought, inclination, or interest pertaining to entrepreneurship (Covin & Lumpkins, 2011). As a result, researchers attempted to discuss an important question of whether EO represents a dispositional or a behavioural construct. This is because Polonsky, Voss and Moorman (2005: 1134) considered EO as "a firm-level disposition to engage in behaviorsreflecting risk-taking, innovativeness, proactiveness, autonomy, and competitive aggressiveness", that lead to changes in the firm. But according to Pearce, Fritz, and Davis (2010)'s conceptualisation, EO is a set of distinct but related behavioursin terms of proactiveness,risk-taking, innovativeness, competitive aggressiveness, and autonomy. On the other hand, Covin and Lumpkim (2011) maintain that EO is abehavioural model of entrepreneurship,and the choice between the two approaches (Voss & Moorman 2005; Fritz, &Davis, 2010) has to be made on the following observations.

Firstly, researchers had largely agreedthat EO is a firm-level phenomenon and precisely at the Strategic Business Unit (SBU). Secondly, an EO becomes very difficult to distinguish itself from other firm-level entrepreneurial attributes that are intangible in nature, such as entrepreneurial mindset, entrepreneurial culture and entrepreneurial climate (McGrath & MacMillan, 2000; Fayolle, Basso, & Bouchard, 2010; Michaelis, Stegmaier& Sonntag, 2010), among many others concepts.

As can be seen, it is apparent and rational to agree with the submission of Covin and Lumpkim (2011) that an EO is abehavioural model of entrepreneurship since it is the behavioursthat give meaning to the entrepreneurial process rather than attributes. Asa new entry into markets, products, processes or services describe what entrepreneurship consists of, the concept of EO explains how the new entry is carried out (Lumpkin& Dess, 1996).In other words, neither an individual's psychological attributes nor organisational culture canmake a firm or an individual entrepreneurial rather than their actions. This is because actions arecrucial and essential elements in the entrepreneurial process. It is,therefore, appropriate to adopt this conceptualisation for the current study.

2.3.1 Unidimensional versus Multidimensional Argument of EO

There has been a debate about the dimensions of EO construct and whether EO is a reflective or formative construct. George and Marino, (2011), indicate that reflective constructs produces their measures, and therefore the direction of causality goes from the main construct to the indicators. On the other hand, the indicators for measuring formative construct measures are formed or produced by its measures. In other words, the direction of causality goes from the indicators to the construct.

EO construct is also defined as “the processes and practices that lead to new entry” (Lumpkin & Dess, 1996: 136−137), in terms of five separate dimensions that include risk-taking, proactiveness, innovativeness, autonomy, and competitiveaggressiveness that need not covary (Linton, 2018). Thisentails that, EO isbasically producedor formed by its distinct dimensions. In other words, thisview advocates that the direction of the causality is from the dimensions to EO construct.Miller (1983: 771) defined an entrepreneurial oriented firm as “onethat engages in product-market innovation, undertakes somewhatrisky ventures and is first to come up with ‘proactive’ innovations,beating competitors to the punch”. This suggests thatEO as a constructis a strategic posture that reflects a simultaneous exhibition of proactiveness, innovativeness,and risk-taking.

Since EO’s meaning emanates from the higher-order construct to its sub-constructs, changes in EO would result in changes in proactiveness, innovativeness, and risk-taking behaviour (Mthanti & Ojah, 2017). This clearly implies that the indicators of EO covary therefore, can complement each other and but not substitute. This is because, existing literature suggests that EOdimensions exhibit moderate to high correlations (Rauch *et al.,* 2009).However, this does notmean that the dimensions of EO as a reflective construct cannot vary independently of each other (Khedhaouria, Gurau & Torres, 2015).

Building on the work of George and Marino (2011), It is crucial to emphasize that studies are willing to add knowledge about EO should include at least three core dimensions of EO provided by Miller's (1983) ; and Covin and Slevin's (1989) conceptualisations. the work of Lumpkin and Dess (1996). Different combinations of EO dimensions have been constructed in past studies (Wales *et al.,* 2013a). The potential benefits ofcomprising additional EO characteristics or

adapting different EO dimensions to particular research settings (George &Marino, 2011; Wales, 2015).

In line with proceedings argument, Covin and Lumpkin (2011) labelled the exploration of alternative composite dimensions a high-potential research area. This has been reinforcedas alternative dimensions might be needed in international EO research (Covin & Miller, 2014). Wales (2016: 4) concur with Miller (2011) suggestion that "the best of both worlds may entail analyses that provide insights into both the overall EO construct, as well as noting the independent effects of the dimensions of the construct." Finally, given the characteristics of the theoretically defined dimensions of the EO variable (Anderson *et al.*, 2015), studies attempting to determine the right' dimension of EO have been classified as a research area with very low potential (Covin & Lumpkin, 2011).

Perhaps, configurational model is the most frequent approach which concurrently examine multiple contingencies relevance to EO relationships within the same model. The inception of these models in EO research can broadly be traced to Covin and Slevin (1991) research, which proposes that, for a firm behaviour(EO) model of entrepreneurship to be reasonably adequate in scope,it must consist of three levels of researchvariables that include organizational, individual and environmental. Lumpkin and Dess (1996) more unequivocallysupports configurational models to combine appropriate elements of strategy while taking environment into considerations (Wales, 2015).

In recent years, the demand for configuration models has been intensified in earnest. Both Covin and Lumpkin (2011) and Miller (2011) consider constructive models that represent potential research areas in the EO domain. Miller (2011) suggests that useful taxonomy can incorporate environmental, organizational, strategy, cultural, and leadership/governance variables. Wales *et*

al. (2013) suggests that based on these prior requests, it may be time to compare the relative impact of internal, external and strategic contingent variables on EO and their relationship to corporate performance.

In their contribution, George and Marino (2011) argue that EO is best operationalisedas a reflective construct suggesting that"EO represents alarger concept than simply the sum of its dimensions and that thesedimensions are merely reflections of this larger, unobservable construct that represents the firm's strategic posture" (p 1002). In other words, the continued accumulation of knowledge in this direction is facilitated by conceptualizing EO as a reflective construct that utilizes at least three dimensions. This studymeasures EO as a reflective construct to include proactiveness, innovativeness, and competitive aggressiveness as multidimensional. This decision is in line with submission of other scholars such as George and Marino (2011) and Rahman, *et al*. (2016) that EO construct can be examine differently.Because, EO is a latent construct thatexists apart from its measures, researchers may choose whichever approach suits their research objectives (Wales, 212).

2.3.2 Role of Entrepreneurial Orientation

Prominent strategic scholars categorised strategic orientation into prospectors and defenders (Miles, Snow, Meyer & Coleman,1978). According to Saebi, Lien, and Foss (2016) prospectors continually seek to find and exploit new opportunities (i.e. entrepreneurial in nature) and are often the engines of change in the market and industry. Prospectors refer to market development orientated strategist capable of sensing and adaptable to changes in the external environment. On the other hand, organisations with defensive strategic orientation do everything possible to maintain their market. Either by engaging in competitive pricing and or developing a single core

technologywhich is highly cost-efficient hoping that would help the firm to meet its strategic objectives.

In organisations, managers are expected to take on entrepreneurial and leadership roles that sense opportunities, develop and implement actionable business models, build competencies, and guide organizations through innovation process (Teece, 2016) to improve performance (Teece, 2018). These entrepreneurial management tasks are part of an organization's functions and also include built-in organizational processes that can be slow to change. An understanding of entrepreneurial management actions and organizational competencies will contribute to a more realistic economic model and a better understanding of industry dynamics and innovation requirements for decision makings.

Dess,Ireland, Zahra, Floyd, Janney, *et al.*(2003) claims that top managers are responsible for managing the organizational transition from one set of activities to another,Lau, Yiu, Yeung, andLu, (2008) studies how management cognitions and organizational resources affect the strategic orientation of high technology firms. Theyfound that top managers' cognitions and organizational resources influence the development of the strategic orientation of the firm. These findings suggested that the development of strategic orientation can be understood by investigating the cognitive mindset of top managementof an organisation. Under this, bank managers are at the centre of shaping the strategic direction and operations of their institutions. Their ability to relate to prior knowledge is thus crucial in achieving this. This capability in question is important particularly in the banking sector operating under tied budget and growing demand for efficiency. since top management is responsible for firms strategic decisions (Steyn & Niemann, 2010). Then their choices and actions demonstrate their perceptions and beliefs about the business environment. This also reflects their cognitive thinking (EO mode) on how

the firm should operate (Duriau, Reger, & Pfarrer, 2007). Therefore, assessing the effects of strategic orientation on organisational performance (Venkatraman & Ramanujam, 1986), should be the focus of the current research agenda.

Consequently, the roles that matter most are those of entrepreneur and transformational leaders, which together describe the "entrepreneurial manager."According to Teece (2016)Management of large organizations must play three main types of roles, depending on the structure and culture of the company. The first role is operational management, primarily related to the efficient development and execution of the current plan. This includes things such as budgeting and staffing, intending to match or exceed past performance. It can be argue that these skills are widely available since they are taught business schools (Teece, 2014). The second role is that of entrepreneurial management. That is ability to detect opportunities and changes in the business environment, align resources to pioneer promising new paths, and develop plans to align organizations and business models for maximum benefit. These features are ideally supported by routines and coordination across the firm's levels are core elements of the DCs of the firm. However, the third role requires leadership to implement the changes that companies need to continuously adapt to the needs and opportunities of their business environment.This is where IT management or IT Governance capability is crucial in successful BMI. That is, for an entrepreneur develops avision of the future (i.e. through proactiveness, innovation and competitive aggressiveness) as EO's dimensions. These leadershipcapabilities are needed to convincepeople to share the strategic vision in the firm and to align their activities with firm's strategies in order to survive and succeed. This has beennecessary for transformationaleffort is to be successful (Augier & Teece, 2009), in thebanking sector.

Consequently, it is clear that the functions of entrepreneurial managers differs significantly from that of an ordinary manager, since the ordinary manager oversees the effectiveness of the established process.Therefore, once schedules are met, quality has improved and contracts are honoured, the task of ordinary manager has been accomplished. However,a business that stands still is on the way to extinction (Teece, 2016). Entrepreneurial managers need to guide such firmsin creating, delivering and capturing value in ecosystemfor continuous performance improvement.

2.3.3 Dimensions of Entrepreneurial Orientation

There has been consistent discussion in the literature about the dimensions of EO. Some scholars have argued that EO construct is best seen as a one-dimensional concept (Miller, 1983; Covin & Slevin, 1989) and consequently other dimensions of EO should be related to performance in a similar way (Rauch et al., 2009). However, more recent studies have shown that the dimensions of EO can occur in different combinations (Lumpkin & Dess, 2001; Covin et al., 2006), each representing a different and independent aspect of the multidimensional concept of EO (George, 2006).

While the debate on EO dimensions is still ongoing, the commonality among past studies is that of Miller (1983) which include proactiveness, risk-taking and innovativeness as the core dimensions of the EO (Rauch,*et al*., 2009;Wales, Gupta & Mousa, 2013). However, an extension of this submission was documented in the work of Lumpkin and Dess (1996) to include autonomy and competitive aggressiveness.This inclusion has also been supported by other scholars as multidimensional aspects of entrepreneurial orientation (Huges & Morgan, 2007). According toCovin and Lumpkin (2011),whatever dimension or conceptualisation a researcher

decided to measure EO, it should be based on the research questions to be addressed in his research model.

According to Rauch *et al.*(2009),the most significant dimensions of EO can be derived from a review and integration of the entrepreneurship and strategic managementresearch (Miller, 1983; Covin & Slevin, 1991). This resulted in two approaches to measuring EO in a given organisation. The first approach is to treat EO as a single dimension that consists ofrisk-taking, innovative, and proactive elements (Miller, 1983; Covin& Slevin, 1989). The second approach is to treat EO construct as multi multidimensional which comprises proactiveness, risk-taking,innovativeness, autonomyand competitive aggressiveness as independent aspects of EO (Lumpkin & Dess, 1996).

In their contribution, George and Marino (2011) studied the conceptual and methodological development of the EO construct and scale measurement over time and suggested the use of EO constructs as a reflective model,at least using three dimensions, as well as acknowledging the possibility of adaptation in order to add subcategories in specific contexts (Etemad, 2018; 2019) which indicates its dynamic nature. In another study, Covin and Wales (2012) examined how EO was exploredusing reflective and formative measurement models and suggests that both uni-dimensional and multidimensional measurements were used with different EO conceptualizations.

Although, firms pursuing a high level ofEO are confronted with decisionmaking involving proactiveness, risk-taking,innovativeness and competitive aggressiveness throughthe useof scarce resources,as well as autonomy within individuals managers and groups. Agreed that, risk-takingbehaviour is a crucial factor that differentiates entrepreneurs firms from others because it can create losses and inconsistencies in the performance (Morris and Kuratko, 2002). But it

cannot be considered in the current study because, risk-taking cause a bank to incur heavy debts or makes large resource commitments (Lumpkin & Dess, 1996). In other words, risk-taking involves taking bold actions by venturing into the unknown, borrowing heavily, and or committing significant resources to uncertain ventures. But in the Nigerian banking sector (due to high regulations), there is a limit to autonomous decisions as well as the level of risks that an individual manager can take.

Furthermore, it is important to understand, not only, whether EO hasa positive or negative relationship with the organisational performancebut the mechanisms to which EO and other organisational resources relate to firm performance in this direction. Because, as theoretical arguments advocate an EOleads to higher organisational performance (Miller, 1983; Wiklund & Shepherd, 2003). Yet, it has been argued that the magnitude of this relationship varies across studies (Rauch, 2009; Hafeez, Chaudhry, Siddiqui &Rehman, 2011). Whereas, studies such as Hult, Snow, and Kandemir, (2003); Wiklund and Shepherd, (2003) documented that organisationswith EOperform much better than those that do not have EO, Other studies such as Zahra, (1991); Lioukas and Carter, (2004) established that there arelower correlations between EO and firm performance. There are some studies that first agreed on the relationship between EO and performance and argue that the mechanism to EO that relates to performance has not been adequately explored (Rauch et al., 2009; Aminu, 2015; Dantsoho, 2018).Consequently, a significant variation exists in the sizeof the reported relationship between EO and firm performance. Hence, the mechanisms to which EO relates to firm performance remain unresolved.

In this study, Proactiveness, Innovativeness and Competitive aggressiveness are treated as EO dimensions (Covin *et al.,* 2006; Lumpkin & Dess, 2001). This isa decision in line with the work of Rahman, Civelek and Kozubikova (2016)which examinesEO dimensions which includes: proactiveness, autonomy and competitive aggressiveness in their research model and argues that these constructs lack empirical grounding in the existing literature. To bridge this gap, Dantsoho (2019) conducted an exploratory study to identify EO dimensions relevant to the banking sector and discovered that proactiveness, innovativeness and competitive aggressiveness are the EO dimensions thathavebearing with entrepreneurial activities in the Nigerian banking sector which is relatively different from the other sectors. For instance, the level of risks that an entrepreneur manager can take to explore market opportunity differ. In the banking sector, it is difficult for an individual manager to take autonomous decisions due to some task elements such asa method of working, decision criteria and operating procedure. On the other hand, the new ecosystem within the banking sector requires proactiveness, innovativeness and competitive aggressiveness from the entrepreneurial bank to match the prevailing market conditions in terms of changing regulation, customer sophistication and competition intensity. In this study, the researcher intended to use Proactiveness, Innovativeness and Competitive aggressiveness as EO dimensionsdiscussed as follow.

2.3.3.1 Proactiveness

According to Lumpkin and Dess (1996), proactive refers to the pursuit of opportunities and forward-looking actions to introduce new products, services, or technology capabilities to the market ahead of competitors in anticipation of future demand that could lead to new discovery and performance. In short, proactiveness measures a company's tendency to seek opportunities to exploit the market opportunity through introducing new processes, products, services(Rauch *et*

al., 2009) and operating model. It is assumed that being proactive can make a firm to be receptive to market signals, become aware of the customers' needs, through careful monitoring and environmental scanning. Similarly, being proactive can reduce market competition and improve performance due to first-mover advantage. This in return resultsin advanced decision making, profitability and overall performance (Hughes & Morgan, 2007; Lechner & Gudmundsson, 2014).

Furthermore, it is companies with a high level of EO are actively seeking to free up resources that can be allocated to active and innovative activities so that companies can capitalize on market opportunities (Rosenbusch, Rauch, & Bausch, 2013). Given that, proactiveness is used to measure the entrepreneurial tendency to take advantage of market opportunities by launching new products and services ahead of rivals(Rauch *et al.,* 2009). As entrepreneurship researchersbelieve that being proactive gives competitive advantage that improves financial results by putting such firm ahead of its competitors(Wiklund, 1999).Conceptual arguments suggest that proactiveness gives companies the ability to bring new services and products to the market ahead of their core rivals, take control of the distribution channels and access to the market and even set some industry standards.In this study, proactiveness is operationalisedto mean a bank tendency to seek first-mover advantage and forward-looking behaviours, and efforts to shape business environment thereby introducing new processes to dominating distribution channelsahead of competitors (Lyon, Lumpkin, & Dess, 2000).

2.3.3.2 Innovativeness

Schumpeter (1942) is one of the early researchers to pinpoint the importance of innovation in the firm's entrepreneurial activities by referring disruptive innovation process as "creative destruction," a process that occurs when wealth is created by the introduction of newproducts or

services (Mihardjo& Furinto, 2018).To this end, innovation is one of the EO dimensions (Miller, 1983). Innovative is defined as the tendency and willingness to engage in creative behavior in experimentation or technological innovation through the introduction of new products or services(Dess & Lumpkin, 2005). Innovativeness can come in varieties of ways. It may be new to the world or just new in a given context (Teece, 2016). It is said to be present when firms pursue active implementations of new ideas, products, or processes (Lumpkin & Dess, 1996; Hurley& Hult, 1998). Innovativeness is one of the most critical factors in accomplishing Corporate Entrepreneurship (CE) activities (Lassen & Nielsen, 2009) as well as new ventures creation and performance (Kandemir & Hult, 2005). Building on this, without innovativeness, there is no CE regardless of the presence of other firm'sresources (Covin & Miles, 1999; Karimi& Walter, 2015).

However, there are two types of innovations which have been described as routinised innovation or independent innovation (Baumol, 2002). According to Teece (2016),an important difference between the two is that routinised innovation is the idea that extends existing activities in some ways or improve process, upgradeexisting products and services. Independent innovations are those that are completely new such as creating a new market, satisfying a previously unrecognized needs, as well as developinglaunching and commercializing of a new technological breakthrough.In Baumol's model (2002), routinization is a type of innovation pursue in response to market competition, and firms that usually relied on this are those that either fail to empower internal entrepreneurship or prioritize efficiency over innovation (Teece, 2016). On the other hand, an independent innovation is the influence of the entrepreneur who is there to direct innovative idea from its beginnings to a viable offering. That is value creation, delivery and value capture (Clauss, 2017).

On the other hand, institutions that specialised in financial service deliveryrecognizes the importance ofnot only the entrepreneurial tasks of retaining routinised innovation but also the need for independent innovation, as a function of DCs (Teece, 2016) so as to improve performance under constant environmental changes.In other words, the process of creating and delivering superior value to customers has gone beyond routinized innovation to includethe ability to recognise opportunities and threats and to prevent the onset of firm's rigidity or inertia, and all things that affect alignment of BM. In this study,innovativenessis operationalised to mean creative ideas related to the generation and delivery of products or services. It thus involves experimentation and creativity in the cause of delivering result in a newprocess, product,or serviceto improve performance.

2.3.4.3 CompetitiveAggressiveness

Lumpkin and Dess (1996) defined competitive aggressiveness to meanthe tendencyof a firm to directly and intensively challenge its competitors to achieve entry position or improve its situation by outperforming the rivals. In the MFB sector, acting aggressively may lead a particularbank to take initiatives such as cutting transaction costs, increasing its products and services offering via online platforms as well as adopting aggressive marketing strategies to expanding its customer base.

As such, competitive aggressiveness is seen as a firm response to create competitive advantage (Zehir, Can&Karaboga, 2015). It implies that the higher the firm's willingnessto compete aggressively, the higher the possibility of grasping technological breakthrough andmarket opportunity to achieve better new product and service development.Although,all firms can also engage in competitive aggressiveness when they radically cutdown the prices to increase the

market penetration, or to achieve some level of monopoly. Butcompetitive aggressiveness may not be suitable for firms which have scarce resources, because they may not be able to reduce the productioncosts since they cannot operate at the maximum level of economies of scale (Blumentritt & Danis, 2006). This is where both BMI and IT-enabled DCs can favour small actors and even the most vulnerable firms when they engage in formation technology and other disruptive innovations.In this study competitive aggressiveness is operationalises to mean responses of MFB to achieve superior performance in the market by challenging the status quo through the internet, mobile technology, artificial intelligence and other computing platforms tobring in the new innovative products and services to potential customers, market whole industry and general public at large.

2.4 Concept of Business Models (BMs)

Although, there are several definitions of business models among academics and practitioners. But generally a business model can be conceptualised as a system of interconnected and interdependent activities that determine howa particular firm conductits business with customers, vendors and alike (Bhojwani, 2012). It is,therefore, based on the logic of satisfying the perceived marketneeds, along with defining which parties or unit will perform what activities and the linkage between these activities. However, as the markets become increasingly competitive, operating business models need to be innovative for the firm to deliver and capture value from consumers.Yet, in some cases, BMI is completely different from whatmany people think, BMI demands neither new technologies nor the creation of brand new markets; it is about delivering existing products that are produced by existing technologies to existing markets ("Four Paths,' 2014) in a novel way. BMI consists of changes that are invisible to firm competitors andcapable of improving performance.

Timmers (1998) indicated thatbusinessmodel is a complete system of products, services and information flow, including each party and effects, potential interests as well as the corresponding benefit sources and methods. Amit and Zott (2001) pointed out that a business model involves a series of transaction designed for the purpose of creating value in commercial activities, and only business model could bring about the sustainable competitive advantages in the era of IS research. A Business modelconceptualises the way business is done (Magretta, 2002), and it lets the managers to understand the drivers of firm's strategic goals, which could be financial or non-financial. According to Osterwalder and Pigneur (2005), a business models should be used for market research, creativity, success appraisal and communication. Growing curiosity in examining business models for corporate innovation's performance indicates the importance of addressing sustainability in innovation process (Lüdeke-Freund, 2010; Boons & Lüdeke-Freund, 2013; Bocken et al., 2014; Andreini & Bettinelli, 2017). Consequently, sustainable BM can be the secret to unleashing the strength of the company to resolve global technological developments to performance.

As can be seen, there is atheoretical development of business model literature from conceptual abstraction, to strategic processes and cognitive thinking (Andreini & Bettinelli, 2017). Magretta (2002) also indicatesa business model to bea stories that explain how an enterprise works. According to Teece (2010), business models define the logic, data and other facts that underpins the value proposition for consumers, as well as the viable mechanism of sales generation and costs for businesses that offer that value as a profit. As defined by Morris Schindehutte and Allen (2005; 727), a business model can be sustainable competitive advantage in a defined marketplace by firm decisions that are interrelated in the areas of firm's strategic decisions of operating models and economics of scales.

Drawing from the existing literature, some scholars (Aspara, Lamberg, Laukia& Tikkanen, 2013; Martins, Rindova&Greenbaum, 2015) conceptualise BM to reflect the cognitive thinking of managers in terms of value creation, delivery and value capture. Aspara *et al.* (2013) suggested that the concept of BM resides in the minds of managers that perceive the logic of how value is created by and delivered to potential customers to earn revenue, and how these processes are linked together.

Lindgardt and Ayers (nd) suggested that firms willing to drive growth through BMI must answer some critical questions such as; what is the acceptable level of risk to take? How broad the scope of business model innovation should be? Can the firm consider it as onetime exercise or doesitcall for an ongoing process, through dynamic capabilities? There is also need for researchersand managers to understand the "impetus and focus" of the model. The impetus has to do with analyzing whether the organisation is defending itself against the external threat such as competition intensity, economic downturn or changing regulation, or it is pro-actively changing the status quo? That is, the firm is acting as a game changer within the markets and industry. The focus of the model has to do with analyzing the most attractive business opportunity by asking why it resides in the core business, market or industry. Under this, a business model innovation approach is employed in response to industry challenges such as commoditisation of IT infrastructure, customer sophistication and changing regulation capable of making the existing BMs be outdated and decline.

Despite all these, The existing BM definitions lays out the same fundamental principles that viewed BM as competitive reaction to a specifically defined business market opportunity (Holloway & Sebastiao, 2010) and defines the limits reached by a competitor analysis (Porter, 1980). Abusiness model as market research (Narver & Slater, 1990). Zott and

Amit(2007)documented that must optimize production and transaction efficiency or encourage new trading structures that connect previously unconnected customers strategic partners and aliketo value creation process. But these assumptions limitsthe application of the BM construct to emerging markets because it relied upon existing market structures, known customer preferences, and established competitors (Holloway&Sebastiao,2010). Because, from the strategic perspective,markets that do not exist cannot be analysed comprehensively (Christensen, Raynor & Anthony, 2003).

Although, previous studies establish that an appropriate business model can lead to sustaining organisationalperformance (Amit & Zott, 2001; Zott & Amit, 2007). But. Morioka, Evans, and Carvalho,(2016) reported that most of the current business models are restricted in seeking short-term and revenue centred value and fails to promote firm sustainability. This situation warrants the need for new ways of doing business. On the other hand, innovations can help afirm to develop and implement lasting solutions to business problem thereby reducing firm vulnerability to external changes (Bocken, Short, Rana, & Evans, 2014).Abdelkafi and Tauscher (2016) also considerBM as instrumentsdeveloped to analyse firm's success which can be designed and innovate.

2.4.1 From Business Model to Business Model Innovation (BMI)

Over the past few years, there is still much confusion about what business models are and how they can be used(Shafera, Smitha &Linder, 2005). This lack of consensus may in part be attributed to researcher's interest in the concept from a wide range of disciplines (Amit & Zott, 2012; Demil & Lecocq, 2010; Wirtz *et al.*,2016). In another development, Shafera, et al (2005) documented that, while several authors have offered definitions of business model but none appear to be generally accepted. To help in better understanding of business models, these

authors reviewed the extant literature and identify and classify the components of business models cited therein. From their finding, BM components were classified into four categories that include strategic choices, the creating value, value network, and capturing value. For instance, strategic management studies conceptualise BMs as activities, strategies, and actions that create, deliver, and capture value for the firm (Amit & Zott, 2012). Accordingly, BM is describedas a system of interconnected and interdependent activities that show how the firm does business (Amit & Zott, 2012). It is,therefore, based on the logic of satisfying the perceived marketneeds, along with defining which parties or unit will perform what activities and the linkage between these activities. Drawing on business decision making literature, Girotra and Netessine (2014) suggested thata business model consists of a set of key decisions that jointly defined how an organisation incurs its costs, manages its risks, and earns its revenue in the process of delivery products and services.In other words, innovations of business model are those entrepeneurial decisions about how a particular firm change the way it incurs its costs, manages its risks, and earns its revenue in the process of delivering product and services.

In marketing research, BMs has beenconceptualisedfrom a network perspective, as the first source of value creation and deliveryby focusing on the relationship between a firm and itsstakeholders. It is, therefore,an interface that foster collective knowledge and understanding of markets behaviours in order to respond accurately and appropriately by attracting and retainingthe potential customer and strategic partners in the ecosystem. Consequently, RBV literature assumed that firms which possess rare and unique resources are bound to create competitive advantage, BMs is explained by internal variables such as resources and capabilitiesapplicable to development and adoption (Mezger, 2014). On the other hand, entrepreneurship studies conceptualise BMs as the set of decisions that entrepreneurs must take

if they are to appropriately and accurately respond to market opportunities. In other words, entrepreneurship studies on BMsfocus on disruptive innovations, and therefore dynamics that can be changedand renew in response to marketchanges.

Baden-Fuller and Morgan (2010) also classify business model into three major functions; one as a unit of analysis, two asa perspective for the classification of existing businesses, and three, a recipe for the practitioners to copy and innovate. According to Spieth and Schneider (2015) there are three major functions of a business model that emerges to assist managers such as understanding the way a firm does business,promote the creation of new markets and commercialize innovative ideas and technologies. It is argued that the first function of the model describesthe logic and structure of the businessin a static view, the second and third are more transformational and dynamic in nature; emphasizing on change and innovation (Demil & Lecocq, 2010). Therefore, even if these views (capabilities)serve as a distinct, yet complementary in nature (Spieth& Schneider,2015).

2.4.2 **Definition of Business Model Innovation**

Attempts were made to define business model innovation among the various scholars (Gambardella & McGahan 2010; Amit & Zott, 2012; Casadesus-Masanell & Zhu 2013, Teece, 2017). While Casadesus-Masanell and Zhu (2013) see BM as the search of new logics, Teece, (2010: 187) defines it as the process that "involves changing the paradigm by which an organisation goes to market." Similarly, Shafer, Smitha, and Linder (2005) identified up 12 different definitions of BM that produced over 42 different componentsSeveral contributions on the progress of the BMI literature highlight the following elements as necessary aspects of the concept of business models and sustainability, which include the value proposition, the consumer segments it serves, and the value chain framework and processes for the realization of the value

proposition. The mechanism for capturing firm's value and the specific ways in which these components are related (Linder & Cantrell, 2000; Morris et al., 2005; Casadesus-Masanell & Ricart, 2010; DaSilva & Trkman, 2014; Teece, 2010; Wirtz et al. al., 2015). Gradually, the literature on the BM has been developed from conceptualising, characterizing and explaining a BM adoption at a given point in time, towards a more dynamic view that examines business model adoption and renewal.

Given that several scholars from different research backgroundssuch as Information Systems (IS) research, Strategic management, Innovation and Technology management (Zott *et al.,* 2011), contributed to the development of business model literature. These scholars look at the concept of business model through different lenses and perspectives which led to the disagreement of what a business model should actually represent (Tauscher, 2016). Nevertheless, a number of business model definitions have emergedin common that they approach business models not only as a set of specific elements but includes how these elements are interconnected and mutually influence each other (Casadesus-Masanell & Ricart, 2010). This understanding is driven by the logic that it is the particular combination of elements that allows a firm to create and deliver value in a unique way.

Literature in this direction largely recognised business model as research concept to include three dimensions such as value creation value propositionand value capture.Therefore, even if there are several definitions of the business model but at its basic, a business model "describes the rationale of how an organisation creates, delivers, and captures value" (Osterwalder &Igneur, 2010: 14). Therefore, from the above definition, innovation on a business model level requires changes in one or more of valuecreation, the value proposition, and the value capture of a firm (Amit & Zott, 2012).

2.4.3 Dimensions of Business Model Innovations

Although,there is no single universal definition of Business model innovations,nevertheless, there seems to be a consensus among the researchers on three main aspectsof BMI that include value creation, delivery and capture (Andreini & Bettinelli, 2017). This has been agreed by Moriokaa, *et al*. (2016) by documenting that, one possible way to understand business models is to use the framework proposed by Richardson (2008), which involves three main elements that comprise value creation, value proposition and value capture. However, some studies extended BMI dimensions to consist of four, five and six components such as value proposition, key resources, profit formula, and key processes. Abdelkafi,Makhotin & Posselt, (2013) proposed BMI consists of five dimensions namely value creation value proposition, value delivery, value communication and value capture. In the same vein, Morris *et al.* (2005) BMI consists ofsix componentsofthe value proposition, internal competencies, external positioning, economic model, and investor factors.

The most widely reported dimensions of BMI across ranges of literature are value creation, delivery and value capture (Jonhson et al., 2008; Baden-Fuller & Haefliger, 2013; Zott & Amit, 2013; Clauss, 2017; Spieth & Schneider, 2016; Massa et al., 2017; Teece, 2017). These dimensions are therefore adopted and utilized for the purpose of this study. The items for measuring these dimensions are also adopted from the work of Spieth, *et al.,* 2014; and Spieth, and Schneider (2016) whodesigned, tested and validates the formative measurement of business model innovations.

2.4.3.1 **Value Creation Innovation**

According to Clauss (2017), value creation innovation refers to a firm abilitiesto create value for potential customers and clients using technology, partnerships, and re-engineeringas its core

processes.The value proposition innovation describes the value the firm promises todeliver to customers and strategic partners within its offerings via its distribution channels, as well as howrelationships are designed. In the same vein, value capture innovation relates to the revenue model of the firm used to earn money and the costs associated with value creation and valueproposition (Clauss, 2017).

Value creation is still one of the priorities of every company, no matter what it is. From a financial point of view, the production of value happens as the profits of a business rise and outweigh its expenses (Upadhyaya, 2017). In the wider sense, value creation is defined as actions and procedures that improve the value of the goods, services and the overall business of an organization (Upadhyaya, 2017).Many successful businesses recognize that the relevance of value creation relates not just to the consumer group, but also to employee, shareholders and potential investors.

As a result, entrepreneurs create value in various dimensions such as to suppliers, shareholders, not just the customers. Olson and Knight (1997) claim that the creation of value for shareholders is synonymous with the creation of value for the other components of the business. Value creation is a strategic benefit for business, as businesses with higher value creation rates can expand quicker, improve access to capital markets, give workers more resources and improve their own funding capability. This in turn customers would benefit customers because the business can attract capital at a lower cost ofinvestment in activities that better meet customers' needs (Upadhyaya, 2017).

In a general sense, the entrepreneurial process of value creation consists of two imperative stages that include idea formulation and monetization (Mishara & Zachary, 2014). Mishara and Zachary (2014) employthe Entrepreneurial Value Creation (EVC) theory to explain this further.

In stage one, the entrepreneurial firm begins with either the entrepreneurial intention oropportunity identification to find a new idea or venture capable of realizing financial reward.If the firm succeeds in this stage entrepreneurial competencebegins to emerge. Unfortunately, most of the businesses experience failure at this stage. For instance,when the cost ofcreatedvalue outweighs its value or the value has no difference from the other competitor's offerings. Hence to create and protect value,the cost of customer switching to other competitors should be reasonably high.In stage two, more investment is needed to develop dynamic technologies that are integrated into the design and innovation of a firm's business model. However, if the required resources are not available, it will go back to stage one and reorganize the entrepreneurial expertise for subsequent processes.

Inthe banking sector, banks are pressurised tocontinuously create and proposevalue in order to grow and survive. It's not a matter of shareholders and consumers. It also comes from a range of industry actors such as the financial press, financial institutions, regulators and pressure groups.As such planning, execution and controlling for value creation requiresa firm's ability to measure and relate the creation of value to current and prospective customers and clients (Spivey & McMillan, 2002). Entrepreneurial managers should recognize that optimum value creation is only feasible if they sustain a well-planned and well-controlled process that effectively and efficiently incorporates their most important resources and capabilities in the firm digital and entrepreneurial ecosystem.

2.4.3.2 Value Proposition Innovation

Value is considered to be technology,processes or partnership a firm usestocreateand delivers value.The value proposition explains the value that an organization promises to offer for its goods to consumers or consumer groups across sales networks and how this partnership is

designed.On the surface, value delivery could be simple implying that all a business need to do is be able to deliver something to the target market in order to be successful. But in the banking sector, value delivery mechanisms is less is on what the bank thinks it candeliverand more on how it is viewed and accepted by the bank's customers. The ultimate decision here is the ability to convince customers to be willing to accept and use the proposedvalue because of their awareness of your firm reputation.In other words, these customers mustbelieve that firm's offering will solve their problems, and reinforced by firms sales and marketing approach in order to extend their customer base.

This usually starts by market broad enough to show the full range of product substitutes and choosing a reference product or services available at the market.Under this, entrepreneurs must consider key product and service feature what their target customers care about most. In the banking sector, components of value are the speed of delivery, cost reduction, the number of customers served, flexibility reliability, and dependability of the ecosystem. Furthermore, there are two possible ways that make customers switch from one product or service offering to other. First, your product may have better functionality; it may simply do its job better or faster than expected. In the banking sector this functionality could be high speed, flexibility, and dependability in terms of error transaction process. Secondly, value offeringscould cause customers to switch over to the firm if the value delivery process outstrips the reference firm offering by placing lower burdens on the customer. Therefore, value delivery must continue to align itself withwhat competitors are doing but alsocustomer's needs to improve performance.

080

2.4.3.1 Value Capture Innovation

Value-capturing innovation focused on how businesses generate profits that offset their expenses and guarantee reliable profitability (Baden-Fuller & Haefliger, 2013; Johnson et al., 2008; Teece, 2010). It has to do with the revenue model used by businesses to make profits and the costs involved with value production and value proposition activities (Clauss, 2017).It is the stage at which an organization much question how much of the total value should a firm take in the transaction (Myler, 2013) and how such value should be captured (Johnson et al., 2008; Teece, 2010). At basic, it is assumed that a firm would get whatever amount is left after subtracting the costs of value creation and delivery from the offering. At the strategic level, such decision has never been easy because of other factors that need to be taken into account. These include competitors' pricing, the dynamic of customer switching costs to other offerings and ability to retain such relationship by convincing customers to believe that the value they get exceeds expectations.

Santos (2012) claims that the distinction between value creation and value capture is a central issue in strategic decision-making process (Lavie, 2007). It is also clear that value creation is a necessary for sustainable value capture. Activities that are capable of capturing value without generating value are deemed irrational and even become illegal due to the burden on shareholders in the event of a downturn in sales. It is also evident that a certain degree of value capture is necessary in order to ensure the growth and survival of business that engage in value-creating and profit-maximizing activities.

The concept of transaction applies to the option of activities to be carried out and the services and roles needed to carry out those activities (Amit & Zott, 2012). The transaction structure specifies how the activities are linked, and the order of those activities describes the exchange

mechanism adopted to enable transactions (Amit & Zott, 2001), within channels member. Therefore, choosing the right trading structure can have a huge impact on the flexibility, adaptability and scalability of the firm's trading process (Shahwan, 2015) and the overall performance (Teece & Linden, 2017).

As regard to the relationship with the firmperformance,it appears that both kinds of innovations It is necessary but any businesses, rely only on the first. Often businesses can get away from worrying about capturing demand if they market a lot of new goods in a conventional way. However, if the process of capturing value is not checked, it is usually left behind more values to be explored and capture by rivals. Sometimes it's the only way to save a company value capturing dilemma is through strategic BMI (Teece,2018). Yet, value capture is one of the most fascinating and unexplored fields of study (Rhyne, 2010).According to Jorgenso, (2015),among many reason value capture innovation tends to be overlooked is that firms often tend to do well in innovating value creation, and performed poorly at the latter. That relying heavily on the existing resources and capabilities without regard to changing market conditions such astechnological commoditisation, competition, changing regulations and customer preferences. In reality, it is difficult to outrun all thesebut the firm try to improve performance through the use of DCs at its disposal.

2.4.4 Roles of Business Model Innovations

A global survey of more than 4,000 senior managers found that 54% prefer the new BMI over product and service innovation over competitive advantage (Economist Intelligence Unit, 2005). A similar study with more than 750 managers found that BMI ranks much higher in managers' priority lists than previously expected (Pohle & Chapman, 2006). Even the most successful high-tech organisations in the world such as Apple, Amazon, and Google did not simply succeed just

because of the use of IT capabilities but also because of their ability to be the pioneers in BMI (McGrath, 2010).

Whereas business model innovation is vital to both manufacturing and service industries,the concept is deeply rooted in the laws of s and operations management that are universally applicable to a wide range of industries (Netessine, 2013) and allows for the systematisation of the process of identifying, selecting and refining innovations. There is an urgent need for fundamentally different approaches to value creation (Coulter,*et al.,* 2013). It is vital to move beyond product and process modifications to business model innovation (Breuer&Lüdeke-Freund, 2016), simply because innovation management failed to solved the urgent socioeconomic problems since it neglect the power of networks and the value of the values of their constituents factors (Breuer & Ludeke-Freund, 2016).

Despite all these, a number of studies have criticised the concept for being vague and superficial and having no theoretical grounding (Porter, 2001). One keycriticism that is dominant in the literature relates to the lack of theoretical developmentof the BM concept in s and business studies (Shahwan, 2015). Accordingly, this crisis may raise concerns aboutthe value of employing the concept for theory development andempirical studies (Zott *etal.,* 2011). In addition to that, few indicatethe difficulty ofdifferentiating the BM from other "related concepts such as new organizationalforms, strategy, ecosystems, and value chains (Zott *et al.,* 2011). This has been addressed by scholars by suggesting that BM is different from strategy as the latter is more detailed and analytical in nature (Teece, 2010). In a similar study, Teece (2010; 179) argues that "new organizational forms can be a component of a business model, but organizational forms are not business models." Nonetheless, "the practical value of the BM in

providing a common language for stakeholders and as a cognitive tool for visualization is acknowledged" (Shahwan, 2015; 19).

In a digital environment, customers journey are the mechanisms through which organisations interact with customers (Ramesh, 2016), in a better and uninterrupted way. Therefore, for effective digital transformation financial institutions such as banks need to focus on that journey by taking into account all factors that make such journey very exciting within entrepreneurial ecosystem. However, recurrent technological advancement, variability and unpredictability of the current business environment make it difficult for the business organisation to take all journey that make up digital transformation (Ramesh, 2016) as a whole. The best option for the strategic firm is to first select the best elements that make the journey possible when designing it new or innovative BMs.

According to McKenssey (2017), there are two possible solutions to the above problems which are common in the financial service industry of the emergent economies, Nigeria inclusive. The first alternative is to undergo structural reforms by the government to address major challenges affecting them such as consolidationof the bank to increase their capital base, and public-private partnership to maximize the value chain. The second alternative is that of embarking on an individual firm's transformation and innovations. This alternative includes things such as digitisation of the ecosystem to radically reduce costs of transactions by building a scalable IT platforms to seamlessly integrate both front and back office operation. Innovation has to do with disrupting and tapping into new opportunities and channels to widely reach both existing and potential customer segments.

In the Nigerian context, both alternatives have been explored in the banking sector right from the bank consolidation reform (CBN, 2005), to Project EAGLE advocated by CBN to banks to re-

engineer their core processes to better serve their customers using technology and other computing platforms. According to Ringim (2012), this process is synonymous with the concept of Business Process Reengineering (BPR) in both theory and practice. But BPR is not about automating business processes, neither about improving the existing business processes (Hammer & Champy, 1993). BPR starts as a clean slate and then looks for the problem to be solved (Dantsoho, 2015).

Although, BPR helps Nigerian banks to transform their core processes thereby improving performance in areas such as customer service (Ringim, Razali and Hasanan, 2012). But in a business context, when anew form of organisation is established, it must adopt a particular BM that defines the design and architecture of the value creation, value delivery, and value capture(Teece, 2010). The essence of BM is to definethe manner by which firmsdeliver value to customers, convince themto pay, and converts those payments to profit (Tecee, 2010). It thus reflects management'sassumption about what customers want, how they want it, and how a firm can organise to best meet those needs, and get paid for doing so.This means that, without an EO a firm's BMwill fail to either deliverand or to capture value from their innovations (Teece, 2010).

Although some studies (Teece, 2010; Teece, 2017) accept the fact that, more work is needed to establishthe concept of BMI theoretically in both entrepreneurship and business studies, they equally emphasizes the importance of the BMI for firms to differentiate themselves from rivals and develop asustainable competitive advantage (Shawan, 2015; Clauss, 2017). According to, Zott and Amit (2013) studies that pay empahsison the measurement of business models and BMI that have revenue potentials provides an avenue for a better understanding of the concept of wealth creation.

To the best ofresearcher knowledge, among the many strategic management scholars, it is only Tecee and Linden (2017) attempts to identify the relationship between business model innovation dynamic capabilities and firm performance. But even that, their aim was "to provide a broad overview rather than a set of testable propositions". They further advocatedthat studies that provide a better understanding of the concept of BMI, execution, and change will put more light on the importance of DCs.In other words, their works were started and end at the theoretical level.

Building on the works of Wirtz *et al.* (2016); Clauss (2017); Foss and Saebi (2017); Teece, 2010; 2017),it seems that evolution of business model literature in relation to organisational performance started from a simple conceptual abstraction that focused on the nature and essence of BMs, at a general level. To BMs architecture that focused on design and structure. Followed by components perspective, focusing on a number of components or dimensions which BM must have. Then to dynamic approach, with emphasise on the complexity of the relationship between BM and firm performance. Accordingly, researchers that adopt and promoteDC perspectives do not consider BMI as a staticconcept but explains and emphasises the dynamic nature of BMI process. For instance, Teece (2010) was one of the first authors to recognise cognitive perspective in BM literature (Andreini & Bettinelli, 2017), alsoamong the few scholars that emphasise and called for empirical studies on EO, BMI and firm performance to explain the importance of DC (Teece, 2018).

2.5 Concept of Dynamic Capabilities

Drawing on the DCs theory of the firm, the notion of DCs has been defined to mean "firm's ability to build, integrate, and reconfigure internal and external competencies to address rapidly

changing business environments" (Teece *et al.,* 1997). However, there are different approaches and conceptualisations about DCs and their effects on firm performance. Whereas Priem and Butler (2000) has seen DCs as tautological, vague, and not operational, according to Eisenhardt and Martin, (2000) DCs are neither vague nor tautological but a set of specific and identifiable processes that are similar, equifinal, and substitutable than is usually assumed, and can only be a means of achieving competitive advantage if they are applied "sooner more astutely, and more fortuitously" than competitors. To affirm this assertion, Wang and Ahmed (2007) argue that firm's ability to build and apply capabilities 'sooner, more astutely, and more fortuitously' is, indeed, at the heart of DCs which is costly for others to imitate and thus can be a source of sustained competitive advantage, although some researchers linked DCs approach to the environmental dynamism and firm performance.According to Zahra, Sapienza, and Davidsson (2006), DCs needs not necessarily be linked with external environmental conditions, as the need to reconfigure or renew firm resources may arise from changes in organisational conditions rather than changes from the external factors.

Researchers that follow Teece *et al.* (1997) work, largely conceptualisesDCs as routines to monitor and respond to external changes (Winter, 2003). Under this, the assumption is that if a firm lacks DCsit may still have a chance to buildcompetitive advantages but such advantages cannot be sustained for the long-termperiod due to environmental changes (Teece, 2007). DCs view is among the few research constructs and the most influential theoretical paradigms in both entrepreneurship, Information Systems,and strategic management literature (Hitt, *et al.,* 2001; Bhatt & Grover, 2005; Eisenhardt & Martin, 2000; Pavlou & El-Sawy, 2011). The main assumption underlying DCsperspective is that firms that have targeted their efforts in developing DCs will be in a better position to build competitive advantage and overall performance

(Fainshmidt,*et al*., 2016). Although, there have been some empirical studies emphasising an overall positive relationship between DCs and firm performance, yet, it is not clear under which conditions DCs affect firm performance (Lin & Wu, 2014; Fainshmidt, *et al.*,2016). In addition, despite the positive contribution of DCs to performance, developing them within firms is considered a costly operation.

Therefore, in certain circumstances, firms may be better off not investing in dynamic competency development, because their profits can be overturned by development and maintenance costs (Jantunen, Tarkiainen, Chari, & Oghazi, 2018). It is also possible that there is a heterogeneity in how certain DCs processes affect performance, and the context of the environment has a strong impact (Gelhard *et al.*, 2016). The literature on dynamic capacities describes them as higher-order capacities capable of decomposing them into several different dimensions (Eisenhardt & Martin, 2000; Mikalef & Pateli, 2016; Protogerou, Caloghirou & Lioukas, 2011). So, in order to better understand and capture dynamic features, a researcher can focus on the basic features that make up them.Previous, studies have followed particular approach at different levels to identify the antecedents and consequences of DCs by focusing on definition and framework proposed (Teece *et al.*, 1997).

According to Teece, (2014), there are two types of organisational capability that includes ordinary and dynamic capabilities. In this sense, an ordinary organizational capability is a resource that can be harnessed to produce a desirable outcome. Ordinary Capabilities (OC) are therefore embedded in specific skills, processes and facilities. These capabilities can be measured using efficiency index such as time to complete a task,labour productivity and inventory turnover. As a result, knowledge behind OC can be bought either through staff training or through the use of external consultants (Bloom,Eifert, Mahajan, McKenzie & Roberts, 2013).

According to Collins (1994) operationalised functional or competences, are the purposive combinations of resources and capabilities that enable an organization to perform operational activities such as logistics, manufacturing, marketing and sales.

Therefore as ordinary capabilities allow an existing product or service to be made, sold, and serviced. Surprisingly, these capabilities will not automatically influence afirm to grow except in the environments with low competition, no technological disruptions, and very limited globalisation. Hence, unless competitors are weak, and demand is very strong, possessing of ordinary capabilities, is unlikely to support sustainedorganisational performance (Teece, 2014). In other words, what limits the power of ordinary capabilities to serve as the foundation of sustainingperformance for a firm is that of easy to imitate, direct transfer and replication. In the same vein, possessing and exercisingDC appropriately is not an easy task. According to Teece (2014), DCs reside, at least in part, in the entrepreneurial, managerial, and leadership skills of the firm's top management, and anorganisation's ability to design, develop, implement BM and its ability to change and innovate these models. In whichever form, firms with strongDC learned to adjust to changing business environments, and also mould it (Teece, 2007). In other words, building competitive advantage and sustain superior performance is not simply about rationalisation, and standardisation of the processes that are linked with ordinary capabilities.Thishas to do with being sensitive to the market and systems of value creation deliveryand innovations, as well as scalability and performance throughthe use of DCs that are required for adaptation (Teece, 2014).

The influence of resources and capabilities to organisational performance has long been identified in strategic management literature (Barney, 1991; Wade &Hulland, 2004; Wang &Ahmed, 2007). And the Resource-Based View (RBV) theory is perhaps the most dominant

perspective in this direction(Dantosho, 2016). This theory (RBV) emphasises on the need of the firm to gather organisational “resources that are valuable, rare, imperfectand non-substitutable (VRIN) for competitive advantage” (Barney, 1991). But even the most successful business model are prone to imitation by other firms within the market or industry. Similarly, without renewal and reconfiguration, the uniqueness of a firm business model can be eroded when the environment changed.

DC is a high-level capabilities that allows businesses to upgrade ordinary capabilities and direct operational activities for superior performance. Thus, Strong DCs enable organizations to develop and produce unique products and services for new or existing markets in a variety of ways to generate superior revenue. The strength of an enterprise's dynamic abilities determines the speed and degree to which it is able to adjust and reconfigure its resources. To achieve this, organizations must be able to continuously detect, capture, and periodically transform.Consequently, strong DCsenables an organisation to profitably build, renew and reconfigure its existing resources and capabilities that lie both within and beyond the firm’s boundaries. The capabilities are thusvital for firms facing both stable and dynamic competition, in which market disruption occurs regularly and without respect to traditional industry boundaries (Sidak & Teece, 2009).In the same vein, from sustainability literature, BMI is enabled by the firms DC in the sense that a dynamically capable organization will be able to rapidly implement, test, and refine new and revise business models (Teece, 2016). Successful implementation draws on management's architectural design, asset orchestration, and learning functions, which are core dynamic capabilities. At the same time, dynamic capabilities depend in part on the organizational flexibility empowered or denied by IT-enabled resources such as knowledge creation, personnel expertise and or governance capability.

2.5.1Different Perspective on Dynamic Capabilities

IT-enabled DCs is defined as the ability to "integrate, build, and reconfigure IT-based resources and competencies to adjust to rapidly changing environments" (Xiao & SDasgupta, 2009). This definition extends IT capability theorem by including dynamic capabilities. The concept of DITC offers promising hope in explaining a firm's sustainable competitive advantage and long-term superior performance. Xiao andDasgupta (2009) posited that although successful firms may have used RBV thinking as competitive tool to increase performance, it does not suffice to explain such achievement by them. They argued that firms with superior competitive advantage are those who can effectively respond to technology and market changes by developing and redeploying internal and external competencies (Teece *et al.*,1997). Attempts were made to distinguish between DCs and functional capabilities (FC). Functional competencies, according to Collins (1994), are a purposeful mix of tools that allow companies to perform organizational activities such as logistics, engineering, communications, and sales, while DC deals with organisational changes. Eisenhardt and Martin (2000) looked at the essence of DCs and how consumer preferences and industry growth influence these changes over time. Researchers have made several findings about DCs, including basic techniques and operational processes like product growth, partnerships, and strategic decision making that generate value for companies in a competitive marketplace by manipulating capital into new value generation activities.DCs often involving a broad flow of empirical research, these capabilities represent a commonality among effective companies and are therefore "best practices". The effective pattern of DCs depends on market dynamics. It is when the market is moderately dynamic so that change occurs in the context of a stable industry. DC is similar to the traditional concept of routine (Nelson & Winter, 1982). In a highly dynamic market where the industrial structure is ambiguous, DC takes on other characteristics, such as an adaptive, to unstable process used to quickly generate new

knowledge and interactive execution to produce unpredictable results. (Eisenhardt & Martin, 2000). Table 2.1summarises DCs' interpretations from different studies.

Table 2.1:
Different Views on the Role of Dynamic Capabilities Constructs

Author	Position on dynamic capabilities
Collins, (1994)	Posited Higher-level organizational competence (DCs) enables companies to overcome path dependencies that can mimic lower-level competencies.
Teece, et al., (1997)	DCsallows firms to "integrate, build, and reconfigure internal and external competencies" to quickly address environmental changes and thusthe source of sustained competitive advantage.
Priem & Butler, (2000)	Viewed DCs as tautological, vague, and not operational, which lacked empirical grounding.
Eisenhardt & Martin, (2000)	DC as neither vague nor tautological but "a set of specific and identifiable processes that are similar" equifinal, and substitutable than is usually assumed. DCs can only be a "source of competitive advantage" if they are applied "sooner more astutely, and more fortuitously" than competitors.
Wang & Ahmed, (2007)	Linked The ability to apply DC to market dynamism, and to apply thefaster, more agile, more accidentally feature is indeed the core of DC, which can be costly for others to imitate and a source of sustained competitive advantage.
Zahra, Sapienza, & Davidsson, (2006)	The DCs does not necessarily have to be associated with environmental conditions, and the need to reorganize or renew company resources can result from changes in organizational conditions rather than changes from the external factors.
Zott, (2000)	According to this author, even if DCs is equifinal across firms, robust performance differences may arise across firms if the cost and timing of DC deployment differ.
Protogerou, et al (2008)	Viewed DC and its fundamental dimensions are a set of identifiable, measurable, and therefore administratively acceptable options that can be used to tackle the rapidly changing business environment through new capabilities.

Source (Dantsoho, 2016)

In addition to the above different perspectives of DCs, some confusion still exist about the types of dynamic capabilities defined by various authors. Whereas Rothaermel and Hess (2007)

considered the role of individuals as part of firm DCswhich must be taken into consideration, it is equally documented that firm's success largelydepends on having highly skilled employees that are capableof combining, coordinating and integrating the firm's resources, in response to market changes.

2.5.2Importance of IT-enabled Dynamic Capabilities

The assessment of the operationalisation of the concept of business model indicatesthat all the potential dimensions ofBMI can be combined systematically into new capabilities, technology, processes and partnership (Clauss, 2017).As banks set to compete in the new ecosystem, according to Teece, (2010) new competenciesare required for business model innovation. A firm must possess organizationaland managerial capability that facilitate identifying and exploitation of external technological and other environmental changes simultaneously (Teece, 2007; Doz & Kosonen, 2010). In the IT era, new technologies are needed to transformprocesses into the unique offering, for the firm to create value technological resources and the equipment required to carry out business model innovation. This is because, the importance of aligning technological developments with business model innovation has been documented (Wei, Yang, Sun & Gu, 2014).Similarly, as new processes and structuressignificantly determine the degree of efficiency of BM, this capability in question, has been an integral part of resources and capabilities that provide a dynamically sustained competitive advantage and therefore can serve as an enabler for business model innovation. These resources renewal and recreation are better done with strong DC (Teece, 2007).

In the previous study, Dantsoho, (2016) argues that as business environment becomes unstable, aparadigm shift is needed to explain how competitive advantage is gained and held within the

banking sector. In the banking sector, DITC is very vital for banks to gain and sustain performance over a long period of time. This is because as winners are able to demonstrate timely responses to market changes, losers are simply confused on the aspect of strategies that best suit their situation. Therefore, the more turbulent times, the more DCs are critical to organisational performance due to factors such as competitive strategies, technologies changes and the environment in which organisations operate. This capability in questiondefined to meanfirm's ability to excel in the area of doing business (Idreos, 2015). According to Teece (2007), dynamic capabilities can be disaggregated into three forms. Firstly, to sense and shape opportunities and threats,and secondly, to seize identified opportunities. Thirdly, to maintain competitiveness through enhancing, combining, protecting, and whenever necessary reconfiguring organisational tangible and intangible resources (Teece, 2007). The need to match organizational processes to IT capability was illustrated by the finding of (Brynjolfsson & Hitt, 2000) when they argued that in addition to prior investments, firms still need to make much larger investments before they fully benefit from IT. This clearly established that the impact of DITC is different from other types of capability that can be obtained at the marketplace. Bhatt and Grover (2005) distinguished between three types of IT capabilities and argued that one type could not be a source of sustained competitive advantage. According to these authors, IT capabilities can be categorized into value, heterogeneity, and imperfect mobility. The first two are necessary conditions for competitive advantage, whereas, the latter is necessary for sustained competitive advantage. The second category is dynamic IT capability provides firms sustained competitive advantage. Dynamic capabilities allow companies to review their competitors over time and sustain competitive advantage thereby widening market shares and improving profit margins (Hayes, *et al.*, 1996). Therefore, in order to beat competitors and maintain a competitive

advantage, banks are required to have DITC (Idroes, 2015). These include IT business experience or IT personnel expertise (Bhatt & Grover, 2005). Other scholars consider IT management capability and IT infrastructure flexibility as part of firm IT capabilities that are valuable, rare and inimitable by competitors (Byrd & Turner, 2001; Anand, Wamba & Sharma, 2013). For example, IT personnel expertise allows firms to integrate IT with business strategy, deploys assets and cost-effective systems and facilitates business needs sooner than a competitor (Sambamurthy & Zmud, 1997) whereas flexible IT infrastructure enhances response to make changes with less difficulty in terms of time and cost. Basically, if organizations can sense and monitor the internal and external changes, they would have certain expectations in their performance improvement (Bhatt & Grover, 2005; Xiao &Dasgupta, 2009), which can be sustain over time.

Traditionally, RBV theory has been employedto explain the firm'scompetitive advantages, which translate into above-average performance (Barney 1991, 1996; Peteraf & Barney, 2003). According to the RBV theory (Barney, 1991), firms are not equally endowed with resources and capabilities (Wernerfelt, 1995), and therefore imperfectly mobile idiosyncratic resources and capabilities are the primary sources of competitive advantages (Amit & Schoemaker, 1993; Crook et al., 2008). Under this, the consensus is that resources and capabilities must be rare and valuable in order to entail competitive advantages (Barney, 1991). Rarity means that neither current nor potential competitors are able to devise and implement the same strategy (Matysiak, et al., 2018). It thus suggests that one firm, or a few firms, can utilize local resources and capabilities, whereas other firms are excluded from utilising those resources (Arend & Levesque, 2010). Similarly, rare resources and capabilities are a requirement for competitive advantage since rarity denotes that competition is imperfect (Barney, 2001). In the same vein, value or

valuable resourcesmeans that resources and capabilities must serve to improve the effectiveness and efficiency of the firm. This is true if they are at the heart of the firm strategy that either exploits opportunities or neutralizes threats.

At this junctions, the assumptions of both RBV theorycertainly reached their limitations. This is to say that as banks are exposed to changes not only in the product or specific market but the country at large. DCs are needed to explain how firms create and sustain competitive advantages in changingbusiness environments overtime (Teec, 2007; Barney et al., 2011; Leiblein, 2011).DC as ‘‘higher-level competencies” that determine “the firm’s ability to integrate, build, and reconfigure internal and external resources/competencies to address, and possibly shape, rapidly changing business environments” (Teece, 2012 p 1395). However, the link from firm activities forDCs to sustained competitive advantage is neither direct nor automatic, and thus not tautological (Matysiak et al., 2018). As discussed above, technical fitness refers to the performance of DC in terms of achieving intended recombination of firm resources and capabilities, whereas evolutionary fitness refers to the performance of DCs in terms of the rarity and value of intentionally achieved resource and capability recombination(Helfat et al. 2007; Teece, 2007).

Therefore, as a mechanism to superior firm performance, DCs that demonstratesboth technical and evolutionary fitness is assumed to lead the organisation to achievesustained competitive advantage that is hard to be found in the ordinary resources and capabilities(Teece, 2014; 2016). In order to analyze how firm recombine resources and capabilities to create and sustain superior performance,the study relied on DC’s dimensions as sensing, learning, integrating, coordinating and reconfiguring (Mikalef, 2016) which are the same as IT knowledge creation, IT personnel

expertise, IT infrastructure flexibility and IT management capability in the IS research (Dantsoho, 2016).

2.5.3 Dimensions of Dynamic Capabilities (DCs)

DCs are derived from the firm's unique asset positions and evolutionary paths, and they may involve distinctive business processes and strategic routines built over time through well-known learning mechanisms, which are line with Zollo and Winter's (2002: p 340) conceptualisation that viewsDCs as "a learned and stable pattern of collective activity." That is developed through the co-evolution of past experience, as well as knowledge articulation and codification (Burischa & Wohlgemuthb, 2016). Therefore, DCs are embedded in the organisation's ability to address organisational rigidities (Vergne & Durand, 2011), sense and seize business opportunities (Augier & Teece, 2009; Teece, 2014), and innovate and adapt to changing market conditions (Winter, 2003). According to Teece, (2014) DCs are hard for rivals to imitate because they are built on the distinctive characteristics of entrepreneurial managers and their firms. Consequently, a firm with strong DCs will be able to profitably build BMs and renew resources and ordinary capabilities, as well as reconfiguring them as long as the need arises so as to respond to market change (Teece, 2018).

On the other hand, the specific IT-enabled DCs constructs have been the subject of independent empirical investigation and therefore resulted in conflicting conceptualizations of DCs that complicate theoretical definition, empirical grounding and its measurement (Pittaway, 2013). To bridge this gap previous studies attempted to integrate the conflicting conceptualisations of IT-DCs and theoretical foundation to better understand how firms acquire and realize IT-enabled DCs in support of superior performance (Bhatt & Grover, 2005; Pittaway, 2013; Dantsoho & Ringim, 2016).

Building from the work of other scholars (Teece, *et al.,* 1997; Teece, 2007), Pavlou and El Sawy (2011) identify the origin and scope of DCs by conceptualising, operationalizing, and proposed a measurable model with specific measurable components of DCs. In other words, these authors open up, what they called the black box of DCs to propose a measurable model of DCs that enable managers to rely upon DCs to reconfigure operational capabilities or competencies in a changing the environment. According to them; DCs can be conceptualises based Sensing, Learning, Coordinating, Integrating and Reconfiguring capabilities (Teece *et al.,* 1997; Pavlou & El Sawy, 2011). Mikalef and Pateli (2016) adaptthis conceptualisation and develops measurement scale for IT-enabled DCs which is synonymous with Dynamic IT Capabilities (DITCs) in terms of IT knowledge creation, IT personnel expertise, IT management, and IT infrastructure flexibility.Accordingly,in this study, DCs enabled by ITis conceptualised (Mikalef &Pateli,2016) as follows.

2.5.3.1 Sensing Capability

Sensing refers to recognizing and assessing opportunities and threats; seizing refers to addressing opportunities and threats via expedient investments that allow the creation and exploitation of reconfiguring core and complementary resources and capabilities in a firm's day-to-day operations in order to augment them (Barreto, 2010; Jantunen Ellonen& Johansson, 2012; Helfat & Martin, 2015; Teece 2007). It, thus,refers to the identification and assessment ofa businessopportunity (Teece, 2012).

Under this, reconfiguration of existing firm resources and capabilities requires surveillance of market trends and technological development in order to sense and seize opportunities. For instance, Teece *et al*. (1997: p 521) suggestthat "ability to calibrate the requirements for change and to effectuate the necessary adjustments would appear to depend on the ability to scan the

environment, to evaluate markets and competitors, and to quickly accomplish reconfiguration ahead of the competition". Pavlou and El Sawy (2011) defined sensing as firm'sability to identify, analyse, and pursue market opportunities in business environment. In the financial sector, the bank must be able to sense the current trends and gather market intelligence for superior performance.

Accordingly, there are three basic routines of sensing capability that includes generating market intelligence (Galunic & Rodan, 1998), analysing and distributing these intelligence for competitiveness (Kogut & Zander, 1996; Teece, 2007). In the IS research, these firm's processes are linked to what researchers termed as IT knowledge creation capability (Dantsoho, 2016). This helps the firm to generate market intelligence relating to opportunities and threats (Teece, 2007), thereby making sense of events and developments within the ecosystems which the firm operates.

Existing studiessuggest that knowledge like other organisational resources are valuable assets that can constituteidiosyncraticresources configuration thatallows organisations to achieve sustained competitive advantage(Wang & Ahmed, 2007; Hsu & Sabherwal, 2012). This declarationhas been supported in the work ofNieves and Haller(2014) by claiming that DC can be developed through employee's knowledge, skills and experiences.This implies that possession of knowledge in terms of market insights, technological breakthrough and government policiesand competitive landscape can enable it to renew or reconfigure its resources,so as to respond appropriately (Smith, Collins, & Clark, 2005; Wu, 2006). This process is an integral part of building dynamic capabilities.

2.5.3.2 Learning Capability

Although, Pavlou and El Sawy (2011) suggest that learning and sensing capabilities should be regarded as distinct capabilities in the information systems (IS) research, sensing and learning capabilities cannot be separated. This is because, while sensing focuses on gathering new market knowledge, learning capability refers to the ability of a firm to combine existing and new knowledge. It thus focuses on using market intelligence to create new knowledge (Hurley & Hult, 1998). Under this, there are four underlying routines of learning capability, that of acquiring, assimilating, transforming, and exploiting market knowledge (Zahra & George, 2002). Therefore, it can be argued that both sensing and learning capabilities are thereforeintegral part of IT knowledge creation (Dantsoho, 2015), which is part of dynamic capabilities (Dantsoho & Ringim, 2016).

It has been argued that organisational resources in term of knowledge, skillsand experiences are valuable assets that can constitute a unique configuration of capabilities to enable firms to achieve superior performance (Wang & Ahmed, 2007; Hsu & Sabherwal, 2012). Yet, the relationship between knowledge resources and organizational transformation processes is not adequately explored, as knowledge can be used as a function of core rigidity (Brockman & Morgan, 2003), or micro foundation of building skills capable ofadaptation to market changes (Argote & Miron-Spektor, 2011).These types of knowledge are categorisedas declarative and procedural knowledge. Knowledge is said to be declarative when it is more general and applicable to a wide range of situations (Kyriakopoulos, 2011). It thus refers to the knowledge about concepts, facts and events (Akgün, Dayan, & Di Benedetto, 2008). Procedural knowledge is domain specific associated with skills, experiences, and thus refers to knowledge about routines, procedures and processes (Tippins & Sohi, 2003). It can be used to identify, predict or

solve a particular business problem sooner than competitors. Accordingly, knowledgeable resources that are useful for building DCs can reside within individuals and or among the groups, teams or organisation as a whole (Yang & Wan, 2004).

From the Dynamic IT Capabilities (DITC) dimensions, IT knowledge creation refers toorganization ability to gather knowledge from the environment; it operates through the use of IT-enabled resources.According to Pei, (2008) knowledge creation is important in the sense that innovation is driven by the creation of knowledge. Therefore, to compete effectively, organisations must leverage their existing knowledge and create new knowledge that can favourably position them in their chosen markets. Nonaka (1994) argued that any organization that dynamically deals with a changing environment ought not only to process information efficiently but also create knowledge. It can be argued that the organization's interaction with its environmentand the means by which it creates and distributes knowledge are more important when it comes to building DCs. This type of knowledge is avaluable asset that can constitute a unique configuration to enable firms to achieve strategic capabilities (Wang & Ahmed, 2007; Hsu & Sabherwal, 2012). This is becausethe possession of knowledge about customer or market changesgives the firm the opportunity to renew or reconfigure its resource base thereby by building dynamic capabilities (Wu, 2006).Eisenhardt and Martin (2000) declared that repeated practices enable processes to be fully understood and this accumulation of knowledge and experience is important in developing firm's dynamic capabilities.

2.5.3.3 Integrating capability

As the name implies, the process of reconfiguringfirm's resources and capabilities relies on integrating both existing and new resources (Galunic & Eisenhardt, 2001). This is because the

reconfiguration of existing operational capabilities requires collective thinking and shared interaction patterns of other resources (Okhuysen & Eisenhardt, 2002). This is because new knowledge gain through sensing and learning is mostly owned by individual employee withinan organisation and therefore needs to be integrated with other resources to improve performance. Integrating capability is defined asthe ability of a firm to combine individuals' knowledge into single core capabilities and processes for the collective output.The ability to leverage IT resources critically depends on the interaction of the IT function with other business units. In the IS research, this capability in question was conceptualised to reflect IT personnel expertise. These are fundamental IT skills and business experiences which IT staff possesses (Bhatt & Grover, 2005).

2.5.3.4 Coordinating Capability

Considering the fact that configurations of functional capabilities are necessary for effective coordination of tasks and resources (Helfat & Peteraf, 2003). Coordinating capability is defined as firm's ability to arrange and deploy resources for the creation of a new operational capabilities. The basic routines of coordinating capability also draw upon the DCs literature (Helfat & Peteraf, 2003).

In this study, coordinating capability is proposed to facilitate the reconfiguration of operational capabilities. First, it enables managers to recognize, arrange, and deployIT resources (Collis, 1994). For instance, by responding to market intelligence (Teece, 2007), coordinating capability helps managers to assign the right person to the right task (Eisenhardt & Brown, 1999). It can also help them to better synchronize their tasks and activities to improve performance (Helfat & Peteraf, 2003). As such Teece et al. (1997: 519) argue that "dynamic capability is embedded in distinct ways of coordinating." Consequently, Okhuysen and Eisenhardt (2002) also contend that

effective allocation of resources enhances firm's strategic flexibility by helping to assigns the right people to the right task, which is an integral part of successful reconfiguration (Eisenhardt & Brown, 1999).

In recent studies, the selection and use of mechanisms for getting the required IT competencies to support BMI are defined as ITmanagement(Alaghehband & Rivard, 2010). As part of IT governance, top managers are regarded as coaches and champions for transformation (Jansen, 2004). Their role is to create and maintain change readiness using a proactive orientation that influences the beliefs, attitudes, intentions and behaviours of the organizational actors that use IT in support of the firm's business processes. In the same vein, this transformation process can be seen in terms of the acquisition of new knowledge and integrating it with existing knowledge to offer solutions to business problems. To beat competitors, firms must be able to acquire and apply new knowledge to explore opportunities or neutralises challenges in the turbulence markets (Dantsoho, 2016).

2.5.3.5ReconfigurationCapability

Reconfiguration capability is defined as the capacity of firms to effectuate strategic moves and demonstrate agility when there is a need to change existing modes of operations (Lin & Wu, 2014). Ducan (1995) defines flexibility in terms of three technical components; in terms of compatibility, modularity, and connectivity. According to Isal, Pikarti, Hidayanto and Putra (2016) connectivity denotes IT components ability to communicate with each other both internally and externally. Compatibility refers to the ability of IT infrastructure to distribute any type of information across any computing platform with ease. Modularity is the ability of technical IT components to easily be reconfigured by adding, modifying, or removing it with

little or no major impact on performance. Flexible infrastructure is the foundation of IT capability that is shared, standardized, and useful to the firm.

Accordingly, IT infrastructure can be considered to be flexible if it is able to effectively manage the external business environment by assisting firms to be responsive to changes, and easily transformed firms' resources to match such changes appropriately. In the bank, IT infrastructure is required to be flexible so that customers' demands could be handled without additional costs to the bank and the degree to which IT resources are shareable and reusable in nature (Duncan, 1995).Thus, IT-enabled dynamic capabilities are measured as the capacity of the firm to leverage its IT resources and IT competencies with the aim of strengthening the five aforementioned capabilities.

2.6 Review of Empirical Studies

This section reviews empirical studies related to entrepreneurial orientation, business model innovations, dynamic IT capabilities and organisational performance as well as mediation analysis.

2.6.1 Entrepreneurial Orientation and Performance

The need to investigate conditions under which entrepreneurial orientation is eitherrelevant or detrimental to performance has long been recognised in the existing literature (Covin& Miles, 1999; George & Bock, 2011), in both linear and nonlinear relationship. Though the majority of those empirical studies only examined the direct effects of EO on performance (Miller, 2011; Rauch*et al.,* 2009). From the existing empirical studies, EO construct can be said to be a strong predictor of performance. However, there are some researchers who believe that EO does not necessarily improve organisational performance at all times (Linton, 2016).To these authors, EO can only improve organisational performance if it is applied under the right circumstances by the

firm. Thus, the influence of EO to performance iscontext-specific, as external factors or internal situations such as strategies and structure can even be detrimental to organisational performance (Linton, 2016).

Rauch *et al.* (2009) are among the scholars that comprehensively reviews EO performance literature and reports that, in most studies the dimensions of EO usually show high inter-correlations with each other (Richard,Barnett, Dwyer, & Chadwick, 2004; Bhuian, Menguc, & Bell, 2005; Tan &Tan, 2005). As a result, most studies combined these dimensions into one single factor (Naman & Slevin, 1993;.,Covin, Slevin, & Schultz, 9004; Lee, Lee, & Pennings, 2001; Walter, Auer, & Ritter, 2006). Nonetheless, there has been somedebates in the literature concerning the dimensionality of EO (Rauch et al., 2009). Some scholars have arguedthat the EO construct is best viewed as a unidimensional concept (Covin & Slevin,1989; Knight, 1997) and, consequently, the different dimensions of EO should relate to organisational performance in similar ways. However, recenttheoretical discussions on EO suggests that the dimensions of EO may occur in different combinations (Lumpkin & Dess, 2001;Rauch *et al.*, 2009: Covin & Wales, 2012; Wales, 2016).

Although conceptual arguments suggested that EO leads to higher performance across organisations. Beyond this finding, the mechanism to which theEO effect leads to performance improvement particularly in turbulence market has not been investigated intensively (Linton. 2016; Wales, 2016). This literature can only provide limited guidance for managers. For example, the finding that entrepreneurial orientation often has a curvilinear effect on performance spells a useful warning for managers. To solve this problem, prominent scholars (Linton, 2016, Niemand, et al., 2017) suggest for the inclusion of intervening variables to examine how EO affects performance. In response to criticism that EO as a research construct

suffers from major limitations linked to definitional inconsistencies and measurement issues, Randerson (2016) identifies five distinct conceptualizations of EO for mappingout future research agenda. This author argues that in order to have a holistic and better understanding of firm-level entrepreneurship, works fromother research traditions and philosophies of science are needed. According to Anderson et al. (2015), EO conceptualisation could vary based on usage relationship between EO and its underlying dimensions, as well as the level of analysis. For instance, Miller (2011) suggested that EO dimensions may vary separately according to context, individual business unit, firm or country. By treating EO as reflective construct Covin and Lumpkin (2011) also indicates that EO only exists if three dimensions are presents but these dimensions can be added or substituted. That is, EO is a superordinate construct with dimensions of risk-taking, innovativeness, pro-activeness, competitive aggressiveness and autonomy (Covin & Lumpkin, 2011). But EO dimensions can vary independent of each other (Kreiser, Marino & Weaver, 2002; Kreiser & Davis, 2010). Likewise, adaptation to EO conceptualisation can be at the firm level, the industryas well as the national level (Fayolle, Basso, & Bouchard 2010; Dodd, Jack&Anderson, 2013), as well as an examinationof which processes can lead to EO (Randerson, 2016) in a specificcontext.

Randerson (2016) made an important contribution by suggesting that more research aiming at a deeper understanding of firm-level entrepreneurship and the variety of behaviours qualified as entrepreneurial is greatly needed, and out of the five conceptualizations, the dimensions could be investigated by means other than the scales usually used, which is in line with prior recommendations (Lyon, Lumpkin & Dess, 2000; Miller, 2011; Covin & Wales, 2012). For instance, Covin and Lumpkin (2011)suggestedthe need to exploreEO dimensions related to

change or adaptation and this submission has been widely supported in the existing literature (Welter 2011; Zahra &Wright 2011; Fayolle, Basso, & Bouchard 2010; Slevin & Terjesen 2011).

Recently, there is a growing interest in linking EO with Corporate Entrepreneurship (CE). Covin andLumpkin (2011)argue that EO has come to eclipse Corporate Entrepreneurship (CE). Many research consider EO to be partof CE; for others (George & Marino, 2011), EO is purely and simply identical with CE. Intheir research, Zahra, Randerson and Fayolle (2013) positioned EO as a component of CE research, claiming that the former reflects 'a firm's disposition to become entrepreneurial in its operations' and the second refers to the gamut of informal and formal activities that organisations undertaketo identify, evaluate and exploitsmarket opportunities through internal process such as the creation of new venture, and external that include strategic alliances and networks. Consequently, with the widening scope of corporate entrepreneurship (CE), firms that are lacking prior CE are now adopting entrepreneurial orientation (EO) in order to grow and survive in an increasingly competitive and unstable business environment (Antoncic 2006; Kuratko & Audretsch 2009; Neill & York, 2011; Urban & Nikolov, 2013; linton, 2016). Therefore, an in-depth understanding of EO as an antecedent of CE and their suitability to specific firm and industry is crucially important not only for academic purposes but also for the resilience of managers and policymakers (Urban & Nikolov, 2013). These implications are related to profitability and competitiveness as well as the overall performance of the firm, industry and the country at large (Dess & Lumpkin, 2005;Bruton, Ahlstrom & Obloj, 2008; Nazar, Ramzai, Anjum & Shazad, 2018). As a groundbreaking study, Miller (1983) creates a dependent 'entrepreneurship' variable conceptualises it based on three dimensionsthat include risk-taking, innovation, and proactiveness. That is entrepreneurstake risks in order to make great

gains, are an agent of innovation, and quick to act when they discover or identifynew opportunityin the marketplace.

On the contrary, contemporary scholars havecriticised this approach by asking what behaviour other than innovation, proactiveness, and risk-taking can be considered to be entrepreneurial (Randerson, 2016). Because the focus of Miller's (1983) work was not the definition of firm-level entrepreneurship, but the identification of the underlying mechanisms by which a firm undertake entrepreneurial activities. According to Miller (1983:p 770), the entrepreneurial rolecan be performed not only by a traditional entrepreneur, but also by 'planning' or 'ventures'offices, or even at lower levels of the hierarchy in R&D, engineering, marketing, or productiondepartments. To this end, Miller's work aimed to identify the underlying mechanisms or structures thatshape firm-level entrepreneurship, moving beyond the focus on the firm or individual tounveil the processes that cut across departments and individuals (Randerson, 2016). This has been confirmed in his recent work (Miller 2011: 874) by stressing that "table III of the 1983 article demonstrated that the firm types differed significantly in theextent to which they exhibited each of the three components, …proactiveness and risk were associated with scanning activity, whereasinnovation was not, and these discrepancies were the rule, not the exception," and I am sorry for not stressing this more.

Although the definition of entrepreneurship based on innovation, pro-activeness and risk-taking is derived from a behavioural perspective, but if the research limits this definition to individual behaviour could miss important things. For instance, some researchers have askedwhich behaviour can be considered entrepreneurial (Gartner, Bird &Starr, 1992), and do entrepreneurs recognize themselves as such through their behaviour (Popp & Holt, 2013), or can other behaviour be considered entrepreneurial particularlyin other cultures other than where the

concept was originated and developed?. These assumptions restrict asking important research questions such as how the perceived desirability of entrepreneurshipvaries in different cultures (Dodd, Jack, & Anderson, 2013) and what are the manifestations of the entrepreneurship as well as its consequences (Birkinshaw, 2003; Karmann, Mauer, Flatten, Brettel, 2016). It also limits attempts to unveil the underlying processes through which EO emerges (Hjorth, Jones &Gartner, 2008). In other words, this approach limits the application of EO construct to different business situations to solve a particular research problem.

Despite the fact that conceptual arguments suggest that EOleads to higher performance. Yet, the magnitude of this relationship seems to varyacross studies. According Rauch *et al.* (2009) some studies have found that a firm with strong EOperform much better than those that do not have EO (Covin &Slevin, 1986; Hult, Snow, & Kandemir, 2003; Lee et al., 2001; Wiklund & Shepherd,2003). Other studies reported lower correlations between EO and performance (Dimitratos, Lioukas, & Carter, 2004; Lumpkin & Dess, 2001; Zahra, 1991). This suggests that the dimensions of EO may occur in different combinations (Covin et al., 2006; Lumpkin & Dess, 2001),each dimension representing a different and independent aspect of EO (George, 2006; Ruach *et al.*, 2009).

Nazha, Mathew, Oliver, and Arze (2017) is among the few studies thatdeconstruct the EO latent construct into its three main components of risk-taking, proactiveness and innovativeness to examine both separate and combine effect of EO. Their finding shows that each EO dimensions hasdifferent effects on firm performance. This deconstruction makessense since most of the most of the studies considered EO as a unidimensional construct as initially proposed by Miller (1983) with only a few studies out of many considering the EO dimensions separately (Ruach, *et al.*, 2009). Thus, Nazha, *et al.* (2017)'s finding is in line with studies that have shown that each of

the EO dimensions has differential effects on a firm's performance (Hughes & Morgan, 2007; Kreiser *et al.,* 2013).

In the same vein, Hughes and Morgan (2007) has found that among the five EO dimensions only pro-activeness and innovativeness have a positive influence on business performancewhile risk-taking has a negative relationship and competitive aggressiveness andautonomy appears to hold no significant effect on performance at the early stage of firmgrowth. Whereas some studiesdiscussed the correlation between the EO dimensions as well as its performance conceptually (Covin & Slevin,1991; Lumpkin & Dess, 1996),other researchershave tested this relationship empirically (Lumpkin & Dess, 2001; Aminu, 2015; Uddin, Boss & Yous 2015). However, the main debateexists within the area of EO literature (Covin, Green, & Slevin 2006) is that ofthe complexity of the relationship between EO and organisational performance (Lumpkin & Dess, 1996).

As regards to EO context specific, Covin and Slevin (1986; 1989) conducted a series of studies using similar approach and same measurement scales but found a positive significant relationship between EO and performance in one study (1986), and no significant relationship related to the same multi-item financial performance scale in another study (Covin & Slevin 1989). Some researchers even argue that some entrepreneurial orientation may even result in poor performance under certain conditions (Hart, 1992), which has been supported in several studies (Rauch *et al.,* 2009). On the other hand, there are authors that reported that the positive significant relationship between EO and performance tends to increase over time (Zahra &Covin, 1995; Wiklund, 1999).

As EO is broadly recognized, others havealso tested this relationship empirically (Wiklund & Shepherd2005; Covin and Slevin 1989; Lumpkin &Dess 2001). Pittino, Visintin and Lauto

(2016) study were designedcritically to determine the factors and conditions that nurture this relationship. Their intention was to find the types of motivations and personality traits that trigger entrepreneurial orientation in threestrategic leadership situations that include family-oriented founder, successor of a family business, and non-family found their argument was that strategic leaders in these situations are differently exposed to the opportunities and constraintsto pursue entrepreneurial posture, because of the influence of family embeddedness and organisational resistance. They were able to identifies 12 coherent configurations of internal and external motivations, and personality traits to EO such as Need-for-achievement, emotional attachment, social expectation, Tolerance for ambiguity, as well as firm age and size. They further claim that in each strategic leadership situation, different configurations of attributes lead to entrepreneurial orientation. In a similar development, Lee and Perk (2016) conducted a systematic review of 60 published articles relating to EO firm performance in South Korea. Their finding has shown that a unidimensional approach has been a dominant approach in assessing EO construct, incorporating three sub-dimensions that include innovativeness,risk-taking, and pro-activeness. However, these authors recognized the increasing number of studies that utilisea multidimensionalapproach (Lee & Perk, 2016).

The above submission is in line with the submission that EO is a construct observed at the organizational level and refers to the behavioursand attitudes (that is innovativeness, proactiveness and risk-taking) of its managers and employees (Covin & Slevin, 1991; Rutherford & Holt, 2007; Pittino et al., 2016). But Lee and Perk (2016) further report that the majority of the reviewed studies focuses on mediation effects in an EO-performance relation. Yet, despite the difference in the specification of the construct, both conceptualisations share the general idea that EO reflects "the organisational processes, methods and styles that firms use to

actentrepreneurially" (Lumpkin & Dess, 1996: 139).However, the main debateexists within the area of EO research (Covin, Green, & Slevin 2006), is that of the mechanisms to which EO dimension link to performance (Wales, 2016).

As regard to EO linearity to organisational performance, the long-term effects of EO on performance were studied utilising objective measures of performance (Nazha, *et al.,* 2017). Yet, the EO literature has become stagnant in terms of developing new measures of EO (Gupta & Dutta, 2016; Gupta &Wales, 2017) that would revitalise EO research and challenge the dominating EO-as-advantage perspective (Nazha *et al.,* 2017). Whereas, recent studies have introduced third variable(s) to the simple bivariate model to make a better explanation of EO-performance relationship According to Rauch et al. (2009) theintroduction of moderators and mediators ensures a better model which is closer to the actual corporate entrepreneurial activities and also generate more credible and explicit results.Most of the research has been in the form of cross-sectional studies that focus on accounting measures (Gupta *et al.,* 2016; Miller, 2011) neglecting other key performance indicators that are relevant to organisational performance.Consequent, upon this, this studysought to examine EO performance relationship using multivariate analysis of other variables.

As regard to methodological and theoretical approach to investigating EO performance relationship, a dataset of 257 entrepreneurs operating in Italy was used in the work of Pittino *et al* (2016) to identify EO configurations of characteristics by adopting a fuzzy-setQualitative Comparative Analysis (fsQCA) (Ragin, 2008) asa methodological approach. They argue that the use of fsQCA has been advocated because it permits a more thorough understandingof the causal relations between configurations of organizationalfactors and outcomes, compared to inferential statistics.Importantly, this method allows for equifinality, for the possibilitythat different causal

paths produce the same outcome(Woodside, 2013). Nevertheless, this finding has at least addressed the important gap in the researchon the antecedents of EO (Wales, 2016), which has been largely been ignoredin previous studies compared to the study of EO-performance consequences.

Another method of measuring EO against firm performance is based on universalistic, contingency, and configurational approach (Gupta & Gupta, 2015). The universalistic view of EO suggested that the relationship betweenthe dependent and independent variable is universal across all firms (Delery & Doty, 1996). Therefore, researchers that worked with the universalisticapproach believe that organisations that behave entrepreneurially always performbetter than those that do not or behave conservatively (Anderson& Eshima, 2013). This view suggested that organisations are always better off in investing in EO. Rua, Franca and Orti (2018) examine the impact of EO strategic determinant on performance in terms of export capability. Based on data collected from 247 Portuguese SME, the findingsuggests that EO has positively and significantlyimpacted onexport performance. These authors further, explains that their finding has brought about a novel insight by identifying the impact of each EO construct on organisational performance.That is each of the five dimensions of EO is separately linked to firm performance ina positive linear relationship (Hughes & Morgan 2007;Bachmann, Engelen& Schwens, 2016).

To confirm this finding, Rezaei and Ortt (2018) gathered data from 279 high-tech SME in Netherlands to examine the relationship betweenEO dimensions in terms of proactiveness, innovativeness, risk-taking and firm performance through the moderating effect of functional performance which comprise of R&D, production, marketing and sales. The proposed

hypotheses were tested using Structural Equation Modeling (SEM).Even though a positive relationship wasfound between proactiveness and marketing and sales performance and between innovativeness and R&D performance,a negative relationship was found between risk-taking and production performance. Nevertheless, these authors went ahead to conclude that the R&D, production and marketing and sales function reinforce each other in a logical order and are complementary in their effect on overall performance (Rezaei& Ortt, 2018). Hence, only proactiveness and innovativeness dimensions of EO were positive and significantly related to performance, the assumption that EO is always positively related to performance in all context was not validated.

Researchers that undertook a contingency approach to measure EO firm performance relationship assumed that the relationship between dependent and independent variable differs at the different levels of the contingent variable (Delery & Doty, 1996). In other words, the relationship is contextual in nature (Rauch et al., 2009), and the extent of EO performance relationship dependson other intervening variables (Lumpkin & Dess 2000; Rosenbusch et al., 2013; Gupta & Batra, 2015). For example, Richard *et al*. (2004) reveals that EO interacts with racial and gender diversity among administrative employees of banks to strengthenfinancial productivity and return on equity. Engelen *et al.* (2016) introduce CEO's 'narcissism' as moderating variable between EO and performance, and found that the positive relationshipbetween EO and shareholder value is generally weakened when CEOnarcissism is strong. Similarly, Gupta and Streb (2014) found that the interactive effect of EO and top management team genderheterogeneity is generally positive across firms.These studies are therefore in support of including intervening variable between EO and performance.

Drawing from the relational perspective of strategic alliances and networks Li, Jiang, Pei and Jiang (2017)examine the contingency role of relational factors of joint action, and conflict among 197 Chinese firms and found that, a high level of joint action strengthens the relationship between EO and alliance success and boding moderates the relationship, but conflict has no significant moderating effect on the EO strategic alliance success relationship. They further claim that their findings provide insights into where and when firms can translate an EO into alliance positive outcomes.

Although, there seems to be a cumulative body of knowledge about EO performance relationship butthe inclusion of contingences factors continue to provide vital grounds for future empirical studies (Mullens, 2018; Zhai, Sun, Tsai, Zhao& Chen, 2018). Furthermore, the used of RBV theory to underpin studies on EO firm relationship seems to beinforming internal contingencies in the EO performance literature (Anderson & Eshima, 2013; Aminu, 2015; Gupta & Gupta, 2015). The usefulness of RBV in research framework for solving firm performance problem has been documented with remarkable insight. For instance, Barney (1991) claims that for the firm to achieve competitive advantageitneeds to implement a value-driven strategy that cannot beduplicated or implemented by other competitors easily. In their study, Mashruwala and Tripathy (2014) examine how strategic orientation influence sustainable firm performance and reported thatthe differentiation strategy creates long-termfinancial performance of the firm. This relationship has been confirmed in earlier studies (Bharadwaj, 2000; Bhatt & Grover, 2005; Kim, Shin, Kim & Lee, 2011).

RBV theory suggests that firms' idiosyncratic resources are by far, a central source of competitive advantage (Barney, 1991). To this end, there is a fit between EOand RBV since EO

can be regarded as an intangible resource which isembedded in organizational routines and dispersed inthe organization (Lisboa, Skarmeas& Saridakis,2016). This is so because, "firmscannot buy a high level of EO fromthemarketand invest a great deal of time to cultivate such a culture andthus EO can be a source of sustainable competitive advantage" (Lee, Lee,& Pennings, 2001: p 617). In the banking sector, RBV is concerned with the synergy of firm's invaluable resources (Lin, Yang&Arya, 2009) to achieve successful strategic alliances, networking and overall performance.

Some studies had already highlighted the role of EO in firm success by examining issues such as how alliancepro-activeness affects firm performance (Sarkar,Echambadi& Harrison, 2001)and how alliance-driven corporate technological entrepreneurship affectsorganizational performance (Antoncica & Prodan, 2008). This approach has theoretical relevance to the currentstudy since proactive firms help to create first-mover advantages for an alliancethrough early domination of distribution channels or creatingproducts and services ahead of competitors (Wiklund & Shepherd, 2003). And more likely to focus attention and effort towards potentiallyvaluable resource generation and opportunities seeking, which setsthe foundationfor sustainable performance.

Despite the fact that performance has to be the prime focus of any business organisations, there have been challenges in measuring firm performance adequately. Because of its complexity and multidimensional nature measuring absolute organisation's performance is very difficult (Uddin *et al.,* 2014). Accordingly, some researchers recommend that various performance indicators should be used to measure organisational performance (Lumpkin & Dess 1996; Kaplan & Norton, 1996). There are authors that value non-financial perceptual performance measures, such

as market share,sales growth, profitability, reputation, and consumer satisfaction as key performanceindicators.

EO was found to be closely associated with the growth and profitability of especiallylarge organizations (Zahra, 1991; Zahra & Covin 1995; Zahra & Garvis 2000; Antoncic& Hisrich 2001; Wiklund & Shepherd 2005). Moreover, EO research has beenconducted mostly in the context of developed countries and has rarely been conducted indeveloping countries or emerging economies.

To further contribute to the development of literature on EO and assist researchers in identifying gaps and study opportunities, Etemad (2018: p 2019)conducted a bibliometric study of the scientific literature on EO. The aims wereto comprehensively analyse the body of knowledge resulting from thirty years of research on EO (1987-2014), by answering questions such as what are the major themes that have emerged,areas that are missing, as well as the degree of convergence in the field of EO literature. As part of the guidedcomprehensive systematic literature review, the study used the evolution of scientific production journals which published most on the subject matter (EO), countries with the highest production; most cited papers and a map of citations as well as co-citations among others. According to these authors, the database features of the current EO literature based on 405 articles representing the totality of scientific literature on EO indexed in Scopus. One of the significant findings of this study is thatout of 405 scientificallypublished articles from 60 countries across the globe, the United Statesappear to be the most important contributor on EO with 38.5% of the publications, followed by the United Kindom 12.6%, Spain9.1%, At the regional level, whereas Asia region is having 88 published articles on EO, the whole African region published 16 articles. Among these, South Africa carries the largest portion of the publication (10 articles) followed by Nigeria with three

(3)articles, Tunisia two and Kenya one article on EO. As regard to scarce EO literature from developing countries similar narration has been earlier reported in the work of Aminu (2015) and Uddin, Boss and Yousuf (2014) which stated that this has not been adequately investigated in these countries and therefore, this literature gap makes it difficult to generalize the findings across different firms, industries, cultural background and countries at large.

As part of the discussion, these authors ((Etemad, 2018; 2019) hinted out that even more widely discussed topics in the literature, such as the relationship between EO and performance, have been unexplored and deserve major attention from researchers.As regard to context-specific, the most common context in EO studies is that of small and medium enterprises (Brettel &Rottenberger, 2013).However,only a few studies, were found for the emergent issues such as moderator and mediation analysis which indicate the needs to further conduct empirical studies in this direction.

As regardsdimension, there have been no significant or widely recognized adaptations to how the construct of EO can or should be conceptualized (Covin & Wales, 2012). However, scholars commonly acknowledge the central distinction between unidimensional (Miller, 1983), and multidimensional measurement of EO (Lumpkins &Dess, 1996) by asking questions such as how many dimensions EO should have (Covin *et al.,* 2006). But the most accepted approach of measuring EO should be based on a desire to, or not to use specific modeling techniques such as SEM and so on.

Furthermore, a researcher may assume that the construct of EO inherently favours either reflective orformative measurement. But this is not the case, because, a given research situation or tradition may favour either formative or reflective measurement. This implies that "constructs themselves, posited under a realist philosophy of science as existing, apart from their

measurement, are neither formative nor reflective" (Wilcox, Howell, & Breivik 2008: p 1220). Therefore, as EO represents a theoretical construct which prominent researchers such as Miller (1983); Lumpkin and Dess (1996) considered capturing the process of entrepreneurship within organizations, "it would be erroneous to claim that EO is naturally either a reflective or formative construct" (Covin &Wales, 2012: p 684).

Under this, there are a lot of complex conceptual and methodological issues that must be considered when choosing an appropriate measurement model. To this end, researchers are advised to adopt measurement models that accurately reflect the nominal meaning of a construct (Covin &Wales, 2012). Nominal meaning of a constructis the meaning assigned to the particular construct without reference to empirical information. In other words, it is the inherent definitional nature of the construct 'that forms the basis for hypothesizing linkages with other constructs' (Howell *et al.,* 2007: p 207). But, if the researchersdo not recognize that latent constructs exist apart from their measures they could possibly assume that formative measurement models are best suited to capture EO.

Even though, there are conditions under which the formative measurement of EO can be highly relevant but generally researchers are advised to recognize that, while EO may be conceptualized as a reflective measurement or require a combination of particular specified elements, these observations do not suggest that formative models are required to accurately measure EO (Covin &Wales, 2012). It is a researcher's belief that reflective measures of EO can be viable or even superior alternatives to formative measurement in this study. Because, from the Miller, (1983)'s conceptualisation of EO both the three constructs have different nominal meanings and the items for measuring themare expected to have different antecedents and consequences. Therefore, since EO as a latent construct, exists apart from its measures, researchers may choose whichever

approach suits their research objectives (Covin & Wales, 2012; Mthanti, &Ojah, 2017). Covin and Wales (2012)also believe that separately assessing EO's sub-dimensions using individual reflective-type scales is a reasonable measurement scale and such an approach could be successfully employed in research. The only thing that is required from the researcher intends to measure each dimension of EO is that any sub-dimensions of EO to be examined must be strongly supported theoretically.

Furthermore, George and Marino (2011) contribute to literature by investigating the conceptual and methodological development of the EO construct and its scale measurement over time and suggested the use of EO constructs as a reflective model,at least using three dimensions, as well as acknowledging the possibility of adaptation in order to add subcategories in specific contexts (Etemad, 2018; 2019). In this study, EO sub-dimensions are modified to include proactiveness, innovativeness, and competitive aggressiveness as unidimensional. The choice of EO dimension for this study is based on the fact that, high level of EO indicatesa firm'swillingness to do things differently from their rivals (Wales, 2016). Hence, EO plays a vital role of increasing acquisitive and experimentation (Kreiser, 2011) thereby facilitating creation and diffusion of knowledge as well asthe exploitation ofnew opportunities (Schumpeter, 1912; Teece *et al.*, 1997). This is in line with the suggestion that "EO represents a larger concept thansimply the sum of its dimensions and that these dimensions are merely reflections of this larger, unobservable construct that represents the firm's strategic posture" (George & Marino, 2011: p 1002).In Nigeria, microfinance banks need to be Pro-active, innovative and compete aggressively to in order to increase performance.

2.6.2Business Model Innovation and Organisational Performance

Teece, (2010: p 172)theoretically linked business model designs to top management cognition (EO) by documenting that BM indicates "management's hypothesis about what customers want, how they want it, and how the enterprise can organize to best meet those needs, get paid for doing so, and make a profit." This could be the reason why a global survey on BMI conducted by the Boston Consultant Group (2014) reported that out of 1500 senior executives of most innovative firms, 94% reveals that their organisation engaged in BMI to some extent. But surprisingly, only 27% of these respondents said that their organisations are actively pursuing it. This draws the researcher's attention to the dynamicnature of BMs which need not only be designed and implemented but renew and modified in face of changing the business environment (Saebi, et al 2016). In other words, despite the fact that entrepreneurial firms sees BMI as a means of creating growth and sustainability of a firm through value creation, delivery and value capture, they still need DCs in sense, seised and explore new business opportunities in the marketplace (Teece, 2018). Advocates of DCs also suggested that DCS can serves as a bufferzone between selecting strategic resources and capabilities for BMI and renewal in response to changing environment.

As regards historical development of the concept, Andreini and Bettinelli(2017) have done intensive work on the origin, development and future research direction on BMI. Their work analysed 1120 studies on the BMs and selected 156 relevantto BMI. Among the objective of these authors was to determine the main theoretical-methodological development in the evolution of BMI literature. According to these authors (Andreini& Bettinelli, 2017)literature on BMI evolves among five different disciplines that include strategic management, organisational studies, marketing entrepreneurship, and practice-orientedstudies (Aspara, 2010; 2013, Teece,

2010; Zott & Amit, 2010, Demil & Lecocq, 2010). From the strategic management perspective, there are two categories of researchers. The first category is the scholars that examine and assess strategic drivers and outcomes of BMI (Sanchez & Ricart, 2010; Cavalcante, 2014). For instance, the degree of BMI (Sanchez & Ricart, 2010), and the effects of technology and management initiatives were assessed (Gambardella & McGahan, 2010; Cavalcante, 2014) in this direction. The second category is research that focused on the processes that lead to BMI across firms that include examining the processes through which BM emerged and evolved (Dunford,Palmer & Benveniste, 2010). Other studies investigate how BMI interacts with other organisational resources to influence firm performance (Dantsoho, 2018), as well as the dynamics of this intersection between technology BMI.

From the organisationalscience perspective, majority of the research seems to have interest on some specific research objectives such as how organizational behaviours influence BMI (Bohnsack *et al.*, 2014), the relationship between organizational design and implementation of BMI(Zott &Amit, 2007); relationship between learning and experimentation approaches BMI (Andries & Debackere, 2013)as well as the role of individuals and teams in shaping BMI (Aspara *et al.*, 2013). Whereas, Pateli and Giaglis (2005), suggested the used of 'scenario planning' as a useful tool to identify the most relevant changes in BMs design.Zott and Amit's (2007; 2010) are among the pioneers in this field of academic inquiry, to conduct intensive study, investigating how two main business model designs (efficiency centred and novelty centred designs) affectorganisational performances.Likewise,Carayannis, Sindakis and Walter (2015) study examines how external stakeholders such as customers affect the designs and implementationof BMs. As regard to behavioural influence, scholars examine path dependency

evolution of BMs (Bohnsack *et al.,* 2014), as well as the organizational inertia as the main barrier to successful BMI (Hao-Chen Mei-Chi, Lee-Hsuan & Chien-Tsai, 2013).

On the practice-oriented approach as the name implies, research under this category is those written by or for the practitioners. Majority of these studies are largely dominated by descriptions, selected best practice, survey's reports (Hwang & Christensen, 2008; Birkin, Polesie& Lewis, 2009; Berman, Kesterson-Townes, Marshall& Srivathsa, 2012;Kiron, Kruschwitz, Haanaes, Reeves& Goh, 2013). As expected, reviews from this kind of studies did not find any structured questions, theoretical discussions and scientific methodological approach employed to address the issues (Andreini&Bettinelli, 2017). Nevertheless, these group of researchers addressed issues such as types of BMs, successful implementation of BMs, the used of new technologies such as cloud computing and characteristics that support the design and execution of BMI (Kiron *et al.,* 2013).

As regard to theoretical and methodological development, the main theoretical approaches utilise to examine BMI in strategic management literature are Theories of Value Creation (Bjorkdahl, 2009; Svejenova,Planellas & Vives, 2010). These are theories include the Resource-Based View (Svejenova,*et al.,* 2010); Activity Systems (Zott & Amit, 2010); and Cognitive Approach (Martins,Rindova& Greenbaum, 2015). According to this approach, a firm can create value in the market through the development of a new BMs owing to the introduction of new technologies(Andreini&Bettinelli, 2017).

According to research by Andreini and Bettinelli (2017), BMI research in the field of entrepreneurship tends to focus on entrepreneurial behavior, new entrepreneurship, early-stage firm's development, innovative activities, and corporate entrepreneurship. Below this, all surveys

are related to typical entrepreneurial topics, such as how BMI assists entrepreneurship (Huarng, 2013) and the BMI of a firm participating in new market entry (Casadesus-Masanell & Zhu, 2013); and BMI as Corporate entrepreneurial behavior in established companies (Cucculelli & Bettinelli, 2015). The application of exploratory BMI and exploratory BMI in disruptive innovation (Osiyevskyy & Dewald, 2015).In addition to that, some researchers examined the influence of individuals and teams on the evolution and creation of new BMI (Sanz-Velasco & Saemundsson, 2008; Doz & Kosonen, 2010; Sosna, Trevinyo-Rodriguez & Velamuri, 2010; Aspara *et al.,* 2013). For example, the role of CEOs and teams in the acceleration process ofthe firm's business model (Doz & Kosonen, 2010). Similarly, Andries and Debackere (2013)studiesdocumented how experience, learning and experimentations, affect firms BMI. Similarly, among the Aspara *et al.* (2013)'s research objective was to examine how an entrepreneur'scognitive processes affect BMI.

Whereas the majority of these studies relied on Activity System Approach andemployed Activity System theoryto analyse the design and implementation of BMI in startups and new venture creation (Gunzel &Holm, 2013; Amit & Zott, 2015; Gerasymenko *et al.,* 2015). On the other hand, the dynamic capabilities perspective is the evolution and extension of the Resource-Based View approach that is able to identify and describe the internal resources required to change BMs (Mezger, 2014) in the unstable markets. Similarly, researchers that employed the Cognitive Perspective underlines how managers can proactively change BMs through a systematic process (Aspara *et al.*, 2011, Aspara *et al.,* 2013). Interestingly, research on BMI using these last two perspectives (Dynamic capabilities and cognitive approach) is at the infancy level (Andreini&Bettinelli, 2017). Like proceeding perspectives,the majority of these studies employed qualitative approach (Bucherer et al., 2012; Enkel and Mezger, 2013, Richter, 2013;

Mezger, 2014; Taran et al., 2015). With exception of few empirical studies, othersemployed conceptual and theoretical discussion. Even though entrepreneurial orientation, business models innovations, and dynamic capabilities are codependent; this relationship is only known to researchers at a theoretical level (Tecee &Linden, 2017).

Previous study conceptually links business model designs and innovations to entrepreneurial orientation by documenting that business model indicates "management's hypothesis about what customers want, how they want it, and how the enterprise can organize to best meet those needs, get paid for doing so, and make a profit" (Teece, 2010: 172). According to Tecee and Linden(2017) studies provide a better understanding of business model innovation, implementation, and design changes, which also shed light on the important aspects of DCs in the process. Although, existing literature suggests a strong linkage between EO and firm performance,the extent of such relationship and the mechanisms which EO relates to firm performance in various context isdebatable (Rauch *et al.,* 2009). Similarly, not all innovations would automatically have a direct effect on organisational performance (Orfila-Sintes & Mattsson, 2009). Therefore, innovations like other EO dimensions may affect performance through mediators (Rauch et al., 2009; Wales, 2016).

From the above discussion, it is clear that BMI literature focuses on one level of analysis at a time, and its study is fragmented through the lenses of several theoretical perspectives. For instance, a marketing research perspective is largely dominated with value creation and commercialisation outcomes of BMI. Whereas,scholarly articles from the fieldof entrepreneurship studies have traditionallyfocused on start-ups (new ventures) and innovation activities throughwhich new research avenues are also emerging in the corporate entrepreneurship that demands the analysis of the established firms.As scholars rightly put it, this

literature gap has opened up debate and future research agenda. It is thusimperative to conduct another study to expand literature in this direction.

Similarly, result from the most recent meta-analytical study reveals entrepreneurship research BMI is relatively new, with the majority of papers being published within or after 2010 (Andreini& Bettinelli, 2017). For instance, studies by Huarng, (2013); and Velu and Khanna, (2013) examine how business model innovation influence entrepreneurship and how itsupports new venture creation. On another hand, Mutterlein, et al (2017) questioned the influence of EO andallianceorientationonBusiness model Innovations of media firms suggesting that EO has astrong and significant influence on the innovation of value creation and value proposition.Cucculelli and Bettinelli, (2015) investigatedexplorative versus exploitative BMI in response to disruptive innovations. There is also a study that examined business model innovation as corporate entrepreneurship (Osiyevskyy & Dewald, 2015). As can be seen, theoretical discussion on how EO relate to BMI or how these variables interact to influence organisational performance remains debatable.

Andreini and Bettinelli (2017) explained that the entrepreneurship discipline seems to agree on the activity systems approach as applied to BMI for new ventures (Amit & Zott, 2015). Thus, there are several scholars that apply and advancedthe studies on BMs design, notably. Gerasymenko De Clercq and Sapienza(2015), who analyze the design and implementation of BMI in new ventures. Gunzel and Holm (2013) alsoinvestigate the processes of BMI in new ventures. These authors further claims that the DCs perspective is the evolution of the Resource-Based View that is able to identify and describe the internal resources required for BMI (Mezger, 2014). Finally, the cognitive perspective (Aspara *et al.*, 2011, Aspara *et al.*, 2013) underlines how managers can proactively change BMs through a systematic process. But equally

emphasises that DCs and Cognitive approach are in their infancy level which provides a new opening for the researchers with keen interest to study how EO, BMI and DCs relate to organisational performance in their research model.

Therefore, the effect of BMI on a firm in terms of performance has so far received less attention (Zott & Amit 2007). Several callshave been voiced out for further empirical studies on the effect of BMI on firm performance (Zott & Amit, 2007). Zott and Amit (2007) work have tried to shed light on the relationship between business models and organizational performance. Hartman, Oriani and Bateman (2013) used panel data with spans of 2003-2010 that consists of 64 firms to examine the performance effect of BMI in the incumbent firms in a highly competitive environment of the Australian Pension industry. Although, the finding has shown that BMI is positively related to firm performance but equally recognises that effect is moderated by the size and experience of the firm. Large firmsexploit opportunities of BMI than small ones, and firms with experience in an area close to the target market show strong ability to exploit opportunities than those who do not have.

Clauss (2017) is among pioneering empirical studies in BMI that used quantitative method to identify specific reasons why some BMs outperform others, case study analysis to be combined with quantitative findings. From a methodological standpoint, Clauss (2017) proposed and examined a type II higher order formative constructs through the used of repeated indicator approach as recommended (Becker *et al*., 2012) and claims that, whenever a construct is used in an endogenous position in a model, this modelling approach has great limitations due to specification's, the lower order constructs of the model already explain the total variance of the construct. Hence, variance explained by other constructs cannot be calculated (Clauss, 2017). This problem has been addressed in recent PLS-SEM discussions (see; Memon *et al.*, 2018). It is

therefore, upto research to decide what conceptualisation they want to take and in their research model.

Furthermore, Heij, Volberda& Van den Bosch (2014) examine how different types of BM that include replication and renewal affect firm performance through the moderating effect of environmental turbulence. Their finding indicates that both types of BMs have a positive effect on firm performance and environmental dynamism moderates this relationship. In this study, replication was defined as leveraging an existing BMs (Aspara *et al.,* 2010), and renewal was conceptualised as the introduction of new BMs that is beyond the framework of the existing one (Heiji, *et al.,* 2014). Hamelink and Opdenakker (2019) examine how BMaffects firm performance in the energy storage market for both large-scale and small applications. For the large-scale application BMI result in higher environmental performance and therefore increased customer satisfaction. While for the small-scale application BMIwith a complementarities theme results in increased numbers of partnerships, customer segments, and distribution channels leading to higher customer satisfaction through a more complete and innovative value proposition to the customers.

The purpose of Gerdoçi, Bortoluzzi and Dibra (2018)'s was to investigate the relationship between BM design themes which include novelty and efficiency designs and firm performance in Albania. In this study data were drawn from a sample of 107 manufacturing and service firms based in a developing country, Albania and hierarchical regression was used to assess the relationship. The results suggest that Novelty-centred (BMN) design is significantly related to firm performance while efficiency-centred (BME) design has no direct effect on the firm

performance. They further explain that BME moderates the relationship between BMN and firm performance (Gerdoci, *et al.*, 2018).

Johnson et al. (2008) conceptualise BM in terms value proposition, profit formula redesign, as well as verification of key resources and adjustment of key processes. In their study, Huang, Lai, Kao andChen (2012) adopt conceptualisation with modification and collected data from a sample of 189 management staff of electronics and information systems manufacturing firmsto investigatethe relationship between target costing and business model innovation, as well as the relationship between target costing and business model innovation and firm performance in China. Their finding has shown that both BMI and Target costing are positively related to firm performance but this relationship was positively moderated by the diversity of product development teams in the firm. An almost similar approach was followed in another study recently conducted by Veermer (2016) to examine the relationship between Business models and Firm performance through BMs components that include value creation, market factors, sources of differentiation, and revenue model. Chi-square tests were used to test the relationship between the research constructs. Findings from this study reveal that BM components are significantly related to firm performance, and different BM components have a different significant relationship with the financial and non-financial performance of the firm. Although these studies contribute to the literature by including value creation, value proposition and revenue model as part of their studies. However, both of them(Veermer, 2016) only examines two out of the three most cited dimensions (value creation, delivery, and revenue model or value capture innovation) ofBMI in the literature (Teece, 2010; 2018).

Making use of the three dimensions of BMI, Spiethand Schneider, (2015)'s study builds on the definition of business model innovation, and to provide a measurement scale for the extent of

innovativeness of a firm's business models by conceptualisingBMI as a 'new-to-the firm' change that affects at least one out ofthree BMs dimensions of value offering, value creation andrevenue model logic.Based on a survey among 200 German firms, this study offers an empirically validated measurement scaleand emphasises that the results revealthe need to distinguish between the three particular functions of BMs which includea descriptionof a firm's key business logic, opportunity facilitation, as well as commercialisation of new ideas and technologies within the ecosystem.These authors emphasise on the potentialsof integrating findings from related research streams into BMIresearch.In this study, Spiethand Schneider, (2015)'sconceptualisation is adapted and therefore BMIis conceptualised to mean 'new-to-the firm' change that affects at least one out ofthree BMs dimensions of value creation, value offering, and capture innovation.

Studies that linked organisational resources to firm performance assumed that organisations possess a bundle of resources that are valuable and unique that can improve performance to the extent they are able to protect them against transfer and imitation (Barney, 2001). Although, the influence of resources and capabilities to organisational performance has long been identified in both entrepreneurship and strategic management literature (Wade & Hulland, 2004), with remarkable insights (Dantsoho & Ringim, 2016). However, RBV theory seems to have little to say about the way that firm resources are created, won, or released (Teece, *et al.*, 1997). Further, Xiao and Dasgupta (2009) posit that although successful firms may have followed RBV perspective to obtain a competitive advantage and superior performance, it does not suffice to explain such achievement by them. Teece, *et al.* (1997) claimsthat this view is incomplete in that, it gives managers and researchers very little information on how firms can develop resources and release in response to environmental changes. In this direction, "firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly

changing business environments" is the Dynamic Capabilities (Teece, *et al.,* 1997) that allows the firm to excel in the area of doing business. So far, little attention has been given this stream of research in developing country, Nigeria.

In summary,an extreme business model innovation targeting new customer base, involving a new field of technology, and process re-engineering, or some combination of these are unlikely to succeed without major investments and strong commitment from the management of that organisation. This is where IT-enabled DCs plays a vital role in sustainable innovation. In the same vein, the elements of a business model must be aligned and coherent with firm internal structure and overall management (Ritter, 2014; Birkinshaw & Ansari, 2015). This is because, a business model innovation that fit easily with the existing resources mix is easier to implement (Tecee, 2018).

On the other hand, studies that look into contingencies of business models innovation specifically focused on processes such as customer orientation (Pynnonen, Hallikas& Ritala, 2012), barriers of BMI in terms of internal, external and organizational barriers that constrain business model innovation (Birkin *et al.,* 2009; Chesbrough, 2010). As regards to business model enablers some scholars considered how managerial thinking, experiences, and technological advancement can enable BMI in a competitive market (Berman *et al.,* 2012;Hao-Chen *et al.,* 2013, Simmons,Palmer& Truong,2013). When Andreini and Bettinelli (2017: 4) defined business model innovation enablers as "all the elements that can assist, support, and facilitate the process" of business model innovation, they further suggested that future studies could be extended to include BMI enablers in their empirical research models using mediation,moderation and other multilevel analysis that could allow researchers to simultaneously take account ofthe effects of these intervening variables. Hence, as the field continues to grow there is a need to

expand our understanding by using theoriesto develop and test a comprehensive research model to validate these propositions.

2.6.3 Dynamic Capabilities andFirm Performance

Although, the main aim of DCs research is to explain how firms sources competitive advantage (Teece, 2007; Teece *et al.*, 1997) and subsequent firm performance, however, despite the importance of DCs in both entrepreneurship and strategic management literature, there is still a lack of systematic review of how DCs are operationalised to address research problems (Laaksonen & Peltoniemi, 2016). To bridge this gap, Laaksonen and Peltoniemi (2016) asked the following three questions that include how DCs measure, to what extent these measures correspond to the theoretical meaning of DCs, and how operationalisation of DCs should be developed in future empirical studies. One of their findings has shown that a large number of empirical research on DCs are not completely inline with how the theoretical work defines the essenceof dynamic capabilities.Having met their research objectives through the review and theoretical discussion, these authors made the following recommendations. Firstly, the researchers should identify ordinary capabilities that are changed by dynamic capabilities. Secondly, researchers should make sure that in their research design, dynamic capabilities have an indirect role in causing a change in performance. The third, recommendation deals with common method variance: data for measuring dynamic capabilities, ordinary capabilities and performance should come from different sources. This study believes that these recommendationsare of special relevance to both academic and managers in dealing with DCs. Consequently, establishing an empirical evidence on the relationship distinction between OCs and DCs, as well as how they relate to firm performance is crucial in the current research agenda (Teece, 2018; Baden-Fuller & Teece, 2019; Teece, 2020).

In other words, making a clear distinction between capabilities that are dynamic and those that are ordinary in nature can assist research to look and effectively match some of functional and DCs of the firm to address environmental changes (Laaksonen & Peltoniemi, 2016), most appropriately. As a result, there are few empirical studies that offer methodological solutions to this literature gap. For instance, Marcus and Anderson (2006) and Capron and Mitchell (2009) expects dynamic capabilities to affect the acquisition of new capabilities, whereas Zhou and Wu (2010) hypothesise that strategic flexibility (dynamic capabilities) moderates the effect of technological capability (ordinary capabilities) on performance. Also, Han and Li (2015) structure their argument so that knowledge-based dynamic capability moderates the effect of intellectual capital (a resource) on innovative performance. Moreover, Lee (2010) proposes that dynamic capabilities affect firm growth rather than performance per se; Kyrgidou and Spyropoulou (2013) posit that dynamic capabilities affect innovativeness and innovativeness affects performance; Yi, He, Ndofor & Wei (2015) hypothesize that DCs affect the speed of strategic change which affects performance; and Liao and Rice (2010) study the effect of innovation-related dynamic capabilities on sales growth rather than gross sales. These studies take into account the role of ordinary capabilities and see dynamic capabilities as connected to changes in performance rather than directly determining performance. In Nigeria, Aminu, (2015); Dantsoho and Ringim, (2016) are among the scholars that contribute to the literature in this direction. But these scholars did not take their rolesinto account. Consequently, we know little about how IT-enabledDCstotransmit the effects of other unique resources on firm performance. Owing to this limitations, researchers are constraints to explain the relationship between EO, BMI, IT-enabled DCs and firm performance nor will be able to determine the types of DCs that are most usefulin this direction.

One of the most recent models to challenge traditional concepts of organisational learning and outcome is that of capability (Stephenson & Wei, 1992), which consider the role of the individual in achieving organisational performance. In management literature, capable people are those who are very creative, know how to learn, and have a high level of self-efficacy to apply competencies in both favourable and unfavourable situations (Hase, 2000) While there is large volume of theoretical and conceptual literature to support humanistic concept of organisational learning and capability, little is known among the researchers (Kim, *et al.*, 2011; Dantsoho & Ringim 2016) in this direction.

Similarly, alliances and acquisitions do not necessarily signal superior capabilities and firm performance. In Nigeria, the case of defunct Skye Bank mergers and acquisition is an obvious example. We concur on this toowhich suggests that, without entrepreneurial orientation, even if a bank is able to designs and continue to innovate its BMs through DCs, it may end up performing certain actions not because they are good at them, but because they are blindly following their competitors.

However, it is undeniable that, today firms are using alliance and networks to build knowledge that is vital for innovation. Alliances and networks have emerged as the major sources of knowledge that,are necessary for organisations to compete in both domestic and international markets. Thus, strategic alliance are equally important to corporate organisations as well as to new venture creation. In other words, once a business modelhas been selected, it requires management to decide which activities will be owned by the firm and which can be left to complementary firms and strategic partners.

This so true in Nigerian banking sector, as almost or majority of the banks, recognizes the need for alliances with the third party to clear their online transactions (Remita) most effectively. Networks can thus create a market for entrepreneurial firms when the alliances are with a reputable organisation. This study suggests that successful strategic networks and alliances are only possible with strong DC used to build, renew and develop resources and capabilities that are unique and difficult to imitate.

Nevertheless, opportunity seeking and identification requires specific knowledge, creativity, and insight into technological breakthrough, customers and market needs (Nonaka & Toyama, 2007). This involves interpreting and synthesizing information in whatever forms it exists from the part of management. This is where IT knowledge creation capability plays a vital role in assisting managers to undertake actions to generate outcomes to improve performance (Teece, Peteraf, & Leih, 2016). Hence, when exploitable opportunities have been identified, entrepreneurial managers must produce an innovativebusiness model (that cannot easily imitate the rivals) for capturing a meaningful share of the value that has been created in delivery products or services (Teece, 2010; 2018).

In the IS research, Chen and Wu, (2011) empirically examined the impact of IT management capability on the performance of Chief Information Officer (CIO) and established that IT infrastructure and IT management capability have a positive significant impact on the performance of CIO. Kwon and Watts, (2006) employed data to empirically test IT infrastructure and IT management capability on firms performance on knowledge management and profitability in turbulence times. Their finding suggested that IT is an enabler in knowledge management efficiency and in increasing firm profitability. A similar study established that IT management capability plays a significant role in developing other capabilities for customer,

process and performance improvement (Mithas, Ramasubbu & Sambamurthy, 2011). Prior studies on IT management capability were based on the premise that it was unclear on how managers deploy and manipulate IT assets in response to market changes (Kwon & Watts, 2006). Specifically, it examines how managers deploy IT when the environment is characterized by knowledge intensity, deregulation, volatility and global competition (Prahalad, 1998; El Sawy,Malhotra, Gosain& Young, 1999). Strategic management literature has long identified the need for DITC to compete successfully in turbulence times. Sambamurthy, Bharadwaj and Grover (2003), posit that linking IT assets with business strategies is becoming more difficult and riskier than before. This means in addition to investment on IT infrastructure firms need experts' advice from the management in acquiring and deploying the best-emerging technologies, to understand their potentials (Chen & Wu, 2011). However, the real strategic changes cannot take place without competent IT personnel with combining IT knowledge and business experiences from both the market and industry at large.

Kearns and Lederer (2003) established that the degree to which the IT reflects strategic business plan is crucial to achieving competitive advantage. Some studies also discovered that IT personnel expertise becomes a firm's intangible assets when an IT staff understand business strategies and align it with IT skills (Ross et al., 1996; Feeny & Willcocks, 1998; Chen & Tsou, 2012). IT staff with sufficient business knowledge and experiences are able to provide IT solutions to prevailing market conditions (Anand *et al.,* 2013). Since firm's competitive advantage largely depends on the business experience and technical skills of IT personnel, this directly determines the firm's ability to rapidly develop and deploy critical systems for sustainable competitive advantage (Clark, Cavanaugh, Brown & Sambamurthy, 1997). Wade and

Cook (2007) explored the relationship between internal and external IT capabilities on the realization of IT effect on firm performance over time.

Researchers believed that IT personnel expertise provides firm ability to integrate IT strategy and business strategy (Sambamurthy & Zmud, 1997; Bhatt & Grover, 2005). It is argued that when a firm solves problems through IT, it facilitates the development of IT knowledge and competence of IT personnel (Chen & Wu, 2012). This relationship and knowledge development enhance the firm's ability to integrate IT functions into business functions and exploit IT resources (Chen & Wu, 2012). This type of capability cannot be supplemented by the external sources. Wade and Cook (2007) argued that external IT consultants may not share the same norms and beliefs held by the internal staff and consequently their efforts in achieving organizational goals may be diluted or compromised. Researchers established that firms with highly IT personnel expertise will meet the demand of the changing business environment better than their competitors by aligning IT with business strategies (Bhatt & Grover, 2005; Kim, *et al.*, 2011; Anand *et al.*, 2013). Despite these assertions, empirical evidence on the role of IT personnel expertise on organisational performance remains sparse.

In the same vein, possession of IT management capability and IT personnel expertise alone will not provide banks withwith a sustainable competitive advantage in Nigeria. This is because, despite competitive pressures and growing merger and acquisitions among banks in Nigeria, there is also growing concern for the security breach and related frauds as a result of the adoption of in e-banking services in Nigeria. There were 2,478 fraud and forgery cases involving Nigerian banks valued at over N20 billion in 2013 alone, and this double to 200% in value from the previous year (KPMG, 2014). Therefore, in the absence of IT infrastructure that isflexiblein nature banks will find it difficult to effectively and efficiently respond to market changes in

terms of opportunities and threats. In other words, a competent IT personnel cannot do it alone but must rely on flexible IT infrastructure and management support to re-engineer their core processes. Therefore, the stronger the relationship between these variables, the more effective the use of IT resources will be (Chen & Wu, 2012).

Khoshsima and Jafarnezhad (2011) employed data to investigate the effects of IT infrastructure flexibility on the firm competitive advantage and organisational performance. Their finding shows that IT infrastructure flexibility is central to achieving competitive advantage in terms of time to market, cost, product innovation, delivery and dependability as a key performance improvement. Lim & Trimi (2014) also arrived with similar findings. It is reported that by having flexible IT infrastructure firms become more specialized and focused on their core competencies (Trimi, Faja, & Rhee, 2009). Firms found it easier to combine their resources with that of other organizations and often enter into short-term and long-term agreements with each other (Trimi,*et al.*, 2009; Lim & Trimi, 2014).

Some studies also show that IT infrastructure flexibility was highly correlated with IT efficiency in areas such as transaction processing systems, management information systems, decision support systems, etc. (Chung, Byrd, Lewis & Ford 2015; Masrek, 2009). Several studies identified a positive impact of IT infrastructure flexibility on firms' competitive advantage. For examples, Byrd and Turner (2001); Chung, Byrd, Lewis and Ford (2005) identified its positive impact on mass customization, innovativeness, difficulty to duplicate and market positioning. Weill, Subramani and Broadbent (2002); Planisamy and Sushil (2003) discoveries were on strategic agility and organisational flexibility. Gebauer and Schober (2006); Ngai, Chau and Chan, (2011) was cost efficiency and supply chain agility respectively. Chen (2012) revealed

that a firm with flexible IT infrastructure was able to sense and respond to market opportunities and challenges promptly. They concluded that IT infrastructure flexibility has strategic values for the firm as they are significant sources of organizational abilities and competitive advantages. This in turn significantly improves firm performance (Masrek, 2009), in terms of customer services, and financial profitability (Tippins & Sohi, 2003), and the overall performance gain at the organisational level.

While these studies acknowledgedIT-enabled DCs impact. However, theoretical arguments have been advanced about their nature and their relationship with firm performance (Protogerou, et al., 2008). There are still arguments on whether DC directly or indirectly relate to firm performance.This relationship was examined by Protogerou *et al.*(2008) study,in particular, addresses the question of whether dynamic capabilities impact directly or indirectly on firm performance. It is established that dynamic capabilities are antecedents to functional competencies which in turn have a significant effect on firm performance, and the direct effects of dynamic capability on firm performance was found to be insignificant. This was also confirmed by the findings of (Peteraf 2003). Xiao and Dasgupta (2009); established that the relationship between dynamic IT capability and market performance depends on the organization's cultural values in terms of involvement, adaptability, and mission. Idroes, (2015) has found the direct effects of dynamic capabilities on the organisational performance of banks. In their study, Anand *et al*(2013) have found direct effects of IT capabilities on organisational performance in Australia, which is in line with that of Ringim (2012).

On the other hand, Eisenhardt and Martin, (2000) argued that DCs are similar by themselves across firms and therefore ineffective at providing a sustainable competitive advantage. But this argument contradicts earlier submission. Because, organisations with strong DCs are intensily

entrepreneurial, they do not only adapt to business environment they also shape them through learning and collaboration (Teece, 2007) which set to increase performance (Dantsoho, 2016). In other words, DCs theory was specifically introduced to address unpredicted changing business environments (Teece et al. 1997; Eisenhardt & Martin, 2000; Pavlou, 2004). In this case, this capability cannot be the same across the firm, because the ability to respond to market changes largely depends on the resources, skills and experiences of management and staff in the organization.Although, majority of the existingstudies in this direction, do not make a distinction between DCs and ordinary capabilities, according to some researchers making a clear distinction between capabilities that are dynamic and those that are ordinary in nature facilitates effective matching of ordinary and DCs to address environmental changes (Laaksonen & Peltoniemi, 2016).

There are some studies that address the problem of how firms achieve differential firm performance under conditions of environmental dynamism. One of these studies,in particular, examines the nature, antecedents and consequences of firms' DCs and entrepreneurial capabilities from the RBV perspectives (Senaratne, 2013). To achieve this, the effects of the success trap and market dynamism as antecedents of DCs, as well as the role of DCs on entrepreneurial capabilities, and performance has been tested. This finding further indicates that there two commonalities of DCs that include absorptive and transformative capabilities across almost all firms (Senaratne, 2013).

Furthermore, few empirical studiesoffer methodological solutions to this literature gap. For instance, Marcus and Anderson (2006) and Capron and Mitchell (2009) expect dynamic capabilities to affect the acquisition of new capabilities, whereas Zhou and Wu (2010)

hypothesize that strategic flexibility (dynamic capability) moderates the effect of technological capability (an ordinary capability) on performance. Also, Han and Li (2015) structure their argument so that knowledge-based dynamic capability moderates the effect of intellectual capital (a resource) on innovative performance. Xu and Wu (2014) employ data from top 1000 Taiwanese businesses to examine the relationship between the different type of resources, DC and organisational performance. The findings show that DCs can mediate the effect of a firm's resources that are valuable, rare, unique and nonsubstitutable to improve performanceand resources that are not consider as valuable, rare, unique and nonsubstitutable have an insignificant effect on organisational performance.

In his contribution to the development of literature on the role of DC, Aminu (2015) debates that DCs perspective provides a framework that can be used to incorporate existing both conceptual and empirical findings to develop other capabilities that are a source of firm performance and hard to be imitated. He further argues DC is distinct from both RBV and KBV standpoints as it is built on unique and inimitable resources, as well as specialized knowledge, utilised by the manager to achieve superior performance (Eisenhardt & Martin, 2000). DCs is thus"rooted in the organizational and managerial processes that are shaped by assets positions of a firm, and moulded by its paths" (Aminu, 2015: 84). This capability (DCs) serves as coordinative mechanisms that integrate, build, reconfigure and renew existing firm resources and capabilities so as to produce new capabilities and core competencies in order to outperform competitors in rapid changing settings (Teece *et al*., 1997). Building on the work of (Pavlou & Sawy, 2011; Nieves & Haller, 2014) Aminu (2015) stated that DCs consists of four core competencies that include sensing, coordinating, learning and integrating capabilities. Sensing capability denotes to firm's ability to identify, analyse and explore market opportunities. Coordinating capabilities

have to do with firm's ability to organize and deploy its tangible and intangible resources in a logicalsequentialmanner to build new capabilities. Whereas integrating capability refers to the ability of a firm to combine knowledge of different individuals into unit's new operational capabilities, learning capability is the firm's ability to renew its existing operational capabilities with new knowledge (Aminu, 2015).

In Nigeria, Aminu (2015); Dantsoho and Ringim, (2016) are among the scholars that contribute to the literature in this direction. Although, these studies take into account the role of ordinary capabilities, and see dynamic capabilities as connected to changes in performance rather than directly determining performance. But these scholars did not take into account the role of EO, BMI and IT-enabled DCs on one study. Consequently, little is known about how IT-enabledDCs is used totransmit the effects of EO and BMI as OCs on organisational performance. Owing to this limitationit is difficult to explain the relationship between EO, BMI, DCs and erformance, neither it will be able to determine the types of DCs that can be used to improve organisationalperformance of MFB.

Similarly, the role of managers in the DC perspective dates back to the work of Adner and Helfat (2003) as dynamic managerial capabilities which have been developed and expanded on in theory and empirical in terms of mental process, decision making and managerial cognition (Helfat & Martin, 2015). This can be extended to include to knowledge, skills and experience, that an individual can bring to handle the tasks (Carpenter, Sanders, & Gregersen, 2001; Kaplan, 2008). This is in line with the suggestion that DCsis the inherent characteristics not only held at the top management team but also by individual managers in the organisation (Adner & Helfat, 2003). Thus, the processes for sensing, seising, and transforming ideas and processes must be

distributed at allorganisation, so that managers, experts, and even line workers within the firm are involved (Teece, 2016).

2.6.4 IT-enabled Dynamic Capabilities as Mediating Variable

From a conceptual perspective, the effects of competitive environment on organisational performance are mediated by factors such as Dynamic capabilities within the firm (Teece, 2014). But the mediated effects arethus dependent on the resources available to the firm such that firms with greater resources can choose and translate these choices into superior performance (Aguinis et al., 2016).Dynamic capabilities, as discussed earlier include the sensing, learning integrating, coordinating and reconfiguring capabilities to enable an organisation to upgrade its ordinary capabilities and direct these, and the capabilities of partners, toward superior performance. The strength of a firm's dynamic capabilities determines the speed and degree of aligning the firm's resources including its business models with customer needs and aspirations (Teece, 2016). To achieve this, organizations must be able to continuously sense and seize opportunities and to periodically transform aspects of the organization and culture so as to be able to proactively reposition to address yet newer threats and opportunities as they emerge. According to Teece (2017), Business models are enabled by DCs in the sense that a dynamically capable organization will be able to rapidly implement, test, and refine new and revised business models. But at the same time, this DCs depend in part on the organizational flexibility allowed by its IT capabilities (Bhatt & Grover, 2005).

As regard to the linkage between EO, BMI DC and organisational performance, Teece, (2010) has conceptually linked BMI to entrepreneurial orientation by documenting that business model indicates “management’s hypothesis about what customers want, how they want it, and how the enterprise can organize to best meet those needs, get paid for doing so, and make a profit”

(Teece, 2010: 172). Certainly, the choice of a firm's BM depends, in part, on the strength of the firm's DCs (Teece *et al.,* 2016). Therefore, organisations with weaker DCs (even if identifies new opportunity in the market), can only implement business models that depend on its existing organizational resources and capabilities that are ordinary in nature. On the other hand, a firm with strong DCs is at liberty to anticipate, design and innovate business models that entail radical shifts of its strategic resources and capabilities performance. This is in line with the suggestion that, development of new organisational platform requires the use of existing knowledge and extension of that knowledge (Hitt,*et al.,* 2010). Accordingly, an organisation willing to engage in entrepreneurial activities need to balance between its activities that used existing knowledge and the ones requiring new knowledge through the usage of DC that is capable of addressing environmental changes (Ahuja & Lampert, 2001).

This is to say that, Business models are enabled by the firm's DCs in the sense that a dynamically capable organisation will be able to rapidly implement, test, and refine its new and revised business models. Under this, it is important to emphasize that the value added model can be compromised by poor strategic orientation and its interaction with firm dynamic capabilities. Therefore, even if EO, BMI, and DCs can be seen as analytically distinct concepts, they are still interrelated in relation to firm performance(Teece, & Linden 2017). For instance, sensing capability has been a critical part of DCs (Teece, *et al.*, 1997) and also contains an element of opportunity recognition and thus an integral part of EO (Teece, 2010). Accordingly, seizing capability needs to be connected to both strategy and coherent action of managers. Furthermore, transformation capability refers to value creation, protection and enhancement. These processes least required proactiveness, innovativeness and competitive aggressiveness particularly in the banking sector,characterised with customer sophistications,changing regulations, and

competition (Osisioma, *et al.*,2016). Consequently, entrepreneurial orientation is specifically relevant to the bank's ability to be proactive by sensing new potential opportunities and threats in both market and industry at large.

More so, in his conceptual article, titled "Business models and dynamic capabilities" Teece, (2018) made the following submissions. Firstly, good business model design depends as much on art and intuition as it does in science and analysis. Secondly, designing a good BM requires understanding of the customers needs, technological and organizational resources that are used to satisfy customers needs. Thirdly, good BM should be coupled with strategies and assets that make imitation difficult. Whereas, DCsis needed to design implement and innovative business models, "to achieve this, organisations must be able to continuously sense and seize opportunities, and to periodically transform aspects of the organisation and culture so as to be able to proactively reposition to address yet newer threats and opportunities as they arise" (Teece, 2018; 4). In another development, it has been suggested that the effect of EO, BMI shouldbe examined through DCs, as it serves as a mechanism between a firm's resources and performance over time (Aminu 2015). Teece and Linden (2017) also suggested that studies set to examine the influence of BMs on organisational performance can do so through the role of DCs between designs, implementation and changing business environment. According to Teece, (2007) organisations with Strong DCs are intensely entrepreneurial, they do not only adapt to changing business environments, but they do also shape them through learning, collaboration and involvement, which set to increase performance. It is,therefore, against this background that this study seeks to examine the relationship between EO, BMI, IT-enabled DCs and organisational performance of Nigerian MFB sector.

As regard to empirical evidence, previous studies already established that superior performance relies on the firm's ability to integrate, build,renew and reconfigure intangible resources (Wu, 2007). And the process of integrating and reconfiguring intangible firm's resources is known as DCs (Teece, et al., 1997) which has been termed as integrative mechanisms between the firm's resources and superior performance (Aminu, 2015). Lin and Wu (2014) are among the researchers that empirically examined the connection between organisational resources and performance through the mediating effect of DCs, conceptualises it in terms of learning, integration, and configuration capabilities. In a similar study, Najmi, Kadir and Kadir (2018) employ data from 100 hospital management staff and used both Structural Equation Modeling (SEM) and Sobel Test to investigate the effect of knowledge management and strategic leadership on hospital performance through the mediating role of DCs. Their finding suggests that higher knowledge management and strategic leadership will result in higher hospital performance if mediated by DCs.

A similar effect was also found in a study that to collected data from the museum of the several countries that included Austria, Germany, and Switzerland and used SEM technique to analyse the relationship between strategy and firm performance through DCs (Proeller, Kroll, Krause & Vogel, 2011). In another study, Aminu (2015) examines the mediating role of DCs in the relationship between intellectual capital and firm performance in Nigeria. Data were collected from 124 manufacturing firms and analyzed using PLS-SEM. The finding reveals that DCs mediate the relationship between intellectual capital and performance. These authors also recommend that managers need to deploy not only valuable resources but also those that are dynamic in nature to rapidly address prevalent market conditions. But upon the presence of these contributions, none of these studies (Proeller, et al., 2011; Aminu, 2015; Najmi, et al., 2018;

Teece, 2018) has incorporated BMI and DCs enabled by IT, in their research model and examine their effect empirically. The role of IT capabilities toward organisational performance cannot be overemphasised. IT capabilities serve as a prime enabler of organisational transformation and performance (Hammer, 1993). A number of scholars also called for the increase of future empirical studies to further examine how DCs can mediate its antecedents (others resources) with performance (Pavlou & Sawy, 2011; Linden & Teece, 2017; Teece, 2018;Bitencourt, de Oliveira Santini, Ladeira, Santos, & Teixeira, 2020). This research effort will enable cross-country comparisons on the role of IT-enabled DCs on performance as well as identification of differences between specific sector and industries (Mikalef &Pateli, 2016). This study seeks to examinethe mediating role of IT-enabled DCs on the link between EO, BMI and organisational performance in Nigeria.

2.7 Research Model

From the above discussion, it is clear that entrepreneurial functions are quite different from those of the ordinary manager as the ordinary manager supervise the efficiency of established processes. Therefore, once schedules are met, quality has improved and contracts are honoured, the task of ordinary manager has been accomplished. However, a business that stands still is on a path to extinction (Teece, 2016). Consequently, entrepreneurial managers are needed to guide the organisation in both creating and capturing value. In other words, it is among the entrepreneurs'jobto locate new business ideas and to put them into practice. However, this does not mean to say that an entrepreneur cannot double as a manager as it is has been the case of most fin-tech start-ups.

Reconfiguring refers to the continuous renewal process that an organization undergoes to constantly modify its resources as needed (Teece, 2012). This is something that that

entrepreneurial organisationmustengage in throughout their history. In Nigeria, bankshavetheir structure on numerous occasions starting from automation, to process reengineering and now web business model innovations. In the new ecosystems, innovative BMincludes joining together and consolidating front and back office operation and strategic partners in value creation network and alliances, since transforming is defined as continued renewal (Teece, 2007) and the augmentation of resources and capabilities (Teece, 2014). Then, it requires flexible IT infrastructure, knowledge, governance, the management of co-specialization (IT personnel expertise) of integration and coordination skills (Teece 2007). In other words, digital transformation processes in technologically driven industries are done through the use of IT-enabled dynamic capabilities that are flexible. The relationship between EO, BMI, IT-enabled DCs and firm performance is shown in figure 3.1.

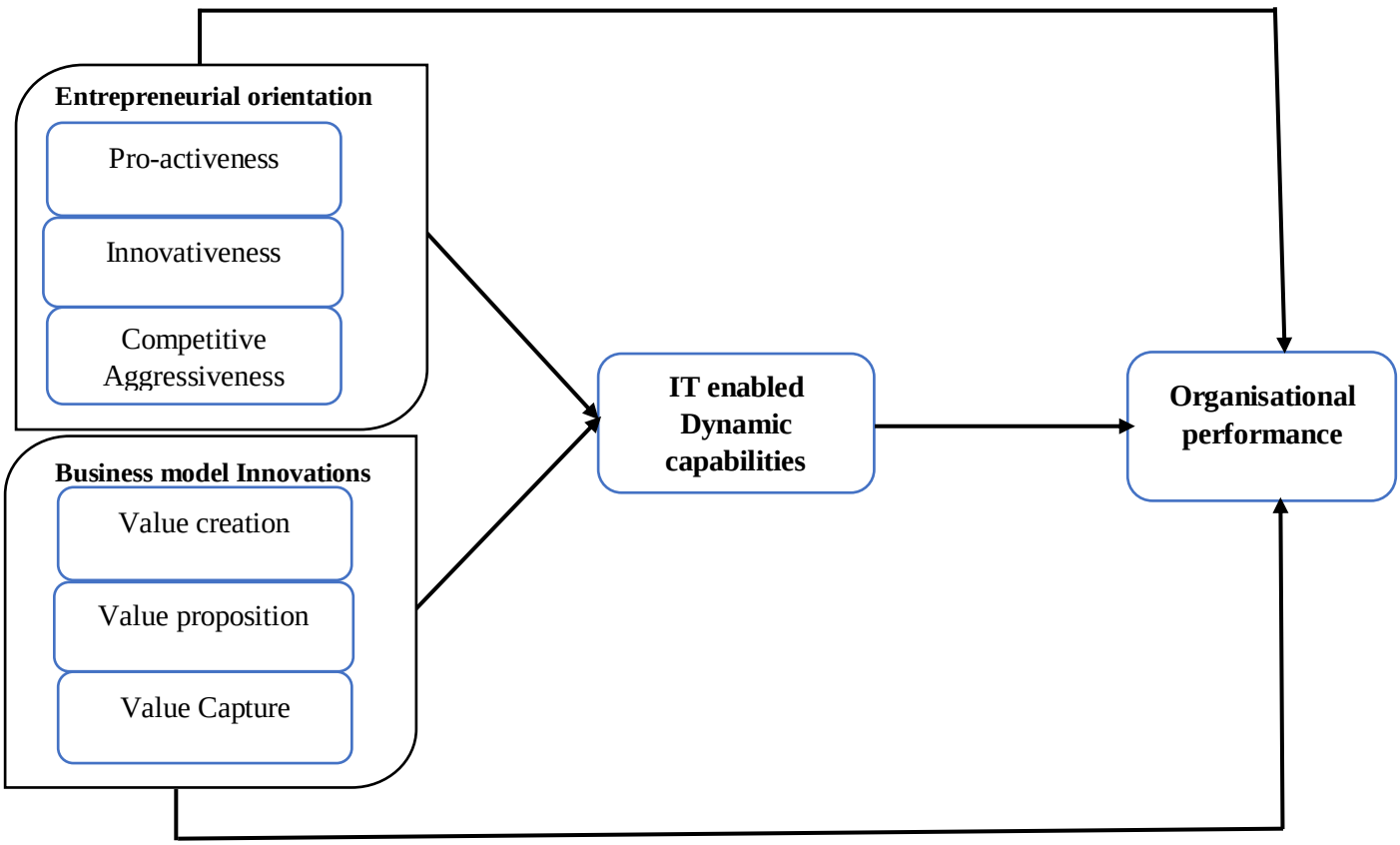


Figure 2.1 Research Model

To understand how EO, BMI and IT-enabled DCs influence organisational performance of MFB, this study first looks at the work of Li, Huang and Tsai(2009) and found that EO has a positive effect on knowledge creation processes, which in turn positively influence firm performance. Other scholars (Hughes & Morgan, 2007) also suggest the need to investigate EO dimensions independentlyand also believed that the separate dimensions of EO; innovativeness, proactiveness and competitive aggressivenessmay play different roles in these relationships. It is therefore thought that studying the effects of the separate EO dimensions is important to understand how EO influences firm performance, as it has become clear from literature, and as has also been pointed out earlier (Hughes & Morgan, 2007). Recent researchesalsocombined the EO dimensions (innovativeness, proactiveness and risk-taking) into a single construct, analysed their combined effect on performance. (Rauch, *et al.*, 2009; Rezaei & Ortt, 2016). But recently, it has become clear that the relationship between EO and performance is curvilinear (Zehir, Can&Karaboga, 2015) and components of EO are more telling than the aggregate index (Miler, 2011).

Furthermore, Andreini and Bettinelli (2017)'s work isperhaps the most recent and the only available meta-analytical study on BMI and entrepreneurship studies that makes three important recommendations for future studies. Firstly, a research design can be employedto see how business model interacts with market orientation and design activities. Secondly, it can be undertaken to examine whether the effects of business innovation differ between start-ups and established firms. And thirdly, future research could be designed by integrating the entrepreneurship and marketing literature to examine how entrepreneurship leads to specific forms of business model innovation and how this integration affect the organisational performance of entrepreneurial firms. This research work is thus an attempts to fill this gap by

investigating the relationship between EO,BMI and organisational performance through the mediating effect of IT-enabled DCs.

Furthermore, Teece, (2010) has conceptually linked business model designs and innovations to entrepreneurial orientation by documenting that business model indicates "management's hypothesis about what customers want, how they want it, and how the enterprise can be organised to best meet those needs, get paid for doing so, and make a profit" (Teece, 2010: 172). This is because, entrepreneurs are people acting either independently or as part of a corporate system in order to create a new venture or to initiate renewal or innovation in an established organisation (Sharma & Chrisma, 1999). In doing so, an appropriate set of resources are required to identify new market opportunities so as to improve organisational performance (McGrath & MacMillan, 2000).

In the above case, the assertion of RBV theory is valid, which stated that, resources that are valuable and rare can lead to the creation of competitive advantage and that advantage can be sustained over longer time period to the extent that the firm is able to protect itself against resource imitation, transfer, or substitution (Barney, 2002). Consequently, this proposition is applicable to both new venture and established firms (Hitt, *et al.*, 2001). This is because, to build and maintain competitive advantage entrepreneurial firms must have heterogeneous resources which cannot easily be replicated by competitors (Barney, 1991). This has been confirmed by the empirical finding suggesting that technology-based organisations are found to create values using their internal capabilities (Lee, Lee & Pennings, 2001). But even at that, resources that are intangible are likely to contribute more to firm's success than tangible ones (Barney 2007), due to their uniqueness and non-substitutability. Because, entrepreneurial firms create opportunities through their actions (Jantunen, Puumalainen, Saarenketo & Kylaheiko, 2005). But to take

advantage of these opportunities, such firms will often need to create and reconfigure their resources in response to market changes.In the same vein, it has been established that organisations with strong DC are intensely entrepreneurial they do not only adapt to business environments, but they do also shape them through learning, collaboration and involvement (Teece, 2007) which set to increase performance.

Even though entrepreneurial orientation, business models innovations, and dynamic capabilities are codependent; this relationship is only known to researchers at a theoretical level (Tecee, 2018),whereas previous studiesconceptually link business model designs and innovations to entrepreneurial orientation by documenting that business model indicates "management's hypothesis about what customers want, how they want it, and how the enterprise can organize to best meet those needs, get paid for doing so, and make a profit" (Teece, 2010: 172). According to Teece and Linden (2017), studies that provide a better understanding of business model innovation, implementation, and design changes, will also shed light on the important aspects of DCs in the process. As existing literature suggest a strong linkage between EO and firm performance the extent of such relationship and the mechanisms which EO relates to firm performance in various context remain questionable (Rauch et al., 2009). Similarly, not all innovations would automatically have a direct effect on organisational performance (Orfila-Sintes & Mattsson, 2009).

Conceptually, DCs are antecedents of the firm's strategic routines by which managers integrate, build, and recombine resources and competencies in order to generate and sustain superior performance (Eisenhardt & Martin, 2000). DCs are also coordinative mechanisms that integrate and reconfigure the existing firm resources and competencies so as to produce new capabilities

and core competencies in order to outperform competitors in rapid changing settings (Teece *et al*., 1997). In this study, DCs comprise four core processes or phases (sensing, learning, integrating, and coordinating capabilities) that interact in a logical sequence to create new capabilities (Pavlou & Sawy, 2011).

In a similar study, Lin and Wu (2014) are among the researchers that empirically examined the connection between organisational resources and firm performance through the mediating effect of DCs; conceptualises in terms of learning, integration, and configuration capabilities. The result from this study revealed what these authors called for a partial mediation effect. Some scholars discourage the use of full or partial mediation terms in mediation studies (Memon, Cheah, Ramayah, Ting &Chuah, 2018). This is because for one to claim full mediation it entails that a researcher has completely explained the process by which independent variable (X)influences a dependent variable (Y) through a mediatorand therefore no additional research is needed in that direction (Hayes & Rockwood, 2016). Several researchers also believethat claiming a complete mediation would likely discourage researchers from examining othertheoretically driven mediators, which in turn can unnecessarily restrain theory development(Hayes, 2009; Rungtusanatham,Miller& Boyer, 2014; Memon, et al., 2018). Therefore, it can be argued that, previous studies (Lin & Wu, 2014; Aminu, 2015) did not include IT based dynamic capabilities such as IT knowledge creation, IT infrastructure flexibility, IT personnel expertise and IT management capabilities in their research models. Consequently, different capabilities are likely to produce different results.These capabilities are therefore relevant and most valuable resources for achieving superior performance (Dantsoho & Ringim, 2016). Accordingly, these IT-driven capabilities will be used to enhance understanding of the mediating role of DCs in the relationships.

2.8 Theoretical Framework

The philosophical foundation of this study is rooted in the domain of the Resource-Based View (RBV)and Dynamic Capabilities (DCs) view ofthe firm advocated by Barney (1991) and Teece, et al. (1997).

2.8.1 Resource Based-View

The RBV thinking posited that firms possess resources, a subset of which enable them to achieve competitive advantage, and a subset of those that lead to attainment of superior and long-term performance (Barney, 1991). According to Barney (1991) firm's resources that are unique, valuable and rare can lead to the creation of competitive advantage and that advantage can be sustained over longer time periods to the extent that a firm is able to protect these resources against imitation, transfer, or substitution. Advocates of this organisation resources introduces the RBV theory to address the limitations of environmental models of competitive advantage and also to provide a linkage between heterogeneous resources controlled by the firm and mobility of those resources within the industry as well as competitive advantage enjoyed by that firm (Rothaermel, & Hess, 2012).

Consequently, the resources that an organisation controls particularly in the banking sector can be examined in terms of their attributes that include uniqueness (i.e. their heterogeneity such as technological breakthroughs) and immobility which is difficult to obtain by other competitors. But if two organisations have the same resources, and conceive the same strategy, both will improve their efficiency and effectiveness in the same way and importantly to the same extent. According to Barney (1991) for an organization to have the potential of sustainable advantage the resources should have four attributes of being valuable in the sense that it provides

opportunities or neutralizes threats to the organization's environment, and rare among an organization's current and potential competitors; and imperfectly imitable; as well as non-substitutable where there cannot be a strategic equivalent substitute for the resource that is valuable and imperfectly imitable among organisations.

It is on the basis of this, resources that are valuable, unique, imperfectly imitable and non-substitutable can provide sources of sustained competitive advantage to an organization (Penrose, 1959; Barney, 1991; Mahoney & Pandian, 1992). In the banking sector, it can be argued that a particular resource is valuable if it has the ability to reduce transaction cost, or increase the quality, speed and dependability of the products and services provided. These resources could also be considered as rare if, this could include things such as this, a bundle of valuable resources can be used to conceive of and implement strategies. These can be a particular mixture of physical, human and other intangible organisational resources such as EO which is defined as a firm strategic orientation concern with specific entrepreneurial aspects of decision-making, methods, and practices (Lumpkin & Dess, 1996), and BMI is also defined as a system of interconnected and interdependent activities that determine the way a firm does its business with customers, vendors and alike (Bhojwani, 2012). It is, the logic of satisfying the perceived market needs, through value creation value proposition, and value capture innovation so as to earn a profit (Spieth & Schneider, 2015). This study argues that if these bundle of resources are not unique then another organization is capable of conceiving and imitating them thereby developing and employing same strategies toward marketplace.

As regard to non-substitutability, resource differences could occur in the form of resources produced through entrepreneurial actions and business model innovation which may include things such as excellent service delivery, zero error transaction process, low transaction cost as

well as dependability archived invented technologies, patent, properties and relationships or networking among market participants. Therefore, a key insight from the RBV thinking is that not all firm's resources are of equal importance, nor do they possess the potential to become a source of sustainable competitive advantage (Fahy & Smithee, 1999). Consequently, the MFB's ability to achieve sustainable competitive advantage largely depends on the extent to which their resources in possession cannot easily be imitated, transfer or substituted by the competitors in the market or industry. RBV thinking focuses on managerial actions on the firm's internal processes in an effort to identify resources and capabilities with the potential to deliver superior performance over time (Barney, 1991). In general, empirical studies using the theory have strongly supported the RBV theory (Ross, Beath & Goodhue, 1996; Bharadwaj, 2000; Wade & Hulland, 2004; Nevo, Wade& Cook, 2007).

According to the work of Lin and Wu (2014) RBV perspective is a useful tool when it comes discussion about value creation and delivery. In other words, EO and BMI are assumed to solve performance problems of a firm through opportunity recognition and exploitation activities of value creation, delivery and value capture innovation. However, as the environment continues to change the MFB managers that employed RBV thinking to achieve superior performance would quickly face dilemma of having resources that are not sustainable. Therefore, a number of scholars argues that it is mainly intangible resources that provide sustainable competitive advantage and superior performance (Wade & Hulland, 2004; Wang & Ahmed, 2007), on the other hand, Galbreath and Galvin (2004) discover that this relationship does not always hold true in all market situations and argue that the strength of a firm's resources is dependent on the interactions or combinations of those with other resources that are can be either tangible and intangible in nature. In other words, once the market situations have changed, resources

underpinned by RBV thinking has certainly reached their limitations.Simply because, in the high-tech industry such as banking sector,acquiring resource advantage alone, may not be sufficient to provide a particular sustainedorgnisational performance. They still need to have distinctive capabilities of making better use of those resources (Penrose, 1959). As a result, many scholars believe that the present embodiment of resources from the RBV thinking was too static to address the changing environment (Teece et al., 1997). Based on the above limitations, DCs view is thusrequired to serve as a mechanism between having resources that are valuable, rare, imitable and nonsubstitutable and changing environment.

2.8.2 Dynamic CapabilitiesPerspective

In their seminal work, Teece et al. (1997) defined DCs as "the ability to integrate, build, and reconfigure internal and external competencies to address rapidly-changing environment". It is therefore associated with the organization's ability to address organizational rigidities in response to environmental changes (Vergne & Durand, 2011) through sensing and seize business opportunities (Teece, 2014), learning to innovate and adapt to changing market conditions (Teece et al., 1997; Winter, 2003). While as Zollo and winter (2002: 340) defined DCs as "a learned and stable pattern of collective activity" developed through the co-evolution of past experiences, knowledge articulation and knowledge codification. Wade and Hulland (2004) suggests that IS resources can take different attributes of DCs and argue that even if dynamically IT-enabled resources did not directly provide a firm with competitive advantage they can serve as a mechanism by other resources and can be renewal and reconfigured so as to address the rapidly changing business environment.

The DCs theory arises from a major shortcoming of the firm's RBV theory, which has been criticized for ignoring the factors surrounding resources rather than simply assuming that it

"exists" (Teece et al., 1997). Considerations such as how resources are developed, how resources are integrated within the enterprise, and how resources are released are not fully explored in the literature. DCs is trying to bridge this gap by adopting a process approach. Dynamic resources act as a buffer between company resources and the changing business environment, helping companies adjust their resource mix and maintain the sustainability of the company's competitive advantage. It was quickly eroded. Therefore, RBV emphasizes resource selection or appropriate resource selection, while DCs emphasizes resource development and renewal (Teece, 2007).Advocates of DCs thinking explicitly documented that new product development is one typical example of DCs and argued that innovation is the basis of DCs (Eisenhardt & Martin, 2000; Dosi, Nelson & Winter, 2000). This is in line with the researcher's submission of how a particular bank would go about value creation, delivery and value capture using dynamically IT-enabled resources.

In the banking sector, BMI is enabled by DCs in the sense that a dynamically capable organization will be able to rapidly implement, test, and refine new and revised business models (Teece, 2017). Teece, (2010: 172) conceptually links both EO and BMI by documenting that business model indicates "management's hypothesis about what customers want, how they want it, and how the enterprise can organize to best meet those needs, get paid for doing so, and make a profit." Certainly, the choice of a firm's BM depends, in part, on the strength of the firm's DCs (Teece et al., 2016). More so, in his conceptual article, titled "Business models and dynamic capabilities" Teece (2018) explains this further by saying that a good business model design depends as much on art and intuition as it does in science and analysis. Designing a good BM requires understanding of the customer needs, technological and organizational resources that are

used to satisfy customers needs. A good BM should be coupled with strategies and assets that make imitation difficult.

Teece and Linden (2017) also suggested that studies set to examine the influence BMs on organisational performance can do so through the role of DCs between designs, implementation and changing business environment. The inclusion of IT part into DC theorem enable managers to take advantages of the transformational power of information technology into banking industry. According to Teece, (2007) organisations with strong DCs are intensely entrepreneurial, they do not only adapt to changing business environments, but they also shape them through learning, collaboration and involvement, which set to increase performance. It is, against this background that the researcher used RBV theory and DCs perspective of firm performance to underpin the study. IT-enable DCs view is hence introduced to act as a mechanism between having resources that are VRIN resources and changing business environment within the Nigerian MFBsubsector.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapterexplains the procedures used in conducting the study. It,therefore, presents the most appropriate methods employed for conducting the study. It discussesthe research design, research philosophy, the population of the study, power analysis and the sample size determination, the sampling technique, instrumentation and measurement of variables, the pilot study, the data collection procedures, and methods of data analysis. It also discussedhow to non-response bias was checked, how preliminary analysis and main study data analysis was conducted in the study.

3.2 Research Design

This study seeksto identify the relationship between Entrepreneurial Orientation (EO), Business Model Innovations (BMI) and organisational performance through the mediating effects of IT-enabled DynamicCapabilities.This study follows positivism philosophical research approach and therefore causal in nature. According to Sekaran and Bougie(2013) causal research refers to a particular study in which the purpose of the study is to explainhow one or more variablesis causing another.

In other words, a causal research refers to a particular study in which the purpose of the study is to explain how X as independent variable cause Y as the dependent variable of the study (Sekaran & Bougie, 2013). This kind of research is generally viewed as a quantitative study and therefore expected to quantifies and interprets the data through the use of scientific statistical analysis (Bhatti, Hee, & Sundram, 2012).Considering the nature of the respondents as

owners/managers of the MFBwhich are often busy in life as well as the tendency of getting limited access, these respondents necessitated the use of most economical and appropriate research design. Consequently,cross-sectional survey research designwas adopted in order to administerquestionnaire to research participants to collect information concerning the variables of the study within the shortest period of time. (Bhatti et al., 2012). Cross-sectional survey design did not take a longertime to collect data from the respondents. It is also one of the most common research designs used in variousentrepreneurship, information systems (IS), marketing and other managementstudies (Bharadwaj, 2000; Bhatt & Grover, 2005;Nevo &Wade, 2011; Ringim; 2012; Goron Dutse, 2014; Abdullahi, 2015; Aminu, 2015). It is thus, suitable and appropriate for the current study.

3.3 Research Philosophy

A philosophyis referred to as the study of general and fundamental social problems such as existence, reason, knowledge, values, language and mind (Madya & Maleek, nd). Epistemology is the branch of a philosophy that studies the nature of knowledge and the process by which knowledge is acquired and validated (Gall, Borg & Gall, 1996). On the other hand, a paradigm is an interpretative framework, which is guided by a set of beliefs and feelings about the world and how it should be understood and studied (Guba, 1990).The two major philosophical research approach in the existing literature are positivism and interpretivism (Galliers, &Sutherland, 1991).

In a research,whereas interpretivism philosophers argued that only through the subjective interpretation of and intervention, in reality, can that reality be fully understood, positivism philosophersheld that only through objective, scientific method people can understand and solve social problems, and make progress in acquiring knowledge. Given that positivists are concerned

with the rigour and reliability, replicability and generalizability of the research findings (Sekaran & Bougie, 2016), they used deductive reasoning to put forward theories that can be tested and validated by mean of a fixed, predetermined research design and objective measures. The key approach of positivist researchers is the experimental, prediction and explanatory studies which allows these groups of researchers to test cause-and-effect relationships between the research constructs through manipulation and observation of the phenomena under study (Sekaran & Bougie, 2016).

In other words, researchers that adopt positivism research approach believe that the goal of a research is to only describe phenomena that one can be directly observe and objectively measure. And thus predictions can be made on the basis of the previously observed and explained realities and their inter-relationships (Sekaran & Bougie, 2016). In view of foregoing, this study adopted positivism philosophical research approach to collect and analyse the data quantitatively using SmartpLS 3 which is in line with assertion that PLS-SEM emphasise prediction in estimating a statistical models (Hair et al., 2020), and serves as a basis for developing both theoretical and managerial implications of the research findings (Sekaran & Bougie, 2016; Hair et al., 2019; 2020).

3.4 Population of Study

The population of the study refers to a complete set of people or objects of interest that a researcher aims to examinein total or through the use of its subset known as the sample size (Sekaran & Bougie, 2013).Hence, population of this study consists of 898 registered Nigerian MFBas at February 2019 (CBN website, 2019).

3.5Power Analysis and Sample Size

As several scholars are of the view that (Bartlett et al., 2001; Dillman,Smyth&Christian, 2014) one of the critical stages in conducting a successful survey research design is that of determining an appropriate sample size,Salant and Dillman (1994) also suggested that a sample size is a set of participants selected from the whole of a large population for the purpose of conducting a survey research. In their contributions Ticehurst and Veal (1999) indicatethe use of statistical methods known as power analysis to determine actual sample size independent of the research population.This current study used a G-power 3.1.9.2 statistical software for the power analysis of the sample size, the minimum required sample size for a given research model to establish significant results(Faul, Erdfelder, Buchner, & Lang, 2009). The result of power analysis is presented in figure 3.1.

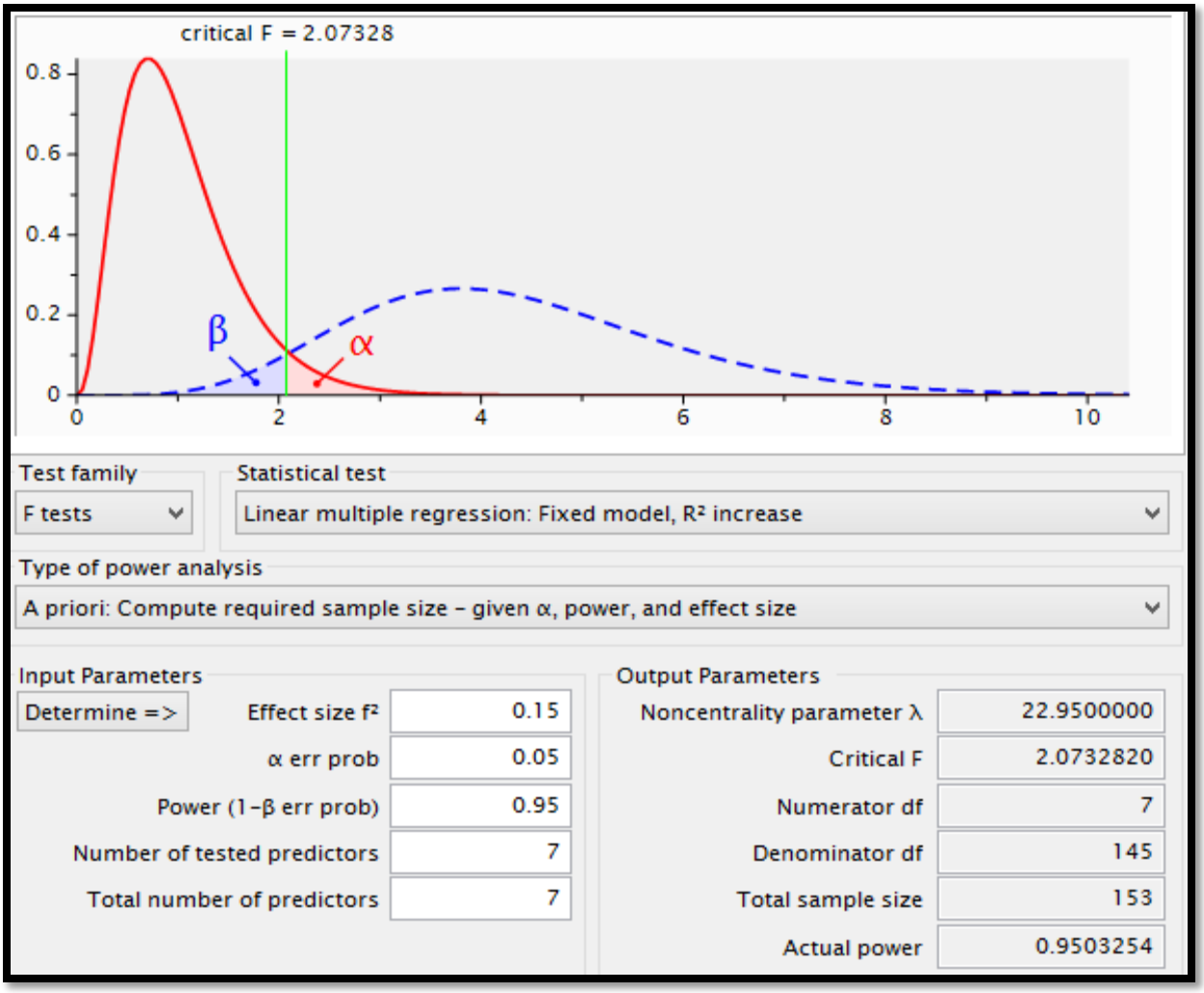


Figure 3.1: *The Output of a Priori Power Analysis*

As can be seen from Figure 3.1 the required sample size of the study based on seven predictor constructs is 153 (Faul et al., 2009). However, since a number of scholars are of the view that researchers are of the view that, the larger the sample size, the higher the statistical power (Borenstein, Rothstein, & Cohen, 2001; Maxwell, Kelley, & Rausch, 2008), the current study also utilisedother additional methods to determine the sample size of the study from the target population.

3.6Determination of the Sample Size

A sample size of the study is defined as number of people or subjects of the population that have been selected to represent the whole of the population (Sekaran & Bougie, 2013). The sample size for this study was determined by using the Krejcie and Morgan (1970)'s table which greatly simplified the process of sample size determination by providing a good decision model. According to this table, the sample size for a given population of 800 = 260 and sample size for 900 population is 270. Therefore, it canbe deducedthatfrom the population of898microfinance banks the sample size of the study is in between 269 to270 approximately (Krejcie & Morgan, 1970). However, some researchers argue that excessive, inadequate, or inappropriate sample size can influence the quality and accuracy of research work, and therefore selecting sample size should be the main tasks for organisational researchers (Bartlett et al., 2001). Bartlett *et al.*(2001)also advise researchers to be cautious when using the widely circulated sample size table since they are based on assumptions on alphaand a degree of accuracy that may not be true for all situations (Bartlett et al., 2001).To augment this, the selectedsample size of the study ismathematically validated using aformula developed by Dillman, et al. (2014)for computing small and large sample as follows.

$$n = \frac{(\boldsymbol{N}*\boldsymbol{p}*\boldsymbol{q})}{(\boldsymbol{N}-\mathbf{1})(\frac{\boldsymbol{MoE}}{\boldsymbol{z}})^{\mathbf{2}}+(\boldsymbol{p}*\boldsymbol{q})}$$

Where:

n = is the computed sample size needed for desire level of precision

N = is Population size of the study

P = is the proportion of the population expected to be chosen. However, since the actual number of respondents that agree to participate in research is unknown, Dillman, et al. (2014) suggested

the use of 50/50 chances as more justifiable than 80/20 for a more homogenous sample.That is 0.5 is used instead of 0.80. Using a higher level of precision (0.5) requires larger sample sizes (Westfall 2009). Andequally providesadequate sample size for the larger or smaller population of study.

q =1−p

MoE = the desired margin of sampling error at 0.05 (5%)

z =the z-score or critical value for the desired level of confidence at 0.05 is 1.96

The said formula can be mathematically computed as follows;

$$\mathbf{n} = \frac{(\mathbf{898}*\mathbf{0.5}*\mathbf{0.5})}{(\mathbf{898}-\mathbf{1})(\frac{\mathbf{0.05}}{\mathbf{1.96}})^{\mathbf{2}}+(\mathbf{0.5}*\mathbf{0.5})}$$

$$\mathbf{n} = \frac{\mathbf{224}}{(\mathbf{897})(\mathbf{0.0255102041})^{\mathbf{2}}+\mathbf{0.25}}$$

$$\mathbf{n} = \frac{\mathbf{224}}{(\mathbf{897})(\mathbf{0.0006507705})+\mathbf{0.25}}$$

$$\mathbf{n} = \frac{\mathbf{224}}{\mathbf{0.83374115}}$$

$$\mathbf{n} = \underline{\underline{\mathbf{269}}}$$

As the rule of thumb suggests that the appropriate number of the sample size of most research should be between 30-500 objects (Hill, 1998), a sample size of 269 is justifiable, suitable and accurate. Roscoe, (1975)‘s rule of thumb also suggested that the sample size should be “ten times”more than a number of variables,current study have eight variables that include Proactiveness, Innovativeness, and Competitive aggressiveness as EO dimensions, and value creation, deliveryand value capture as the dimensions of BMI.While the IT-enabled DCs and

organisational performance (conceptualised as higher-order constructs) serve as the mediating and the dependent variables of the study respectively.And therefore multiplying these variables by 10 gives 80, above the threshold value. Consequently, the sample size of 269was adequate and acceptable in this context.

Yet, it has been established that survey research often experiences low responses,particularly in developing countries. For instance, the rate of return for mail survey in developing countries like Nigeria is less than 5% (Asika, 1999). Therefore, due to this constant nature of low response rate in survey research, it is quite important for any researcher to take all necessary measures to mitigate this problem in order to deal with the possibility of non-response error that may arise and invalidate the research finding (Groves, 2006).In order to reduce the non-response rate, the researcher adhered to the scholars' view of adjusting the sample size. This view suggested that a sample size could be increased by 40 percent to 50 percent in order to cover off the possibility of lost questionnaires and uncooperative subjects (Hair, Wolfinbarger, Ortinau, & Bush, 2008). It is further suggested that rules of thumb encourage the researchers to double the calculated sample size for a simple random sampling study (Gregg, 2008). Likewise, Hair *et al*. (2008) share the same viewwhich suggests doubling the size of the sample to reduce the sampling error which is the bias that results from mistakes in either the selection process for prospective sampling units or in determining the sample size. Hence, for this study the calculated sample size of 269 is doubled to 100percent (Gregg, 2008; Hair *et al.*, 2008). This increment makes the sample size to be 538.

3.6.1 Sampling procedure

Probability and non-probability sampling are the two major types of sampling technique in social science research (Sekaran & Bougie, 2009). In most cases, probability sampling procedures are used when the representativeness of the sample is of importance in the interests of wider generalizability (Aminu, 2015). On the other hand, non-probability sampling designs are usually used when time or other factors become critical than generalizability of the finding (Sekaran & Bougie, 2013). Probability sampling was used to select the most representative of the entire population. The current studyused simple random sampling to select the sample size. The choice of this procedure is due to the fact that, it gives each respondent an equal chance of being selected (Sekaran & Bougie, 2009; 2013; 2016), eliminates the chance ofbeing biasedone against another.

3.6.2 Target Respondents

Being a cross-sectional survey research. Data were collected from the management staff of the respective banks within the shortest period of time in determining their perceived organisational performance. Specifically, the questionnaire shall ask the participants to rate their organisational performance within the last three years compared to their competitors. This approach is deemed necessary in order to answer the research questions, achieve objectives, and test the hypotheses of the study, because the purpose of this study is to test the hypotheses of the study. It is thus designed to examine the effects of independent variables of EO and BMI on organisational performance. This study is also set to test the mediating effect of IT-enabled DCs that may possibly improve the relationship between EO and BMI on organisational performance of banks in Nigeria. The essence, of this study, is hence to explain the nature of definite relationships of two or more, a group of variables in a particular situation (Sekaran & Bougie, 2009; 2013), based

on their theoretical linkages. Most of the studiesin this direction collect data from managers of the respective banks.

These people can give a fair view of the organisational performance as regards to the variable of the study. A firm's EO is typically operationalized from the perspective of its top management such as CEO or general manager. This is an accepted approach in previous studies (Covin & Slevin, 1989). Therefore, it is less likely to be a problem for the current study. However, in large banks such as DMBs, their CEOs might be separated from the way those banks operate by the layers of middle managers at regional and branches level. Therefore, to collect data and test the hypotheses, this study selects respondents at Head office, regional or any other branch available. The purpose of this approach is to make sure that the respondents had the greatest knowledge of the business environment and the bank strategy. Such an approach for information that comes from the most knowledgeable person commonly appeared in previous EO researches (Lumpkin & Dess, 2001). For instance, Zehira, Canb and Karaboga (2015) investigate the effects of EO on firm performance using 991 middle and senior managers of 331 middle and large-scale firms in Turkish's manufacturing industry. In Nigeria, Ringim (2012) also adopts a similar strategy to collects data from the respective banks. The single-industry sampling adopted in this studywas likewise used in similar EO researches (Chang et al., 2007; Zhang *et al.,* 2014), and thus suitable.

Although some researchers are concerned that reliability issues may arise by asking managers as respondents to remember, predict, weigh, interpret and evaluate abstract issues relating to performance (Laaksonen & Peltoniemi, 2016), and their responses may be distorted when they tend to give a good impression of their firms (Bertrand & Mullainathan, 2001). On the other hand, it is equally agreed that top managers can reliably assess and evaluate even the most

complex firm-level specific issues using subjective measures (Dess & Robbinson, 1984) and thus commonly accepted approach in DCs and business studies. In this study, managers are expected to have in-depth knowledge about their internal processes, competitors and firm-level performance over the period of time and therefore the most appropriate target respondents. This is in line with previous studies (McKelvie & Davidsson 2009; Lee 2010; Santos, 2012; Hsu, Cheng & Chen 2013), that asked managers to rate their organisational performance over the past few years in relation to competitors. For instance, McKelvie and Davidsson (2009) asked CEOs to rate their firms' performance over the past three years in new product development and technological adaptation compared with their two most important competitors. Common method bias shall be controlled in accordance with suggestions of other scholars (Chang *et al.*, 2010) by ensuring that a clear instruction on how to complete the survey the questionnaire was given to respondents. The confidentiality of the research participants was first assured before filling the questionnaire (Podsakof MacKenzie & Podsakoff, 2003). The questionnaire statement were pretested to avoid confusion and unnecessary difficulties in answering the questions (Reio, 2010). The respondent were also informed that there is no right or wrong answers the researcher is only interested in knowing their honest opinion (Schwarz, Rizzuto, Carraher-Wolverton, Roldán, & Barrera-Barrera, 2017).

3.7Variables Measurement

The research constructs for the current study were adapted from various (previous)studies relating to EO, BMI, IT-enabled DCs and organisational performance of microfinance banks in Nigeria.

3.7.1 Entrepreneurial Orientation (EO)

As a groundbreaking study, Miller (1983) creates ‘entrepreneurial orientation variable conceptualised based on three dimensionsthat include risk-taking, innovation, and proactiveness. That is an entrepreneur takes risks in order to make great gains, isan agent of innovation, and is quick to act when he or she discovers or identifies anopportunity. However, contemporary scholars have criticises this approach by asking what behaviours other than innovation, proactiveness, and risk-taking can be considered to be entrepreneurial (Randerson, 2016). Miller (2011) suggested that EO dimensions may vary separately according to context, individual business unit, firm or country.Covin & Lumpkin (2011) viewed EO as a superordinate construct with dimensions of risk-taking, innovativeness, pro-activeness, competitive aggressiveness and autonomy. They are also among others; suggest the need to exploreEO dimensions related to change or adaptation (Covin & Lumpkin, 2011). Since entrepreneurial behaviours candiffer according to the context, researchers can use the frameworks to structure their research in particular contexts to meet research objectives (Welter, 2011; Zahra &Wright, 2011; Fayolle, Basso& Bouchard, 2010; Slevin & Terjesen, 2011). In this study, EO sub-dimensions are modified to include proactiveness, innovativeness, and competitive aggressiveness as unidimensional. This decision is based on the suggestion that more research aiming at a deeper understanding of firm-level entrepreneurship and the variety of behaviours qualified as entrepreneurial is greatly needed (Randerson, 2016), and EO dimensions could be investigated by means other than the scales usually used, which is in line with prior recommendations (Miller, 2011; Covin & Wales, 2011). The measurement scale forEOwith 10 items is adapted from a previous study (Zheng *et al.*,2014).

3.7.2 Business Model Innovations (BMI)

The concept of BMI was measured three dimensions. The dimension of value delivery captures the value proposition of the enterprise, its target audience, and thus its strategic competitive position in the marketplace. Second, the value creation dimension describes how companies realize value delivery by looking at core competencies and resources, transaction and organizational structure, distribution logic, internal activities and value chains, and external value creation networks. Third, the revenue model describes how companies generate revenue by looking at characteristics in terms of revenue and cost logic (Spieth &Schneider, 2015: 5).Thescalefor measuring BMI with 10 items is adapted from previous study(Spieth &Schneider, 2016; Clauss, 2017).

3.7.3 IT-enabled Dynamic Capabilities (DCs)

As explained in section one, each of the fiveDCs are distinguished from each other through each of their functions, providing a unique component to the overall function that reconfigures existing operational functions into new competencies. DC's shaping model is a measurable model that can be easily used to capture dynamic features through its four basic components. Sensing capabilities capture generation, dissemination and responsiveness to market intelligence (Jaworski & Kohli, 1993 Zahra & George, 2002) The coordination function captures resource allocation, task allocation, and synchronization (Crowston, 1997). The integration function captures the contribution, representation, and interrelationship of individual inputs to the entire business unit (Weick & Roberts, 1993).The scale for measuring IT-enabledDCs with 21 items was adapted from the previous studies (Mikalef &Pateli, 2016).

In this study, IT-enabled DCs is a reflective formative measurement, because first-orderconstructs are defined the characteristics of the second-order constructs therefore dropping one of thefirst-order constructs would alter the conceptual domain of the second-order construct, andchanges in the first-order constructs would cause changes in the construct.Because thefirst-order constructs are not interchangeable. This type of model with formative measurements is referred to as the type II higher-order model with the primary constructs with reflection measurements (Becker *et al.*, 2012; Jarvis *et al.,* 2003). Comparison with the other three types of models discussed by Becker *et al*. (2012), a reflection-forming model was chosen because the measurements used to evaluate the primary composition are one-dimensional and conceptually interchangeable (Duarte & Amaro, 2018).

3.7.4 Organisational Performance

Organizational performance measures the extent of the managers' perception of the organizational performance either increase or decrease measure infinancial and non-financial indicators. However, as performance measurements are used at each organisational level (Fakhri, Menacere&Pegum, 2009). The focus of this study is on both financial and non-financialperformance indicators.Financial performance indicators are: sales volume and debt ratio achievement in branches, return on asset, return on investment, earning per share as well as financial target achieved by branches. All these will lead to banks profitability and success (Sun, 2000; Bontis, 1998; Bontis, Chua & Richardson, 2000; Kaplan & Norton, 1996). The non-financial performance indicators for this study include: customer satisfaction (Khong & Richardson, 2003), cost and cycle time reduction, service quality and process speed (Hammer & Champy, 1993) such as real-time transaction, zero error processesand excellent customer relationship in branches (Bontis, Chua & Richardson, 2000; Khong & Richardson, 2003; Kaplan

& Norton, 1996).These will lead to a more stable, capable and forward looking microfinance banks (institutions) in Nigeria.The reliability and validity of the16itemswere established through confirmatory factor analysis (Wu *et al.,* 2009).

Another thing considered in this study, in choosing between formative and reflective measurement models, is the direction of causality between the latent construct and its indicators. In particular, in reflective models, causality flows from the construct to its indicators, whereas in formative measurement the indicators are identified as "causing" the construct (Wales, 2012).Therefore, this study considers the reflective measurement scale for EO and BMI more appropriate and therefore adapted for the study. This study, argue that for the bank to be entrepreneurial it must be pro-active in terms of the changeability of the business environment, innovative in terms of introducing new digital solutions, in terms of new product, processes and services in anticipation of future customer needs, as well as competitive aggressiveness to target and match different customer base simultaneously. Whereas the proposed EO measurement scale overcomes some of the critics on the original EO scale. It also retained only items that reflect the behavioural aspects of the EO definition (Zhang *et al.,* 2014). In this study, entrepreneurial orientation and business model innovations as independent variables shall be treated as reflective constructs. The mediating variable IT-enabled DCs and organisational performance as dependent variable are adapted as hierarchical components model popularly known as reflective formative second-order constructs (Becker, 2012).

3.7.5 Hierarchical Component Models (HCM)

According to Becker *et al.* (2012) hierarchical component models, or higher-order constructs, are explicit representations of multidimensional constructs that exist at a higher level of abstraction andare related to other constructs at a similar level of abstraction. These models can either

mediate the effects from or to their underlying dimensions (Chin, 1998). In contrast to unidimensional,a latent variable is consideredas multidimensional when it consists ofa number of interrelated attributes or dimensions andexists in multidimensional domains (Law, Wong & Mobley, 1998).

Under this, a hierarchical latent component model characterised by the number of levels in the research model, (often as second-order construct) as well as the relationshipsbetween the constructs (formative versus reflective) in the model (Rindskopf & Rose, 1988; Wetzels Odekerken-Schroeder& van-Oppen, 2009Ringle Sarstedt,&Straub 2012). In general sense, the higher-order construct is either represented (reflective) or constituted (formative) by its dimensions as lower or first-order constructs. Therefore,the relation between the higher and lower-order constructs is not a question of causality, butrather a question of the nature of the higher-order construct, Second-order constructdoes not exist without its lower-order dimensions (Becker, *et al.*, 2012).

3.7.6 Research Instrument

The present study comprises three Entrepreneurial Orientation (EO) dimensions, three Business Model Innovations (BMI) dimensions, as well as four and three lower-order oonstructs as manifestation of IT-enabledDCsas formative second-order construct, and organisational performance respectively. The items for measuring EO in terms of proactiveness, innovativeness and competitive aggressiveness consist of 10 items adapted from Zheng *et al*. (2014).10 items for measuring BMI adapted from Spieth andSchene (2015) and 20 items for measuringIT-enabled DCs were adapted from Mikalef and Petalli (2016). 16 items for measuring organisational performance of bank were adapted from Wu, Tzeng and Chen (2009). The instrumentconsists of five sections.Section 1, 2, 3, and 4 of the instrumentconsists of questions that address the study

variables. Section 5 contains general demographic characteristics of the respondents. Overall, a 5-point Likert-type scale range from '1' "Strongly Disagree" to '5' "Strongly agree" wasused in the study.This scale is the most common scale, which provides independence to a participant to choose any response in a balanced and symmetric way in either directions (Joshi, Kale& Pal, 2015).

For the overall items, interval measurement scale was be used, and five(5) points Likert-type scale is considered the most appropriate for the current study. The decision to used 5 points Likert-type scale is not only on the fact that, most of the measures adapted have used 5-point Likert-type scale but also on the suggestions that the uses of 5-points Likert-typer scale aresuitable for study which respondentshave some level of skills and experience (Weijters, Cabooter& Schillewaert, 2010). Summary of all the four (4) major research constructs consists of nine (9) dimensions, and sixty-one (61) items adapted in this study are presented in Table 3.1.The tablepresents the number of response categories was used in the study. The instrumentis attached in the research Appendix 1.

Table 3.1
Summary of Measures and Measurement Scale

Construct	**Nature**	**Dimension**	**Item**	**Scale**	**Type**
Entrepreneurial Orientation	Multidimension	3	10	Interval	5
Business Model Innovations	Multidimension	3	10	Interval	5
IT-enabled Dynamic Capabilities	HCM	1	21	Interval	5
Organisational Performance	HCM	1	16	Interval	5

3.8Validity and Reliability

The merits of an object that tests a certain research framework are discussed by both reliability and validity. Validity measures the potential of an object to quantify what you wish to measure,

while the reliability study evaluates the degree to which the measurement is free from random errors and provides reliable outcomes. The research considers both the feasibility and reliability of the system.

.

3.8.1 Validity

Validity refers to the extent to which a measure is accurately and truthfully represents the construct (Zikmund *et al.*, 2013).There are four approaches to establishing the validity of the research instrument.These include content validity, face validity, criterion validity, and construct validity.For the purpose of this study, only the content validity and construct validity are considered at this stage.

3.8.1.1 Content Validity

Content validity ensures that items adopted in the study areadequate and a representative set of the said construct. It is,therefore, refers to the degree that a measure covers the breadth and domain of the research interest (Zikmund *et al.*, 2013). Under this, the higher the scale items represent the domain of the research construct, the higher the content validity (Sekaran & Bougie, 2009). The criteria used to assess the content validity of the research constructs was developed by Lawshe (1975) which was based on the agreement among the judges (10 people) on how essential an item is in measuring a particular research concept. This procedure involves asking the experts or judges to select either the skill or knowledge of each item in the instrument whether is ‘essential’, ‘useful but not essential’, or ‘not necessary’ to cover a particular research construct.Content validity was established based on the expert'sagreement on the essentiality of the items to measure the stated constructs. In the end more half of the penal rated the items as

essential and the required content validity ratio of 0.62 and above was achieved among the 57 items that passed this criteria (Lawshe, 1975).

3.8.1.2 Construct Validity

According to Sekaran and Bougie (2009), construct validity measures how well the results obtained from the use of a measure actually assess a particular research construct. Accordingly, construct validity can be determined using correlation analysis, composite, average variance inflation, Fornell and Larcker's (1981) criterion as well as HeteroTrait-MonoTrait (HTMT) recently proposed (Henseler, Ringle & Sarstedt, 2015). In other words, reflective construct validity is assessed through the use of convergent and discriminant validity. Whereasconvergent validity for formative construct is established through collinearity and Variance Inflation Factor (VIF) respectively. Consequently, construct validity can be establishedthrough the use of pilot study.

3.9Pilot Study

To further check the validity and reliability of the instrument pilot study was conducted to examine whether respondents would have difficulties in understanding and interpreting the questions in the instrument as well as to determine if the length of the questionnaire is acceptable among the respondents. Data collected from the respondents shall be used to test composite reliability, average variance among others using SmartPLS 3.2.8 path modelling software. This is in line with the suggestion of Cooper and Schindler (2006) pilot test used to detect weaknesses in design andinstrumentation and to provide proxy data that can be used for selection of probability sampling.

Composite Reliability (CR) and AVE were tested using the PLS-SEM algorithm to assess the internal consistency and validity of all reflective constructs in this sample (Hair et al., 2014).

According to the general principles, the outer loadings should be more than 0.7. However, 0.7 is usually considered enough for all practical purposes (Hulland, 1999). When the CR reaches 0.7, the AVE of each reflective structure is equal to or greater than 0.5, thereby achieving convergent validity of all reflective constructs (Hair, Hult, Ringle, & Sarstedt, 2014). Details shown in Table 3.2.

Table 3.2
Pilot Test: Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Competitive Aggressiv.	**0.646**	**0.664**	**0.799**	**0.571**
Financial Performance	**0.917**	**0.941**	**0.935**	**0.706**
Innovativeness	**0.855**	**0.855**	**0.913**	**0.777**
Non-Financial Performance	**0.899**	**0.914**	**0.920**	**0.621**
Proactiveness	**0.885**	**0.896**	**0.921**	**0.744**

Discriminant validity measures "the extent to which a construct is truly distinct from other constructs by empirical standards" (Hair *et al.*, 2014: 104).Fornell and Larcker's (1981) criterion was used to determine the discriminant validity of the research constructs. Under this, to achieve discriminant validity, the square root of the AVE of each reflective construct should be higher than its correlations with any other construct (Fornell & Larcker, 1981; Hair *et al.*, 2014). As shown in Table 3.3, convergent and the discriminant validity of all constructs has been achieved, as the square root of the AVE of each construct is greater than its correlation with any other reflective construct.

Table 3.3.
Pilot Test: Discriminant Validity

	Competitive Aggressiveness	Financial	Innovativeness	Non-Financial	Proactiveness
CompetitiveAggressiveness	**0.756**				
Financial Performance	0.292	**0.840**			

Innovativeness	0.479	0.320	**0.882**		
Non-Financial performance	0.274	0.521	0.418	**0.788**	
Proactiveness	0.447	0.341	0.767	0.428	**0.863**

To assess both formative constructs of BMI and formative indicators of the second-order construct IT-enabled Dynamic Capabilities. There are two conditions which must be fulfilled. The first condition is to assess the collinearity among the constructs or indicators (for second-order construct) with Variance Inflation Factor (VIF) values which should not be greater than 5. The second condition is to calculate the significance of statistical contributions; both relative and absolute of each constructs and indicators to the main construct (IT-enabled DCs) as proposed (Hair *et al.* 2014).

For IT-enabled DCs operationalises as reflective formative second-order construct. A Hierarchical Component Model (HCM), the extendedrepeated indicator approach was used to test the reliability and validity of the Hierarchical component Model (HCM) IT-enabled Dcs. But instead of assessing the direct relationship between the predictor constructs (EO and BMI) and the higher-order variable which is zero by design, the study analysed the antecedent constructs' total effect on the higher-order component. This total effect also includes all indirect effects of PRAc, INN, ComAg, ValCr, ValPr, and ValCp on IT-enabled DCs as mediating construct and Org-Perf as dependent construct via their reflective lower-order components (SN, LN, CD, IG and RC) respectively. This helps the researcher to accurately portray a picture of the antecedent constructs' actual effect on the higher-order construct (Becker et al., 2012). The result of is presented in Table 3.4.

Table 3.4.
Pilot Test: VIF and Significance for Formative Construct/Indicators

ITDCs(reflective formative indicators).	VIF	Outer Weights	Outer Loadings	T Statistics (|O/STDEV|)	Significant level
Coordinating -> IT-enabled DC	1.329	0.333	(0.712)	4.010	***
Integrating -> IT-enabled DC	1.352	0.254	(0.881)	4.818	***
Learning -> IT-enabled DC	1.173	0.300	(0.789)	3.569	***
Reconfiguration -> IT-enabled DC	1.208	0.284	(0.829)	3.068	***
Sensing -> IT-enabled DC	1.207	0.355	(0.891)	4.419	***

***p < 0.01; **p < 0.05; NS= Outer weights not significant
Note: The values in brackets (i.e. outer loads) represent the absolute contribution, while those on the left (i.e. outer weights) represent the relative contribution of the same indicator to the key construct(IT-enabledDC).

Table 3.5 indicates the VIF value of each Business model construct and five indicators of the formative construct (Sensing, Learning, Coordination, Integration and Reconfiguration); IT-enabledDC is below the critical value of 5. This indicates that there is no multicollinearity between the constructs/indicators. Furthermore, the values of the outer weights of BMI construct as well as formative indicators of the IT-enabled DCshas shown evidence of relative contributions to their corresponding construct. Similarly, the outer loadings have shown an absolute contribution of all formative constructs of the BMI, and formative indicators of IT-enabled DCswhich is above the threshold value of .50. This result demonstrates that the adapted research constructs are reliable and valid for the study, as confirmed empirically by the used ofa pilot study to assess the measurement model.

Therefore, as expected from the pilot study, the result and experience gained from the field provided the researcherwithfirsthand information which has been used to adjust and enhance the scale and procedures to be used in the main data collection. Specifically, pilot study helped to achieve the followings. Firstly, it helps to assess the validity and reliability of the constructs. Secondly, it helps to decide the best and most suitable rating scale for the current study. Thirdly, it provides the researcher with available information concerning the respondents and has established contact with the banks and learned how the respondents should be addressed and ethicallyconvinced to participate in the study.It is thus appropriate to report that, the whole process has enabled the researcher to anticipate and overcome some of the possible challenges that may hinder the success of the main data collection. This include decision to used 5 point instead of 7 point scale due to its suitability to target respondents and therefore expected to minimise the responses.

3.10 Source and Methods of Data Collection

Primary data were collected from the research respondents using a self-administered questionnaire with the help of research assistants. The written questionnaire consists of four main parts. Section 1, 2, 3, and 4 of the questionnaire are questions that address the study variables of Entrepreneurial Orientation, Business Model Innovation, IT-enabledDynamic Capabilities and Organisational performance. Section5 contains general demographic characteristics information of the respondents. Overall, a 5-point Likert-type scale ranging from ‘1’ “Strongly Disagree” to ‘5’ “Strongly Agree” was used. The respondents were asked to rate their banks over the last three years indicating the extent of perceived agreement or disagreement with the statements under each construct. The research assistants were first trained on the procedure of data collection, and

the list of target respondents monetary incentives were given to ensure their dedication and commitment to tasks. Overall, the process of data collection was completed during four months, two weeks' time.

3.11 Methods of Data Analysis

This subsection discusses in details steps and procedures for data analysis. It starts from data screening to preliminary analysis to testing hypotheses, mediation analysis and presentation and discussion of findings.The preliminary analyses were conducted using SPSS statistical package version 22 to improve the goodness of the data for the subsequent analysis. These analyses include assessment of missing data, outliers,test of normality, linearity and homoscedasticity, reliability and validity. The hypotheses of the current study were tested based on PLS-SEM using SmartPLS 3.2.8.

As regard to preliminary analysis,the coded data were examined for the presence of the missing value,outliers, normality, linearity, homoscedasticity, and multicollinearity (Kline,2001). To minimise the presence of missing data, right from the collection point of the completed questionnaire, the researcher checked to ensure that all questions were answered. After retrievingthe completed questionnaire, any missing data with 5% by row and 15% by column were deleted (Tabachnick & Fidell, 2014), and deletion did not affect adequacy of the sample size (Hair et al., 2010).

After satisfying the missing value requirements, next was the outliers in the dataset as the presence of influential outliers in a dataset can distort analysis, it affects the values of mean, standard deviation, andcorrelation coefficients(Tabachnick & Fidell, 2007). The regression method was used to check outlier using Mahalanobis where cases with the extreme violation

were detected and the analysis was run again until the result indicates that there is no outlier problem in the dataset.

Since PLS-SEM, a non-parametric statistical method, it does not require data, to normal. However, sine normality test to indicate the shape of the data distribution for the individual continuous variables and the items corresponding to the normal distribution, it is advisable to ensure that the results are not too far from normal, as the exceedingly irregular data creates difficulties in the estimation of the parameters (Hair, *et al.,* 2017). In order to determine whether the data were natural, researchers tested two indices of skewness and kurtosis distributions in order to assess the degree to which the data deviated from normality using a thumb rule not greater than +/- 1.96, and 7 (Hair, *et al.,* 2010).

Linearity indicates a linear relationship between variables, while homoscedasticityrefers to the assumption that dependent variable(s) show the same levels of varianceacross the range of predictor variables (Hair *et al.*, 2010). In most cases, linearity andhomoscedasticity were evaluated by the inspection of bivariate scatter plots in SPSS(Kline, 2011). This is so true in the current study, inspection of bivariate scatters plots was used to ensure that variables are linearly related and theirvariances are homogeneously distributed and therefore suitable for the subsequent analysis.

Linearity implies a linear relationship between the variables, while homoscedasticity indicates the presumption that the dependent variable exhibits the same variation across the predictor spectrum (Hair *et al.,* 2010). In most cases, linearity and covariance were tested using the SPSS bivariate scatterplot examination (Kline, 2011). This is quite true of the present research. Linearity was used to analyze the bivariate relationship using scatterplot to ensure that the

variables are linearly connected and that their variances are homogeneously distributed and are suitable for subsequent analysis.

Finally, the reliability and validity of the data collection was explored through the assessment of the measurement model, including testing indicators and construct reliability, as well as the diagnosis of convergent validity, discriminant validity and collinearity checks of the formatively measured constructs. The 12 theories in this thesis were evaluated through the assessment of the structural model. (2010) (2017) Model estimation gives an analytical estimate of the relationship between measures and constructs (i.e. measurement models) as well as the relationship between constructs (i.e. structural models).These measures allowed researchers to relate theoretically defined measurements and structural models to the reality of the data set (Hair *et al.,* 2012; Hair *et al.,* 2019). As a result, the quality appraisal of PLS-SEM in both the calculation and structural models based on parameters reflecting the predictive role of the model. The aim was to increase the variance (R^2 value) described by the research construct of the PLS path model (Hair et al., 2017).

The test of the research hypotheses was based on determination of the coefficients (R^2), the predictive accuracy (f^2 effects size) and predictive relevance (Q^2) as well as significance of path coefficients. This assessment also include out of sample prediction using PLS-predict and the overall model fitness using Maximum Likelihood (ML) based on Standardised Root Mean Squared Residual (SRMR), augmented it with Root Mean Squared Error of Approximation (RMSEA) as well as the Importance performance Map Analysis (IPMA) which helps to draw conclusion from the findings.

This study did not use the Baron and Kenny (1986) most popular method of testing mediation due to its limitations which include failure to detect the effect of certain constructs in a complex

models (Zhao, Lynch & Chen, 2010). This has helped the researcher to avoid erroneous conclusion about results (Rucker, Preacher, Tormala & Petty, 2011; Guide & Ketokivi, 2015; Aguinis, Edwards & Bradley, 2016; Green, Tonidandel & Cortina, 2016). Carrion, Nitzl & Roldán, 2017; Hair et al., 2020).

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.1 Introduction

The objective of this chapter is to present the results of the research, which comprise data presentation, analysis and discussion of the findings. Recall that in section 3.10, the researcher intended to use PLS-SEM or PLS path modelling approach to perform a PLS algorism and bootstrapping based on 315 useful responses. To this, the study utilised Smartpls3.2.8statistical software (Ringle *et al.,* 2015) to estimate model parameters based on path weighting schemes (Henseler, 2012), which examines reliability as well as validity analysis. In the structural model, the study applied nonparametric bootstrapping procedure to 315 samples and no change options to examine the significance of path coefficients, the R^2, effect size, and predictive relevance(Hair *et al.,* 2017).The used of PLS-SEM was considered for several reasons. Firstly, this study is first of kind, it is, therefore,explanatory in nature (Richter,Cepeda-Carrión, Roldán Salgueiro, & Ringle, 2016) since little is known about the causal effect of EO and BMI and organisational performance through mediating effect of IT-enable DCs. Secondly, the predication was the primary focus of the current study to determine the relevance of the model in solving performance problems (Sharma, Shmueli, Sarstedt, Danks & Ray, 2019). And PLS-SEM is indeed a silver bullet in achieving the said research objectives (Hair *et al.*, 2014) in terms of prediction and explanation of the relationships.

4.2 Response Rate

A total of 538 questionnaire were administered to MFB managers in Nigeria. Out of these questionnaires, 357 were returned, resulting in 66.3% of response rate. The study received high number of response rate because most of the questionnaires were administered directly to bank owners/managers with the help of research assistants. The assistant researchers employed also followed some of the respondentsat the break time in order to submit the questionnaires or to collect already distributed questionnaires. Pressley (1980), and Yu and Cooper (1983) have recommended such approaches to reduce or avoid error of non-response bias. Subsequently, these types of approaches have been proven to be useful in obtaining results that are encouraging (Yu & Cooper, 1983).

In further examination of the collected questionnaires, 21 were invalid as most questions were not answered. After considering the questionnaires based on responses to the items another 16 questionnaires were eliminated due to suspicious response such straight-lining of 5, 5,5 or 4,4.4 etc. This yielded a total of 315 valid questionnaires and a response rate of 58.6% set aside for final analysis.It is recommended that the sample size should be in the range of 5 to 10 times the number of research variables (Bartlett et al., 2001; Pallant, 2001; Hair et al., 2010). Since the number of variables in this study is eight and required sample size is 80, the response rate of 58.6% is sufficient.

Therefore, a valid response rate of 315 satisfied the requirements for conducting path regressions analysis. This is in line with Hair et al. (2010)'s suggestion that 30% response rate as acceptable in a survey research.Furthermore, PLS-SEM, requires a minimum of only 30 responses (Chin, 1998). Finally, the common response rate in social science research was found to be between 40-

50% Linus, 2001(cited Goron Dutse, 2014) analyses. Detailof the response rate analysis is seen in Table 4.1.

Table 4.1
Questionnaire Distributionand Response Rate

Questionnaire	Frequency	Rate (%)
Distributed questionnaires	540	100
Unreturned/Not responded	183	33.9
Returned questionnaires	357	66.1
Rejected/Removed	37	8.2
Usable for Analysis	315	58.3

Recall that the minimum required sample size of this study determined by the power analysis is 153as reported in figure 3.1. Thereforeadequacy of the valid returned questionnaire is substantial enough to run the analysis. As regards to the representation of the study population by its sample, the above-mentioned 58.3 percent is based on the increased sample size by 100 percent (i.e., 540), purposely tominimise the non-response rate as suggested by Salkind (cited Bartlett, et al., 2001). Therefore, going by the initial sample size of 269 which was determinedusing Krejcie and Morgan's (1970) table, and scientifically validated using a formula developed by Dillman's (2007) for computing sample size,the usable response (i.e., 315) is equivalent to 105 percent. Consequently, the response rate of this study is quite satisfactory and adequate for data analysis.

4.3 Non-Response Bias

Shultz and Luloff (1990) defined non-response bias as the number of errors that occur when inferences made about a population are based upon a non-representative of the sample, which

occurs when there is low and unrepresentative survey response (Armstrong & Overton, 1977).Under this, the common assumption among scholars is that the higher the response rate, the lower the probability of non-response errors, and therefore, the better the survey (Dillman, 1991). Another way to deal with non-response bias is to consider the estimate of response bias by comparing early responses and possible late responses in the data set (Armstrong & Overton, 1977).

To do this, this study divided the responses into two groups (early and late responses) based on the time the questionnaires were returned to the researcher (Vink & Boomsma, 2008). The first group is considered as an early response. That is those that responded between 28th of January 2019 to 31st of April 2019. The second group is named as late response group which are the responses received after 31st of April, 2019. Based on such grouping, the vast majority of the usable returned questionnaires belong to the early response group (248 responses), whereas the rest minority belong to the late response group (67 responses).To test the significant level of the difference between the two groups of responses, an independents-samples t-test was used to compare their difference using Levene's test for equality of variance at 0.05 significance level (Coakes, 2013; Field, 2009; Pallant, 2010). Consequently, Table 4.2 presents the result of the analysis as follows.

Table 4.2
Test of Non-response Bias: Independent-Samples T-Test (315)

Constructs	Group	N	Mean	Levene's Test for Equality of Variances	
				F	Sig.
ProAc	Early Response	248	3.87	0.76	0.38
	Late Response	67	3.83		
Innovate	Early Response	248	3.87	0.91	0.34
	Late Response	67	3.86		
Aggressive	Early Response	248	3.82	2.38	0.12
	Late Response	67	3.85		
ValueCR	Early Response	248	3.85	0.59	0.44
	Late Response	67	3.89		
ValuePR	Early Response	248	3.81	0.33	0.57
	Late Response	67	3.77		
ValueCP	Early Response	248	3.83	0.78	0.38
	Late Response	67	3.85		
IT-enabled DCs	Early Response	248	3.81	0.08	0.78
	Late Response	67	3.89		
Org-Performance	Early Response	248	3.80	0.00	0.98
	Late Response	67	3.86		

As can be seen from Table 4.2 there is no significant difference between the early and late response groups for proactiveness, innovativeness, competitive aggressiveness, value creation, value proposition, value capture, IT-enabled dynamic capabilities, as well as organisational performance. Therefore, the study assumed that there is no element of non-response bias in the data. Hence, the responded subjects represent all other elements of the study population, and consequently the results of this study can be generalized to all the study's population. In the same vein, the response rate of the current study is basically above the threshold of 50 percent which suggests that the issue of non-response bias is not a major concern (Lindner & Wingenbach, 2002).

4.5 Common Method Bias

Researchers have paid great attention to the issue of common method difference (CMV) and how it biases the findings of empirical analysis using the same respondents as a data source (Jakobsen & Jensen, 2015). CMV is defined as systematic error variance, shared between variables measured using the same source or method (Richardson, Simmering & Sturman, 2009).By definition, CMV refers to the variance due to the measurement method rather than the variable to berepresent (Campbell & Fiske, 1998; Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Hence, spurious correlations between variables (Malhotra, Kim, & Patil, 2006; Podsakoff *et al.,* 2003) arising from measuring each variable using the same method in a study may lead to incorrect conclusions about the relationship between variables. Thereby expanding or contracting the result (Podsakoff & Todor, 1985; Podsakoff, MacKenzie, & Podsakoff, 2012).CMV can occur when the systematic variance is introduced into the construct measures through the use of measurement technique (Tehseen,Ramayah & Sajilan, 2017). In this study, the researcher

acknowledged the possibility of encountering of CMB. As the use of a single respondent and the characteristics are the main sources of common method bias, the social needs of a respondent can lead to a general bias of the method,For instance, the influence of entrepreneurial orientation, business model innovation, IT-enabled DCs on the performance of MFBisestimated using single respondents which are the owners/managers. The estimated effect may be biased if some respondents overstate both EO, BMI, IT-enabled DCs on performance due to the tendency to assess themselves in too positive manner or because of social desirability (Tahseen*et al.*, 2017). Hence,common method bias may occur when using self-report measurements on the same sample during the survey (Podsakoff and Todor, 1985). Respondents may want to look more competent and want to showcase the MFB's high performance and opt for extreme reactions. If this happens, it can create high correlations between independent and dependent variables which will affect the data analysis and lead to false conclusions. (Tahseen *et al.*, 2017). It is thus required to assess and control CMV before moving into subsequent analyses.

To examine and control CMV and examine method bias, the study employed two fundamental approaches for treating CMV in social science research(Viswanathan & Kayande, 2012; Williams, Hartman, & Cavazotte, 2010) which include procedural and statistical approach (Podsakoff & Organ, 1986; MacKenzie & Podsakoff, 2012). The procedural approach has to do with measures taken to prevent or counterbalance the damaging effects of erroneous responsesduring the designing and administering questionnaires (Chang, Park & Chei, 2010). Some of these remedies employed in this study are; firstly, the questionnaire design avoided complicated wordings and syntax, as well as double-barreled questions. In addition, the scale items have been written in a clear and precise way, which is less subject to biases. Secondly, the researcher provided clear instructions on how to complete the questionnaire, and a clear

definition of each concept in order to avoid confusion. Thirdly, all the respondents have been clearly informed that there is no preferred or correct answer; all that is desired for them is to be candid and objective when filling the questionnaire. Lastly, to achieve the said objective, the researcher has ensured the anonymity and confidentiality of the respondents, which was written boldlyon the copy of the questionnaire.

Despite the fact that the use of the procedural remedies can often minimise or even eliminate the damaging effects of method bias, it is usually difficult if not impossible in a given research to find procedural remedies that meet all its needs (Podsakoff *et al.*, 2003; Podsakoff *et al.*, 2012). In addition, the study does not have any statistical evidence to suggest that method variance is not an issue of concern. Hence, statistical remedies might also be considered (Podsakoff *et al.*, 2012).

Following the aforementioned Harman's single-factor statistical remedy of method variance, all the items of the whole constructs of this study were factor analyzed using unrotated factor solution. Hence, the analysis yielded 4 constructs explaining 77.5 percent of the cumulative variance (see Appendix II). Besides, the first factor explained only 43.7 percent of the total variance (77.5%), the value of which cannot be considered as the greatest as it is not higher than 50 percent of the covariance (Kumar, 2012). Based on the above results of the Harman's single-factor analysis, it appears that the Common Method Variance (CMV) does not exist between the study's constructs.

4.6Preliminary Analysis

To understand, the nature and characteristics of the data used by the researcher when performing the multivariate analysis and to fulfil the required assumption (Hair, blacks, Babin, Anderson & Tatham, 2006; Pallant, 2010). Certain procedures must be followed such as encoding and

inserting the data into a specific data file selected by the researcher which is SPSS 22 in the current study.

4.6.1 Data Coding and Screening

After receiving all the returned questionnaire (347), they were entered into SPSS version 22 data and variable view page.After successfully entering all the responses into SPSS statistical softwareversion 22. The same data were screened to detect missing values and outliers in order to replace thosemissing value (Bhatti *et al.,* 2012). Other preliminary analyses also performed in the current study include normality and multicollinearity tests as suggested (Hair, Black, Babin, & Anderson, 2010).

4.6.1 Missing Data

Taking into account the impact of missing data in the analysis, researchers took precautions right from the time of data collection to reduce the occurrence of missing values. Both the researchers and research assistants who receive completed questionnaire will quickly check from page one to last page to ensure that all questions are answered correctly. Therefore, this greatly reduces the amount of data that is missing during the screening process.After inputting data into the SPSS software, key descriptive statistics were run to identify if any data was missing. Descriptive statistics exposed 3 cases where the values were significantly missing and appeared to be random and therefore removed. This is in line with the suggestion of Tabachnick and Fidel (2007) that cases where more than 5% missing data should be discarded if the sample is suitable for further analysis.

4.6.2 Assessment of Outliers

Outlier refers to the cases with the extreme data point that is either too high or too low within the data range. Moreover, with respect to the suggestion of Tabachnick and Fidel (2007) Mahalanobis distance (D2) was conducted to discover and deal with multivariate outlying cases (Hair *et al.*, 2010),

Outliers indicate when extreme data points are too high or too low in the data range. In addition, regarding the proposal of Tabachnick and Fidel (2007), the Mahalanobis (D2) distance was used to detect and handle multivariate anomalies (Hair et al., 2010),which represents the distance of an observation from the centroid (Tabachnick & Fidel, 2007). The threshold level of the Mahalanobis distance (D2) should be 0.001 (Hair, Black, Babin, Anderson& Tatham, 2006; Hair *et al.*, 2010). The 56 adapted items representing degrees of freedom in the table with P <0.001 so the standard is 94.47 (Tabachnick & Fidel, 2007). This means that numbers with Mahalanobis distance greater than 94.47 are multivariate outlier values; should be removed (Tabachnick & Fidel, 2007). As a result, eight cases with 94.47 or higher were found, representing multivariate outliers were removed.

4.5.7 Normality

The non-parametric test, PLS-SEM, usually makes no assumptions about data distribution. However, for reasons discussed in Chapter 3, distribution should be considered when working with PLS-SEM (Hair *et al.*, 2017). Therefore, to assess whether the data collected from the respondents conforms to the normal distribution, this study applied the statistical tests of the Kolmogorov-Smirnov test and the Shapiro-Wilk test (Sarstedt). & Mooi, 2014).In addition, researchers can examine two measurements of deviation and the kurtosis distribution that could assess the extent of data deviation from normal (Hair et al., 2010). The results of the analysis, the benchmark test showed that the majority of respondents scored 4, 5, 3, 2 and 1 on a 5-point scale.

In general, the numbers of frequencies obey bell-shaped symmetry. The curve around the mean is 3.8. This bell curve is a standard distribution that many analytical techniques need to give accurate results (Hair et al., 2017). The result is presented in appendix III, and thus appropriate to proceed with the subsequent analysis.

4.6 Profile of the Respondents

In this section, distribution of frequency and proportion of participants are presented based on demographic characteristics. In particular, the demographic variables surveyed in this study include respondents' gender, position in different MFB, education level, the age of the MFB andthe experience of the staff.However, these frequencies and the aforementioned characteristics are presented in Table 4.3.

Table 4.3
Respondents Profile

Demographic Variables	Category	Frequency	Percentage	Total
Gender	Male	270	85.4	
	Female	45	14.6	
	No Response	0		315
Education	Postgraduate	187	59.3	
	BSc	114	36.2	
	Diploma	14	4.5	315
Experience	5-10 years	146	37.4	
	above 10 years	92	30.5	
	3-5 years	47	16	
	2-4 years	37	8.9	
	Less than 3 years	9	4.6	
	No Response	0	0	315

It can be seen from Table 4.3, that the majority of the respondents in this study are male constituting 270, which is equivalent to 85.4 percent of the total responses usable for the analysis of this research, while 45 participants are female representing 14.6 percent of the total respondents. However, it should be noted that the wide gap between male and female

respondents is not so unexpected due to the fact that findings from both entrepreneurship and strategic management studies have reported that male respondents always represent the majority of their respondents in both developing and developed economies (Panigyrakis & Theodoridis, 2007; Idar & Mahmood, 2011).

As regards to the positions of the research participants in the respective microfinance banks. The study found that 56, respondents representing 17.6 percent are owners, 156 people representing 49.5 percent of the usable responses are Chief Executive Officers (CEOs)/MD, 70 responses representing 22.2 percent were responded to by managers whereas the remaining 33 are top bank officials (11.5). It is clear that the CEOs/MD constitute the majority of the respondents, followed by managers, owners and other bank officials. This happened due to the facts that the study is concerned with microfinance banks in Nigerian which are usually not managed privately by a single owner, but a group of experienced staff (MD, branch manager, etc.) and this management composition is dominant in the city and urban areas where MFB are having more than one branch operations.

Similarly, regarding the respondents educational qualifications, majority have postgraduate qualifications, constituting 187 participants, which are equivalent to 59.3percent of the total responses.Whereas 114respondents have either first degree (BSc) or higher national diploma (HND) representing 36.2 percent of the respondents. The study was unable to reports any respondent with either national diploma or secondary certificate as their highest qualification. But it worth noting that 14 people equivalent to 4.5 percent of the total respondents selected other category options, as their highest qualification without providing details, which makes it difficult for the research to report their exact qualification due to limited information given by the respondents.

The last category of the respondents' characteristics is concerned with their bank age which suggests that majority of the MFB that participated in this research have existed between5 and above years at the time of our data collection. Specifically, about 146 respondents reported that their bank has been operating orhas been in existence between 5 to 10 years period. This figure represents 37.4 percent of the total respondents. Similarly 92 respondents'equivalent to 30.5 percent stated that their microfinance bank has existed for more than 10 years at the point of the data collection. Whereas 47 respondents representing only 16 percent reported that their various banks have operated between 3 to 5 years, on the other hand, respondents from the MFB that exist between 6 to 10 years comprised only 8.9 percent, which are exactly 37 people, Lastly, only 9participants representing 4.6 percent of the total respondents reported that their MFB exist for less than 3 years during the period of the current study.

In terms of application of technology to streamline the bank core processes, majority of the respondents agreed that their bank engage in technological transformation to improve services delivery.In particular, 52% of banks deploy electronic financial services such as cash/check receipt and payment via ATM, POS, mobile transactions, and loan processing. Likewise 78% of the MFBagreed that their bank used technology to increase revenue, against 52% that selected customer services delivery.

4.8 PLS-SEM Path Modeling

A composite-based methods for modeling complex relationships between observed and unobserved latent variables have recently become significantly important in both social sciences and management studies (Hwang & Takane, 2014; Sarstedt, et al., 2019a). As a result, the PLS-SEM approach has received a lot of consideration in both entrepreneurship, marketing and

strategy management studies (Hair, *et al.,* 2019). Path model is a diagram used to visualize the variables and hypothetical relationships to be considered when applying PLS-SEM approach (Hair et al., 2011).

As the PLS-SEM model consists of two elements, a measurement model and a structural model, called the outer and inner model, respectively (Hair et al., 2014), there are basically two types of measurement models which include reflective and formative measurement model (Becker et al., 2012). Here, the reflective measurement model is a type of measurement model in which the direction of the arrow is directed from the latent variable to the specified indicator, showing the assumption that the latent variable produces the measurement of the item or the index variable (Hair *et al.,* 2017).

Whereas, formative model is ameasurement model in which the direction of arrows is from the main construct to specified indicators, suggesting the indicators cause the measurement of the latent variable construct(Sarstedt *et al.,* 2019 . However, as PLS-SEM approach is becoming more popular researchers are moving from therelatively small and focused models to more advanced model design (Sharma et al., 2019) such as higher-order constructs (Ringle *et al.,* 2019). This construct is known as Hierarchical Component Model [HCM] (Becker 2012; Sarstedt *et al.,* 2019).

The HCM is a model thatprovides a framework for the researchers to model a research variable on a more abstract dimension known as higher-order construct and its more concrete sub-dimensions also called a lower-order construct (Sarstedt*et al.,* 2019b). In this aspect, HCM several advantages as follows. Firstly,higher order construct (HOC) reduces the number of relationships of the path model (Sarstedt et al., 2019b) and achieves the brevity(parsimony) of the model (Johnson, Rosen & Chang, 2011). Instead of defining relationships between multiple

independent and dependent variables in the path model, researchers can summarize the lower ordervariables of the HOCconstruct, thereby making the relationships from the (then) lower-order constructs to the dependent constructs in the research model obsolete (Sarstedt et al., 2019b). Instead of specifying relationships between multiple independent and dependent constructs in a path model, researchers can summarize the independent constructs in a higher-order construct, thereby making the relationships from the (then) lower-order constructs to the dependent constructs in the research model obsolete (Sarstedt*et al.*, 2019b). Secondly, Higher-order structures can also help overcome the bandwidth fidelity dilemma between the LOC that defining the HOC (Cronbach & Gleser, 1965).That isa tradeoff between variety of information and thoroughness of testing the model in order to obtain more certain information (Sarstedt*et al.*, 2019b). Lastly, the HOC provide a means to reduce the collinearity between the indicators forming HOC by allowing the indexes or structures to be rearranged on different specific sub-dimensions (Hair, Sarstedt, Ringle & Gudergan, 2018).To do this, the researcher need to first assess the quality of antecedents constructs of proactiveness, innovativeness, competitive aggressiveness, value creation, value proposition and value capture as well as the lower-order constructs of the two HCM of IT-enabled DCs (sensing, learning, coordination, integration and reconfiguration), organisational performance constructs.

4.8.1 The Measurement Model

The measurement model evaluation consists of four steps including indicator reliability, internal consistency, convergence validity, and discriminant validity (Hair and plus the, 2017). Experience has shown that for the aggregate reliability, the internal consistency reliability must be higher than 0.70. However, for exploratory studies, 0.60 to 0.70 is considered acceptable. Similarly, scholars have proposed to use Cronbach's alpha exponent as the lower limit and the

composite reliability as the upper limit for the internal consistent reliability test. For the convergence validity (CV),average variance extracted (AVE), should be at least 0.50 for the convergent validity (DV).For the discriminant validity, the square roots of the AVE must be distinguished from each otherconstruct.

4.8.1.1 Indicator Reliability

Under this, internal consistency can be assessed at both indictor and construct level. For indicator reliability, the indicator with outer loadings of0.60 and 0.70 and above should be retained for exploratory and explanatory studies respectively. According toAvkiran and Ringle (2018: 4) acomposite reliability's score of "0.60 is acceptable in exploratory research but values above 0.95 indicate redundancy." On the other hand, indicators with outer loadings of 0.40 to 0.70 should be taken into account when removing from the model only if deletion increases composite reliability and Average Variance Inflation (AVE) factor for a specific research construct (Hair, et al., 2017).The result of the analysis for the individual items reliability is presented in the Table 4.4.

Table 4.4
Indicator item reliability

Construct	Item	Loadings	AVE	CR
Innovativeness	IN1	0.861	0.573	0.843
	IN3	0.818		
Competitive Aggres.	CAG1	0.859	0.667	0.857
	CAG2	0.737		
	CAG3	0.847		
Proactiveness	ProAc1	0.830	0.668	0.858
	ProAc2	0.861		
Value Creation	VC1	0.851	0.673	0.891
	VC2	0.868		
	VC3	0.735		
	VC4	0.815		
Value Proposition	VP1	0.917	0.735	0.892

	VP2	0.893		
	VP3	0.751		
Value Capture	VCP1	0.801	0.635	0.839
	VCP2	0.753		
	VCP3	0.834		

Note: three items (IN2, IN4 and ProAc 3) were deleted due to measurement issue (n=315)

As can be seen from the Table 4.4, apart from the, IN02, IN04, and ProAc03 were removed from the analysis due to their in ability to meet the minimum value of 0.70. On the other hand, all other indicators have loadings of 0.70 and above. Therefore, based on the criterion given by Hair *et al.* (2014), all the remaining items of the reflective constructs in the research model are found to be reliable to measure their respective reflective latent construct which is suitable to proceed with analysis.

4.8.1.2 Convergent Validity

Convergent validity measures the extent to which a measure is positively correlated with an alternative measure with the same construct (Hair *et al.,* 2014). To evaluate the convergent validity of reflective construct at indicator and construct level, this study looked at the outer loads of the inidicator and its respective AVE.Although the rule says that, an indicator with outer loading below 0.70 shall bedeleted from the dataset. But in this study, rather than automatically removing indicators with low outer loading below 0.70, the researcher carefully examined the effects of removing such items, on both content, composite reliability of the construct. In other words, indicators with outer loadings between 0.40 and below 0.70 was considered for removal from the model only if deletion increases composite reliability above the threshold value of 0.50 (Hair, et al., 2017). But, this does not mean that indicators with a value below 0.40 was retained as the reason for such decision has not been documented (Hair, Ringle & Sarstedt, 2011; Hair et al., 2017).

At construct level, the common measure to establish convergent validity index is through Average Variance Extracted (AVE). AVE is defined "as the grand mean value of the squared loadings of the indicators associated with the construct" that is the sum of the squared loadings divided by the number of indicators, and therefore, it is equal to the commonality of the construct (Hair et al., 2017). In this study, the AVE of the reflective constructs of the research model were assessed. Further details of the analysis of convergent validity through AVE could be seen in the Table 4.4.From the Table 4.4 result above, it appears that all the constructs correlate with each other to explain more than 50% of the construct. Consequently, convergent validity has been established.

4.8.1.3 Discriminant Validity

In PLS-SEM approach, the extent to which a construct is truly distinct from other constructs by empirical standards can be achieve through the establishment of discriminant validity (Hair et 2017) which implies that a construct is unique and captures phenomena not represented by other constructs in the model. Traditionally, researchers have relied on two measures of discriminant validity. Under this, the cross-loadings are usually the first approach to assess the discriminant validity of the indicators (Hair, et al., 2014). That is indicator's outer loading on the associated construct should be greater than any of its cross-loadings (its correlation) on other constructs (Hair, et al., 2017).

This means that a variable is unique and records phenomena that are not represented by other variable in the model. Traditionally, researchers have relied on two DV measures. Cross-loading is often the first approach for evaluating the DV of indicators (Hair, et al., 2014). That is, the outer load of an indicators must be greater than the cross loadings (correlated) for the other

configurations (Hair, et al., 2017).If the outer loadings exceed the cross-loadings, it shows that discriminant validity is met. But if cross-loadings exceeds the indicators' outer loadings, it shows there is DV problem. The first measures of discriminant validity though cross-loadings is presented in Table 4.5.

Table 4.5
Cross-Loadings of Reflective Antecedents Constructs

Items	Cag	Inov	ProAc	VCR	VCP	VPR
CAG1	**0.856**	0.587	0.554	0.574	0.573	0.522
CAG2	**0.736**	0.465	0.490	0.474	0.633	0.496
CAG3	**0.852**	0.524	0.578	0.479	0.700	0.610
IN1	0.613	**0.883**	0.573	0.419	0.426	0.407
IN3	0.457	**0.791**	0.339	0.466	0.389	0.361
PR1	0.577	0.456	**0.835**	0.383	0.519	0.515
PR2	0.547	0.490	**0.856**	0.445	0.393	0.389
VC1	0.385	0.351	0.265	**0.852**	0.290	0.223
VC2	0.374	0.331	0.320	**0.868**	0.308	0.221
VC3	0.289	0.318	0.224	**0.733**	0.175	0.080
VC4	0.756	0.571	0.603	**0.815**	0.683	0.632
VCP1	0.594	0.398	0.430	0.496	**0.792**	0.470
VCP2	0.628	0.383	0.456	0.307	**0.768**	0.571
VCP3	0.627	0.379	0.396	0.444	**0.828**	0.751
VP1	0.625	0.363	0.451	0.431	0.827	**0.916**
VP2	0.640	0.480	0.505	0.436	0.666	**0.894**

VP3	0.405	0.315	0.405	0.212	0.510	**0.752**

From Table 4.5 it can be seen, as the outer loadings of all the items belongs to antecedents constructs of the research model exceed their respective cross-loadings it shows that discriminant validity was met. Next was to check, the items' cross-loadings of the LOC of the formatively measured HOC of IT-enabled and organisational performance. The result is presented in Table 4.6.

Table 4.6
Cross-Loadings of Reflective Antecedents Constructs

Items	SN	LN	CD	ITG	RC	FIN	Non-FIN
SN1	**0.647**						
SN2	**0.819**						
SN3	**0.860**						
SN4	**0.795**						
LN1		**0.889**					
LN2		**0.889**					
LN3		**0.819**					
LN4		**0.805**					
CD1			**0.813**				
CD2			**0.753**				
IG2				**0.846**			
IG3				**0.818**			
IG4				**0.679**			
RC1					**0.685**		
RC2					**0.767**		
RC3					**0.745**		
RC4					**0.856**		
FN1						**0.721**	

FN2	**0.858**	
FN3	**0.890**	
FN4	**0.742**	
FN6	**0.732**	
FN7	**0.771**	
C2		**0.750**
C3		**0.773**
C4		**0.866**
C5		**0.855**
P1		**0.816**
P2		**0.843**
P3		**0.834**

The second method is the use of Fornell-Larcker criterion; approach to assessing discriminant validity. It compares the square root of the AVE values with the latent variable correlations.

Specifically, the square root of the AVE in each variable should be greater than the highest correlation with the other. According to this approach, if the variable explains less variance in the measures than it shares with other variables it can be assume that DV is not established (Fornell &Larcker, 1981). The result of this analysis can be seen in the Table 4.7and has adequately satisfied this criteria.

Table 4.7
Discriminant validity using Fornell-Larcker criteria

	CAg	Inov	Org-Perf	ProAc	VCP	VCR	VPR
Cag	0.8163						
Inov	0.6468	0.8383					
ProAc	0.6634	0.5593	0.7414	0.8458			
VCP	0.7737	0.4859	0.7397	0.5363	0.7965		
VCR	0.6243	0.5212	0.717	0.4907	0.5226	0.8186	
VPR	0.6652	0.4588	0.6889	0.5317	0.7904	0.4375	0.8572

Moreover, due to some methodological challenges associated with Fornell and Larcker approach to consistently detecting discriminant validity (DV) in the research model (Henseler, Ringle &

Sarstedt, 2015) that include failure to present the absence of DV when two or more variables are perfectly correlated, or when all indicator's loadings vary slightly (Voorhees, Brady, Calantone, & Ramirez, 2016). More recently, the HeteroTrait-MonoTrait ratio (HTMT) procedure of the correlations was used to mitigate the problem (Henseler, et al., 2015). According to Henseler et al. (2015), HTMT estimates the correlation between the two constructs by asking what the true correlation between two constructs would likely be, if they were accurately measured and reliable (Hair et al., 2017). Since the HTMT is an estimate of the correlation between the constructs, its interpretation is straightforward. Henseler et al. (2015) propose two ways to assess discriminant validity using HTMT; either as a criterion or as a statistical test. Firstly, using the HTMT as a criterion involves comparing it to a predefined threshold, and if the value of the HTMT is higher than this threshold, the researcher can conclude that there is a lack of discriminant validity. But anexact threshold value is arguable. Secondly, HTMT can serve as the basis of a statistical discriminant validity test (inference) through bootstrapping to derive a distribution of the HTMT statistics (Hair, et al., 2017).Henseler et al. (2015) suggested a threshold value of 0.90 if the path model includes constructs that are conceptually similar, and a value 0.85 for a more distinct construct in the model. Both graphical and numerical HTMT result are presented in figure 4.1 and Table 4.8 respectively.

HTMT. As standard testing or statistics. First, the use of HTMT as the criterion involves comparing it with a predetermined threshold and if the value of HTMT is higher than this threshold, the researcher can conclude that the value is not enough . However, the exact threshold is controversial. Second, HTMT can be used as a basis for checking the validity of statistical distinctions (inference) through Bootstrap to retrieve HTMT statistics distribution (Hair, et al., 2017). Henseler et al. (2015) propose 0.90 level if the path model contains similar

configurations in terms of concepts and worth 0.85 for clearer configurations in the model. HTMT results with graphs and turns are shown in Figure 4.1 and Table 4.8.

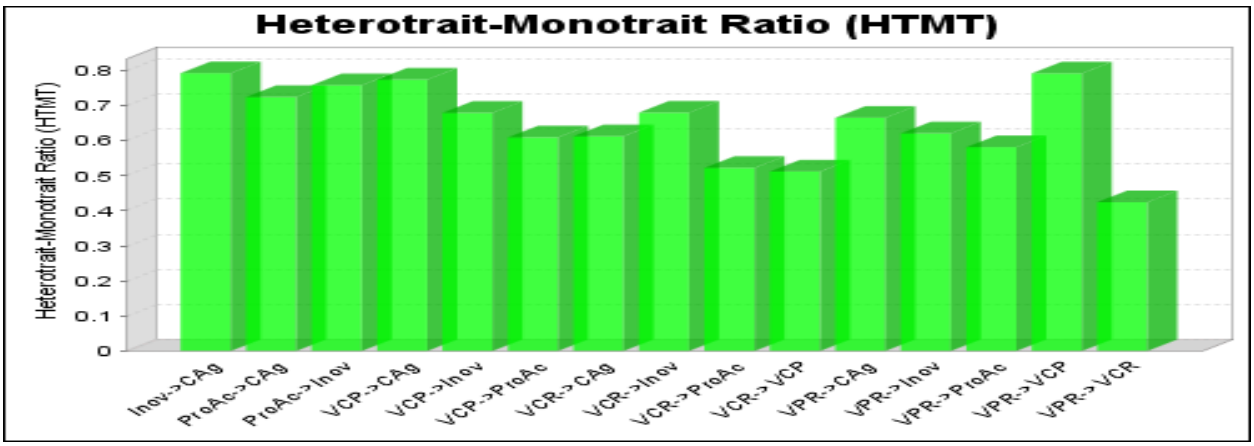


Figure 4.1 *Discriminant validity using HTMT criteria*

Table 4.8
Discriminant validity using HTMT criteria

	CAg	Inov	ProAc	VCP	VCR	VPR
CAg						
Inov	0.793					
ProAc	0.724	0.758				
VCP	0.774	0.679	0.609			
VCR	0.613	0.680	0.522	0.512		
VPR	0.665	0.621	0.582	0.792	0.424	

Based on the threshold value of Clark and Watson (1995); Gold, Malhotra and Segars (2001) and reported in Henseler (2015), with HTMT values ranging from .236 to .600 across the research model, the results (in figure 4.1 and Table 4.8show that all constructs have satisfactorily passedHTMT criteria, establishing thateach construct of the research thatmeasures is a unique subject, indicates that, the requirements for discriminant validityhas been established for all the construct and suitable to proceed.

4.8.2 Specification of the Higher-Order Constructs

The relationship between observed indicator and a latent variable (construct) that is unobservable is defined as either reflective or formative construct(Duarte & Amaro, 2018). However, most scholars assumed that the relationship between construct and indicator is reflective (Coltman, Devinney, Midgley & Venaik, 2008) specification of the type of higher-order construct is thus crucial because proper specification is necessary to assign a meaningful relationship in the structural model (Anderson & Gerbin, 1998). In doing so, the most commonly used are reflective, where indicators are considered to be functions of the latent construct (Hair *et al.*, 2014a, 2014b). That is the direction of causality is from construct to indicators. Whereas, in a formatively measurement model, indicators are assumed to cause a latent construct. That is changes in the indicators will cause changes in the underlying latent construct (Jarvis *et al.*, 2003). Therefore, deciding whether the construct is measured in a formative or reflective manner is important because measurement model misspecification will lead to incorrect assessments (Duarte & Amaro, 2018).

In doing so, Finn and Kayande (2005) as well as Diamantopoulos (2005) posited that both theoretical and empirical justifications are necessary for design and valid measurement models in a research setting. Therefore, in order to comprehensively capture the necessary theoretical and empirical aspects of the given higher-order constructs of IT-enabled DCs and organisational performance, this study followed a suggestion by Coltman, et al. (2008) which include three considerations for theoretical justifications and three empirical considerations for distinguishing a formative measurement models from the reflective measurement models. Under theoretical consideration, the lower-order constructs of IT-enabled DCs the latent constructs (SN, LN, CD, IG and RC) have actually exist independent of their indicators as suggested in previous studies

(Teece, et al., 1997; Tippins & Suhi, 2003; Bhatt & Grover, 2005; Teece, 2007). On the other hand, the DCs as a higher-order construct does not exist independent of its formative indicators (SN, LN, CD, IG and RC). The second theoretical consideration in deciding whether the higher-order construct is reflective or formative is the direction of causality (which in this case), is from the lower-order constructs (SN, LN, CD, IG and RC) to the higher-order (IT-enabled DCs). The third consideration of deciding how to measure the higher construct is characteristics of indicators. As can be seen in section 2.5.4, significant differences exist in the characteristics of the lower-order constructs (LOCs). That is the LOCs (SN, LN, CD, IG and RC) as formative indicators to the higher-order (IT-enabled DCs) did not share a common theme and thus not interchangea.

Furthermore, the same theoretical considerations are applied to the second higher-order construct (Org-Perf) measured in terms of financial and non-financial dimensions as reflective of lower order constructs. The observed indicators for measuring financial performance aresales volume and debt ratio achievement in branches, return on asset, return on investment, earning per share as well as financial target achieved by branches. All these will lead to banks profitability and success (Sun, 2000; Bontis, 1998; Bontis, Chua & Richardson, 2000; Kaplan & Norton, 1996). The non-financial performance indicators for this study include: customer satisfaction (Khong & Richardson, 2003), cost and cycle time reduction, service quality and process speed (Hammer & Champy, 1993) such as real-time transaction, zero error processes and excellent customer relationship in branches (Bontis, Chua & Richardson, 2000; Khong & Richardson, 2003; Kaplan & Norton, 1996; Wu et al., 2009).

Most scholars measure organisational performance as the inputs against the outputs (Richard *et al*. 2009; Santos & Brito, 2012). To support our proposition, the study based its argument on the existing debate that, despite the universalistic nature of performance the concept has been difficult to subject to a single meaningful definition (Otley, 1999) and this difficulty may be due to its ambiguous and integrative nature (Nadia & Albu 2005).As a result, researchers focus on explaining the conceptby identifying the sources of different levels of performanceacross an organisation (McGahan & Porter, 1997). Building on this, it can be argued that organisational performance as a higher-order construct does not exist independent of both financial and non-financial dimensions that formed it (Santos & Brito, 2012; Masa'deh, *et al.,* 2015). In other words, the domain of the construct (Org-Perf) is sensitive to the number and types of indicators the researcher selects to use (Coltman et al., 2008) in the research setting. Therefore, the three theoretical considerations; of the nature of the construct, the direction of causality and the characteristics of indicators representing the proposed research model indicates that it is better to conceptualize and measure both IT-enabled DCs and Org-Perf as reflective formative type II models. This is also in line with scholars' opinion that as long as the indicators conceptually represent the domain of interest, they may be considered adequate from the standpoint of empirical prediction (Bollen & Lennox, 1991).Next follow the three empirical considerations which can help to either corroborate or refute the suitability of this model of the data.

Based on Coltman et al. (2008)'s proposed guidelinesfor model specification, next are the three empirical considerations in deciding whether the higher-order construct is reflective or formative type model. These include indicator inter-correlation, indicator relationships with construct antecedents and consequences, and measurement error as well as collinearity diagnose. This can

be done through the assessment of the measurement models of both reflective and formative constructs Pavlou & Sawy, (2011), conceptualises DCs as sensing, learning, integrating, and coordinating capabilities that interact in a logical sequence to create new capabilities. Lin and Wu (2014) are also among the researchers that empirically examined the connection between organisational resources and performance through the mediating effect of DCs, conceptualises it in terms of sensing, learning, integration, and configuration capabilities. This view has been supported in the work of Aminu (2015) and Mikalef (2017) which examines DCs in their research models. The major finding from these studies is that, DCs is a combinations of those dimensions that formed it. It is therefore appropriate to conceptualise IT-enabled DCs as reflective formative higher-order construct. The same goes to orgnisational performance as dependent variable which was equally conceptualised and measured in various studies based on financial and non-financial dimensions (Wu et al., 2009).

4.8.3 Estimation of the Higher-Order Constructs

For many years, scholars have proposed several approaches for estimating higher-order constructs in PLS-SEM but the most prominent ones are the repeated indicator, extended repeated indicators and the two-stage approach (Ringle et al., 2012). Recently Sarstedt, Hair, Cheah, Becker and Ringle (2019b) put forward two additional approaches whichinclude embedded two stage and disjoint two stage approach for reflective-formative type higher-order constructs in a research model.However, as the research model is dealing with two endogenous constructs, it is not appropriate to try the traditional repeated indicators approach for the sake of estimating the HCM since their variance will be fully explained by the lower-order components and R^2 become close to 1. This is discussed below.

4.8.3.1 The Repeated Indicator Approach

To establish the reflective-formative higher-order constructs of IT-enabled DCs and organisational performance, the study first draw on the repeated indicators approach. The constructs sensing, learning, coordinating, integrating and reconfiguration capabilities represent the lower-order constructs of the higher-order construct (IT-enabled DCs), as mediator between EO, BMI and organisational performance. For the dependent variable conceptualised as organisational performance which aimed to measure the overall performance of MFB also have three dimensions of financial performance customer satisfaction and internal process improvement acting as the lower-order components of the more general higher-order construct (organisational performance).

In this approach, all indicators of the reflectively measured lower-order components are simultaneously assigned to the reflective measurement model of the higher-order construct. In terms of structural model specification, the six antecedent constructs PRAc, INN, ComAg, ValCr, ValPr, and ValCp are directly related to the higher-order construct PERF(instead of having a relationship to lower-order construct). Similarly, IT-enabled DCs is now directly related to the higher-order criterion variables PERF. Note that this study follow the assumption of the DCs model, that all relationships from the independent latent variables PRAc, INN, ComAg, ValCr, ValPr, and ValCp to the dependent constructs PERF are mediated by the higher-order construct IT-enabled DCs. In line with Becker et al. (2012), the study use Mode B to estimate IT-enabled DCs.

It should be noted that, when using a reflective-formative constructs (as in this study) PLS-SEM regresses the higher-order component on its lower-order components and since all indicators of

the lower-order components of the HCM models are repeated to identify their higher-order component (IT-enabled DCs & Org-Perf)the higher-order component's variance will be fully explained by the lower-order components and the R^2 value will be unity by de-fault (Sarstedt *et al.,* 2019a). That the R^2 value will be 1.00 or extremely close to 1.00 by default (Ringle *et al.*, 2012). Due to this extreme relationship, it is not possible for any of the independent variables to explain the relationship further (Sarstedt *et al.,* 2019a). That is, the relationship between these constructs will be close to zero and no significant (Ringle *et al.*, 2012) as shown in the appendix. In order to deal with this problem an extended repeated indicator approach has been proposed (Becker *et al.,*2012).

4.8.3.2 The Extended Repeated Indicator Approach

Based on the extended repeated indicator approach, in this research, there is need to additionally specify the relationships between the antecedentconstructs(that is EO, & BMIdimensions)and the lower-order components (SN, LN, CD, IG, & RC) of IT-enabled DCs in the research model (Sarstedt *et al.,*2019b). Therefore, instead of analyzing the direct relationship between the antecedent construct (EO & BMI)and the higher-order component (IT-enabled DCs & Org-Perf), which is zero by design, we need to analyse the antecedent constructs' total effect on the higher-order component. This total effect also includes all indirect effects of PRAc, INN, ComAg, ValCr, ValPr, and ValCpon IT-enabled DCs as mediating construct and Org-Perf as dependent construct via theirreflective lower-order components (SN, LN, CD, IG, RC, and FIN and NonFin) respectively.This helps the researcher to accurately portray a picture of the antecedent constructs' actual effect on the higher-order construct (Becker *et al.,* 2012). The result of is presented in Table 4.9 and Figure 4.2.

Table 4.9.
The Repeated Indicator Approach

Constructs	IT-enabled DCs	FIN	Non-FIN	Org-Perf
ProAc	0.207	0.278	0.185	0.223
Inov	0.202	0.297	0.461	0.426
Cag	0.159	0.202	0.047	0.113
VCR	0.054	0.020	0.125	0.159
VPR	0.059	0.205	0.262	0.092
VCP	0.216	0.116	0.002	0.134
IT-enabled DCs	N/A	N/A	N/A	0.018

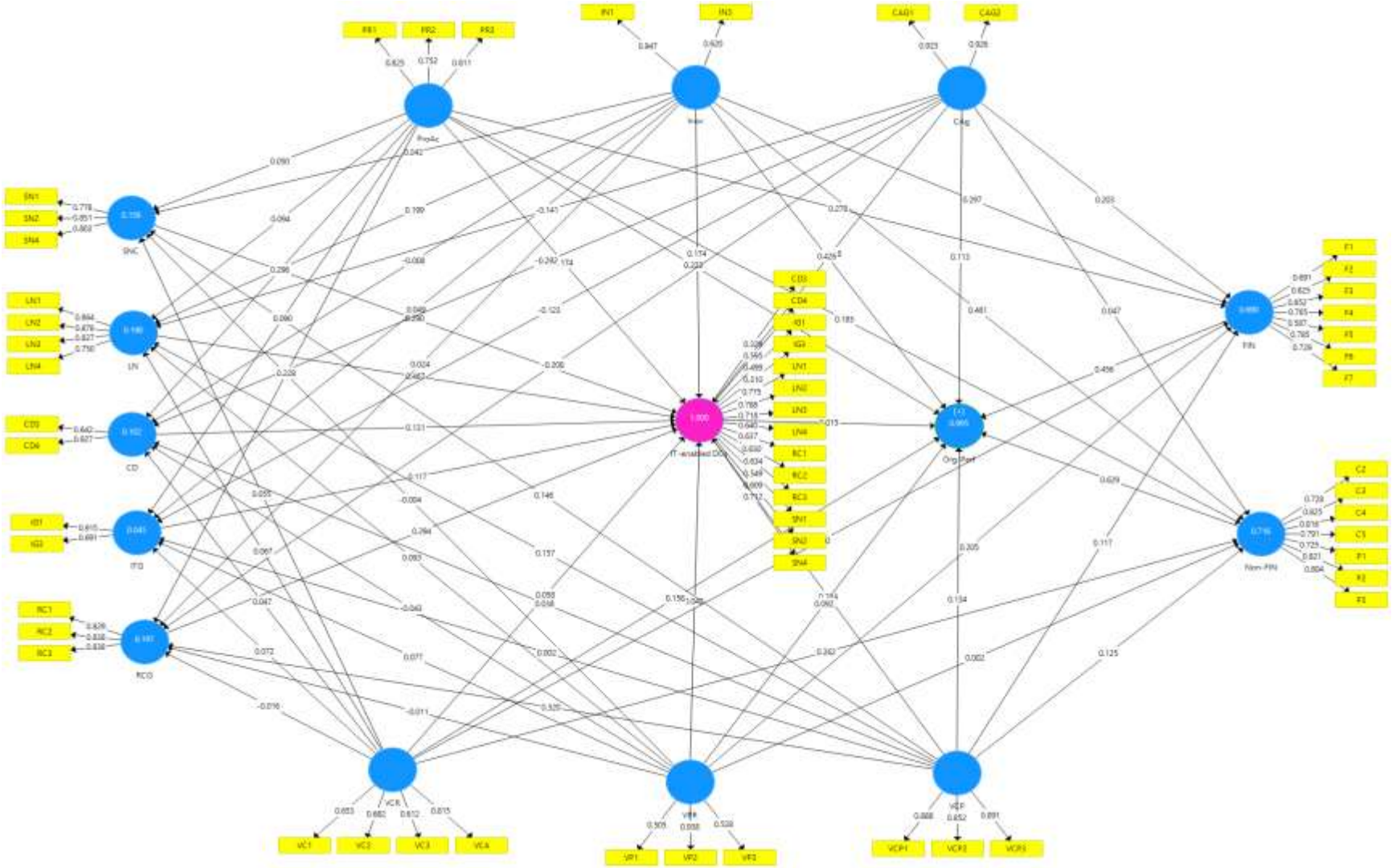


Figure 4.2 Extended repeated indicator approach

4.8.3.3 The Two-stage Approach

At inception, some scholars (Wetzels et al., 2009) have proposed the two-stage approach as an alternative to the repeated indicators approach. But recently, other researchers have proposed a two versions of the two-stage approach which include the embedded two-stage approach(Ringle et al., 2012) and the disjoint two-stage approach(Agarwal & Karahanna, 2000; Becker *et al.*, 2012), whileother scholars (Sarstedt*et al.*, 2019b) assert that these two approaches slightly differ in their model specification. That is, instead ofmodelling the entire higher-order construct in its first stage as it is in the embedded two approach. The disjoint approach initially only draws on the lower-order constructs (Sarstedt*et al.*, 2019b). Figure 4 and 5 presents both versions of two stage approach for the reflective-formative higher-order constructs (IT-enabled DCs and Org-Perf) of the current study.

4.8.3.4 The Embedded Two-stage Approach

Under this approach, the first stage of assessing HCM is similar to that of repeated indicators approach which has an antecedent construct in the structural model (PRAc, INN, ComAg, ValCr, ValPr, and ValCp) and produces a non-significant path coefficient estimate from the antecedent construct to the higher-order component (IT-enabled DCs and Org-Perf). Therefore, instead of interpreting the model estimates as it is,the researcher has saved the latent variables scores (LVS) of all constructs in the model and add these as new variables to the dataset (Sarsdedt, et al., 2019). In the second stage (i.e. stage two), the researcher used these LVS scores as indicators for all the six antecendents constructs (proactiveness, innovativeness, competitive aggressiveness, value creation, value proposition and value capture innovation as well as the higher-order constructs of IT-enabled DCs; as a mediator) and Org-Perf as dependent variable. The result is presentedin figure4.3 and Table 1in appendix.

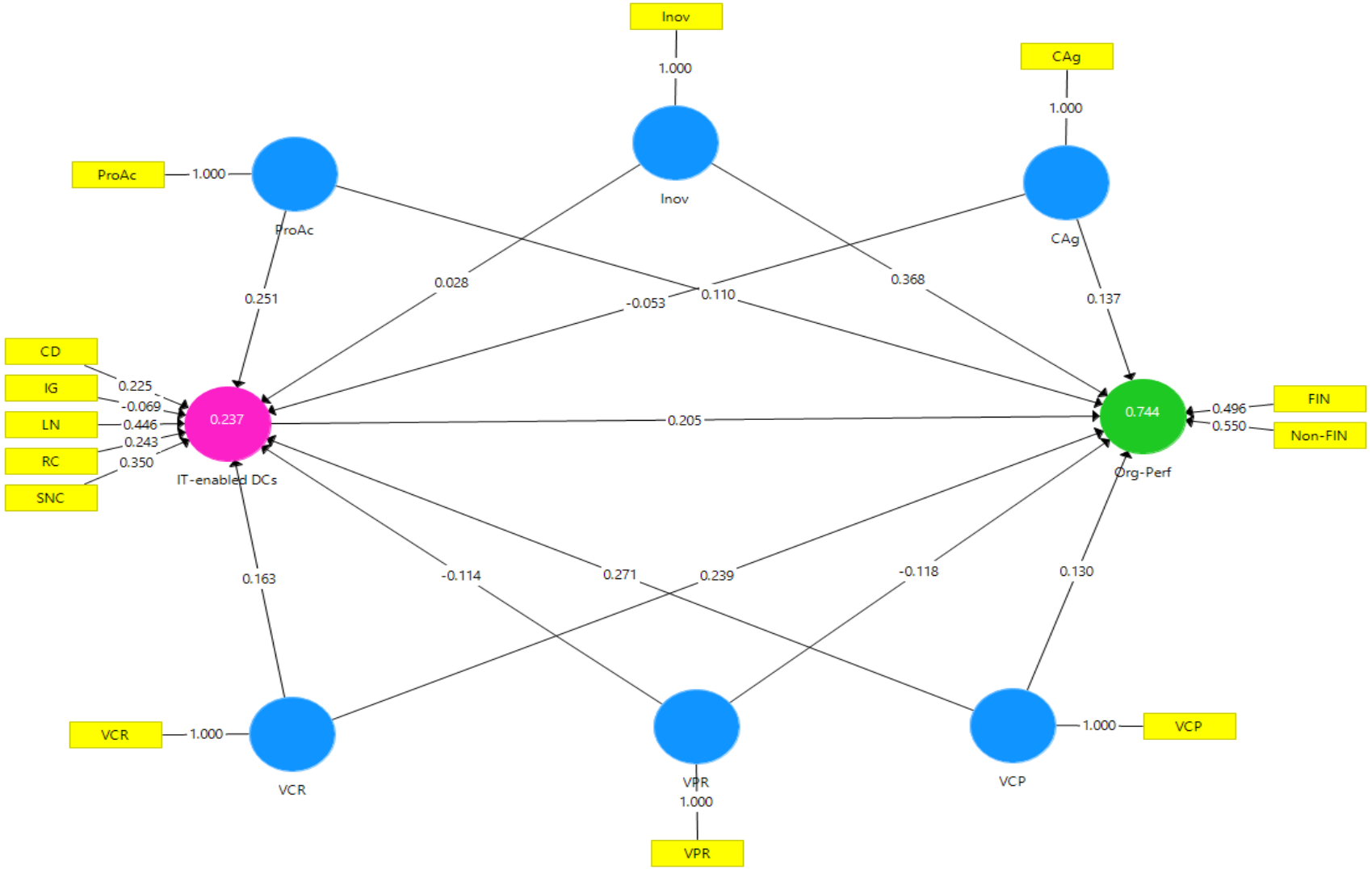


Figure 4.3Embedded two stage, stage two.

4.8.3.5 The Disjoint two Stage Approach

As mentioned earlier, specification of HOC using disjoint two-stage approach slightly differed from that of embedded two stage approach (Sarsdedt et al., 2019). Instead of repeating the indicators in the stage one of the process, disjoint two-stage approach only considers the lower-order variables of the HOC in the path model (Sarsdedt *et al.,* 2019). These reflective first-order variablesare then directly connected to all other constructs that the higher-order construct is theoretically related to which are EO, BMI and Org-Perf for IT-enabled DCs, as well as EO, BMI and IT-enabled DCs, for organisational performance as dependent variable of the study. In this study, to run the disjoint two-stage approach, we have to save the latent variable scores (LVS), but only those of the lower-order components (the scores of SN, LN, CD, IG, and RC for IT-enabled DCs, as well as FIN, and Non-Fin performance for organisational performance of MFB. In stage two of the disjoint two stage process, the LVS were used to measure the HOCs. However,all other variablesin the path model are estimated using their standard multi-item measures as in stage one (Sarsdedt *et al.,* 2019). The result of this analysis is presented in figure 4.4, 4.5and Table 2, in appendix.

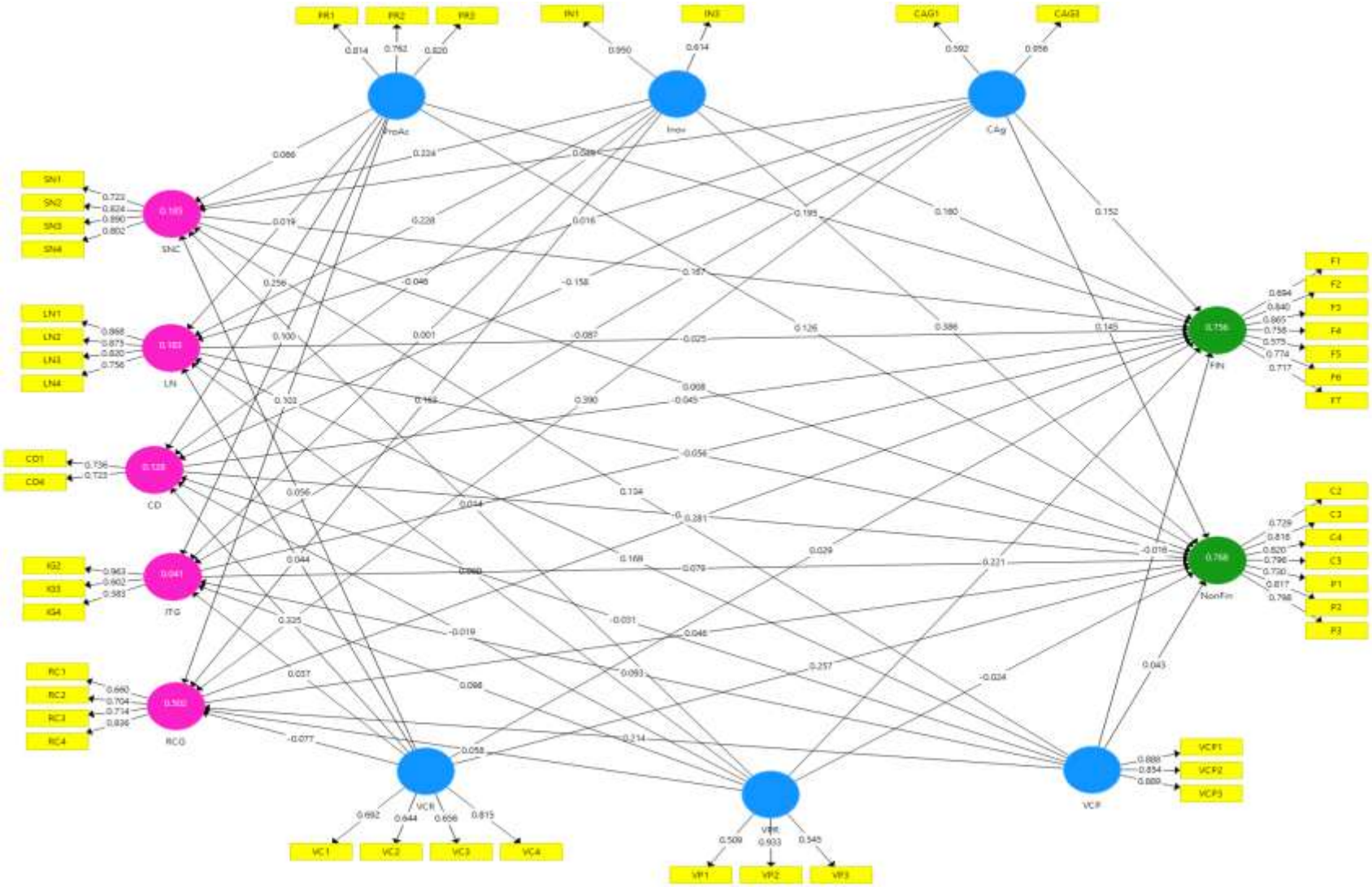


Figure 4.5 Disjoint two stage, step one

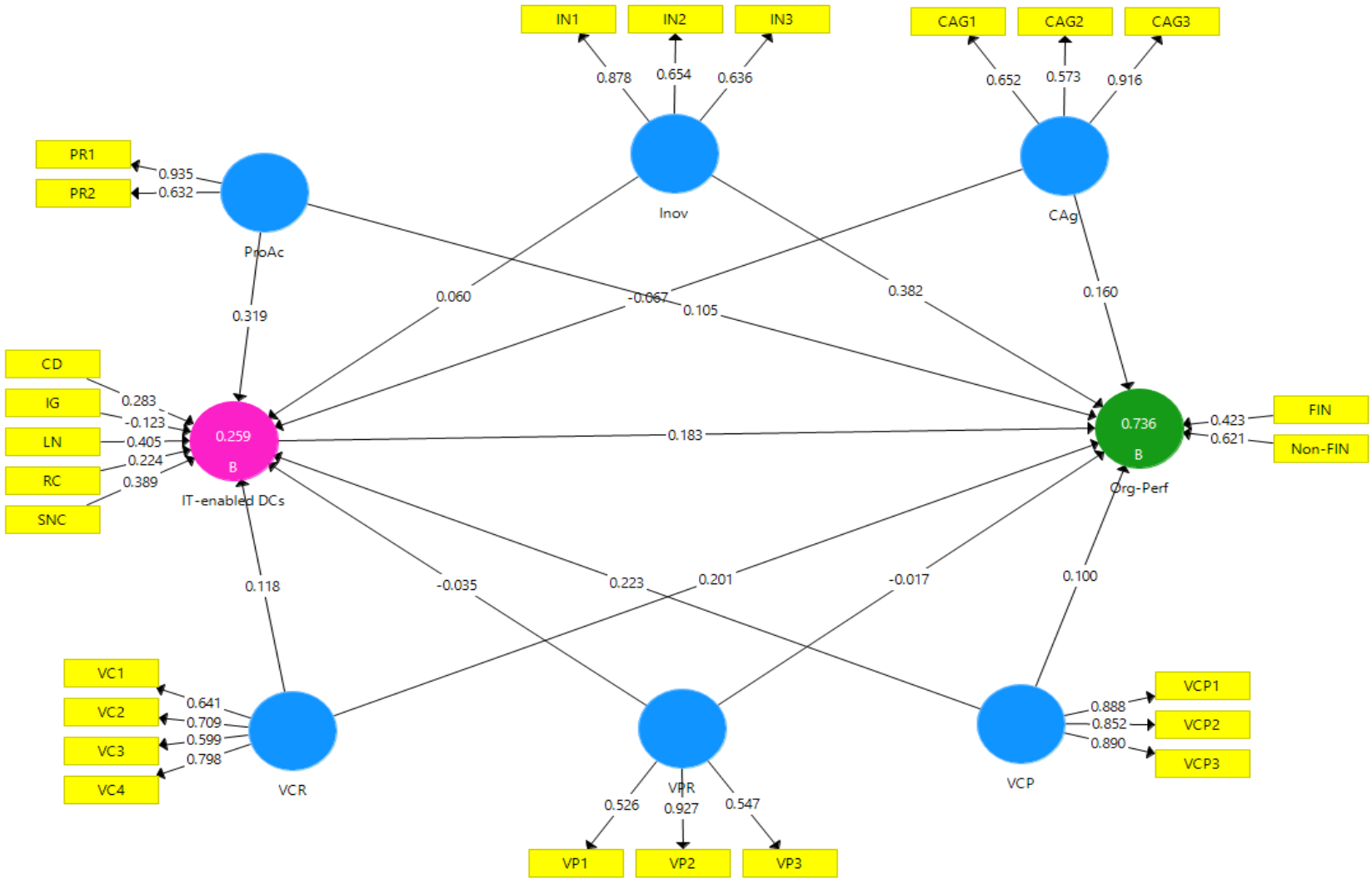


Figure 45 Disjoint two-stage, step two.

As observed in figure 4.3 and Table 4.9 above, after running a series of estimation using different methods (repeated indicator, extended repeated indicator, embedded two-stage and disjoint two-stage approaches), it appears that the extended repeated indicator approach is the one that gives the best coefficients and therefore adopted and saved its LVS for the subsequent analysis. Although,one may think that, this series of a test is not necessary to arrive at this decision but considering the complexity of the model it can be argued that, this has been necessary for the researcher to minimise the chance of committing error at both specification and estimation of the HOCs. More so, there is no compellingempirical evidence for preferring one over the other (Sarstedt *et al.*, 2019b).Hence, it is appropriate to proceeds with the validation of the formative HOCs.

4.8.4 Validation of the Formative Models

For the formative construct (IT-enabled DCs and Org-Perf),their indicators could be examined in ways in order to see whether it is important to the variable(Hair *et al.*, 2014). First, is to assess the collinearity between the indicators using Variance Inflation Factor (VIF) values which should not be greater than 5. The second stage is to assess the significance of the statistical contribution (that is both relative and absolute contribution) of each indicator to the higher-order construct (Hair et al., 2014). IT-enabled DCs and organisational performance. The result is presented in Table 4.10.

Table 4.10
Measurement Model: VIF and Indicators Significance Testing Result

Formative Construct	**Lower-Order Construct**	**VIF**	**Outer Weights (Outer loadings)**	**T Statistics**
IT-enabled DCs	SN -> IT-DCs	3.618	0.261 (0.8643)	20.3634***
	LN -> IT-DCs	3.993	0.306 (0.9129	19.6248***
	CD -> IT-DCs	3.882	0.177 (0.8077)	15.4358***
	IG -> IT-DCs	3.485	0.155 (0.8802)	12.6840***
	RC -> IT-DCs	4.804	0.243 (0.8493)	17.3663***
Organisational Performance	FIN -> Org-Perf	3.222	0.412 (0.9073)	27.7015***
	Non-FIN-> Org-Perf	4.057	0.243 (0.8701)	22.6518***

***p < 0.01;Note: The values in parentheses (i.e., outer loadings) represent absolute contribution, while their corresponding values by the left (i.e., outer weights) represent the relative contribution of an indicator or the LOC to the main construct or the HOC (i.e., IT-enabled DCs and Org-Perf).

Table 4.10 indicates the VIF value of each Business model construct and five indicators of the formative construct (Sensing, Learning, Coordination, Integration and Reconfiguration); IT-enabledDCs is below the threshold of 5. This suggested the absence of multicollinearity between the constructs that formed HOCs. Furthermore, the values of the outer weights of BMI construct as well as formative indicators of the IT-enabled DCs has shown evidence of relative contributions to their corresponding construct. Similarly, the outer loadings have shown an absolute contribution of all formative constructs of the BMI, and formative indicators of IT-enabled DCswhich is above the threshold of 5. This result demonstrates that the adapted research constructs are reliable and valid for the study, as confirmed empirically by the use of pilot study to assess the measurement model.

According to Sarsdedt *et al.* (2019) there are three important issues to be taken into account when verifying HOC. First, HOC should not be evaluated based on repeated indicators used to identify HOC. These indicators are only used to ensure that HOC identified. In other words,

these repeater indicators do not represent their actual measurement models. Secondly, the assessment of the discriminative validity of HOCs needs additional considerations (Hair et al., 2019). That is, LOCs must established discriminant validity from each other and to all other constructs in the model, except for their own HOCs.Therefore, regardless ofthe claims in the literature (Kocyigit & Ringle, 2011), the higher-order constructs cannot be used to solve discriminant validity problem (Sarsdedt *et al.*, 2019), though, the higher-order construct as a whole must exhibit discriminant validity to all other constructs in the model. To do this, the discriminant validity of the HOCsof both IT-enabled DCs and organisational performancewere assessed by taking into account the lower-order constructs as the measurement model of the HOCsand not in terms of their repeated indicators as shown in Figure 4.2.

Thirdly, for the assessment of the relationships of the higher-order constructs of IT-enabled DCs and Org-Perf to all other constructs in the research model other thantheirown lower-order constructs; the recommended structural model assessment criteria were used. In other words, the lower-order constructs were not measured as being part of the structural model but only required to assess the higher-order construct in theresearch model (Becker et al., 2012; Sarsdedt, et al., 2019).

4.9.The Structural Model

From the Structural Model theory, it is only possible to carry out this analysis when the quality criteria of indicator reliability, internal consistency, convergent validity and discriminant validity for the measurement model has been satisfied (Hair, et al., 2014). Consequently, asthe measurement models met the requiredquality criteria, next is to examine the structural model (Hair *et al.*, 2017). The assessment of structural models involves testing the research hypotheses to determine the R^2, effect size (f^2), path coefficients, as well as model predictive power.

However, to derive much from the structural model's outputs, recently Ringle and Sarstedt (2016) advisedresearchers to consider the Importance Performance Map Analysis (IPMA) and PLSpredict on their research models so that appropriate recommendations on specific recommendations at both construct and indicator level could be provided. This statistical technique has also been considered.

As discussed in methodology section, the first model specifically analyzed direct relationships represented by hypotheses H_{01}: There is no significant effect of proactiveness onorgnisational performance; H_{02}: There is no significant effect of innovativeness onorgnisational performance; H_{03}: There is no significant effect of competitive aggressiveness onorgnisational performance; H_{04}: There is no significant effect of value creation onorgnisational performance; H_{05}: There is no significant relationship between value proposition onorgnisational performance H_{06}: There is no significant effect of value capture onorgnisational performance. The result of this analysis is presented in Figure 4.4 and 4.5.

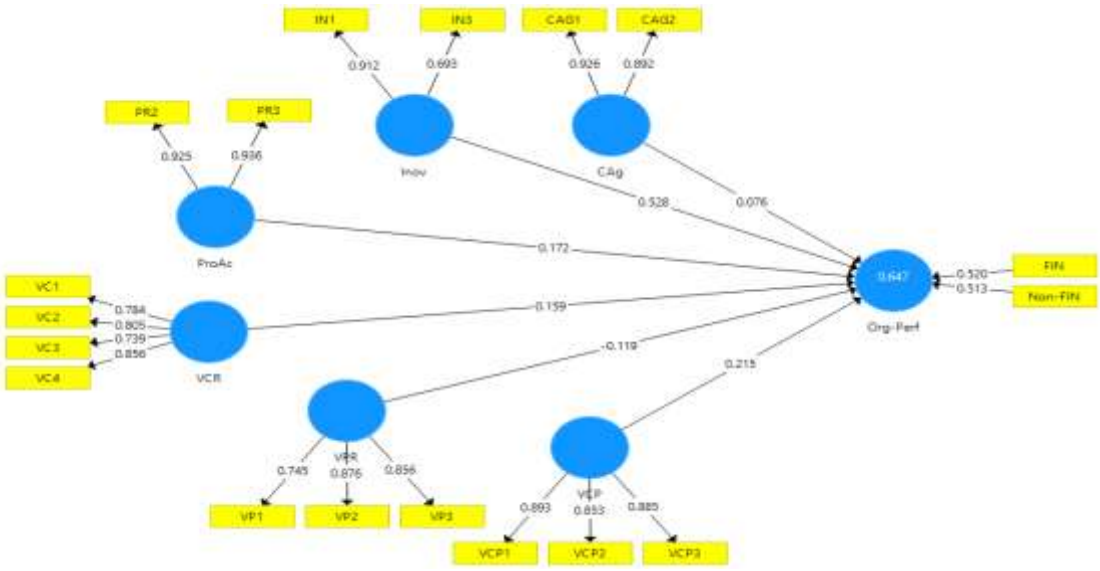


Figure 4.5

PLS Algorithm (Direct Relationship)

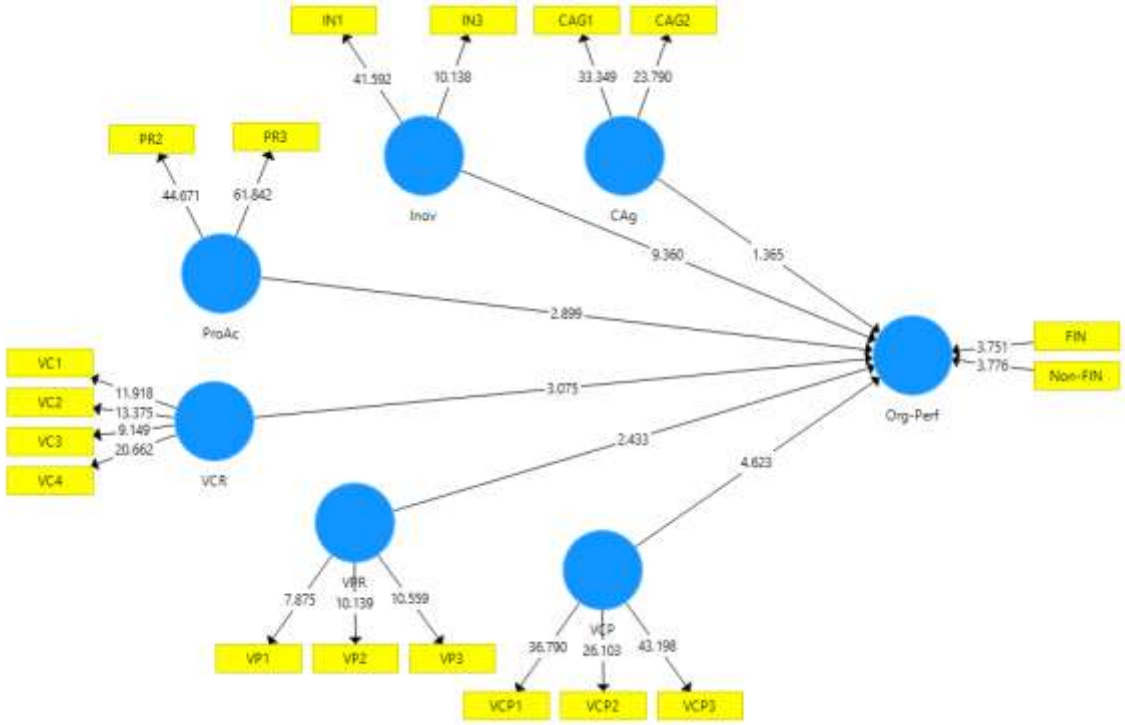


Figure 4.7
Bootstrapping (Direct Relationships)

The result of the structural model on the direct relationship between the six independents variables and dependent variable of the study (organisational performance) in presented in figure 4.6 and Table 4.10 respectively. These result wasexamined using the coefficients (Beta) of the path relationship, the Standard Error (SE), and t-value (T Statistics) as well as the confidence interval of both upper and lower bound (Hair et al., 2017). The result of the analysis is presented in Table 4.10. The asterisk sign (*) represents the level of significance based on the alpha value. Specifically 3 asterisks indicate that the relationship is significant at 0.01, 2 asterisk at 0.05, and lastly 1 asterisk indicates the level of significance at 0.10 alpha value.

Table 4.11
Structural Model: Test of Significance for Direct Relationships

Hypotheses	Beta	Standard Deviation (STDEV)	T Statistics	P Values	2.50%	97.50%	Significant
ProAc -> Org-Perf	0.172	0.059	2.899	0.004	0.053	0.286	Yes
Inov -> Org-Perf	0.528	0.056	9.360	0.000	0.412	0.642	Yes
CAg -> Org-Perf	0.076	0.055	1.366	0.172	-0.031	0.189	No
VCR -> Org-Perf	0.159	0.052	3.075	0.002	0.169	0.294	Yes
VPR -> Org-Perf	0.106	0.049	2.433	0.015	0.211	0.016	Yes
VCP -> Org-Perf	0.215	0.045	4.623	0.000	0.125	0.310	Yes

As presented in Table 4.10, the statistical analysis has proved that proactiveness is significantly related to performance (β=0.17, p<0.01). Likewise, innovativeness is significantly related to performance (β=0.53, p<0.01) but no significant effect between competitive aggressiveness and performance (β=0.08, p>0.05). On the other hand, value creationas dimension of BMI is significantly related to performance (β=0.16, p<0.01), More so, value proposition is significantly related to performance (β=0.16, p<0.01), whereas value proposition is significantly related to performance(β=0.11, p<0.05). Lastly, the relationship between value capture and performance was found to be significant (β=0.22, p<0.01). In a nutshell, all the direct relationships between the latent exogenous and endogenous constructs are all supported empirically except competitive aggressiveness and value capture thatdo not significantly affect the performance of MFB based on the statistical data of the present model.However, decision on this competitiveness will only be taken after running the mediation analysis to see if the relationship can change after introducing the mediator.

4.9.1 Coefficient of Determination for Direct Relationships

Apart of the evaluation of the size and significance of the structural model, the next most widely used measure of the assessment of the structural model relationship in the PLS-SEM model is the

coefficient of determination of the level of R^2in the model (Henseler, et al., 2009; Hair et al., 2017; Hair et al., 2020). The R^2 wasdefined as the measure of the predictive accuracy of the structural model, calculated as the squared correlationsbetween the endogenous variable's actual and predicted value (Hair *et al.*, 2014). TheR^2value symbolizes the joint effects of the antecedent constructs on the dependent variable organisational performance (Hair et al., 2014; Hair et al., 2019). Although, it is difficult to provide a threshold for the acceptable level of the R^2value as the size of $R^2$is mostly contingent upon the complexity of a research model and the research area.Nevertheless, some scholarsprovided a threshold as a rule of thumb of the R^2(Hair *et al.*, 2014).Chin (1998) suggested an R^2 square value of 0.67. 0.33, and 0.19 to be considered as substantial, moderate, and weak.The result the R^2value of the direct relationshipmodel is presented in Table 4.12.

Table 4.12
Coefficient of Determination for Direct Relationships: R-Squared

	R Square
Organisational Performance	0.65

As shown in Table 4.12, the exogenous latent constructs of this study (i.e., proactiveness, innovativeness, competitive aggressiveness, value creation, value proposition and value capture) explains 65 percent variance of organisational performance. Therefore, based on Chin (1998) suggestion of R^2 square value of 0.67. 0.33, and 0.19 is considered as substantial, moderate, and weak,it can be argued that the R^2value explained by the criterion variables on the outcome variable in their direct relationship is substantial. Other scholars also are of the opinion that an R^2values of 0.25, 0.50, and 0.75 can be consideredas weak,moderate, andsubstantial in the studies aimed at explaining behavioral intention such as satisfaction or loyalty (Hair *et al.*, 2014;

Hair *et al.*, 2011; Henseler *et al.*, 2009). Similarly, studies that examines EO, and BMI in relations to performance (Aminu, 2015; Dantsoho, 2019) also reported an R^2 value close to this finding (65%).

4.9.2 Assessment of the Effect Size for Direct Relationship

Besides assessment of the R^2value of the dependent construct of the research model, next is to check the change in the R^2 value when a particular antecedent construct is excluded from the research model, and to examine whether an excluded construct has any significant effect on that dependent variable. This process is known as assessment of the effect size (Hair *et al.*, 2014). The effect size postulates the comparative effect of a specific antecedentconstruct on the latent dependent variable due to the changes in the R^2value, as a result of excluding that construct (Chin, 1998). Subsequently, the effect size wasexamined using the formula (Cohen 1988; Hair et al., 2017) below:

$$f^2 = \frac{R^2 \text{ Included} - R^2 \text{Excluded}}{1-R^2 \text{Included}} \quad \text{equation}\ldots\ldots\ldots (4.1).$$

Under this:

Thef^2sing is regarded as the F-square value whichdefines the effect size of a particularcriterion construct on the outcome variable. The "R^2 Included" is the R^2 value of the outcome variable before excludinga specific independent variable in the research model. Similarly, the "R^2Excluded" represents the variations in the value of R^2 of the dependent variable after excluding a particular criterion variable from the model. Based on the above formula, the f^2 values of 0.35, 0.15 and 0.02 indicate large, medium, and small effect size (Cohen, 1988). The result is displayed in Table 4.13.

Table 4.13
Effect Size for Direct Relationships: F-Square

Constructs	R2 Square included	R2 Square excluded	f2 Org-Perf	Effect Size
ProAc	0.65	0.64	0.04	Small
Inov	0.65	0.16	0.49	Large
Cag	0.65	0.64	0.01	None
VCR	0.65	0.62	0.03	Small
VPR	0.65	0.63	0.02	Small
VCP	0.65	0.57	0.08	Small

Table 4.13indicates the effects size of the corresponding six antecedent constructs on the outcome variable (Org-Perf) in the direct relationship. From the Table 4.13, it can be seen that out of the six antecedent latent variables that significantly affect the dependentvariable (Org-Perf), five have effects size ranging from largeto small effect on organisational performance. Specifically, innovativeness has a large effect (0.49) on performance, followed by value capture, proactiveness and value proposition value creation, which has small effects (0.08, 0.4, 0.03 and 0.02) respectively. In contrary to this submission, competitive aggressiveness that doesnot have direct significant relationship to performance was alsofound to have no any effect size (0.01) on organisational performance. This indicates that omitting innovativeness would have a large effect on the total variance explained on the target construct (org-Perf) followed by other constructs in the model.

4.9.3 Predictive Relevance of the Direct Relationship

Besides, evaluation of the level of the R^2 value as a measure of variance was explained. Next step is to examine the model predictive relevance using Stone-Geisser's Q^2 value (Geisser, 1974) based on blindfolding procedure that removed a single point in the data set and inputs the

removed points with mean and estimates the parameters (Stone, 1974; Rigdon, 2014). This criterion is an indicator of the predictive relevance of a model (Hair et al., 2014; Shmueli, Ray & Estrada, 2016). Q^2criterion can be considered as an extra assessment of the structural model fit in the PLS-SEM approach (Stone, 1974; Duarte & Roposo, 2010). According to Chin (1998), the Q^2 demonstrates how well the observed values have constructed the model as well as its parameter estimates (Geisser, 1974). The guideline for assessing predictive relevance of the model says that value should be larger than zero (0) to suggest predictive relevance of the model. More so, as a rule of thumb, values higher than 0, 0.25, and 0.50 indicate small, medium and large predictive relevance of the PLS model (Hair et al., 2020). The result Q^2 value using cross validity redundancy is presented in Table 4.14.

Table 4.14
Predictive relevance using Cross-validity redundancy (Q^2)

Construct	SSO	SSE	Q^2 (=1-SSE/SSO)
Cag	630	630	
Inov	630	630	
Org-Perf	630	257.699	0.591
ProAc	630	630	
VCP	945	945	
VCR	1260	1260	
VPR	945	945	

As can be seen Table 414 indicate a large predictive relevance of the model (Q2 = 0.59) based on Hair et al. (2020) rule of thumb which suggested that values higher than 0, 0.25, and 0.50 indicates small, medium and large predictive relevance of the PLS model using blindfolding procedure.

4.9.4 Predictive Accuracy of Model (Qpredict)

Although in-sample prediction (Q2) is sufficient in some types of research but in other situations, researchers need a robust method to assess out of- sample prediction technique (Hair et al.,

2020). Therefore, in addition to the evaluation of the structural model predictive relevance through the Q^2 value of the in sample prediction (Geissier, 1974), next is to examine the model predictive accuracy through the use of PLSpredict (Qpredict) the criteria for assessing Q^2 is It is thus a combination of the out of sample prediction and in-sample explanatory power (Shmueli et al., 2016; Sartedt et al., 2017). Under this, Once the key variable of interest has been selected, the Q^2 statistic should be first to the first thing to considered to confirm that the predictions outpace the most "naïve benchmark" (Shmueli et al., 2019). Next is to examine the prediction statistics by comparing PLS model against linear model benchmark (Hair et al., 2019; Shmueli et al., 2019) as follows:

i. In a situation where the If the PLS model, compared to the naïve LM benchmark, produced higher prediction errors in terms of RMSE and or MAE for all theindicators, it can be said that the model lacks predictive power.

ii. If the majorityof the target construct's indicators in the PLS model produces higher prediction errors compared to the naïve LM benchmark, the model has low predictive power.

iii. If a small numberof the indicators in the PLS model produces higher prediction errors compared to the naïve LM benchmark, it can be said that the model has a medium predictive power.

iv. If noneof the indicators in the PLS model produces higher prediction errors compared to the naïve LM benchmark, the model has a higher predictive power. See Table 4.15

Table 4.15
Predictive Accuracyof the Direct Relationship Model (Qpredict)

		PLS Model		Linear Model	
Construct	Q^2_predict	RMSE	MAE	RMSE	MAE
FIN	0.583	**0.649**	**0.443**	0.650	0.425
Non-FIN	0.582	**0.649**	**0.459**	0.635	0.451

As observed, by having a Q^2far away from zero for all indicators of the target construct, Table 4.14 has already satisfied the first condition of the predictive accuracy of the model using PLS-predict. The second criteria is to compare the values of PLS model with the linear model naive benchmark. Therefore, since all the RMSE values of the PLS model are below the values of linear model benchmark it is safe to conclude that the model has a higher predictive power (Shmueli, *et al.*, 2019).

4.9.5 The Importance Performance Analysis (IPMA)

This section aimed to explain and demonstratehow thestudy used the Importance-performance map analysis (IPMA) to provides additional information on the relative importance of the criterion variables in explaining other constructs in the structural model (Ringle & Sarstedt, 2016;Hair *et al.*, 2018). The objective is to identify criterionvariablethat have high importance for the dependent variable(Hair et al., 2017) and the information from IPMA could be relevant tothe conclusion.

To run IPMA in Smartpls 3.2.8 software we clicked on calculate; Importance-Performance Map Analysis (IPMA). In the next step we specified the target construct (organisational performance) and includes all the predecessor constructs (proactiveness, innovativeness, competitive aggressiveness, value creation, delivery and value capture) as well as IT-enabled DCs (as the mediating variable) of the dependent variable. Next, was to “specify each indicator’s minimum (1) and maximum value (5) required for the rescaling of the data” on 1 to 5 likert scale. But, in

the cases were SmartPLS cannot correctly rescale the data, the true minimum value of the scale was manually inserted. We then click on the calculate button to run the IPMAon the key target construct.

To obtain the result, we go to the default reported and clicked on quality criteria and found that the standardised and unstandardised and rescaled LVS and are rescaled from 0 to 100. We then clicked on unstandardised total effects on the target construct organisational performance. Here, we are interested in analysing the Importance and Performance of each of the antecedent construct and their respective indicators (Hair *et al.*, 2018). The result of IPMA is presented in figure 4.6 below.

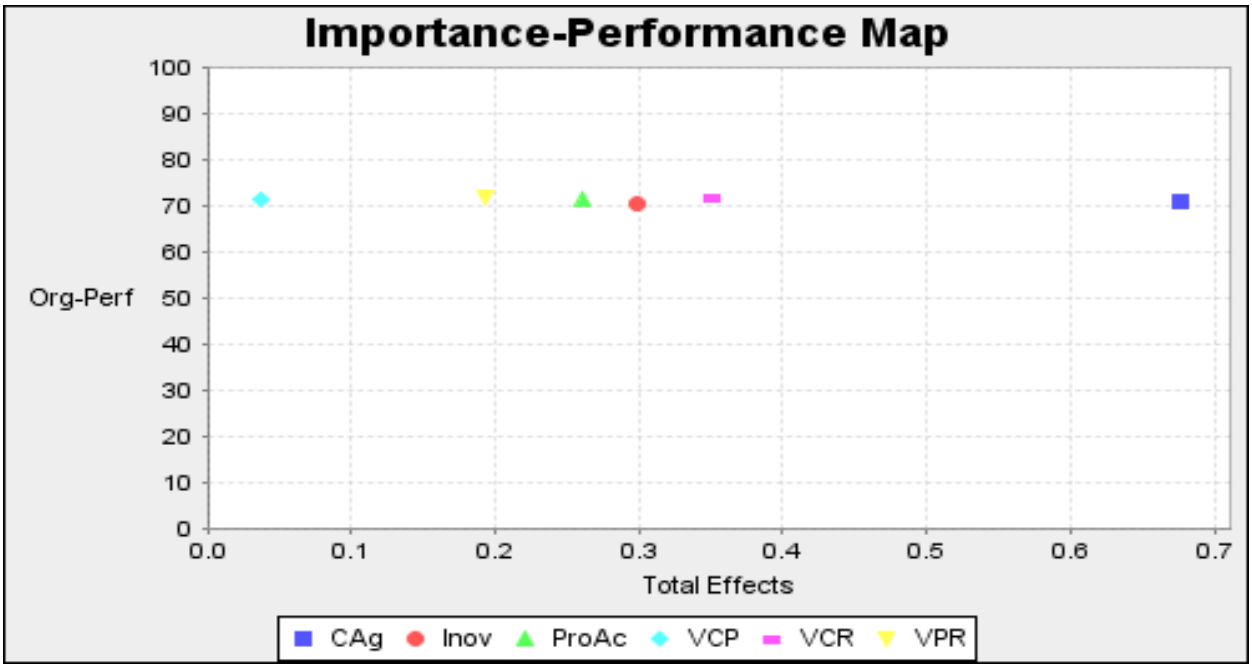


Figure 4.8: The Importance Performance Map Analysis for direct relationship

Although Figure 4.5 indicates that higher importance was given to competitive aggressiveness (0.70) which leads to higher performance in predicting the target construct organisational performance (70%), followed by value creation (0.37) and proactiveness (0.37) with 70% performance respectively. Unfortunately, the result also suggests that value capture innovation

has the higher (71%) in explaining bank performance but low importance (0.10) was given it by the respective MFB managers in Nigeria. The same goes to value proposition (0.20), and proactiveness (0.28). The implication of these could be seen from the year to year annual performance of MFB in Nigeria (12years of microfinance banks, 2017). Therefore, it is not surprising that to see the Nigerian MFB sector not performing at the optimal level (CBN-FSR 2017).

4.10 Testing Hypotheses for Mediation relationships

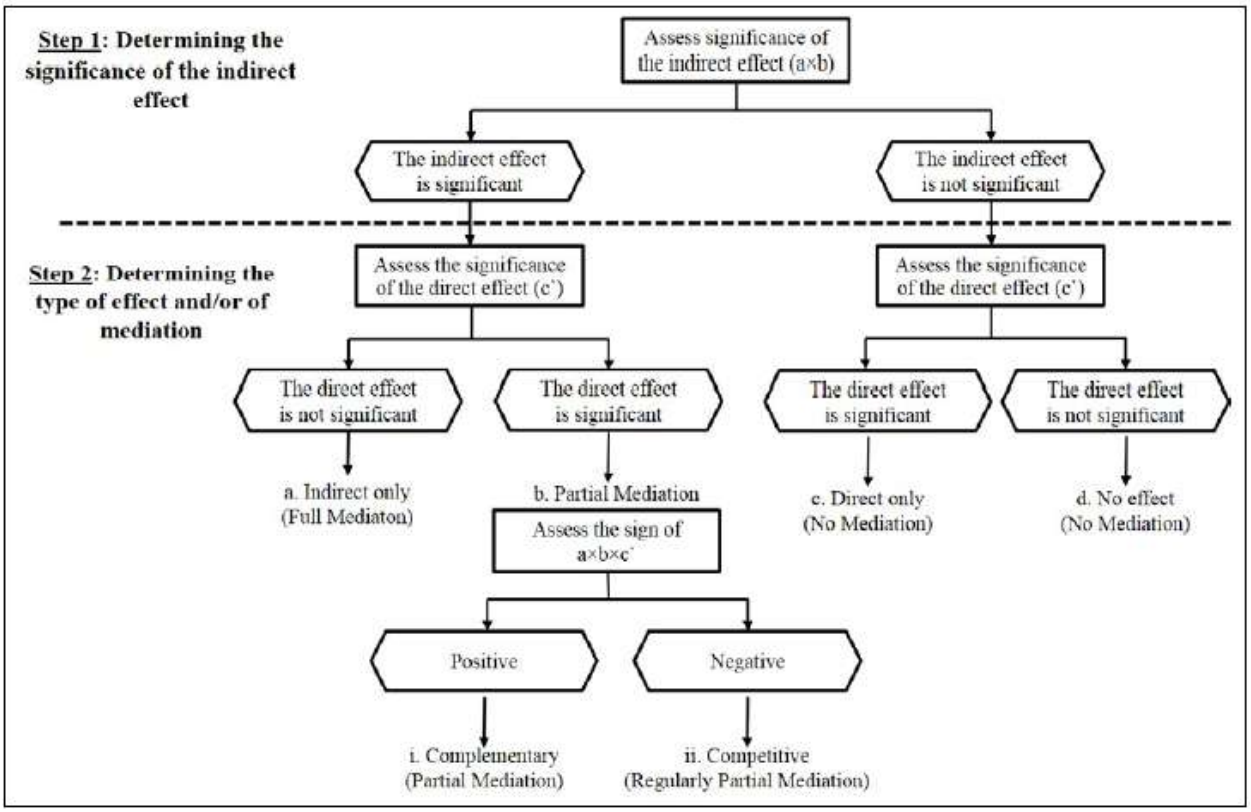
As reported in Figure 4.9 and 4.10, the second structural model specifically examines the relationships represented by hypotheses $H_{07a:}$ IT-enabled Dynamic capabilities does not mediate the relationship between proactiveness and organisational performance of banks in Nigeria; H_{07b}: IT-enabled Dynamic capabilities does not mediate the relationship between Innovativeness and organisational performance of banks in Nigeria; H_{07c}: IT-enabled Dynamic capabilities does not mediate the relationship between Competitive aggressiveness and organisational performance of banks in Nigeria; H_{08a}: IT-enabled Dynamic capabilities does not mediate the relationship between value creation innovation and organisational performance of banks in Nigeria; H_{08b}: IT-enabled Dynamic capabilities does not mediate the relationship between value proposition innovation and organisational performance of banks in Nigeria; H_{08c}: IT-enabled Dynamic capabilities does not mediate the relationship between value capture innovation and organisational performance of banks in Nigeria.

In view of the limitations of Baron and Kenney (1986) procedure for testing mediation in complex models (Memnon et al., 2018), this study used the state-of-the-art procedures for test mediating effects in PLS-SEMapproach (Preacher & Hayes, 2008; Zhao et al., 2010). Firstly,

testing the indirect effect ***a*×*b***provides us with all the information required to establishwhether the mediation effect exists or not. Secondly, the strength of the indirect effect ***a*×*b***could be used to evaluate the size of the mediation. Thirdly, bootstrappingwas used to test the significance of the indirect effect ***a*×*b*** as seen in equation 1.

Indirect effect ($aa \times bb$) = total effect (cc) – direct effect (cc') …….equation (i)

Under this, mediating effect is said to occur when the indirect effect $a \times b$ in step 1 is significant. Carrion et al (2017) explains these steps further by including a graph (figure 2.2) that shows a decision tree that reflects the above-mentioned criteria for state-of-the-art mediation analysis in the PLS model.



Idea sourced; Zhao et al., (2010); adopted from Nitzl, et al., (2017).
Figure 4.9*Procedure for mediator analysis*

In Figure 4.9 as highlighted above full meditation is the case where the direct effect *c'* is not significant whereas the indirect effect $a \times b$ is significant, which means only the indirect effect via the mediator exists. However, reporting full mediation has been discouraged, it often, lead the researcher to misinterpret and mis-present the findings.That is, the effect of variable X to Y is completely transmitted with help of a mediator. It means, mediating variable (DCs) can completely pass the effect of EO and BMI on performance. Therefore, no research is needed in this direction. In this study, the researcher is inclined to reject this classification on the basis of empirical finding suggesting that "the smaller the sample, the more likely mediation is to be labelled full as opposed to partial because *c*' is more easily rendered non-significant" (Rucker, Preacher, Tormala & Petty, 2011: 364). In this study, PLS-PM analyses were conducted in two steps. The first was to determine the significance of indirect effects and their magnitude. The second step was to examine the type of mediation effect as either complementary, competitive or indirect only mediation Zhao et al. (2010); and Cepeda-carrion et al (2017); and Hair et al. (2017) as shown in Table 4.16, figure 4.8 and 4.9 respectively.

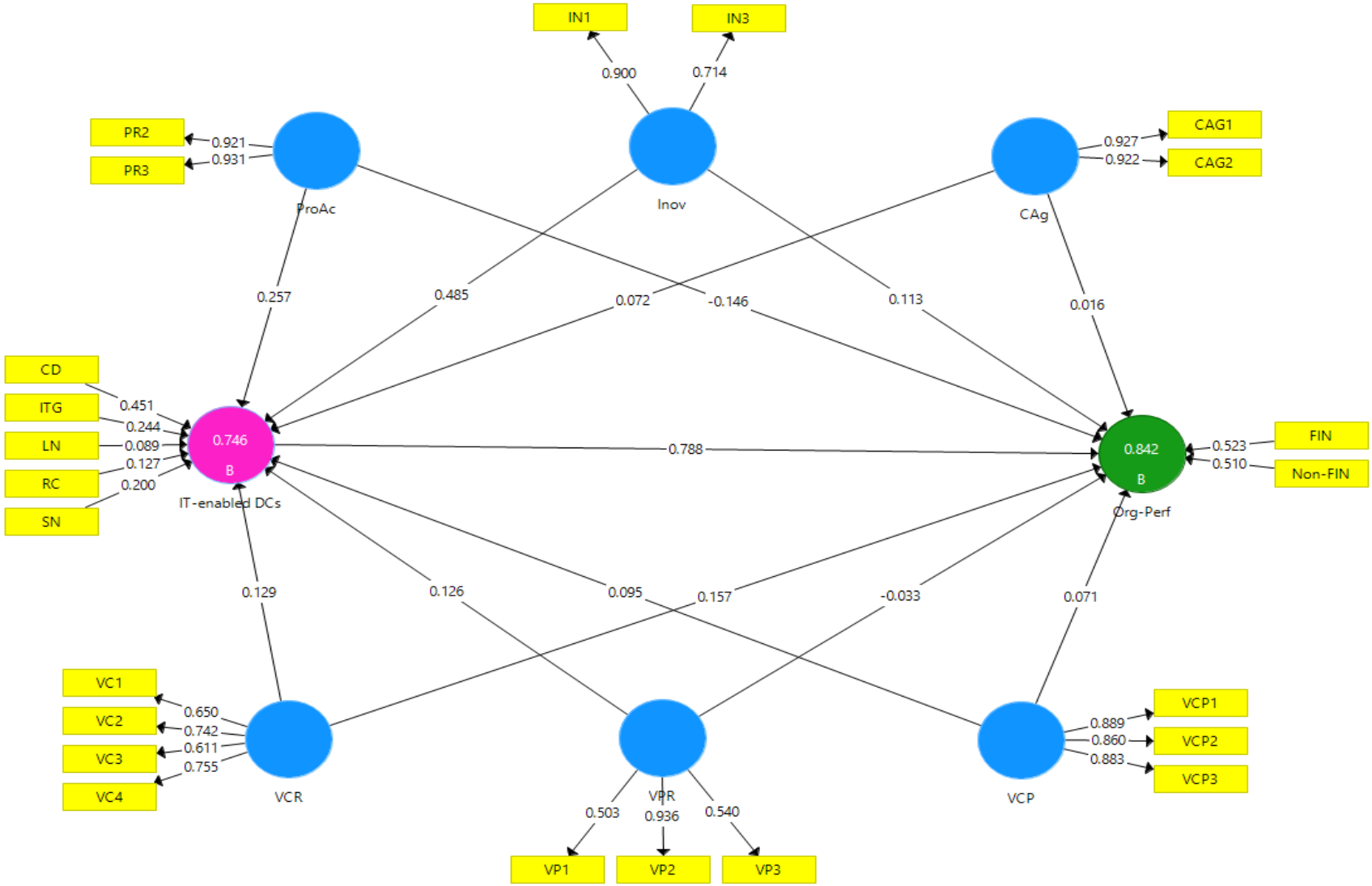


Figure 4.10: *PLS Algorithm for mediation model*

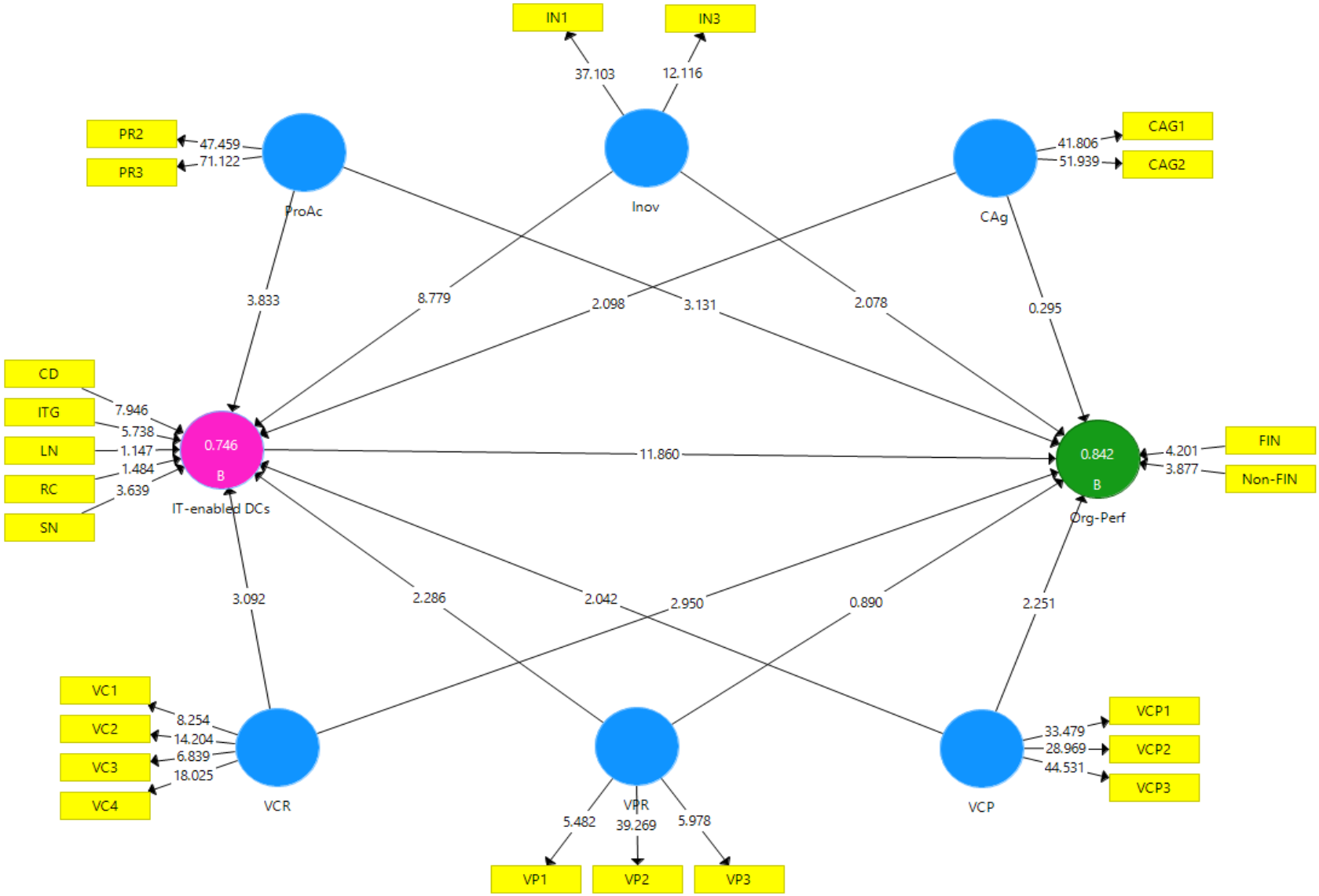


Figure 4.11: *Bootstrapping for the mediation model.*

Table 4.16
Structural Model: Bootstrapping Results for Indirect Effect (n=315)

Path *a*	Beta	Path *b*	Beta	Indirect effects
ProAc -> IT-enabled DCs	0.416	IT-enabled DCs -> Org-Perf	0.788	0.328
Inov -> IT-enabled DCs	0.472	IT-enabled DCs -> Org-Perf	0.788	0.372
CAg -> IT-enabled DCs	0.087	IT-enabled DCs -> Org-Perf	0.788	0.069
VCR -> IT-enabled DCs	0.163	IT-enabled DCs -> Org-Perf	0.788	0.207
VPR -> IT-enabled DCs	0.181	IT-enabled DCs -> Org-Perf	0.788	0.230
VCP -> IT-enabled DCs	0.159	IT-enabled DCs -> Org-Perf	0.788	0.125

From Table 4.16the mediation effects can be determined based on the indirect effects as shown. As such, the standard error (SE) is determined on the basis of bootstrapping results of indirect effects (i.e., bootstrapped a*b), while t value is determined as a*b/SE (Hair et al., 2014). The mediation relationships are also interpreted using indirect path coefficients, SE, and t-value as presented in Table 4.16.

Table 4.17
Test of Significance for Mediating Relationship

Hypotheses	Relationship	Beta	SE	T-Statistics	Mediation Type
H07a	ProAc -> IT-DCs -> Org-Perf	0.416	0.060	3.833	Competitive
H07b	Inov -> IT-DCs -> Org-Perf	0.472	0.053	8.779	Complementary
H07c	CAg -> IT-DCs -> Org-Perf	0.087	0.039	2.098	Not Supported
H08a	VCR -> IT-DCs -> Org-Perf	0.163	0.048	3.092	Indirect only
H08b	VPR -> IT-DCs -> Org-Perf	0.181	0.056	2.286	Indirect only
H08c	VCP -> IT-DCs -> Org-Perf	0.096	0.032	2.042	Complementary

Based on the results presented in Table 4.17 it can be seen thatIT-enabled DCs mediates the effect ofproactiveness and organisational performance (β=0.42, $p<0.01$). The statistical data proved the mediating effect of IT-enabled DCs on the effectinnovativeness and orgnisational performance (β=0.47, $p<0.01$), the same goes forthe effect of competitive aggressiveness and organisational performance of MFB(β=0.09, $p<0.05$). Similarly, IT-enabled DCs mediates the

effect of value creation and organisational performance (β=0.16, p<0.05), value proposition and organisational performance (β=0.18, p<0.05), as well as the effect of value capture and organisational performance of MFB (β=0.10, p<0.05).

4.10.1 Coefficient of Determination for Mediating Relationships

Similar to the previous model which examines the direct effect EO and BMI on orgnisational performance, the assessment of the level of the R-square known as the coefficient of determination (Hair *et al.*, 2011; Hair *et al.*, 2012; Henseler *et al.*, 2009), for the mediation relationships model was done. This examines the mediating effect of IT-enable DCs on the relationship between EO, BMI and orgnisational performance in order to evaluate the amount of variance explained by the exogenous latent variables on the endogenous latent variables. Likewise, in the previous model,there was only one endogenous latent variable, this model is concerned with two latent higher-order latent variables (IT-enabled DCs and Org-Perf). Hence, the R^2 values are presented in Table 4.18.

Table 4.18
Coefficient of Determination for Mediating Relationships: R-Squared

	R Square
IT-enabled DCs	0.753
Organisational Performance	0.842

As can be seen in Table 4.13, all the antecedents constructs namely proactiveness, innovativeness, competitive aggressiveness, value creation, value proposition, value capture and IT-enabled DCs explain 84 percent variance in organisational performance. Basing our judgment on the Chin's (1998)suggestion R^2value evaluation it can be said that the R^2 value explain by these latent variables on the target endogenous variable is substantial. On another hand, 75

percent variance on IT-enabled DCs as mediating latent variable is explained by antecedent latent variables of proactiveness, innovativeness, competitive aggressiveness, value creation, value proposition, and value capture of the research model. The result is therefore considered as strong,as suggested(Chin, 1998).

4.10.2Assessment of the Effect Size for Mediating Relationship

Similar to the case of direct relationship's hypotheses testing in subsection 4.9.1, next is to check the change in the R^2 value when a particular antecedent construct is excluded from the research model, and to examine whether an excluded construct has any significant effect on that dependent variable (Hair *et al.,* 2014). Likewise, a Cohen's (1988) threshold value of the effect size (f^2) of 0.02, 0.15, and 0.35, indicate small, medium, and large effects size, was used to measure the effect size for mediating relationship. However, unlike the case of first the model where there is only on latent endogenous variable (Org-Perf), this model's effect size analysis is concerns with two endogenous latent variables of both IT-enabled DCs and organisation performance. As such, the results are presented in Table 4.19.

Table 4.19
Effect Size for Mediating Relationships: F-Square

F-Square	IT-enabled DCs	Effect Size	Org-Perf	Effect Size
ProAc	0.100	Small	0.047	Small
Inov	0.591	Large	0.032	Small
Cag	0.150	Medium	0.001	None
VCR	0.040	Small	0.092	Small
VPR	0.025	Small	0.004	None
VCP	0.024	Small	0.021	Small
IT-enabled DCs	N/A	N/A	1.050	Large

Assessment of the effect size (f^2) is meant to establish if the R^2 values will change when a construct is omitted from the model. Based on Cohen's (1988) formula, the threshold for a small effect size is 0.02, for a medium 0.15, and 0.35 for a large effectsize (Hair *et al.,* 2017).

Therefore, the effect size of independent variables on IT-enabled DCs could be interpreted as follows. The effect size issmallforproactiveness (f^2; 0.10),large for innovativeness (f^2; 0.59),and medium for competitive aggressiveness (f^2; 0.15). This is followed bythe small effects for all the three dimensions of BMI of value creation (f^2; 0.04), value proposition (f^2; 0.03) and value capture (f^2; 0.03) respectively. On the direct relationships, the effect size of removing each of the antecendents research constructs and mediating variable (IT-enabled DCs) on the dependent construct, organisational performance was found to belarge, small, and no effect size respectively. Specifically, the effect size of omitting the mediating variable IT-enabled DCs on the dependent variable; organisational performance is very large (f^2; 1.05) followed by a small effects for proactiveness (f^2; 0.26),innovativeness (f^2; 0.26), value creation (f^2; 0.26), and value capture (f^2; 0.26),as well as no effects for competitive aggressiveness (f^2; 0.00),value proposition (f^2; 0.00),and value capture (0.03). This followed by the small effect size for two of out the four remaining constructs which includevalue creation (f^2; 0.000) and value proposition (f^2; 0.004), but zero effect sizefor value creation for value proposition.On the other hand, none value creation (f^2; 0.000).The result clearly indicates that the indirect effect of IT-enabled DCs (as a mediating variable) absorbed a large weight of the direct effects. It also suggests that MFB must continue to utilise IT-enabled DCs to improve performance. Consequently, Table 4.20 presents the overall mediation model of the current study and its implications to both theoretical development and managerial actions.

Table 4.20
The Bootstrapping Result of the overall Mediation Model

Hypotheses	Beta	STDEV	T Statistics	P Values	2.50%	97.50%	Sig
ProAc -> IT-enabled DCs	0.257	0.067	3.833	0.000	0.111	0.377	Yes
ProAc -> Org-Perf	-0.146	0.047	3.131	0.002	-0.238	-0.058	Yes
Inov -> IT-enabled DCs	0.485	0.055	8.779	0.000	0.368	0.585	Yes
Inov -> Org-Perf	0.113	0.054	2.078	0.038	0.003	0.207	Yes
CAg -> IT-enabled DCs	0.072	0.034	2.098	0.036	0.001	0.138	Yes
CAg -> Org-Perf	0.016	0.055	0.295	0.768	-0.095	0.109	No
VCR -> IT-enabled DCs	0.129	0.042	3.092	0.002	0.059	0.222	Yes
VCR -> Org-Perf	0.157	0.053	2.950	0.003	0.048	0.250	Yes
VPR -> IT-enabled DCs	0.126	0.055	2.286	0.023	0.023	0.240	Yes
VPR -> Org-Perf	-0.033	0.037	0.890	0.374	-0.110	0.045	No
VCP -> IT-enabled DCs	0.095	0.047	2.042	0.042	0.011	0.186	Yes
VCP -> Org-Perf	0.071	0.032	2.251	0.025	0.000	0.127	Yes
IT-enabled DCs -> Org-Perf	0.788	0.066	11.860	0.000	0.677	0.949	Yes

As observed, from Table 4.20, out of the 12 hypotheses stated earlier in chapter one, nine are positive and significant. One has inverse relationship – meaning that, it is negative and significant.For the remaining two hypotheses, one is positive and non-significant, while other hypothesis is negative and insignificant. However, the best way to interpret mediation model is to pay attention to both significance level, and the signs of the coefficients as well as their correspondence with the theory (Zhao et al., 2010). Therefore, in line with the work of Zhao et (2010); and Cepeda-carrion et al (2017); as well as that of Hair et al. (2017)which provides"the state of art guidelines" for mediation analysis is based on the three types of mediation that include complementary mediation, competitive mediation, as well as indirect-only mediation. The result in the Table 4.20, presents all the three types of mediation. Firstly, competitive mediation was found between proactiveness and organisational performance. Secondly, complementary mediation was found between innovativeness, value creation and value capture,

while the direct only mediation was found between competitive aggressiveness, value proposition and organisational performance of MFB.

A complimentary mediation is a situation where the indirect effect and direct effect are both significant and, point in the same direction, while in the competitive mediation, the indirect effect and the direct effect both are significant and point in opposite directions. But in the case of indirect-only mediation: the indirect effect is significant but not the direct effect (Zhao et al., 2010; Cepeda-carrion et al., 2017; Hair et al., 2017).Recall that in this study, proactiveness is operationalised to mean a bank tendency to seek first-mover advantage and forward-looking behaviours, and efforts to shape business environment thereby introducing new processes to dominating distribution channels ahead of competitors (Lyon, Lumpkin, & Dess, 2000), (see page 19 and 50 under 2.3.3.1). Hence,the result(in Table 4.10) revealedthat proactiveness significantly increased performance of MFB, controlling for mediator (= .17), and bank tendency to seek first-mover advantage and forward-looking behaviours increased the frequency of bank using the IT-enabled DCs to improve performance (β= .26), but as the MFB continue their efforts to shape business environment the through IT-enabled DCs, the direct effect of proactiveness in Table 4.20significantly decreased (c′ = -.15), thereby resulting in a negative relationship.More so, as the total effect of both proactiveness and IT-enabled DCs on performance is relatively large (β=0.59), it can be said that the opposite signs of the direct and indirect effects can offset each other (Hair et al., 2017), as seen in Table 4.21. But in the case of competitive aggressiveness where the direct effect was found to be non-significant on organisational performance, we face the situation of indirect-only mediation. Therefore, in line with Hair et al (2017)'s submission, this situation represents the best-case scenario as it suggested that IT-enabled DCs fully complied with the hypothesized theoretical framework on

the relationship between firm resources that are VRIN and changing business environment (Tecee, et al., 1997). Linder and Teece (2017) and that of Teece (2018) also asserted that studies that examined the relationships between EO, BMI and firm performance would also shed light on the importance of DCs.

Consequently, the IT-enabled DCs represents an appropriate mechanism which explains the relationship between the EO, BMI and the organisational performance of microfinance banks. Hence, the significant indirect effect via the mediator variable – IT-enabled DCs (β=0.79, $p<0.00$). Indicates the "true" relationship between all the three dimensions of EO namely proactiveness, innovativeness and competitive aggressiveness, as well as the three dimensions of BMI of value creation, value proposition, value capture and organisational performance from the MFB in Nigeria.

Recall that, in the direct relationship model (Table 4.10), out of the six hypotheses five were found to be significantly related to organisational performance and therefore not supported. On the other hand, Table 4.16 indicates that all the six hypotheses of the specific indirect effect between all the six antecedent constructs and organisational performance were found to be significant and therefore not supported. However, in the overall mediation model (Table 4.20) out of the 12 hypotheses 10hypotheses were found to be significant and therefore not supported while the remaining two hypotheses were supported due to insignificant effect on organisational performance.Combined these two models jointly provides us with distinct empirical findings which portray the true relationship between BMI, EO, IT-enabled DCs and organisational performance of MFB and this was inadequately addressed in the existing literature (Teece, 2018).

4.10.3 Assessment of the Magnitude of Mediating Effect

Generally, Variance Accounted For (VAF) is used to measure the extent of the indirect effects of the independents variables in relation to the total effect (Hair et al., 2014). In other words, VAF is used to assess the magnitude to which the variance of the endogenous construct (which is organisational performance) is explained by the exogenous construct EO and BMI, and how much of the variance of the former is explained by the indirect relationships through the mediating variable (Hair et al., 2014), IT-enabled DCs.Helm,Eggert and Garnefeld (2010) developed a formula for calculating this relationship. That is, the formula forcalculating the mediating effect of IT-enabled DCs on the relationship between EO, BMI and organisational performance of MFB is given as follows.

$$VAF= \frac{a*b}{a*b+c} \qquad (4.2)$$

Where:

*a*b* represents the indirect effect

*c*represents the direct effect after controlling the path a and b (i.e., indirect effect). Helm *et al.* (2010)furthered explained based on the given formula in the above Equation (4.2), a VAF value of less than 20 percent, 20 to 80 percent, and 80 percent and above, represent no mediation, partial mediation, and full mediation respectively (Hair *et al.*, 2014). The result is presented in Table 4.21.

Table 4.21
Result of the Magnitude of Mediating Effect: VAF (n=315)

Hypotheses	Relationship	Indirect	Direct	Total	VAF	Mediation
H_{07}a	ProAc -> IT- DCs -> Org-Perf	0.328	0.172	0.588	71%	Yes
H_{07}b	Inov -> IT-DCs -> Org-Perf	0.372	0.527	0.999	47%	Yes

H_{07}c	CAg -> IT-DCs -> Org-Perf	0.069	0.076	0.163	53%	Yes
H_{08}a	VCR -> IT-DCs -> Org-Perf	0.207	0.159	0.322	51%	Yes
H_{08}b	VPR -> IT-DCs -> Org-Perf	0.230	0.106	0.287	63%	Yes
H_{08}c	VCP -> IT-DCs -> Org-Perf	0.125	0.215	0.374	43%	Yes

As can be seen from Table 4.20, the VAF value of 71 percent for the *H_07a* signified the partial mediation of IT-enable DCs between proactiveness and organisational performance. Likewise, the VAF values of 47 and 53 percent for *H_07b and H_07c*indicates a partial mediation of IT-enable DCs between innovativeness, competitive aggressiveness and organisational performance. Furthermore,the VAF for *H_08a*, *H_08b* and *H_08c* as dimensions of BMI also indicates that IT-enabled DCs partially mediates the effect of value creation; 51 percent, value proposition;63 percent and value capture; 43 percent andorganisational performance of MFB respectively.

4.10.4 Fitness of the Model

Although, there are several types of model fit indices which include absolute fit indices, relative fit indices, parsimony fit indices among others(Hu & Bentler, 1999; Kline, 2016). But this study only considered the maximum likelihood (ML)-based Standardized Root Mean Squared Residual (SRMR) and can be supplemented with Root Mean Squared Error of Approximation (RMSEA), to calculate rejection rates for various types of true-population and misspecified models (Newsom, 2018). This decision is based on the suggestion that theSRMR as a goodness of fit measure for PLS-SEM that can be used to avoid model misspecification (Henseler et al., 2014). The SRMR is defined as the difference between the observed correlation and the model implied correlation matrix. Therefore, it allows assessment of the average magnitude of the discrepancies between observed and expected correlations as an absolute measure of (model) fit criterion (Hair et al., 2017).

For the ML method, a cutoff value close to .08 for SRMR; and a cutoff value close to .06 for RMSEA are needed to conclude that there is a relatively good fit between the hypothesized model and the observed data (Hu & Bentler, 1999). Others (Hair et al., 2017)suggested that a value less than 0.10 or of 0.08 are considered a good fit (Henseler et al., 2014). The result is shown in Table 4.22.

Table 4.22
The Overall Model Fitness

	Saturated Model	Estimated Model
SRMR	0.05	0.05
d_ULS	0.30	0.30
d_G	0.50	0.50
Chi-Square	769.04	769.04
NFI	0.85	0.85

Therefore, the value of zero indicates perfect fit, and anything (value) less than 0.08 is generally considered as a good fit (Hu & Bentler, 1998).The SRMR value should be < 0.10 or of 0.08 (Hair et al., 2020). The NFI values are between 0 and 1 and the closer the NFI to 1, the better the model fit (Bentler & Bonett, 1980).The result of analysis (Table 4.22) returned an SRMR value of 0.05 which is within the accepted threshold value of .08 and NFI value of 0.85 which indicates a good fit.

4.10.5 Predictive Relevance of the Model

Besides evaluating the magnitude of the R^2 values as a criterion of predictive accuracy, researchers may desire to also examine Stone-Geisser's Q^2 value (Stone, 1974; Geisser, 1974) as a criterion of predictive relevance. The Q^2 value of latent variables in the PLS path model is obtained by using the blindfolding procedure.Blindfolding is a sample re-use technique. It allows calculating Stone-Geisser's Q^2 value (Stone, 1974; Geisser, 1974), which represents an

evaluation criterion for the cross-validated predictive relevance of the PLS path model (Hair et al., 2017) as seen in Table 4.23.

Table 23
Cross-validity redundancy

Blindfold	SSO	SSE	Q^2 (=1-SSE/SSO)
Cag	945.00	945.00	
IT-enabled DCs	1575.00	547.48	0.65
Inov	630.00	630.00	
Org-Perf	945.00	279.02	0.70
ProAc	630.00	630.00	
VCP	945.00	945.00	
VCR	1260.00	1260.00	
VPR	945.00	945.00	

Based on the guideline for assessing predictive relevance of the structural model which says that Q^2value should be larger than zero (0) to suggest a small predictive relevance, and 0.25 for medium predictive relevance as well as 0.50 for a large predictive relevance (Hair et al., 2020). As the Q^2value of both IT-enabled DCs and organisational performance are above 0.50, it can be stated that Table 4.23returns a very large (0.65 & 0.70) predictive relevance of themodel (Hair et al., 2020).

4.10.6 Predictive Accuracy using PLSPredict

In addition, some scholars (Hair et al., 2019) recently argued that PLS-SEM principally focuses on the relationship between prediction and theory testing, and results should be validated using such methods (Shmueli, 2010). To achieve this, researchers have recently suggested new assessmentcriteriadesigned specifically for PLS-SEM's prediction analysis (Shmueli Ray & Estrada,2016). This procedure known as PLSPredict that combines the in training sample and out

of sample prediction to examine the model predictive power (Shmueli, et al., 2016). Since the study adapts relatively new scales for measuring EO, BMI and IT-enabled DCs is appropriate to run the PLSpredict.

This study applied the PLS-predict of Shmueli, et al. (2016) procedure to evaluate the quality of out-of-sample predictions of models for the key target constructs (IT-enabled DCS and Org-perf). According to Hair et al. (2019) when assessing PLS-predict results, the emphasis should be on the model's key dependent variable, as opposed to examining the prediction errors for all endogenous constructs'indicators. Once the key target variable has been selected, the Q^2 value should beevaluated first to verify that the predictions outperform the most naïve benchmark (Shmueli et al., 2019). That is, when PLS Model exhibits predictive relevance, it well predicts the data points of indicators. Therefore, a Q^2 value bigger than zero for a particular latent dependent variable indicates that the PLS path model has predictive relevance for this target variable. As stated in section 4.9.1.3 of predictive relevance of the direction relationship model, the researchers need to examine the prediction statistics by comparing PLS model against linear model benchmark (Shmueli et al., 2019). In recent a article, Hair et al. (2019) stated the conditions for the assessment as follows:

i. In a situation where the If the PLS model, compared to the naïve LM benchmark, produced higher prediction errors in terms of RMSE (or MAE) for all theindicators, it can be stated that the model lacks predictive power.

ii. If the *majority* of the target construct's indicators in the PLS model produces higher prediction errors compared to the naïve LM benchmark, the model has a low predictive power.

iii. If *small number*of the indicators in the PLS model produces higher prediction errors compared to the naïve LM benchmark, it can be said that the model has a medium predictive power.

iv. If *none*of the indicators in the PLS model produces higher prediction errors compared to the naïve LM benchmark, the model has a higher predictive power.See Table 4.24.

Table 4.24
Predictive Accuracy of the model using Qpredict

		PLS Model		Linear Model	
Construct	Q^2_predict	RMSE	MAE	RMSE	MAE
SN	0.584	**0.649**	0.465	0.654	0.471
LN	0.506	**0.705**	0.503	0.735	0.523
CD	0.642	**0.599**	0.427	0.601	0.431
ITG	0.613	**0.625**	0.462	0.651	0.473
RC	0.609	**0.628**	0.451	0.684	0.492
FIN	0.581	**0.647**	0.423	0.649	0.447
Non-FIN	0.596	**0.638**	0.453	0.651	0.460

** When comparing the **PLS-SEM** results against the **Linear Model** benchmark, the numbers in bold indicate where the prediction error is smaller and therefore indicates model's predictive power.*

From the Table 4.24 which presents the result of predictive relevance of the model, it can be seen that all indicators have positive Q^2 predictions above zero. Furthermore, out of the sevenindicators measuring the target constructs, the PLS model produced values that have a smaller prediction errors compared tothe linear model benchmarks (Shmuli et al., 2016). Therefore, drawing from the Hair et al (2019)'s guidelines, it can be said that, the model has a higher predictive power (Shmueli, et al., 2019). The overall summary prediction of the model is presented in the Table 4.25.

Table 4.25
Overall Prediction Summary

	RMSE	MAE	Q^2_predict

IT-enabled DCs	0.504	0.373	0.718
Org-Perf	0.548	0.394	0.605

Table 4.25 indicate that the Qpredictis substantially distinct from zero which suggests that the model has a a higher predictive power of up to 70 percent for the mediating variable and 60 percent for the dependent variable. Thus,as the model achieved a greater statistical power, it proved that the fact PLS-SEM approach is capable of detecting any significant relationships once exists in a research model (Sarstedt & Mooi, 2019). More so, both the values of R^2, cross-validity redundancy, as well as that of Qpredict result confirmedis relevant and accurate in predicting and explainingthe organisational performance of the microfinance institutions in a developing country, Nigeria.

4.10.7 The Important Performance Analysis (IPMA)

The purpose of this section is to explain and illustrate the use of the Importance-Performance Map Analysis (IPMA) which provides additional information on the relative importance of constructs in explaining other constructs in the structural model (Ringle & Sarstedt, 2016;Hair *et al.*, 2018). The goal is to identify antecedents that have arelatively high importance for the target construct (Hair et al., 2017). Information on the importance of constructs is relevant for drawing conclusion.

To run IPMA in SmartPLS 3.2.8 software we clicked on Calculate; Importance-Performance Map Analysis (IPMA). In the next step we specified the target construct (organisational performance) and includes all the predecessor constructs (proactiveness, innovativeness, competitive aggressiveness, value creation, value proposition and value capture) as well as IT-enabled DCs (as the mediating variable) of that target construct. Next, was to specify each indicator's minimum (1) and maximum value (5) required for the rescaling of the data to a 1 to 5

likert scale. But, in the cases were SmartPLS cannot correctly rescale the data, the true minimum value of the scale was manually inserted. We then click on the calculate button to run the IPMAon the key target construct.

To obtain the result, we go to the default reported and clicked on quality criteria and found that the standardised and unstandardised and rescaled LVS and are rescaled from 0 to 100. We then clicked on unstandardised total effects on the target construct organisational performance. Here we are interested in analysing the Importance and Performance of each construct and their respective indicators (Hair *et al.*, 2018). The result is presented in figure 4.12, 4.13, and 4.14 respectively.

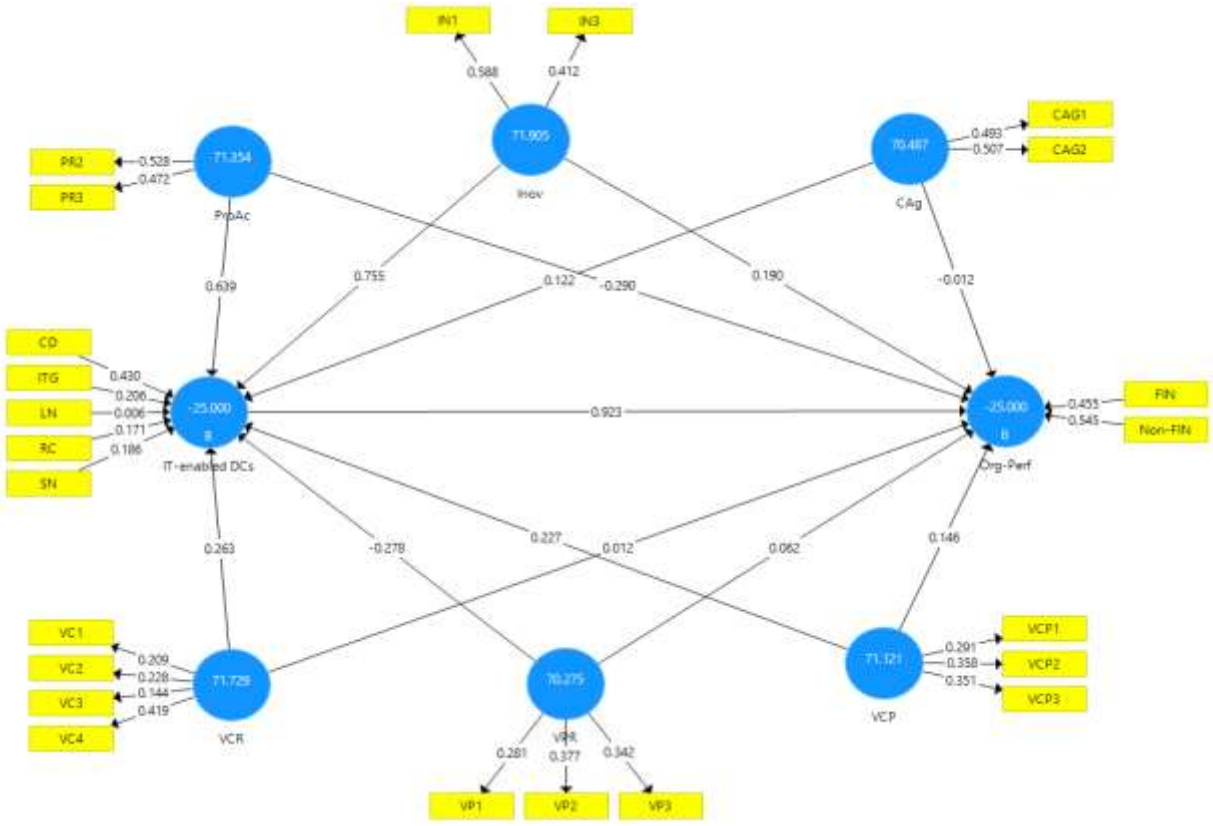
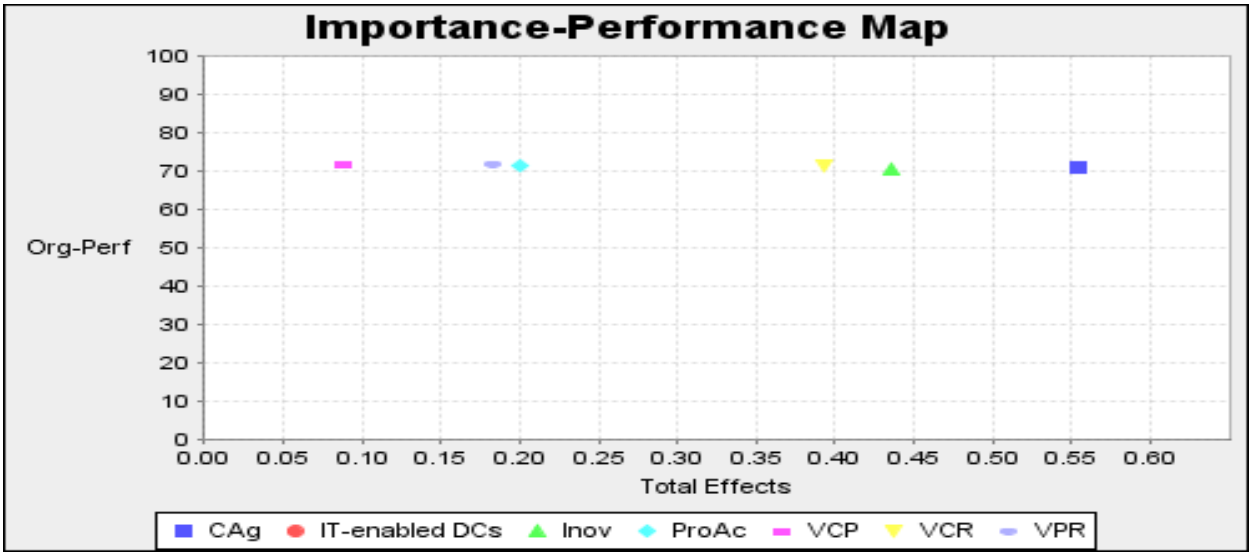


Figure 4.12: *Importance-Performance Map analysis at construct level*

To explain the concept of IPMA, we can examine the PLS path model in Figure 4.9 with six antecedents constructs. In this PLS path model, Org-perf represents the final target variable as



the construct, directly affected by the six antecedents constructs. In addition, these constructs have indirect effects on the dependent variable via mediator. More so, the antecedent variable direct and indirect effects produced their total effects on organisational performance and thisdenotesan importance aspect of IPMA. On the other hand, the average latent variable scores in the figure 4.13represent their performance, in other words large value indicates higher performance (Sarstedt, et al., 2019a).

Figure 4.13: *Importance-Performance Map analysis at construct level*

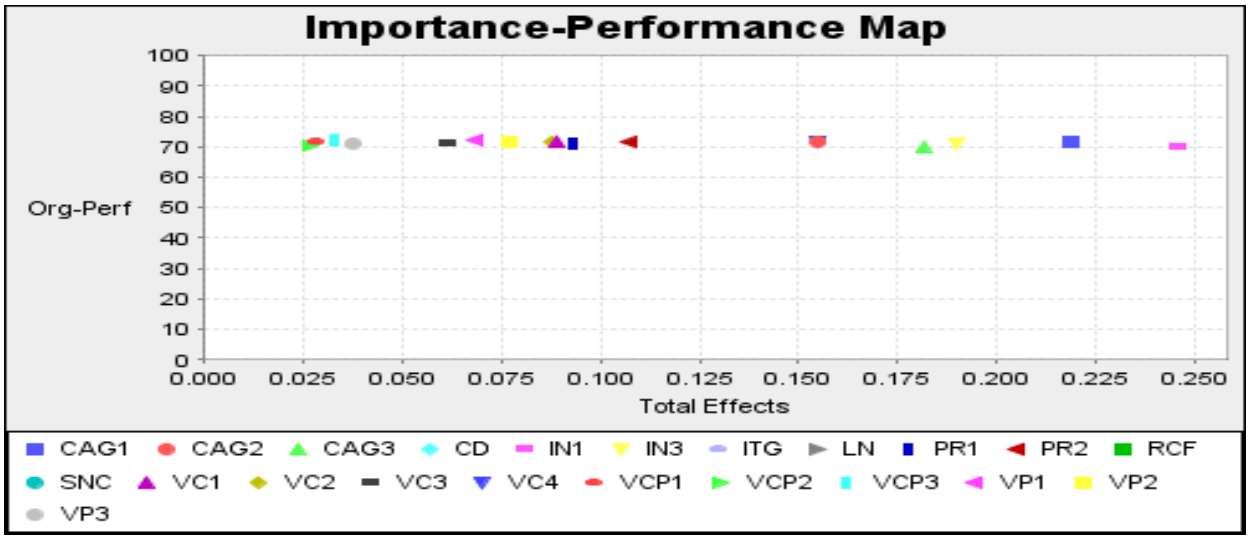
From Figure 4.12 and 4.13, it can be seen that one-point increase on the CAG performance will lead to an increase to the performance of dependent construct by the size of the total effect (0.55). This means organisational performance will increase by the value of 0.55 as seen in the X axis.. In the same way we can interpret the results by saying that one point increase on the performance of value creation (0.45) and value capture (0.40) will amount to an increase in the performance of the dependent variable (Org-perf) equivalent to their respective total effect. On

the other hand, we also reports that all other constructs in the IPMA model have a comparable performance of 68% to 70%. That is the number in the Y axis (the LVS) of figure 4.12 are the performance scores for all these antecedent constructs is in range of 68 % (Cag, Innov & VPr) to 70% (ProAc, VCR, & VCP). While it is good to appreciate the fact that all the antecedents constructs has a comparable performance value ranging from 68% to 70% on the target construct (organisational performance),it is also equally imperative to acknowledge the fact that those variable significantly defer in their importance to the target construct as suggested by their total effects of 0.55, 0.45, 0.40, 0.20, 0.18, and 0.10 effect size. In other words, competitive aggressiveness (Cag), innovativeness (Innov) and value creation (VCR) have a particularly high importance to the performance of the target constructs (organisational performance)than Proactiveness (ProAc), value proposition (VP) and value capture (VCP). The disparity in their importance and performance provides a room for improvement which can be achievedby focusing on the predecessor constructs (ProAc, VP, and VCP).

Whereas Figure 10 indicates that antecedent constructs such as proactiveness, value proposition and value capture are the most relevant for managerial actions. On the other hand, any construct, with lower importance, relative to the other constructs in the importance-performance map, has a lower priority for managerial actions. In fact, investing into the performance improvement of those constructs that has a very small importance for the target construct would be illogical, since they would have little impact in changing (improving) the orgnisational performance of the MFB.

Furthermore, to derive much from the research findings, some PLS-SEM experts also encourage researchers to judiciouslyutilised a PLS path model set-ups that favors the use of IPMA at indicator level. They further explain that, such assessment is critically important when the

measurement model is specified as formative construct (Ringle & Sarstedt, 2016) which is the case of Org-Perf as the target construct. The result of IPMA at the indicator level is also



presented in the figure 4.14.

Figure 4.14
Importance-Performance Map analysis at indicator level

From figure 4.14 it can be seen that competitive aggressiveness item two (CAG2), value capture item one, two and three (VCP1, VCP2, and VCP3) as well as value creation item one (VC1) have a remarkable performance of 70% on the scale of 0 to 100 but low importance was attached to them (<0.075 on the scale of 0.250) by the respective Nigerian MFB managers. The same goes proactiveness item one and two (PR1 and PR2) which resulted to an inversed relationship between proactiveness and organisational performance of MFB. This is despite the fact that we cannot talk about performance of banks without making reference to the financial and nonfinancial aspects of it and this suggest a room for improvement to better explain the relationships between these constructs. This strategic mistakes which have beingthere for over a decade could have been avoided if there is this empirical findings to guide managerialactions and policy implementations.

Although, the researcher can use SEM to estimate all parameters simultaneously (Zhao et al., 2010) as it can be seen in overall mediation model (Table 4.19). But more recently, Hair et al (2020: 108) also recommend the "use of robustness checks evaluate the manner in which PLS-SEM results differ when analysis decisions are altered." According to Sarstedt, Ringle, Cheah, Ting, Moisescu and Radomir (2019a) the robustness checks can be used to both test the theoretical frameworks and derive managerial implications from the research findings. Among these are things such as adding a mediator, moderator or removing a particular variable in the research model as well as IPMA, MGA (Hair et al., 2020). As can be seen, this study has gone beyond a simple analysis of the overall mediation model by also considering the linear model (4.9),Qpredict and IPMA.

These did not undermine the supremacy of the PLS-SEM against all other first generation statistical approach in handling things such as a complex model, its predictive capability as well as ability to compare the theoretically established measurement and structural models with reality from the dataset (Hair et al., 2012). It also helps the researcher to provides a clear explanation on why one of the findings (competitive mediation),might have contradict the initial theoretical assumption.

4.11 Discussion of Findings

This section discusses the empirical findings of the study in terms of theoretical significance, methodological rigor, and practical contributions to the existing knowledge. It briefly presents the entire findings addressing the eight research questions of the study proposed in Chapter one. The section also discusses how the results fill the existing knowledge gaps and make significant contributions in the context of entrepreneurial orientation, business model innovation, IT-enabled

DCs and organisational performance particularly in the microfinance banks subsector of developing country Nigeria. Specifically, the contributions shows that the study extends the existing knowledge by considering the individual contributions of EO dimensions, business innovation, IT-enabled DCs and concept of organisational performance through the use of hierarchical formative model in the PLS-SEM approach (Becker, 2012; Sarstedt, 2019a).It also provides stakeholders with valid information on the relationship between entrepreneurial orientation, business model innovation, IT-enabled DCs, and their consequences on performance.

The main objectives of this study had been to determine if both the individual dimensions of entrepreneurial orientation in terms of proactiveness, innovativeness, and competitive aggressiveness as well as the dimensions of business model innovations of which include value creation, value proposition and value capture increase organisational performance of MFB in Nigeria, In addition, the study examined the mediating role of IT-enabled DCsin the relationship between entrepreneurial orientation, business model innovations and organisational performance.

To achieve the stated objectives, this study utilised the Resource Based-View (RBV) theory and Dynamic Capabilities (DCs) theory in order to test the hypothetical relationships among the research constructs. This study had been a ground-breaking work in modelling the mediating relationship betweenIT-enabled DCs, entrepreneurial orientation, and business model innovations as well as their overall impact on organisational performance. The following section discusses the empirical findings that support the theoretical relationships, the nature of the conceptual model, and the relevant hypotheses. The entire discussion addresses the 12 research hypothesesof the study as follows.

Of the six hypotheses on the direct relationships between proactiveness, innovativeness, competitive aggressiveness, value creation, value proposition, value capture and organisational performance, only one hypothesis ($H_0$3: There is no significant relationship between competitive aggressiveness and organisational performance of banks in Nigeria) was supported. Of six hypotheses on mediation role of IT-enabled DCs, the results suggests all the hypotheses were not supported. The finding strongly supported both the RBV and IT-enabled DCs theorem in relations to improving organisational performance over time.These relationships were discussed as follows.

4.11.1 The effect of EO and BMI on Organisational Performance

H_{01}: There is no significant effect of proactiveness on organisational performance of microfinance banks in Nigeria.

The statistical analysis has proved that proactiveness is significantly related to performance (β=0.17, p<0.01). According to Lumpkin and Dess, (1996) proactiveness refers to opportunity-seeking and forward-looking behaviour for introducing new products, services, or technological capabilities in the market ahead of the competitors in anticipation of future demand, which can lead to new ventures and renewal. It is assumed that being proactive can make a firm to be receptive to market signals, become aware of the customers' needs, through careful monitoring and environmental scanning. This in return results in advanced decision making, profitability and overall performance (Hughes & Morgan, 2007). As proactiveness gives firms the ability to present new products and services to the market ahead of competitors, control access to the market by dominating distribution channels and even establish industry standards. In this study, proactiveness is operationalised to mean a bank tendency to seek first mover advantage and forward-looking behaviour, and efforts to shape business environment thereby introducing new

processes to dominating distribution channels ahead of competitors (Lyon, Lumpkin, & Dess, 2000). Consequently, with the finding of a significant relationship between proactiveness and organisational performance it has shown that the respondents largely agreed that being proactive helps the managers to improve performance of their respective banks through opportunity identification and exploitations. This finding is consistent with the work of other scholars (Al-Swidi & Al-Hosam, 2012; Abuya, 2016) which examine the effect of entrepreneurial orientation on the organizational performance of Islamic and commercial banks in Yamen and Kenya respectively.

As presented in Table 4.10, (β=0.08, p>0.05). On the other hand, value creation as dimension of BMI is significantly related to performance (β=0.24, p<0.01), More so, value proposition is significantly related to performance (β=0.16, p<0.01), whereas value proposition is significantly related to performance (β=0.11, p<0.05). No significant effect was found between capture and performance (β=0.12, p<0.05). In a nutshell, all the direct relationships between the latent exogenous and endogenous constructs are all supported empirically except competitive aggressiveness that does not significantly affect microfinance bank performance based on the statistical data of the present model. However, a decision on competitive aggressiveness will be taken after looking at the mediation result to see if the relationship can change after introducing the mediator.

H_{02}: There is no significant effect of innovativeness onorganisational performance of microfinance banks in Nigeria.

Innovativeness refers to the firm predisposition and itswillingness to engage in creative behaviours through things such as experimentation and introduction of new products or services, or in technological breakthroughs (Dess & Lumpkin, 2005). Innovativeness can come in varieties of ways. It may be new to the world or just new in a given context (Teece, 2016). Innovativeness

is said to be existing when firms pursue active implementations of new ideas, products, or processes (Lumpkin & Dess, 1996; Hurley & Hult, 1998). Innovativeness is one of the most critical factors in successful Corporate Entrepreneurship (CE) activities (Lassen & Nielsen, 2009) as well as new ventures creation and performance (Kandemir & Hult, 2005). Therefore, without innovativeness, there is no CE regardless of the presence of other firm resources (Covin & Miles, 1999; Karimi & Walter, 2015). In this study, innovativeness was operationalised to mean creative ideas related to the generation and delivery of new products, services and or process. It therefore involves experimentation and creativity in the cause of delivering significant positive result in new processes, product, or services so as to improve performance of the respective firms. H_{02}astated that there is no significant relationship between innovativeness and organisational performance of MFB.

H_{03}: There is no significant effect of competitive aggressiveness onorganisational performance of microfinance banks in Nigeria.

Lumpkin and Dess (1996) defined competitive aggressiveness to meanthe tendencyof a firm to directly and intensively challenge its competitors to achieve entry position or improve its situation by outperforming the rivals. In the banking sector, acting aggressively may lead a particularbank to take initiatives such as cutting transaction costs, increasing its products and services offering via online platforms as well as adopting aggressive marketing strategies to expanding its customer base.

Competitive aggressiveness is seen as a firm response to create competitive advantage (Zehir &Karaboga, 2015). This implies that the higher the firm's willingnessto compete aggressively, the higher the possibility of grasping technological breakthrough andmarket opportunity to achieve better new product and service development.In this study, competitive aggressiveness is

operationalised to mean responses of banks to achieve superior performance in the market by challenging the status quo through the internet, mobile technology and other computing platforms to bring in the new innovative products and services to potential customers through wider channels. H_{03}astated that there is no significant relationship between competitive aggressiveness and organisational performance. As presented above two of three hypotheses (H_{01}a and H_{02}a) of direct effect ofEO dimensions on organisational performance was found to be significant and therefore rejected the hypotheses. However, the research failed to rejectthe third hypothesis which stated that H_{03}athere is no significant effect ofcompetitive aggressiveness onorganisational performance, as the relationship was found to be insignificant at this level of analysis. Therefore, as the statistical analysis revealed that two of the three EOs dimensions were found to exert influence on the performance of banks in Nigeria. Empirically, the significant positive relationships between proactiveness and innovativeness of EO are consistent with the finding of previous studies results (Al-Swidi1 &Al-Hosam, 2012; Abuya, 2015; Aminu, 2015). Consequently, it is evident enough to establish that it is both theoretically and empirically supported that proactiveness and innovativeness are positively and directly related to organisational performance. However, it differed from the finding of Ngure (2016) who found a significant relationship between competitive aggressiveness and bank in Kenya. These findings are supported by the resource-based (RBV) theory under which such relationships were hypothesized.

More so, in spiteof the relevance of the RBV theory in explaining how organisations can use their idiosyncratic resources to conceive of and implement the valuable strategy that improves performance (Aminu, 2015), this approachfallsshort in the explanation on how and why some organisations outperform others in rapidly changing business environments (Eisenhardt &

Martin, 2000). As a result, DCs was introduced to serve as mechanisms between possession of the resources that are rare, unique, nonsubstitutable and rapidly changing environment (Teece et al., 1997).

H_{04}: There is no effect of value creation innovation onorganisational performance of microfinance banks in Nigeria.

The result indicates that there is a significant effect of value creation on organisational performance(β=0.16, p<0.01). Value creation innovation refers to firm abilitiesto create valuefor potential customers and clients using technology, partnerships and re-engineeringits core processes (Clauss, 2017).It is therefore definedas the logic of satisfying market needs throughvalue creation in the value chain using (Achtenhagen *et al.,* 2013), core competencies of the firm.

With the current finding, it suggests that bank managers agreed that creating value is always among the objective of any business since in financial terms, value creation occurs when a firm's profits exceeds its expenses (Upadhyaya, 2017). In a broader context, value creation is identified as actions and processes that increase the worth of a firm's products, services and the whole business (Upadhyaya, 2017). In the banking sector, banks are pressurised to continuously create and deliver value in order to grow and survive. This comes not only from shareholders and customers. It also comes from a number of market participants such as the financial analysis, press, regulators and activists. As planning, execution and controlling for value creation requires a firm’s ability to measure and relate the creation of value to current and prospective customers and clients (Spivey & McMillan, 2002). Entrepreneurial managers must understand that maximizing value creation is possible only when their business maintains a well-planned and

well-controlled operation that effectively and efficiently integrates the most valuable resources and capabilities within the ecosystem.

H_{05}: There is no significant effect of value proposition innovation onorganisational performance of microfinance banks in Nigeria.

The statistical analysis has proved that proactiveness is significantly related to performance (β=0.18, p<0.01). The value delivery dimension is concern withhow the proposed value is been delivered to the target customers (Johnson *et al.*, 2008; Morris *et al.,* 2005). It is therefore a firm promises to customers in exchange for money and how this relationship is designed to capture value.

In the banking sector, components of value are the speed of delivery, cost reduction, the number of customers served, flexibility, reliability, and dependability of the ecosystem. Furthermore, two possible ways that made customers to switch from one product or service offering to another. First, your product may have better functionality; it may simply do its job better or faster than expected. In the banking sector, this functionality could level to high speed, flexibility, and dependability in terms of zero error transaction process. Secondly, the value offering could cause customers to switch over to the firm if the value delivery process outstrips the reference firm offering by placing lower burdens on the customer. Therefore, value delivery must continue to align itself with the customers' needs to improve performance. With above finding the null hypothesis number five (H_{05}a) has been rejected.

H_{06}: There is no significant effect of value captured innovation on organisational performance of microfinance banks in Nigeria.

The statistical result indicates that proactiveness is significantly related to performance (β=0.16, p<0.01). Value capture refers to how the proposed value is converted into revenues. It serves as

a means by which firms gain revenues that cover the cost and achieve profits forsustainable performance (Baden- Fuller & Haefliger, 2013; Johnson *et al.*, 2008; Teece, 2010).It is refers torevenuemodela firm utilised by a firm to earn a profits after deducting thecostsrelatedvaluecreationandvalueoffering(Clauss, 2017).It is the stage at which business organization gets paid in the process of value creation and delivery and the question is how much of the total value should a firm take in the transaction (Myler, 2013). Santos (2012) argues that the distinction between value creation and value capture is becoming a key concept in the field of strategy decisions (Lavie, 2007). From the result, it can be seen that majority of the respondents agreed that value capture is a necessary condition for sustainable performance. Therefore, the null hypothesis number six has been rejected.

As regard to the relationship with performance, it appears that both kinds of innovations are important. But most firms focus only on the first. Sometimes a business can get away with failing to think about value capture if it sells plenty of its new offerings through existing approaches. But when value capture goes unexamined, money is usually left out for competitors to exploreand exploited. Sometimes the only thing that can save a business is to find another promising way to capture value (Jorgenso, 2015). Yet, value capture is one of the most interesting and under-studied areas in business (Rhyne, 2010).According to Jorgenso (2015), one reason value capture innovation tends to be overlooked is that firms often tend to do well in innovating value creation, and performed poorly at the latter. That relying heavily on the existing resources and capabilities without regard to changing market conditions such as technological commoditisation, competition, changing regulations and customer preferences. In reality, it is difficult to outrun all thesebut the bankcan try to improve organisational performance through the use of IT-enabled DCs at its disposal.

4.11.2 Mediating role of IT-enabled DCs

In previous studies, specific constructs of IT-enabled DCs have been the subject of independent empirical investigation (Dantsoho & Ringim, 2016). It is against this background that, this study was set to examine the mediating role of IT-enabled DCs on link between entrepreneurial orientation, business model innovation and organisational Performance of MFB in Nigeria. The findings show that IT-enabled DCs mediates the relationship between all the three EO dimensions as well as the three dimensions of BMI. For the purpose of this section, these hypotheses were broadly restated as followed; IT-enabled DCs does not mediate the effects of all the dimensions of business model innovation and organisational performance of banks in Nigeria (which covered specific hypotheses 7 to 9). IT-enabled DCs do not mediate the effects of all the dimensions of entrepreneurial orientation on organisational performance of banks in Nigeria (also covered specific hypotheses 10 to12). Consequent to the findings, hypotheses 7 to 12 of research model have been rejected.

Recall that, Teece (2010: p172) has theoretically linked business model designs to EO by documenting that business model indicates management's hypothesis about what customers want, how they want it, and how the enterprise can organize to best meet those needs, get paid for doing so, andmake a profit. Of more recent, Teece, & Linden (2017) as well as Teece (2018) posited that Teece and Linden (2017) also suggested that studies set to examine the influence of BM on organisational performance can do so through the role of DCs between designs, implementation and changing business environment. According to Teece, (2007) organisations with strong DCs are intensely entrepreneurial, they do not only adapt to changing business environments, but they do also shape them through learning, collaboration and involvement, which set to increase performance. This is to say that, Business models are enabled by the firm's

DCs in the sense that a dynamically capable organisation will be able to rapidly implement, test, and refine its new and revised business models. Under this, it is important to emphasize that the value addedbusiness models can be compromised by poor strategic orientation and its interaction with firm DCs (Teece, 2010).

Therefore, even if EO, BMI and DCs are categorised as logically distinct concepts, they are still interconnected toward to firm performance (Teece, & Linden 2017). For instance, sensing capability has been a critical part of DCs (Teece, *et al.*, 1997) as it contains an element of opportunity recognition and thus an integral part of EO (Teece, 2010). Accordingly, seizing capability needs to be connected to both strategy and coherent action of managers. Furthermore, transformation capability refers to value creation, protection and enhancement. These processes least required proactiveness, innovativeness and competitive aggressiveness particularly in the banking sector,being characterised with customer sophistication, changing regulations, and competition (Osisioma, *et al.*,2016). It is, against this background that this study was to examine the relationship between EO, BMI, DCs and organisational performance in Nigerian banking sector.

As regard to DCs links to value creation activities of BMI, it entails making products and providing services that customers find consistently useful (2013). In the banking sector such value creation is typically based on banking products, services and process innovation and on understanding unique customer needs with ever-increasing quality, speed, flexibility and dependability. But banks caninnovate and deliver outstanding value creating products and services only if they tap the commitment, energy, creativity and imagination of their tangible and intangible resources over time. This is because, accumulating valuable resources is insufficient to support sustainable competitive advantages and overall performance in the rapidly changing

business environment (Teece et al., 1997; Liao, Kickul & Ma, 2009). In the banking, IT-enabled DCs is capable of integrating, reconfiguring, and releasing IT-based resources to quickly address market changes (Eisenhardt & Martin, 2000; Dantsoho,2016) which may enable banks to reconfigure internal and external competencies to supportentrepreneurial aspects of decision-making, methods, and practices (Lumpkin & Dess, 1996) onopportunity recognition and exploitations simultaneously.

It is on the basis of this that, in previous study Dantsoho (2016) among other scholars (Dantsoho & Ringim 2016), argued that IT knowledge creation, IT management capabilities, IT personnel expertise and IT infrastructure flexibility can complement absorptive, adaptive and innovative capabilities of DCs in rapidly changing environment. Firstly, absorptive capability highlights the importance of in-taking of external knowledge, combining it with internal knowledge and absorbing it for internal use. IT management capabilities refer to the ability of a firm to administer IT resources and transform them for the creation of business value (Peppard, 2007). Firms that are involved in such knowledgeable activities have greater absorptive capacity (Bhatt & Grover, 2005). Secondly, adaptive capability stresses a firm's ability to adapt itself in a timely fashion through flexibility of resources and aligning resources and capabilities with environmental changes. IT infrastructure flexibility is defined as a firm's ability to develop, diffuse and maintain various information systems efficiently in the context of changing business environments. Both focused on aligning internal organisational factors with external environmental changes. Thirdly, IT business experience refers to the ability of a firm's IT personnel to understand business needs and create IT solutions that address the enduring business opportunities and challenges. Likewise innovative capability effectively links a firm's inherent innovativeness to marketplace-based advantage in terms of new products and services

development. This too explains the linkages between a firm's resources and capabilities (Wang & Ahmed, 2007), in response to market changes. This study argued that IT professionals, IT flexibleinfrastructure and managerial capability are needed for successful business model innovation, especially in unstable environment where the emphasis is less on resource acquisition but more on firm's ability to utilise these resources in response to markets changes. Consequently, this study has successfully linked the effect of all the three dimensions of EO and BMI to organisational performance through the mediating role of IT-enabled DCs. Recall that, in section 2.5the study discussed that to analyze how firm recombine resources and capabilities to create and sustain superior performanceit relies on DC's dimensions as sensing, learning, integrating, coordinating and reconfiguring (Mikalef, 2017) which are the same as IT knowledge creation, IT personnel expertise, IT infrastructure flexibility and IT management capability in the IS research (Dantsoho, 2016). And this decision was basically on the submissions of other scholars that considered IT-enabled DCs to include things such asIT business experience or IT personnel expertise (Bhatt & Grover, 2005) IT management capability, IT infrastructure flexibility and IT knowledge creation that are valuable, rare and inimitable by the competitors (Byrd & Turner, 2001; Anand, et al., 2013). The finding of this study is therefore in line with that of Lin and Wu (2014); Aminu (2015), and Najmi et al. (2018). For instance, Lin and Wu (2014) are among the researchers that empirically examined the connection between organisational resources and performance through the mediating effect of DCs, conceptualises it in terms of learning, integration, and configuration capabilities. In a similar study, Najmi et al. (2018) also investigated the effect of knowledge management and strategic leadership on the performance of hospitals through the mediating role of DCs which all support this finding.

The current findings serve tointegrate conflicting debates different firm's IT resources and capabilities (i.e. common versus idiosyncratic) conceptualizations of IT-enabled DCs. Secondly, we advance a theoretical framework of firms' DCs to explore IT innovations that are likely to improve performance. Therefore, this study examinesIT-enabled DCs as a higher order construct which was formed by the lower order IT capabilitiesrelevance to the performance of firms in the IT based industry. The study further clarifies the concept of IT-enabled DCs by demonstrating the importance of such methodological approach (HCM) in investigating the relationship between these constructs.It also discussed both theoretical and managerial implications of the findings and propose a promising future research directions in support of sustained organisational performance.

4.12 Contributions of the Study

The contributions of this study to development of literature in both entrepreneurship, IS research, strategic management studies are in three folds which include theoretical, managerial and methodological contributions as follow.

4.12.1 Theoretical Contributions

For theoretical contributions, this study successfully modelled both IT-enabled DCs and organisational performance as higher-order constructs which help the researcher to explain the highly complex phenomena in a relatively simplest way (Becker, 2012; Sarsted*t et al.,* 2019b).The proposed formative model is consistentwith the guidelines of Diamantopoulos and Winklhofer (2001) that, first-order constructs are theoretically distinct and contributea unique component to the second-order construct. Hence, the dimensionsthat comprise IT-enabled DCs are adapted measures of sensing,learning, coordinating, integrating, and reconfiguring routines (Pavlou & El Sawy, 2011;Protogerou et al., 2012; Mikalef & Pateli, 2016). Furthermore, it also

tested and validated the role of IT-enabled DCs as mediating variable between strategic resources and changing environment which was particularly relevant to the ever changing financial services delivery. This findings confirmed the assertion that organisation with strong DCs are intensely entrepreneurial in nature (Teece, 2007) andbusiness models are enabled by the firm's DCs in the sense that a dynamically capable organisation will be able to rapidly implement, test, and refine its new and revised business models (Teece & Linden, 2018). According to Teece, (2018) a good business model design depends as much on art and intuition as it does in science and analysis. Similarly, designing a good BMs requires understanding of the customer's needs, technological and organizational resources that are used to satisfy customers' needs through firm's strategic orientation.

IT-enabled DCs was developed as a higher-order Type II reflective formative construct (Jarvis,MacKenzie& Podsakoff, 2003 Bhatt & Grover, 2005; Mikalef, 2017). Following the suggestion of Marko *et al*. (2019), a mixture of the extended repeated indicator and a two-stage and disjoint two stage approach was applied and the selected the one that gives a better coefficients. In both cases the first stage, wasused to obtain latent variable scores for the first-order constructs,while in the second stage served as manifest variables in the measurementmodel of the higher-order construct.

This decision is guided by the work of Finn and Kayande (2005) and Diamantopoulos (2005) which suggests that both theoretical and empirical justifications are necessary in designing and validating measurement models in PLS-SEM research. Hence, in order to comprehensively capture the necessary theoretical and empirical aspects of the given higher-order constructs of IT-enabled DCs and organisational performance this study followed a suggestion by Coltman, et al. (2008) which include three considerations for theoretical justifications and three empirical

considerations for distinguishing a formative from the reflective measurement models in a given research setting.

4.12.2 Managerial Contributions

Previous studies highlights the importance of a multi-level research design for understanding between strategic resources of the entrepreneurial firms andtheir performance of (Hite & Hesterly, 2001). This study successfully linked multiple levels of resources and analysis in order to explain how EO and BMItranslate into value capture by the firm. Thefinding of this study contributes to the emerging debateon business model innovation by considering the IT-enabled DCs as the prime enabler of such relationship in the highly technological industry such as the Nigerian banking sector.

In developing countries, there is a high concern about organizational performance of banks. Consequently, EO and BMI have been recognized as important approaches in obtaining higher organizational performance and produce innovative products and services by behaving proactively and competing aggressively. Although these constructs have been recognised in Nigerian context, but are still in their primary stages of development in both theory and methodological aspects. In other words, these concepts were put forward in the West but have now been implemented in Nigeria and positive results has been obtained in relation to SMEs, DMBs, and MFB respectively.

More so, the finding also provides managerial implications with respect to the role of individual dimensions of entrepreneurial orientation, business model innovation, IT-enabled DCs on organisational performance. For instance, findings from the IMPA results revealed that certain constructs with potentiality of higher performance on the target construct which is organisational

performance, but importance was attached to them by the bank management as discussed in section 4.10 above. To this end, IPMA provides guidance for the prioritisation of managerial activities of high importance for the selected constructs which require performance improvements and vice visa. By achieving this, this study would help MFB managers to better understand the complexity of the IT investments in different market situations. Similarly, as managers face a dilemma on 'next technological investment on the new ecosystem, this study also shed more light on how EO and BMI dimensions can help organisations to redefine their value offerings in response to market changes. This will helpMFB to expand their customer base and overall performance over time.The finding would help the policymakers on the next policy implementation to build a sound MFB subsector capable of bridging the gap between the banked and unbanked people across the country.

4.12.3 Methodological Contributions

As discussed earlier, this study utilised the first-order and hierarchical components model (HCM), with a mix of formative and reflective type constructs by using PLS-SEM approach, in order to explain the relationships in the research model. It is one of the few attempts to conceptualise and validate two endogenousHCM in a single research model using PLS-SEM approach in the context of entrepreneurship research. Employing the disjoint two-stage approach (Ringle, 2012; Marko et al., 2019) in estimating a higher-order formative latent variable, the study confirmed adequate measurement and structural properties for the research model (Chin, 2010; Franke & Sarstedt, 2019). Moreover, the application of PLS makes it possible to extend the theoretical contribution of the study by developing and validating two higher-order formative organisational performance model.

The desire to use the higher-order construct in this study relied on the researcher's desire to avoid the bandwidth-fidelity dilemma in which there is a "tradeoff between variety of information (bandwidth) and thoroughness of testing to obtain certain information (fidelity)" (Cronbach & Gleser, 1965; 100). This has been achieved by reducing the number of path model relationships thereby encouraging the model to be more parsimony (Edward, 2001; Polites, Roberts & Thatcher, 2012). It also provides the researcher with a means of handling collinearity among formative indicators by providing avenue to re-arrange all those indicators across different concrete sub dimensions of the HOC (Hair, Sarstedt, Ringle & Gudergan, 2018) of both IT-enabled DCs and Org-Perf.

The third methodological contribution of this study is that of estimating the second latent endogenous construct (organisational performance) as a higher-order construct. Most of the organizational studies that are concerned with the impact of resources and capabilities in a turbulent environment have measured performance using traditional financial indicators (Bharadwaj, 2000; Lin & Wu, 2014), with very few that focus on non-financial performance (Ghazikalaye & Roshani, 2016). But these measurements are incomplete since they do not give the overall picture of performance, neither have they considered the long term survivals of banks (Kaplan & Norton, 1996; EU-central bank, 2010). Consequently, the decision to model organisational performance as higher-order construct was guided by the submission of Finn and Kayande (2005) and Diamantopoulos (2005) which suggested that both theoretical and empirical justifications are necessary to design and valid measurement models, as well the nature of the construct, direction of causality and characteristics of indicators (Coltman, et al., 2008; Duarte & Amaro, 2018). And these requirements have been satisfied in section 4.8.2 (specification of higher-order constructs). To the best of the researcher's knowledge this study is first of its kind

to specified, estimate and validate organisational performance of reflective formative type II higher-order construct.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of findings

The purpose of this thesis was to investigate the relationships between entrepreneurial orientation, business model innovation and organisational performance of MFB in Nigeria. Also to examine the mediating role of IT-enabled DCs in the relationship thereof. This capability in question was definedas a firm's ability to integrate, build, and reconfigure information technology (IT) base resources concurrently with organisational business and managerial processes in pursuit of performance advantages in an uncertain and rapidly changing business environment of the banking sector.

In previous studies, specific constructs of IT-enabled DCs have been the subject of independent empirical investigation (Bhatt & Grover, 2005; Kim et al., 2011; Idroes, 2015; Dantsoho &

Ringim, 2016; Mikalef, 2017). It is against this background that, this study was set to examine the mediating role of IT-enabled DCs on relationships between entrepreneurial orientation, business model innovation and organisational performance of microfinance banks in Nigeria and then findings show that IT-enabled DCs mediate the effect of all the three EO dimensions as well as the three dimensions of BMI. This study is therefore first its kind to examine these relationships.

Cross-sectional survey research design was employed to collects data once at a time from the respondents. Population of the study consists of bank owner/managers in which the sample size of the study was drawn. A PLS-SEM approach using SmartPLS 3.2.8 was used to analyse the data and tests the hypotheses. The result shows that both entrepreneurial orientation and business model innovation were significantly and positively related to the performance of MFB in Nigeria. The result also indicates that IT-enabled DCs mediates the relationships between entrepreneurial orientation, business model innovation and organisational performance of microfinance banks. The current findings serve tointegrate conflicting debates on different firms IT resources and capabilities including those that are common and those that are idiosyncratic in nature to conceptualised IT-enabled DCs. Secondly, the study advanced a theoretical context of firms' DCs by exploring the role of IT innovations that are likely to improve performance. To this end, the study examinesIT-enabled DCs as a higher-order construct which was formed by the lower order IT capabilitiesrelevance to the performance of firms in the IT base industry such as the MFB sector. In so doing, the study clarifies the concept of IT-enabled DCs by demonstrating the importance of such methodological approach (HCM) in investigating the relationship between these constructs.It also discussed both managerial and theoretical

implications of the findings and propose a promising future research direction in support of sustained organisational performance.

As regards to the question of whether the current study has successfully applied the right tools of analysis to arrive at the findings which are based on the choice between CB-SEM and PLS-SEM approach, the study followed a popular opinion that researchers should focus on the characteristics and objectives that distinguish the two methods (Hair, Sarstedt, Ringle, et al., 2012). Whereas CB-SEM is confirmation based statistical approach, PLS-SEM, on the other hand, is more or less a prediction base approach (Hair et al., 2012; Ringle et al., 2012, Hair et al., 2017). This is in line with Hair et al. (2017) suggestions that "in research situations where theory is less developed, or it is under constant validation, the researchers should consider the use of PLS-SEM as against CB-SEM approach. This is essentially true in the current study sincethe primary objective of applying PLS-SEM is prediction and explanations of target variables (Rigdon, 2012).

Furthermore, the use of PLS-SEM approach to test mediation instead of using the most popular approach by Baron and Kenny (1986), this study was able to avoid incorrect explanation of the relevance of the model to the data. This is because with a complex path model (i.e. two higher-order constructs along with six independents constructs; simultaneously predicting performance) it is easier for the researcher to ignorethe occurrence of effects of competitive aggressiveness that does not directly transmit itseffecton the performance of MFB(Hair et al., 2012; Nitzl, 2016). In other words, had it been on the basis of Baron and Kenny (1986) procedure of testing mediation, the researcher will only focus on the direct effect and ignore the mediating effect completely which in turn couldcreate biasexplanation of the results since the constructhas no direct effect,

but rather mediated by the IT-enabled DCs (Nitzl, 2016; Carrión, et al.,2017). Consequently, the researcher could have erroneously assumed that competitive aggressiveness is not relevant for answering its research question.

Furthermore, the used of Importance Performance Map Analysis (IPMA) has helped the researcher to come up with some specific information on the importance and performance of each antecedent construct on the target construct organisational performance of MFB which could be relevant for drawing conclusion and specific recommendations for management, policymakers and other stakeholders. This information includes both the performance and importance attached to some constructs by the respondents. Similarly, the use of "the state of art" criteria for assessing mediation model (Zhao *et al.,* 2010) has helped the researcher to detect and carefully examined all the three types of mediation found in the research model and their implication on the performance of microfinance banks.

5.2 Conclusion

The issue of entrepreneurial orientation, business model innovation, IT-enabled DCs and how they relate to performance is yet to be thoroughly investigatedin the existing literature (Teece, 2018). There is a paucity of knowledge on whether these variables (EO, BMI, IT-enabled DCs) altogether influence performance (Teece, 2017). To the best of researcher's knowledge, we were unable to lay our hand on a single study which combined these constructs.Other studies that examined the influence of DCs on performance and the nature of their empiricalresults indicate the need for furtherstudies especially in Africa where the literaturegap isbroadly acknowledged in this area.Thus, this study has found that the entrepreneurial orientation and business model innovation through IT-enabled DCs constitutes a potential source of organisational performance

of MFB especially with findings from the African perspective and Nigerian banking sector in particular.This study contributes to the knowledge development by providing new insights on the emerging discussion on entrepreneurial orientation (EO), Business Model Innovation (BMI), IT-enabled DCs and organisational performance in various core research disciplines. It does so byjointlyexamining the effect and linkages between EO, BMI, IT-enabled DCs and organisational performance of MFB.

It is among the pioneering work in modelling the mediating effects of IT-enabled DCs and organisational performance modelled as type II reflective formative higher-order constructs in both entrepreneurship, information system (IS) research and strategic management studies. It is perhaps, the first study that modeled organisational performance as the reflective formative type II higher-order construct. By providing the simplest explanation of such complex relationships between constructs. This study,therefore, contributes to the understanding of stakeholders in entrepreneurship development by introducing the role of IT-enabled DCs which would help practising managers and policymakers in making the most informed decisions about IT investments and BMI within the Nigerian banking sector and countries with similar characteristics.

5.3 Recommendations

i. This study successfully developed and tested a model that explains how an organisation should act and operates in relations to market opportunities. There has not been significant research on the relationship between BMI, EO, IT-enabled DCs and performanceof MFB across the globe. It is thus recommended forMFBmanagers in

Nigeria to consider the findings as the basis for improving the orgnisational performance of their respective banks.

ii. Likewise, the finding of this study reveals that a high level of entrepreneurial orientation leads to a high level of organisational performance of MFB in Nigeria. As noted earlier, the Nigeria banking industry as a whole is gradually becoming very competitive and fast-changing in terms of technological breakthrough, customer sophisticated and changing regulations. As a result of these changes, it is hence will appropriate to allow microfinance bank's managers to first look at efficient means of being more autonomous and able to take bold actions that maybe risky in nature but yielding promising returns in order to capture market opportunities in addition to being proactive, innovative, and aggressively competitive.

iii. For the MFB that have already built-in EO culture in their organisational processes, they should continue to pursue initiatives that promote entrepreneurship by making their banks more flat, less formal and less centralized.This will make it possible for employees to make decisions that are ideal for creativity, innovation, competitively aggressive entrepreneurial activities.

iv. As regard to the influence of BMI on organisational performance, this study discover a significant relation among all the three dimensions of value creation, value proposition and value capture innovation. It is therefore recommended for bank managers to further exploit more business opportunities through BMI innovation in relations to organisational performance of the microfinance banks in Nigeria. This could be achieved through

engaging more in strategic alliance and networking within the chain of financial service delivery.

v. Recalled that inthe linear model, it was found that competitive aggressiveness has no significant effect on organisational performance of MFB in Nigeria. However, this relationship was found to be mediated by the IT-enabled DCs which proved the role of IT-enabled resources as the prime enabler in the organisational transformation in the banking sector. Therefore microfinance bank managers must redefine their competitive strategy from being reactive or defensive to being more proactive by engaging in more competitively aggressive entrepreneurial activities within the value chain of financial service delivery. This is strategicallyessential considering the current trends in the industry in terms of technological innovation through agent banking and intense competition by bringing in, the giant telecom providers into the chain of financial service delivery.

vi. Furthermore, since IT-enabled DCs was able to mediate the relationships between all the antecedents constructs and organisational performance of MFB, MFB managers must redefine their business justification for the IT investments towards more radical transformation rather than simply automation. Because the role of IT capability in business process transformation is not to simply automate the existing processes but on starts at a clean slate and then look at the problem to be solved and this is the essence of having IT-enabled DCs.

vii. Additionally, the use of IPMA has helped the researcher to come up with some specific information on the importance and performance of each antecedent construct on the target construct organisational performance of banks which could be relevant for drawing conclusion and specific recommendations for management, policymakers and other stakeholders. This information includesboth the performance and importance attached to some constructs by the respondents. Specifically, antecedent's constructs such as Proactiveness, value proposition and value capture have a higher performance possibility on the target construct but low importance was attached to them by the respective managers.

Therefore, when the MFB managers decide to increase the performance of the target construct organisational performance, their main concern should be to improve the portion of the performance captured by proactiveness (ProAc), followed by value proposition (VP) and value capture (VCP) innovation, as these constructs have the highest performance(above average), but relatively low importance was attached to them. On the other hand, a status quo should be maintained for the competitive aggressiveness as indicated in the linear model.

viii. As regards to innovativeness which suggests a remarkable high importance and high performance on organisational performance, there is need for bank managers to continue to come up with innovationsso as to improve the performance of the Nigerian MFB.This innovation should not be limited to automation or bringing new product or service but should address the inefficiency within both front and back-office operations to improve performance of MFB.

ix. For the policymakers, strengthening the entrepreneurial orientation of banks via policy implementation such as decreasing the amount of regulation and minimising the barriers to exploit market opportunities could help to improve the performance of MFB in Nigeria. This could help banks to consider other dimensions of EO such as risk-taking and autonomous decisions which are relevant to orgnisational performance in other sectors of the Nigeria economy.

5.4 Limitations and Directions for future studies

As expected this study did not end withoutsome limitations, and therefore to overcome these limitations, this research suggested the need for further investigation in the following directions. As the current study was based on cross-sectional survey research design to collect data once at a particular point in time and this research approach demands the need for some caution when making inferences from the result. Further work in the aspect of IT-enabled DCs on the target constructneeds to be done to establish the effects of change over a longer period of time This could be done by longitudinal study to investigate the effect of EO, BMI IT-enabled DCs on organisational performance.

Likewise, the data used in the study is limited to microfinance banks in Nigeria. Future research can consider repeating this study by drawing more sample from all other relevant financial institutions in Nigeria. Similarly, different results might be obtained if data is collected from other industries, cultures or countries, especially on the mediating effect of IT-enabled DCs on performance.

Similarly, the mediating effect of IT-enabled DCs could be examined on the relationship between other antecedents constructs such as environmental turbulence, innovation capability,

individual entrepreneurial orientation and performance at both process and organisational levels. More so, further studies should also be done in other sectors besides the banking sector such as manufacturing,telecommunication and oil and gas and construction industries to validate the findings.

REFERENCES

Abdullahi, N. (2015). *The relationship between perceived effective entrepreneurship education and entrepreneurial intention: the role of perception of university support, perceived creativity disposition and entrepreneurial passion* (Unpublished Doctoral Dissertation). University Utara, Malaysia.

Abdelkafi, N., Makhotin, S., & Posselt, T. (2013). Business model innovations for electric mobility—what can be learned from existing business model patterns?. *International Journal of Innovation Management, 17(01),* 1340003.

Abuya, W. O. (2016). Mining conflicts and corporate social responsibility: titanium mining in Kwale, Kenya. *The Extractive Industries and Society, 3(2),* 485-493.

Acharya R. N. Albert Kagan, A., & Lingam, S. R. (2008). Online banking applications and community bank performance, *International Journal of Bank Marketing*, 26(6) 418 – 439.

Achtenhagen, L., Melin, L., & Naldi, L. (2013). Dynamics of business models–strategizing, critical capabilities and activities for sustained value creation. *Long range planning, 46(6),* 427-442.

Adegbaju, A. A., & Olokoyo, F. O. (2008). Recapitalization and banks' performance: A case study of Nigerian banks. *African and business review*, *6*(1). 1-17.

Adner, R., & Helfat, C. E. (2003). Corporate effects and dynamic managerial capabilities. *Strategic management journal, 24(10),* 1011-1025.

Afuah, A. (2015).*Business Model Innovation: Concepts, Analysis, and Cases*.1st ed. Taylor & FrancisRoutledge.

Agarwal, R., & Karahanna, E. (2000). Time flies when you're having fun: Cognitive absorption and beliefs about information technology usage. *MIS quarterly,* 665-694.

Ahuja, G., & Morris Lampert, C. (2001). Entrepreneurship in the large corporation: A longitudinal study of how established firms create breakthrough inventions. *Strategic management journal, 22(6-7),* 521-543.

Aguinis, H., Edwards, J. R., & Bradley, K. J. (2016). Improving Our Understanding of Moderation and Mediation in Strategic Management Research. *Organizational Research Methods, 20*(4), 665-685.

Agle, B. R., Mitchell, R. K., & Sonnenfeld, J. A. (1999). Who matters to Ceos? An investigation of stakeholder attributes and salience, corpate performance, and Ceo values. *Academy of management journal*, *42*(5), 507-525.

Alazard C., &Separi, S.(1998).*Control Controle*. 4th ed., Dunod Spain.

Alegre, J., & Chiva, R. (2013). Linking entrepreneurial orientation and firm performance: the role of organizational learning capability and innovation performance, *Journal of Small Business Management,51(4),*491-507.

Allen, R. S., & Helms, M. M. (2006). Linking strategic practices and organizational performance to Porter's generic strategies. *Business Process Management Journal*.

Al-Swidi, A. K., & Al-Hosam, A. (2012). The effect of entrepreneurial orientation on the organizational performance: A study on the Islamic banks in Yemen using the partial least squares approach. *Oman Chapter of Arabian Journal of Business and Management Review, 34(970),* 1-12.

Amabile, T.M., Conti, R., Coon, H., Lazenby, J., & Heron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal,* 39*(5),* 1154-84.

Ambrosini, V., Bowman, C., & Collier, N. (2009). Dynamic capabilities: An exploration of how firms renew their resource base. *British Journal of Management,20,* S9-S24.

Aminu M. I. (2015). *Relationships Between Organizational Memory, Intellectual Capital, Entrepreneurial Orientation, Dynamic Capabilities and Firm Performance in Nigeria*,(Unpublished Doctoral Dissertation).University Utara Malaysia.

Aminu, M. I., & Mahmood, R. (2015). Mediating Role of Dynamic Capabilities on the Relationship between Intellectual Capital and Performance: A Hierarchical Component Model Perspective in PLS-SEM Path Modeling. *Research Journal of Business Management 9(3),* 443-456.

Amit, R., & Schoemaker, P. J. (1993). Strategic assets and organizational rent. *Strategic management journal, 14(1),* 33-46.

Amit, R., & Zott, C. (2012). Creating value through business model innovation', *MITSloan Management Review, 53(3),*41-49.

Amstrong, J., & Overton, T. (1977). Estimating non-response bias in mail surveys. *Journal* of *Marketing, 14(3),* 396–402.

Andreini, D., & Bettinelli, C. (2017). Systematic Literature Review. In *Business Model Innovation* (pp. 1-23). Springer, Cham.

Andries, P., & Debackere, K. (2007). Adaptation and performance in new businesses: Understanding the moderating effects of independence and industry. *Small business economics, 29(1-2),* 81-99.

Anderson, B. S., Covin, J. G., & Slevin, D. P. (2009). Understanding the relationship between entrepreneurial orientation and strategic learning capability: An empirical investigation. *Strategic Entrepreneurship Journal* 3(3), 218–240.

Anderson, B. S., Kreiser, P. M., Kuratko, D. F., Hornsby, J. S.,&Eshima, Y. (2015). Reconceptualizing Entrepreneurial Orientation.*Strategic Management Journal,36(10),* 1579–1596.

Andreini, D., & Bettinelli, C. (2017). *Business Model Innovation. From Systematic Literature Review to Future Research Directions*. Springer.

Anand, A., Wamba, S. F., & Sharma, R. (2013).The Effects of Firm IT Capabilities on Firm Performance: the Mediating Effects of Process Improvement. *24th Australasian Conference on Information Systems*, by University of Wollongong Australia.

Antoncic, B. (2006). Impacts of diversification and corporate entrepreneurship strategy making on growth and profitability: A normative model. *Journal of Enterprising Culture, 14(01),* 49- 63.

Antoncica, B., & Prodan, I. (2008). Alliances, corporate technological entrepreneurship andfirm performance: Testing a model on manufacturing firms. *Technovation,28(5),*257–265.

Antony, J. P., &Bhattacharyya, S. (2010). Measuring organizational performance and organizational excellence of SMEs Part 1: a conceptual framework, *Measuring Business Excellence*, *14(2)*, 3-11.

Argore, L., & Miron-Spektor, E. (2011). Organizational learning: from experience to knowledge. *Organization Science, 22(5),* 1123-1137.

Asika, L. (1999). *Research Methodology in Behavioural sciences*. Lagos: Longman Nigeria Plc, Nigeria.

Aspara, J., Hietanen, J. & Tikkanen, H. (2010). Business model innovation vs replication: financial performance implications of strategic emphases. *Journal of Strategic Marketing, 18,*39- 56.

Aspara, J., Juha-Antti, L., Laukia, A.,& Tikkanen, H. (2011). Strategic management of business model transformation: lessons from Nokia. *Management Decision,* 49,622-647.

Aspara, J., Lamberg, J., Laukia, A., &Tikkanen, H. (2013). Corporate Business Model Transformation and Inter-Organizational Cognition: The Case of Nokia, *Long Range Planning46*, 459–474.

Atuche, F. (2009). The Nigerian Banking System and the Challenges of the Global Crisis, 14th CBN Seminar for Finance Correspondence and Business Editors, ULR: www.cbn.gov.ng

Augier, M., & Teece, D. J. (2009). Dynamic capabilities and the role of managers in business strategy and performance. *Organization science, 20(2),* 410-421.

Avkiran, N., & Ringle, C. (2018). Partial least squares structural equation modeling. *Handbook of Market Research (Vol. 267).*

"Avoiding mission drift" (2016). Avoiding Mission Drift in the Microfinance Industry in Nigeria. Published by the Central bank of Nigeria (CBN).

Babbie, E. (2004). *The practice of social research* (10th ed.). Belmont. California: 278 Wad worth Publishing.

Bachmann, J. T., Engelen, A., & Schwens, C. (2016). Toward a better understanding of the association between strategic planning and entrepreneurial orientation—The moderating role of national culture. *Journal of International Management, 22(4),* 297-315.

Baden-Fuller, C., & Morgan, M. S. (2010). Business models as models. *Long Range Planning*, 43: -171.

Baden-Fuller, C., & Haefliger, S. (2013). Business models and technological innovation. *Long Range Planning, (46)*6, 419-426.

Balaboniene, I., & Vecerskiene, G. (2015). The Aspects of Performance Measurement in Public Sector Organization. *Procedia - Social and Behavioral Sciences,*213(1), 314-320.

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage, *Journal of Management,17(1),* 99-120.

Barney, J. B. (2002). *Gaining and Sustaining Competitive Advantage*, International Edition, published by Prentice Hall, Upper Saddle River, NJ.

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. http://doi.org/10.1037/0022-3514.51.6.1173.

Bartlett, J. E., Kotrlik, J. W., & Higgins C. C., (2001). Organizational Research: Determining Appropriate Sample Size in Survey Research. *Information Technology, Learning, and Performance Journal,* 19(1), 43-50.

Barbuta-Misu, N. (2008). The Enterprise' Performance in the Knowledge Based Society. Economics and Applied Informatics. *Dunarea de Jos University of Galati, Faculty of Economics and Business Administration 1*,95-102.

Baumol, W. J. (2002). Towards microeconomics of innovation: Growth engine hallmark of market economics. *Atlantic Economic Journal 30(1) 1-12*.

Basso, O., Fayolle, A.,&Bouchard, V. (2009). Entrepreneurial orientation: The making of a concept. *The International Journal of Entrepreneurship and Innovation,10(4),* 313–321.

Becker, J., Klein, K.,&Wetzels, M. (2012). Hierarchical Latent VariableModels in PLS-SEM: Guidelinesfor Using Reflective-FormativeType Models. *Long Range Planning,45,* 359-394.

Berge, T., &Hezewijk, R.(1999). Procedural and Declarative Knowledge An Evolutionary Perspective. *Theory & Psychology,9(5),* 605–624.

Berman, S. J., Kesterson-Townes, L., Marshall, A.,& Srivathsa, R. (2012). How cloudcomputing enables process and business model innovation. *Strategy & Leadership,* 40,27-35.

Bertrand, M. & Mullainathan, S. (2001). Do People Mean What They Say? Implications for Subjective Survey Data. *American Economic Review, 91(2,) MAY,* 67-72.

Bharadwaj, A. S. A. (2000). Resource-based perspective on information technology capability and firm performance: An empirical investigation. *MIS Quarterly, 24(1),* 169-196.

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), 253–277.

Bhatti, M. A., Hee, H. C., & Sundram, V. P. K. (2012). *Data analysis using SPSS and AMOS: a guide for beginers*. Kuala Lumpur: Peason Malaysia Sdn Bhd.

Bhojwani, V. (2012). Winning through Business Model Innovation Strategy. https://www.academia.edu/8635494/Winning_through_Business_Model_Innovation_Strategy

Bhuian, S. N., Menguc, B., & Bell, S. J. (2005). Just entrepreneurial enough: the moderating effect of entrepreneurship on the relationship between market orientation and performance. *Journal of business research, 58(1),* 9-17.

Bikker, J. A., & Bos, J. W. (2008). Bank performance. *New York [ua]*.

Bitencourt, C. C., de Oliveira Santini, F., Ladeira, W. J., Santos, A. C., & Teixeira, E. K. (2020). The extended dynamic capabilities model: A meta-analysis. *European Management Journal, 38(1),* 108-120.

Birkinshaw, J. (2003). The paradox of corporate entrepreneurship. *Strategy and Business,* 46-57.

Birkin, F., Polesie, T. & Lewis, L. (2009). A new business model for sustainable development: an exploratory study using the theory of constraints in Nordic organizations. *Business Strategy and theEnvironment,* 18**,** 277-290.

Birkinshaw, J., Ansari, S., (2015). *Understanding management models: going beyond "what" and "why" to "how" work gets done in organizations*. In: Foss, New Jersey.

Bjorkdahl, J. (2009). Technology cross-fertilization and the business model: The case of integrating ICTsin mechanical engineering products. *Research Policy,* 38**,** 1468-1477.

Bloom, N., Eifert, B., Mahajan, A., McKenzie, D., Roberts, J., (2013). Does management matter? Evidence from India. *Quarterly Journal of Economics, 128(1),* 1-51.

Bocken N. M. P., Short, S. W., & Rana, P, Evans, S. (2014). A literature and practice review to develop sustainable business model archetypes. *Journal of Clean Production, 65,* 42–56.

Bock, A. J., Opsahl, T., George, G., & Gann, D. M. (2012). The effects of culture and structure on strategic flexibility during business model innovation.*Journal of Management Studies*. *49(2),*279-305.

Bohnsack, R., Pinkse, J.,& Kolk, A. (2014). Business models for sustainable technologies: Exploringbusiness model evolution in the case of electric vehicles. *Research Policy, 43,* 284-300.

Bollen, K., & Lennox, R. (1991). Conventional wisdom on measurement: A structural equation perspective. *Psychological bulletin, 110(*2), 305.

Bontis, N. (1998). Intellectual capital: an exploratory study that develops measures and models. *Management decision*, *48*(9), 63-67.

Bontis, N., Chua, C. K., & Richardson, S. (2000). Intellectual capital and business performance in Malaysian industries. *Journal of Intellectual Capital. 1*, 85-100.

Bontis, N. (2010). Assessing knowledge assets: A review of the models used to measure intellectual capital. *International Journal of Management Reviews,3(1),* 41–60.

Borenstein, M., Rothstein, H., & Cohen, J. (2001). *Power and precision. Air Force Magazine.* New Jarsey: Biostat Inc. DOI:10.1300/J407v15n04_06.

Boston Consultant Group (2014). *Driving Growth with Business model innovation.* Retrieved from:src.bcg.com/Images/Driving_Growth_with_Business_Model_Innovation_Oct_2014_tcm 9-80991.pdf.

Boons, F., & Lüdeke-Freund, F. (2013). Business models for sustainable innovation: state-of-the- art and steps towards a research agenda. *Journal of Clean Production 45,* 9-19.

Bouwman, H., Meng, Z., Van Der Duin, P. & Sander, L. (2008). A business model for IPTV service:a dynamic framework. *Information, 10,*22-38.

Breuer, H., & Lüdeke-Freund, F. (2017). Values-based network and business model innovation. *International Journal of Innovation Management, 21(03),* 1750028.

Bruton, G. D., Ahlstrom, D., & Obloj, K. (2008). Entrepreneurship in emerging economies: Where are we today and where should the research go in the future. *Entrepreneurship theory and practice, 32(1),* 1-14.

Bucherer, E., Eisert, U., & Gassmann, O. (2012). Towards systematic business modelinnovation: lessons from product innovation management", *Creativity and InnovationManagement*, *21(2),*183-198.

Buli, B. M. (2017). Entrepreneurial orientation, market orientation and performance of SMEs in the manufacturing industry: evidence from Ethiopian enterprises, *Management Research Review,40(3),*292-309.

Burgelman, R. A. (1983). A process model of internal corporate venturing in the diversified major firm. *Administrative Science Quarterly,28(2),* 223–244.

Burischa, R.,& Wohlgemuthb, V. (2016).Blind spots of dynamic capabilities: A systems theoretic perspective.*Journal of Innovation & Knowledge 1,* 109–116.

Byrd, T. A.,& Turner, D. E. (2001). An Exploratory Examination of the Relationship between Flexible IT Infrastructure and Competitive Advantage.*Information Management, 39,* 41–52.

Camelia, A. & Luminita, R. (2013). The Concept of Performance - History and Forms of Manifestation. *Annals of Faculty of Economics, University of Oradea, Faculty of Economics,1(1),* 1145-1153.

Camps, J., & Luna-Arocas, R. (2012). A Matter of Learning: How Human Resources Affect Organizational Performance.*British Journal of Management,23,*1-21.

Cao, L. (2011). Dynamic capabilities in a turbulent market environment: Empirical evidence from international retailers in China. *Journal of Strategic Marketing,19(5),* 455–469.

Carton, R. B.,& Hofer, C. W. (2010). Organizational Financial Performance: Identifying and Testing Multiple Dimensions. *Academy of Entrepreneurship Journal 16(2),* 1-22.

Carayannis, E., Sindakis, S., &Walter, W. (2015). Business Model Innovation as Lever of Organizational Sustainability. *The Journal of Technology Transfer, Springer, 40(1),* 85-104.

Carrión, G. C., Nitzl, C., & Roldán, J. L. (2017). Mediation analyses in partial least squares structural equation modeling: Guidelines and empirical examples. *In Partial least squares path modeling* (173-195).Springer, Cham.

Casadesus-Masanell, R., & Ricart, J. E. (2010). Competitiveness: business modelreconfiguration for innovation and internationalization. *Management Research: TheJournal of the Iberoamerican Academy of Management*, 8(2), 123-149.

Casadesus Masanell, R., & Ricart, J. E.(2010). From Strategy to Business Models and onto Tactics. Long *Range Planning 43(2–3), April–June,* 195-215.

Casadesus-Masanell, R., & Zhu, F. (2013). Business model innovation and competitiveimitation: The case of sponsor-based business models.*Strategic Management Journal,34(4),*464-482.

Cavalcante, S. A. (2013). Understanding the impact of technology on firms' business models. *EuropeanJournal of Innovation Management, 16***,** 285-300.

CBN, (2005). Code of corporate governance for banks in Nigeria post consolidation https://www.cbn.gov.ng/documents/consolidation.asp.

Central Bank of Nigerian, (2010). CBN Scope, Conditions & Minimum Standards for Commercial Banks regulations No.01, 2010. https://www.cbn.gov.ng/OUT/PUBLICATIONS/BSD/2006/CORPGOV-POSTCONSO.PDF.

CBN, (2010).Central Bank of Nigeria Regulation on the Scope of Banking Activities and Ancillary Matters, No. 3, 2010, available at: Https://Www.Cbn.Gov.Ng/Out/2010/Circulars/Bsd/Cbn%20regulation%20on%20%20new%20banking%20model%20%20clean%20091110%20final.Pdf, accessed on 22nd May 2018.

Central bank of Nigeria, (2017). Financial inclusion, retrieved at https://www.cbn.gov.ng/FinInc/default.asp

CBN Electronic Fraud Annual Report, (2016). Central Bank of Nigerian; the Nigeria Electronic Fraud Forum. Annual report. Available at: https://www.cbn.gov.ng

CBN 2016 Annual Report, (2017). 2016 Annual Report National Financial Inclusion Strategy Implementation. Retrieved 7thMay, 2017.

Central bank of Nigeria, (2017). Guidelines on Operations of Electronic Payment Channels in Nigeria Guidelines on Operations of Electronic Payment Channels in Nigeria.

CBNFinancial Stability Report, (2017). Financial Stability Report, December 2015, URL: https://www.cbn.gov.ng/Out/2016/FPRD/FSR%20December%202015.pdf, accessed on 15thSeptember, 2017

CBN Review, (2018). Central Bank of NigeriaEconomic and Financial Review. 56(1), https://www.cbn.gov.ng/Out/2018/RSD/CBN%20EFR%20Volume%2056%20No%201%20March%202018%20-%20Draft%20for%20Upload.pdf

Cepeda, G., & Vera, D. (2007). Dynamic capabilities and operational capabilities: A knowledge management perspective. *Journal of Business Research*, *60(5),* 426–437. doi:10.1016/j.jbusres.2007.01.013

Chakravarthy, B. S. (1986). Measuring strategic performance. *Strategic management journal*, *7*(5), 437-458.

Cheah, J., Sarstedt, M., Ringle, C. M., & Ramayah, T. H. T., (2018). Convergent validity assessment of formatively measured constructs in PLS-SEM: On using single-item versus multi-item measures in redundancy analyses. International Journal of Contemporary Hospitality Management, 1-20. https://doi.org/10.1108/IJCHM-10-2017-0649.

Cheah, J., Ting, H., Ramayah, T., Memon, M. A., Cham, T., &Ciavolino, E. (2018). A comparison of five reflective–formative estimation approaches: reconsideration and recommendations for tourism research. *Springer Quality & Quantity,* 1- 38. doi.org/10.1007/s11135-018- 0821-7.

"Challenges and success imperative"(2010).*Challenges and success imperative of microfinance institutions in Nigeria*. The Nigerian Microfinance newsletter 2010, Published by the central bank of Nigeria**.**

Chaluvadi, S., Raut, R., &Gardas, B. B. (2018). Measuring the performance efficiencyof banks in a developing economy: The case study of Indian public sector vs private sector. Benchmarking: *An International Journal,25*(2), 575-606. https://doi.org/10.1108/BIJ-10-2016-0157

Chang, D. S., & Lo, L. K. (2005). Measuring the relative efficiency of a firm's ability to achieve organizational benefits after ISO certification. *Total Quality Management & Business Excellence,16*(1), 57-69.

Chelliah, S., Sulaiman, M., & Yusoff, Y. M. (2010). Internationalization and Performance: Small and Medium Enterprises (SMEs) in Malaysia. *International Journal of Business and Management,* 5(6), 27-37.

Chen, Y., & Wu, J. (2011). Information & Management IT Management Capability and its Impact on the Performance of a CIO. *Journal of Information Management48,* 145–156. http://doi.org/10.1016/j.im.2011.04.001.

Chen, X. (2012). Impact of business intelligence and IT infrastructure flexibility on competitive advantage: An organizational agility perspective.https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1036&context=businessdiss

Chen, J. S., & Tsou, H. T. (2012). Performance Effects of IT Capability, Service Innovation, and the Mediating Role of Customer Service. *Journal of Engineering and Technology Management - JET-M29*(1), 71–94. http://doi.org/10.1016/j.jengtecman.2011.09.007

Chen, Y.C., Li, P. C., & Evans, K. R. (2012). Effects of interaction and entrepreneurial orientation on organizational performance: insights into market driven and market driving.*Industrial Marketing Management,41(6),*1019-1034.

Chesbrough, H. (2010). Business Model Innovation: Opportunities and Barriers. *Long Range Planning, 43,*354-363.

Chin, W. W. (1998). Commentary: issues and opinion on structural equation modeling.*MIS Quarterly,19(2),* 7-16.

Chin, W. W. (2010). *How to write up and report PLS analyses.*In Esposito Vinzi, V., Chin, W. W.,Henseler, J. & Wang, H. (Eds).*Handbook of Partial Least Squares*. Springer Berlin Heidelberg,655-690.

Christensen, C. M., Raynor, M. E., & Anthony, S. D. (2003). Six keys to building new markets by unleashing disruptive innovation. *Harvard Management. EEUU*.

Chung, S. H., Byrd, T. A., Lewis, B. R.,& Ford, F. N., (2015). An Empirical study of the Relationships between IT Infrastructure Flexibility, Mass Customization, and Business Performance, *The Database for Advances in Information Systems,36(3),* 26-44.

Clark, T., Zmud, R., & McCray, G., (1998). The Outsourcing of Information Services: Transforming the Nature of Business in the Information Industry. In: Willcocks, L.P., Lacity, M.C. (Eds.), *Strategic Sourcing of Information Systems.* Wiley, Chichester, 45–78.

Clark, L. A., & Watson, D. (1995). Constructing validity: *Basic issues in objective scale development. Psychological assessment, 7(3),* 309.

Clauss, T. (2017). Measuring Business Model Innovation: Conceptualization, Scale Development and Proof of Performance. *Research & Development Management*, May 47(3), 385-403. DOI: 10.1111/radm.12186

Cohen, J. (1988).*Statistical Power Analysis for the Behavioral Sciences.* Lawrence Erlbaum Associates, Publishers, NY.

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive Capacity: A New Perspective on Learning and Innovation. *Administrative Science Quarterly*, 35(1), 128. http://doi.org/10.2307/2393553.

Cohen, M. A., Fenn, S., & Naimon, J. S. (1995). *Environmental and financial performance: are they related?*. Washington, DC: Investor Responsibility Research Center, Environmental Information Service.

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.

Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal, 10(1),* 75–87.

Covin JG, Slevin, DP, Schultz, RL. 1994. Implementing strategic missions: effective strategic, structural, and tactical choices. *Journal of Management Studies, 31(4),* 481-505.

Covin, J. G., & Miles, M. P. (1999). Corporate entrepreneurship and the pursuit of competitive advantage. *Entrepreneurship theory and practice, 23(3),* 47-63.

Covin, J. G., Green, K. M., & Slevin, D. P. (2006). Strategic process effects on the entrepreneurial orientation-sales growth rate relationship. *Entrepreneurship: Theory & Practice,30(1),* 57–81.

Covin, J. G., & Lumpkin, G. T. (2011). Entrepreneurial orientation theory and research: Reflections on a needed construct. *Entrepreneurship: Theory & Practice,35(5),* 855–872.

Covin, J. G., & Miller, D. (2014). International entrepreneurial orientation: Conceptual considerations, research themes, measurement issues, and future research directions. *Entrepreneurship: Theory & Practice,38(1),* 11–44.

Covin, J. G.,& Wales, W. J. (2012). The measurement of entrepreneurial orientation. *Entrepreneurship: Theory & Practice,36(4),* 677–702.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure tests. *Psychometrika, 16(3),* 297–334.

Cronbach, L.J., &Gleser, G. C.(1965). *Psychological Tests and Personnel Decisions.* University of Illinois Press, Oxford, England

Crook, T. R., Ketchen, D. J., Jr., Combs, J. G., & Todd, S. J. (2008). Strategic resources and performance: a meta-analysis. *Strategic Management Journal, 29*(11), 1141-1154. doi: 10.1002/smj.703.

Crowston, K. (1997). A coordination theory approach to organizational process design. *Organization Science, 8(2),* 157-175.

Cucculelli, M., & Bettinelli, C. (2015). Business models, intangibles and firm performance: evidence on corporate entrepreneurship from Italian manufacturing SMEs. *Small Business Economics, 45(2),* 329-350.

CBN Microfinance newsletter,(2017).*12 Years of Microfinance Banking: Problems & Prospects***.** The Nigerian Microfinance newsletter 2017, Published by the central bank of Nigeria**.**

Dai, L., Maksimov, V., Gilbert, B. A., & Fernhaber, S. A. (2014). Entrepreneurial orientation and international scope: the differential roles of innovativeness, proactiveness, and risk-taking.*Journal of Business Venturing* 29(4), 511-524.

Dantsoho, M. A. (2015). Effect of Dynamic Information Technology Capabilities on Organisational Performance. *Seminar Proceeding* presented at the Department of Business Administration, Ahmadu Bello University, Zaria.

Dantsoho, M. A. & Ringim K. J. (2016). Dynamic Information Technology Capabilities (DITC) and Organisational performance of Banks in Kaduna State, *Conference Proceedings of the 1st National Conference on Economic Development and Challenges,* Federal University Dutsin-ma, Katsina.

Dantsoho, M. A. (2016). *Dynamic information technology capabilities (DITC) and organisational performance: the mediating effects of process improvement in Kaduna state*(Unpublished MSc Dissertation). Ahmadu Bello University, Zaria

Dantsoho, M. A. (2019). Exploring the entrepreneurial orientation of microfinance institutions in Nigeria. *A PhD seminar Paper*, presented at the department of Business Administration, ABU Business School, Ahmadu Bello University Zaria

Das, T. K., & Teng, B. (2000). A resource-based theory of strategic alliances. *Journal of Management, 26(1),* 31–61.

Das, A., &Ghosh, S. (2009). Financial deregulation and profit efficiency: a nonparametric analysis ofIndian banks. *Journal of Economics and Business,61(6),*509-528.

De Clercq, D., Dimov, D., & Thongpapanl, N. (2015). Structural and relational interdependence and entrepreneurial orientation in small and medium-sized enterprises: the mediating role of internal knowledge-sharing, *International Small Business Journal, 33(5),*514-536..

Dess, G. G.,& Robinson, R. B. (1984). Measuring Organizational Performance in the Absence of Objective Measures: The case of the Privately-held Firm and Conglomerate Business Unit. *Strategic Management Journal*, *5,* 265-273.

Dess, G. G., Ireland, R. D., Zahra, S. A., Floyd, S. W., &Janney, J. J. (2003). Emerging Issues in Corporate Entrepreneurship. *Journal of Management 29(3),* 351–378.

Diamantopoulos, A., Riefler, P., & Roth, K. P. (2008). Advancing formative measurement models. *Journal of Business Research, 61(12),*1203-1218.

Dillman, D.A. (2000). *Mail and internet surveys: the tailored design method.* (2nd Ed.). New York: John Wiley and sons.

Dillman, D. A. (2007). *Mail and Interview Surveys*: *the tailored design Methods.* (3rd Ed.). New York: John Wiley & Sons.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Mail and Interview Surveys*: *the tailored design Methods.* (4th Ed.). New York: John Wiley & Sons.

Dimitrators, P., S. Lioukas and S. Carter (2004). The Relationship between Entrepreneurship and International Performance: the Importance of Domestic Environment.*International Business Review. 1-22.*

Dodd, S. D., Jack, S., & Anderson, A. R. (2013). From admiration to abhorrence: the contentious appeal of entrepreneurship across Europe. *Entrepreneurship & Regional Development, 25(1-2),* 69-89.

Doz, Y. L.,& Kosonen, M. (2010). Embedding Strategic Agility: A Leadership Agenda for AcceleratingBusiness Model Renewal. *Long Range Planning, 43***,**370-382.

Duncan, N.B. (1995). Capturing Flexibility of Information Technology Infrastructure: A Study of Resource Characteristics and their Measure. *Journal of Management Information Technology, 12(2*), 37-57.

Dunford, R., Palmer, I.,& Benveniste, J. (2010). Business Model Replication for Early and Rapid Internationalisation: The ING Direct Experience. *Long Range Planning, 43***,**655-674.

Duarte, P. A. O., & Raposo, M. L. B. (2010). *PLS model to study brand preference: An application to the mobile phone market.* In V. Esposito Vinzi, W. W. Chin, J. Henseler & H. Wang (Eds.), Handbook of Partial Least Squares (pp. 449-485). Springer Berlin Heidelberg.

Duarte, P., &Amaro, S. (2018). Methods for modelling reflective-formative second order constructs in PLS: An application to online travel shopping. *Journal of Hospitality and TourismTechnology*, 1-20.

Duriau, V. J., Reger, R. K., &Pfarrer M. D. (2007). Content Analysis of the Content Analysis Literature in Organization Studies:Research Themes, Data Sources, and Methodological Refinements. *Organizational Research Methods,10(5),* 5-35.

Earley, P., & Mosakowski, E. (2004).Cultural Intelligence. *Harvard business review 82(10),*139-46, 158.

Edwards, J. R.(2001). Multidimensional constructs in organizational behavior research: an integrative analytical framework. *Organisational Research Methods 4*, 144–192.

Eisenhardt, K. M., & Martin, J. (2000). Dynamic capabilities: What are they? *Strategic ManagementJournal, 21(10/11),* 1105–1121.

Elnihewi, I., Fadzil, F., H., & Mohamed, R. (2014). The effect of institutional factors on the organizational performance through performance measures of commercial banksin Libya. *Procedia - Social and Behavioral Sciences, 164,* 635 – 640.

El Sawy, O. A., Malhotra, A., Gosain, S., & Young, K. M. (1999). IT-intensive value innovation in the electronic economy: *Insights from Marshall Industries. MIS quarterly,* 305-335.

Eshima, Y., & Anderson, B. S. (2017). Firm growth, adaptive capability, and entrepreneurial orientation. *Strategic Management Journal, 38(3),* 770-779.

Etemad, H. (2018). Early strategic heritage: the carryover effect on entrepreneurial firm's life cycle. *Journal of International Entrepreneurship, 16*,441–455. https://doi.org/10.1007/s10843- 018-0240-9.

Etemad, H. (2019). Revisiting interactions of entrepreneurial, marketing, and other orientations with internationalization strategies. *Journal of International Entrepreneurship, 17*, 1–18.

European Central Bank, (2010). Beyond ROE - how to measure bank performance. https://www.ecb.europa.eu/pub/pdf/other/beyondroehowtomeasurebankperformance201009en.pdf

Fainshmidt, S., Pezeshkan, A., Lance Frazier, M., Nair, A., &Markowski, E. (2016). Dynamic Capabilities and Organizational Performance: A Meta-Analytic Evaluation and Extension. *Journal of Management Studies, 53(8),*1348-1380.

Fakhri, G., &Menacere, K., &Pegum, R. (2009). The Impact of Contingent Factors on the Use of Performance Measurement System in the Banking Industry: The Case of Libya. *Postgraduate Annual Research Conference, Salford, May 7th -8th 2009*

Fang, J. W., &Chiu, Y. (2017). Research on Innovation Efficiency and Technology Gap in China Economic Development. *Asia-Pacific Journal of Operation Research,* 34, 1750005.

Fahy, J., & Smithee, A. (1999). Strategic Marketing and the Resource Based View of the Firm. *Journal of the Academy of Marketing Science Review,10,* 172-186.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: tests for correlation and regression analyses. *Behavior Research Methods, 41(4),* 1149–1160. doi:10.3758/BRM.41.4.1149

Fayolle, A., Basso, O., & Bouchard, V. (2010). Three Levels of Culture and Firms' Entrepreneurial Orientation: A Research Agenda. *Entrepreneurship and Regional Development 22(7-8),* 707-730.

Feeny, D. F.,& Willcocks, L. P. (1998). Core IS Capabilities for Exploiting Information Technology. *SloanManagement Review,39(3),* 9-21.

Ferdousi, F. (2013). Determinants of Performance of Microfinance Institutions: Cross Country Analysis. *International Journal of Financial Economics, 1(4),* 143-151.

Finn, A., & Kayande, U. (2005). How fine is C-OAR-SE? A generalizability theory perspective on Rossiter's procedure. *International Journal of Research in Marketing, 22(1), 11*-21.

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., & Saebi, T. (2016). Fifteen Years of Research on Business Model Innovation : How Far Have We Come, and Where Should We Go?, *xx*(x), 1–28. doi:10.1177/0149206316675927.

"Four Paths" (2014). Four Paths to Business Model Innovation. Online article; *Harvard Business Review*July–August. ULR: https://hbr.org/2014/07/four-paths-to-business-model-innovation.

Franke, G. R.,& Sarstedt, M., (2019). Heuristics versus statistics in discriminant validity testing: a comparison of four procedures. *Internet Research,* in press.

Frazier, P. A., Tix, A. P.,&Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology,51(1),*115–134.

Fujii, H., Managi, S., & Matousek, R. (2014). Indian bank efficiency and productivity changes withundesirable outputs: a disaggregated approach. *Journal of Banking & Finance*,38(1), 41-50.

Gall, M. D., Borg, W. R., & Gall, J. P. (1996). *Educational research: An introduction*. Longman Publishing.

Galliers, R. D., & Sutherland, A. R. (1991). Information systems management and strategy formulation: the 'stages of growth'model revisited. *Information Systems Journal, 1(2),* 89- 114.

Galunic, D. C., & Rodan, S. (1998). Resource recombinations in the firm: Knowledge structures and the potential for Schumpeterian innovation. *Strategic management journal, 19(12),* 1193-1201.

Gambardella, A.,& Mcgahan, A. M. (2010). Business-Model Innovation: General Purpose Technologies and their Implications for Industry Structure. *Long Range Planning, 43,*262- 271.

Gartner, W. B. (2007). Is There an Elephant in Entrepreneurship? Blind Assumptions in Theory Development.*Entrepreneurship Theory and Practice,25(4),* 27–39.

Gartner, W. B., Bird, B. J., & Starr, J. A. (1992). Acting as if: Differentiating entrepreneurial from organizational behavior. *Entrepreneurship theory and practice, 16(3),* 13-32.

Gartner, W. B. (2013). Creating a Community of Difference in Entrepreneurship Scholarship. *Entrepreneurship & Regional Development,25(1/2),* 5–15.

Gerasymenko, V., De Clercq, D.,& Sapienza, H. J. (2015). Changing the Business Model: Effects of Venture Capital Firms and Outside CEOs on Portfolio Company Performance. *Strategic EntrepreneurshipJournal,* 9,79-98.

Gerdoçi, B., Bortoluzzi, G., & Dibra, S. (2018). Business model design and firm performance: Evidence of interactive effects from a developing economy. *European Journal of Innovation Management, 21(2),* 315-333. DOI.org/10.1108/EJIM-02-2017-0012.

George, B. A. (2011) Entrepreneurial orientation: A theoretical and empirical examination of the consequences of differing construct representations. *Journal of Management Studies,48(6),* 1291–1313.

George, B. A., & Marino, L. (2011). The epistemology of entrepreneurial orientation: Conceptual formation, modeling, and operationalization. *Entrepreneurship: Theory & Practice,* 35(5), 989–1024.

Georgopoulos, B. S., & Tannenbaum, A. S. (1957). A study of organizational effectiveness. *American Sociological Review, 22(5),* 534-540.

Ghazikalaye, K., &Roshani, F. (2016). The effect of entrepreneurial orientation on business performance with regard to the role of Customer Relationship Management (Case Study: Ghavamin Bank city of Kermanshah). *International Journal of Humanities and Cultural Studies special issue,*1379-1387.

Ghosh, S. (2015). Banking on a better tomorrow: public sector banks scout for a survival kit", The Financial Express, 8 June 2014, available at: www.financialexpress.com/industry/bankingfinance/psbs-scout-for-a-survival-kit/81534/ (accessed 22 May 2017).

Giannakos, M. N., Mikalef, P., &Pappas, I. O. (2017). Influence of Data Analysis, Entrepreneurial and Business Skills on Information Technology Firms: A Dynamic Capabilities Approach. *Conference proceeding,* 1-11.DOI: 10.24251/HICSS.2018.546.

Girotra, K., & Netessine, S. (2013). Business model innovation for sustainability. *Manufacturing & ServiceOperations Management, 15*, 537-544.

Girotra, K., & Netessine, S. (2014). Four paths to business model innovation. *Harvard Business Review*, 92(7/8):96-103.

Glaister, K. W., Dincer, O., Tatoglu, E., Demirbag, M., & Zaim, S. (2008). A causal analysis of formal strategic planning and firm performance. *Management Decision*.

Glick, W. H., Washburn, N. T., & Miller, C. C. (2005, August). The myth of firm performance. *In Annual Meeting of the Academy of Management.*

GoronDutse, A. H. (2014). *Effect of business social responsibity (BSR) on performance of SMEs in Nigeria* (Unpublished Doctoral Dissertation). University Utara, Malaysia.

Gregg, M. B. (2008). *Field epidemiology* (3rd ed.). New York: Oxford University Press, USA.

Green, S. D., Larsen, G. D., & Kao, C. C.(2008). Competitive strategy revisited: contested concepts and dynamic capabilities. *Construction Management and Economics,26(1),*63-78.

Green, J. P., Tonidandel, S., & Cortina, J. M. (2016). Getting Through the Gate: Statistical and Methodological Issues Raised in the Reviewing Process. *Organizational Research Methods, 19*(3), 402-432. doi: https://doi.org/10.1177/1094428116631417.

Geisser, S. (1974). A predictive approach to the random effect model. *Biometrika, 61(1),* 101–107.

Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of management information systems, 18(1),* 185-214.

Groves, R. M. (2006). Nonresponse rates and nonresponse bias in household surveys. *Public Opinion Quarterly, 70(5),* 646–675.

Guba, E. G. (1990). The paradigm dialog. In *Alternative Paradigms Conference, Mar, 1989, Indiana U, School of Education, San Francisco, CA, US*. Sage Publications, Inc.

Gul, F. A., Podder, J., & Shahriar, A. Z. M. (2017). Performance of microfinance institutions: does government ideology matter?. *World Development, 100,* 1-15.

Guest, D. E. (2011). Human resource management and performance: still searching for some answers. *Human resource management journal, 21(1),* 3-13.

Guide, V. D. R., & Ketokivi, M. (2015). Notes from the Editors: Redefining some methodologicalcriteria for the journal. *Journal of Operations Management, 37*, v-viii. doi:https://doi.org/10.1016/S0272-6963(15)00056-X.

Gunzel, F.,& Holm, A. B. (2013). One Size Does Not Fit All-Understanding The Front-End And Back-End Of Business Model Innovation. *International Journal of Innovation Management,* 17**,** 1-35.

Gul, F. A., Podder, J., & Shahriar, A. Z. M. (2017). Performance of Microfinance Institutions: Does Government Ideology Matter? *World Development 100,* 1–15. doi.org/10.1016/j.worlddev.2017.07.021.

Gupta, A.K., Smith, K. G., & Shalley, C. E. (2006). The Interplay between Explorationand Exploitation', *Academy of Management Journal, 49(4),*693-706.

Gupta, V.K. & Dutta, D. K.(2016). Inquiring into Entrepreneurial Orientation: Making Progress, One Step at a Time. *New England Journal of Entrepreneurship,19(2),*1-6.

Gupta, V., Mortal, S. C., & Yang, T., (2016). Entrepreneurial orientation and firm value: Does managerial discretion play a role? *Review of Managerial Science,*1-26.

Gupta, V.K. & Wales, W.J., (2017). Assessing Organisational Performance Within Entrepreneurial Orientation Research: Where Have We Been and Where Can We Go from Here? *The Journal of Entrepreneurship,26(1),*1-26.

Hackman, J. R., Hackman, R. J., & Oldham, G. R. (1980). *Work redesign* (Vol. 2779). Reading, Mass.: Addison-Wesley.

Hansen, G. S., & Wernerfelt, B. (1989). Determinants of firm performance: The relative importance of economic and organizational factors. *Strategic Management Journal,10(5),* 399–411. doi:10.1002/smj.4250100502.

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of management review, 9*(2), 193-206.

Hannabus, S. (1987). The Importance of Performance Measures. *Library Review, 36(4),*248-253.

Hase, S. (2000). Measuring organisational capability: beyond competence. *Proceedings of Future research, research futures: Australian Vocational Education and Training Research Association (AVETRA) Conference,* Canberra.

Hair, J. F. J., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (6th ed.). New Jarsey: Pearson Prentice Hall.

Hair, J., Wolfinbarger, M., Ortinau, D., & Bush, R. (2008). In Hair JF. *Essentials of marketing research.*

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). New Jersey: Pearson Prentice Hall.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice,19*, 139−151.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2012). Partial least squares: the better approach to structuralequation modeling?.*Long Range Planning,45(5/6),*312-319.

Hair, J.F., Hult, G.T.M., Ringle, C., & Sarstedt, M. (2013).*A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM).* 1st ed., SAGE Publications, Inc.

Hair, J.F., Jr, Hult, G.T.M., Ringle, C. M. & Sarstedt, M. (2014a).*A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM).* 1st ed., SAGE Publications Ltd, Thousand Oaks,CA.

Hair, J.F., Jr, Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014b). Partial least squares structuralequationmodeling (PLS-SEM): an emerging tool in business research.*European Business Review, 26(2), 106-121*.

Hair, J.F., Jr, Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2017).*Advanced Issues in Partial Least Squares Structural Equation Modeling*. 1st ed., Sage Publications, Los Angeles.

Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., & Thiele, K .O. (2017). Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods.*Journal of the Academy of Marketing Science,* 45(5), 616-632.

Hair, J.F., Jr, Hult, G.T.M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM).* 2nd ed., SAGE Publications, Inc.

Hair, J.F., Sarstedt, M., Ringle, C. M., Gudergan, S. P. (2018). *Advanced Issues in Partial Least Squares Structural Equation Modeling (PLS-SEM).* Sage Publications, Thousand Oaks, CA.

Hair, J. F., Risher, J. R., Sarstedt, .M., & Ringle, C. M. (2018).When to use and how to report the results of PLS-SEM. European Business Review, https://doi.org/10.1108/EBR-11-2018-0203.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European Business Review, *31(1),* 2–24.

Hair, J. F., Howarda, M. C., & Nitzl C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research, 109,* 101–110. https://doi.org/10.1016/j.jbusres.2019.11.069.

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of management review, 9*(2), 193-206.

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of management review, 9(2),* 193-206.

Hamelink, M., & Opdenakker, R. (2019). How business model innovation affects firm performance in the energy storage market. *Renewable Energy131, February 2019,*120-

Hammer, M., & Champy, J. (1993). *Reengineering the Corporation.*1st ed., USA: Harper Collins Inc.

Hannabuss, S. (1987, May). The concept of performance: a semantic review. In *Aslib Proceedings*. MCB UP Ltd.

Hartman, M., Oriani, R., &Bateman, H. (2013). The Performance Effect of Business Model Innovation: An Empirical Analysis of Pension Funds. *35th DRUID Celebration Conference 2013, Barcelona, Spain, June 17-19,* 1-35.

Hart, S. L. (1992). An integrative framework for strategy-making processes. *Academy of management review, 17(2*), 327-351.

Hao-Chen, H., Mei-Chi, L., Lee-Hsuan, L. & Chien-Tsai, C. 2013. Overcoming organizational inertia to strengthen business model innovation. *Journal of Organizational Change Management, 26,*977-1002.

Hase, S. (2000). Measuring organisational capability: beyond competence. *Graduate College of Management Papers*, 140.

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millenium. *Communication Monographs, 76*, 408-420.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach.* New York: Guilford.

Hayes, A. F., & Rockwood, N. J. (2016). Regression-based mediation and moderation analysis in clinical research: Observations, recommendations, and implementation. *Behaviour Research and Therapy*. doi: 10.1016/j. brat. 2016.11. 0, 1.

Heij, C. V., Volberda, H. W., & Van den Bosch, F. A. J. (2014). How does business model innovation influence firm performance: the effect of environmental dynamism. *Academy of Management Proceedings, 2014(1),* 16500. doi:10.5465/ambpp.2014.234.

Helm, S., Eggert, A., & Garnefeld, I. (2010). Modelling the impact of corporate reputaion on customer satisfaction and loyalty usin partial least squares. In V. E. Vinzi (Ed.), *Handbook of Partial Least Squares* (pp. 171–193). Berlin: Springer Handbooks of Computational Statistics. doi:10.1007/978-3-540-32827-8 .

Helfat, C. E., & Peteraf, M. A. (2003). The dynamic resource-based view: Capability lifecycles. *Strategic management journal, 24(10),* 997-1010.

Helfat, C. E., & Martin, J. A.(2015). Dynamic managerial capabilities: review and assessment of managerial impact on strategic change. *Journal of Management 41(5),* 1281-1312.

Henderson, R. 1994. The evolution of integrative capability: Innovation in cardiovascular drug discovery. *Industrial and Corporate Change, 3,* 607– 630.

Henseler, J. (2012). PLS-MGA: A non-parametric approach to partial least squares-based multi-group analysis. In *Challenges at the interface of data analysis, computer science, and optimization* (pp. 495-501). Springer, Berlin, Heidelberg.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43,* 115−135.

Hill, R. (1998). What sample size is "enough" in internet survey research. Interpersonal Computing and Technology: *An electronic journal for the 21st century, 6(3-4),* 1-12.

Hite, J. M., & Hesterly, W. S. (2001). The evolution of firm networks: From emergence to early growth of the firm. *Strategic management journal, 22(3),* 275-286.

Hitt, M.A., Ireland, R.D., Camp, S. M., & Sexton, D. L. (2001). Strategicentrepreneurship: entrepreneurial strategies for wealth creation.*Strategic ManagementJournal*, 22(6-7), 479-491.

Hjorth, D., Jones, C., & Gartner, W. B. (2008). Introduction for'Recreating/recontextualising entrepreneurship'. *Scandinavian Journal of Management, 24(2),* 81-84.

Holloway, S. S., &Sebastiao,H. J. (2010). The Role of Business Model Innovation in the Emergence of Markets: A Missing Dimension of Entrepreneurial Strategy?*Journal of Strategic Innovation and Sustainability, 6(4),*86-99 127. DOI:10.1016/j.renene.2018.07.051.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6(1), 1–55*.doi:10.1080/10705519909540118

Huang, H.-C., Lai, M.-C., Kao, M.-C., & Chen, Y.-C. (2012). Target Costing, Business Model Innovation, and Firm Performance: An Empirical Analysis of Chinese Firms. *Canadian Journal of Administrative Sciences 29(4),* 322–335. doi:10.1002/cjas.1229

Huarng, K.-H. (2013). A two-tier business model and its realization for entrepreneurship. *Journal of BusinessResearch,* 66**,** 2102-2105.

Hughes, M., & Morgan, R. E. (2007). Deconstructing the relationship between entrepreneurial orientation and business performance at the embryonic stage of firm growth.*Industrial Marketing Management*36(5), 651-661.

Hughes, M., Hughes, P.,& Morgan, R. E. (2007). Exploitative learning and entrepreneurial orientation alignment in emerging young firms: implications for market and response performance. *British Journal of Management,18(4),*359-375.

Hult, G. T. M., Snow, C. C., & Kandemir, D. (2003). The role of entrepreneurship in building cultural competitiveness in different organizational types. *Journal of management, 29(3),* 401-426.

Hussain, M., Gunasekaran, A., &Islam, M. M. (2002). Implications of non-financial performance measures in Finnish banks. *Managerial Auditing Journal,17(8),*452-463, https://doi.org/10.1108/02686900210444798.

Hsu, I. C., & Sabherwal, R. (2012). Relationship between intellectual capital and knowledge management: an empirical investigation. *Decision Sciences*, *43*(3), 489-524.

Hwang, J., & Christensen, C. M. (2008). Disruptive innovation in health care delivery: a framework for business-model innovation. *Health affairs, 27(5),* 1329-1335.

Idar, R., & Mahmood, R. (2011). Entrepreneurial and market orientation relationship to performance: The SME perspective. *Interdisciplinary Review of Economics and Management, 1(2*), 1–8.

Idroes, F. N. (2015). Distinctive Capabilities of Banking Industry, Proceedings of 8th Asia-Pacific Business Research Conference, Kuala Lumpur, Malaysia, ISBN: 978- 1-922069-71-9.

Ireland, R.D., Hitt, M.A., Camp, S. M., & Sexton, D. L. (2001). Integratingentrepreneurship and strategic management actions to create firm wealth', *Academy ofManagement Executive*, 15(1), 49-63.

Ireland, R.D., Hitt, M. A., & Sirmon, D. G. (2003). A Model of StrategicEntrepreneurship: The Construct and its Dimensions.*Journal of Management*, 29(6),963-989.

Jansen, S. A. (2004). Public Merger Management. In *Public Merger* (pp. 3-37). Gabler Verlag.

Jantunen, A., Puumalainen, K., Saarenketo, S., & Kyläheiko, K. (2005). Entrepreneurial orientation, dynamic capabilities and international performance.*Journal of International Entrepreneurship, 3(3),*223-243.

Jantunen, A., Ellonen, H. K., & Johansson, A. (2012). Beyond appearances–do dynamic capabilities of innovative firms actually differ?. *European Management Journal, 30(2),* 141-155.

Jantunen, A., Tarkiainen, A., Chari, S., & Oghazi, P. (2018). Dynamic capabilities, operational changes, and performance outcomes in the media industry. *Journal of Business Research, 89, 251–257.*

Jarvis, C. B., MacKenzie, S. B., & Podsakoff, P. M. (2003). A critical review of construct indicatorsand measurement model misspecification in marketing and consumer research. *Journal of Consumer Research, 30(2),* 199-124.

Janssen, M., Kuk, G., & Wagenaar, R. W. (2008). A survey of Web-based business models for e-government in the Netherlands. *Government information quarterly, 25(2),* 202-220.

Jaworski, B. J., & Kohli, A. K. (1993).Market Orientation: Antecedents and Consequences. *Journal of Marketing* 57(3) July, 53-70.

Jenatabadi, H. S. (2015). An Overview of Organizational Performance Index: Definitions and Measurements. Research. DOI: 10.13140/RG.2.1.4298.3849.

Jianu, I., Jianu, L., & Turlea, C. (2017). Economic Computation and Economic Cybernetics. \ Studies and Research, Issue, 1(51), 37-50.

Johnson, M.W., Christensen, C.M., & Kagermann, H. (2008). Reinventing your business model. *Harvard Business Review, 86(12),* 50–59.

Jorgenso, E. (2015).Why Value Capture is the Most Important Business Idea You Haven't Read Enough About. https://medium.com/evergreen-business-weekly/why-value-capture-is-the-most-important-business-idea-you-haven-t-read-enough-about-c035c657d091.

Joshi, A., Kale, S., Chandel, S., & Pal D. K. (2015). Likert Scale: Explored and Explained. British *Journal of Applied Science & Technology 7(4),* 396-403.

Kale, P., Dyer, J. H., & Singh, H. (2002). Alliance capability, stock market response, andlong-term alliance success: The role of the alliance function. *Strategic Management Journal,* 23(8), 747–767.

Kaplan, R. S., &Norton, D. P.(1996). The balanced scorecard – Measures that drive performance, *Harvard Business Review January-February*, 71-79.

Kaplan, S. (2008). Cognition, capabilities, and incentives:assessing firm response to the fiber-optic revolution.*Academy of Management Journal*, 51, 672–695.

Karmann, T., Mauer, R., Flatten, T. C., & Brettel, M. (2016). Entrepreneurial orientation and corruption. *Journal of Business Ethics, 133(2),* 223-234.

Karimi, J., & Walter, Z. (2015). The Role of Dynamic Capabilitiesin Responding to Digital Disruption: A Factor-Based Study of the Newspaper Industry.*Journal ofManagement Information Systems* 32(1), 39-81. DOI: 10.1080/07421222.2015.1029380.

Karimi, J., & Zhiping, W. (2016). Corporate entrepreneurship, disruptive business model innovation adoption, and its performance: The case of the newspaper industry. *Long Range Planning, 49,*342-360.

Kandemir, D., & Hult, G. T. M. (2005). A conceptualization of an organizational learning culture in international joint ventures. *Industrial marketing management, 34(5),* 430-439.

Kao, C., & Liu, S. T. (2014). Measuring performance improvement of Taiwanese commercial banksunder uncertainty.*European Journal of Operational Research, 235*(3), 755-764.

Kaur, S., & Gupta, P.K. (2015). Productive efficiency mapping of the Indian banking system using data envelopment analysis. *Procedia Economics and Finance, 25*(1), 227-238.

Kearns, G. S., & Lederer, A. L. (2003). A Resource-based View of Strategic IT Alignment: How knowledge sharing creates competitive advantage, *Journal of Decision Sciences*, 34, 11- 30.

Keats, B. W., & Bracker, J. S. (1988). Toward a theory of small firm performance: A conceptual model. *American Journal of Small Business, 12(4),* 41-58.

Khedhaouria, A., Gurău, C., & Torrès, O. (2015). Creativity, self-efficacy, and small-firm performance: the mediating role of entrepreneurial orientation. *Small Business Economics, 44(3),* 485-504.

Khong, K. W., & Richardson, S. (2003). Business process re-engineering in Malaysian banks and finance companies. *Managing Service Quality, 13*(1), 54-71.

Khoshsima, G., & Jafarnezhad, A. (2011). Effect of Information Technology Infrastructure Flexibility on Competitive Advantage and Organizational performance.*Journal of business strategies,*1(47), 69-92.

Kim, G., Shin, B., Kim, K. K., & Lee, H. G. (2011). IT capabilities, process-oriented dynamic capabilities, and firm financial performance. *Journal of the association for information systems, 12(7),* 1.

Kiron, D., Kruschwitz, N., Haanaes, K., Reeves, M.,& Goh, E. (2013). The Innovation Bottom Line. *MIT Sloan Management Review,* 54, 1-21.

Kline, J. D. (2001). Tourism and natural resource management: a general overview of research and issues. Gen. Tech. Rep. PNW-GTR-506. Portland, OR: *US Department of Agriculture, Forest Service, Pacific Northwest Research Station. 19 p, 506.*

Kock, N., &Hadaya, P. (2018). Minimum Sample Size Estimation in PLS-SEM: The Inverse Square Root and Gamma-Exponential Methods. *Information Systems Journal* 28(1): 227-261.

Kogut, B., & Zanger, U. (1996). "What Firms Do? Coordination, Identity, and Learning". *Organizational Science, 7(502),* 507-511.

Kocyigit, O., & Ringle, C. M. (2011). The impact of brand confusion on sustainable brand satisfaction and private label proneness: A subtle decay of brand equity. *Journal of Brand Management, 19(3),* 195-212.

KPMG, (2014). Nigeria Banking Industry Customer Satisfaction Survey, available at https://home.kpmg.com/content/dam/kpmg/pdf/2015/01/2014-Banking-Industry-Customer-Satisfaction-Survey-Final.pdf, accessed on December, 2015.

KPMG, (2015). Annual Banking Industry Customer Satisfaction Survey (BICSS), 9th Edition http://www.kpmg.com/NG/en/Documents/2015%20BICSS%20Survey%20report.pdf, accessed on September, 2018.

Kollmann, T., & Stöckmann, C. (2014). Filling the entrepreneurial orientation–performance gap: the mediating effects of exploratory and exploitative innovations.*Entrepreneurship Theory and Practice, 38(5),*1001-1026.

Kotilainen, K., Saari, U. A., Mäkinen, S. J., & Ringle, C. M. (2019). Exploring the microfoundations of end-user interests toward co-creating renewable energy technology innovations.*Journal of Cleaner Production,* doi: 10.1016/j.jclepro.2019.04.296

Kiron, D., Kruschwitz, N., Haanaes, K., Reeves, M., & Goh, E. (2013). The innovation bottom line. *MIT Sloan Management Review, 54(3),* 1.

Kraus, S., Rigtering, J. C., Hughes, M. & Hosman, V. (2012). Entrepreneurial orientation and the business performance of SMEs: a quantitative study from The Netherlands. *Review of Managerial Science,* 6(2), 161-182.

Krejcie, R. V, & Morgan, D. W. (1970). Determining sample for research activities. *Educational and Psychological Measurement*, *38*, 607–610.

Kreiser, P. M., & Davis, J. (2010). Entrepreneurial orientation and firm performance: The unique impact of innovativeness, proactiveness, and risk-taking. *Journal of small business & entrepreneurship, 23(1),* 39-51.

Kreiser, P. M., Marino, L. D., &Weaver, K. M. (2002). Assessing the Psychometric Properties of theEntrepreneurial Orientation Scale: A Multi-country Analysis.*Entrepreneurship: Theory & Practice,26(4),* 71–95.

Kreiser, P. M., Marino, L. D., Dickson, P., &Weaver, M. K. (2010). Cultural Influences on EntrepreneurialOrientation: The Impact of National Culture on Risk Taking and Proactiveness in SMEs. *Entrepreneurship: Theory & Practice,34(5),* 959–983.

Kreiser, P. M., & Davis, J. (2010). Entrepreneurial Orientation and Firm Performance: The Unique Impactof Innovativeness, Proactiveness, and Risk-taking.*Journal of Small Business & Entrepreneurship,23(1),*39–51.

Kreiser, P.M., Marino, L. D., Kuratko, D. F., &Weaver, K.M. (2013). Disaggregating entrepreneurial orientation: the non-linear impact of innovativeness, proactiveness and risk-taking on SME performance. *Small Business Economics,40(2),*273-291.

Kumar, B. (2012). *A theory of planned behaviour approach to understand the purchasing behaviour for environmentally sustainable products* (No. 2012-12-08).

Kyriakopoulos, K. (2011). Improvisation in Product Innovation: The Contingent Role of Market Information Sources and Memory Types. *Organization Studies, 32(8),* 1051–1078. doi:10.1177/0170840611410833.

Kunze, F., Boehm, S., &Bruch, H. (2013). Organizational performance consequences of age diversity: Inspecting the role of diversity-friendly HR policies and top managers' negative age stereotypes. *Journal of Management Studies*, 50, 413-442.

Kumar, S., & Gulati, R. (2009). Technical efficiency and its determinants in the Indian domestic banking industry: An application of DEA and Tobit analysis. *American J of Finance and Accounting, 1(3),* 256-296. DOI: 10.1504/AJFA.2009.026484.

Kuratko, D. F., & Audretsch, D. B. (2009). Strategic entrepreneurship: exploring different perspectives of an emerging concept. *Entrepreneurship theory and practice, 33(1),* 1-17.

Kwon, D., & Watts, S. (2006). IT valuation in turbulent times. The Journal of Strategic Information Systems, *15(4),* 327-354.

Kyriakidou, V., Michalakelis, C., & Sphicopoulos, T. (2013). Assessment of information and communications technology maturity level. *Telecommunications Policy, 37(1),* 48-62.

Laaksonen, O., &Peltoniemi, M. (2016). The Essence of Dynamic Capabilities and their Measurement.*International Journal of Management Reviews,* 1–22. DOI: 10.1111/ijmr.12122

Lassen, A. H., & Nielsen, S. L. (2009). Corporate entrepreneurship: innovation at the intersection between creative destruction and controlled adaptation. *Journal of Enterprising Culture, 17(02),* 181-199.

Latan H. (2018). PLS Path Modeling in Hospitality and Tourism Research: The Golden Age and Days of Future Past. In: Ali F, Rasoolimanesh SM and Cobanoglu C (eds) *ApplyingPartial Least Squares in Tourism and Hospitality Research.* Bingley: Emerald, 53-84.

Law, K.S., Wong, C., &Mobley, W.H., (1998). Toward a taxonomy of multidimensional constructs. *Academy of Management Review 23(4),* 741-755.

Lawshe, C. H. (1975). A quantitative approach to content validity 1. *Personnel psychology, 28(4),* 563-575.

Lechner, C.,&Gudmundsson, S.V. (2014). Entrepreneurial orientation, firm strategy and small firm performance. *International Small Business Journal,* 2014, 32, 36–60.

Lee, C., Lee, K., & Pennings, J. (2001). Internal capabilities, external networks, and performance: A study on technology-based ventures. *Strategic Management Journal,22(6–7),* 615–640.

Lee, C. Y. (2010). A theory of firm growth: Learning capability, knowledge threshold, and patterns of growth. *Research Policy, 39(2),* 278-289.

Lee, J., & Perk, T. (2016). Entrepreneurial Orientation in South Korea: Review and Suggestions for Future Research Directions.*Asia Pacific Journal of Small Business 12,* 95-120.

Leiblein, M. J. (2011). What do resource-and capability-based theories propose?. 909 – 932.

Lev, B., Petrovits, C., & Radhakrishnan, S. (2010). Is doing good good for you? How corporate charitable contributions enhance revenue growth. *Strategic management journal, 31(2),* 182-200.

Loredana, D. R., & Alexandru, A. (2017). Crisis Implications over Corporate Governance and Financial Performance. Ovidius University Annals, Economic Sciences Series, *17(1),* 30-34.

Liao, J., Kickul, J. R., & Ma, H. (2009). Organizational dynamic capability and innovation: An empirical examination of internet firms. *Journal of small business management, 47(3),* 263-286.

Liao, T. S., & Rice, J. (2010). Innovation investments, market engagement and financial performance: A study among Australian manufacturing SMEs. *Research Policy, 39(1),* 117-125.

Li, Y.H., Huang, J. W., & Tsai, M. T. (2009). Entrepreneurial orientation and firm performance: the role of knowledge creation process, *Industrial Marketing Management,* 38(4), 440-449.

Li, L., Jiang, F., Pei, Y., &Jiang, N. (2017). Entrepreneurial orientation and strategic alliance success: The contingency role of relational factors. *Journal of Business Research 72,* 46–56.

Lim, S.,& Trimi, S. (2014) Impact of Information Technology Infrastructure Flexibility on theCompetitive Advantage of Small and Medium Sized-Enterprises, *Journal of Business &Management, 3(1),* 01-12.

Lin, B. (2007). Information Technology Capability and Value Creation: Evidence from the US Banking Industry, *Technology in Society,* 29, 93–106.

Lin, Z., Yang, H., & Arya, B. (2009). Alliance partners and firm performance: Resource complementarityand status association. *Strategic Management Journal,30(9),* 921–940.

Lin, J., Sun, Y.,&He, J. (2009). The relationship between the entrepreneurial orientation and firm growth performance: Under the action of absorptive capacity. *Soft Science,23,* 135–140.

Lin, Y., & Wu, L. Y. (2014). Exploring the role of dynamic capabilities in firm performance under the resource-based view framework. *Journal of Business Research*, *67*(3), 407–413. doi:10.1016/j.jbusres.2012.12.019.

Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in crosssectional research designs. *Journal of Applied Psychology,86(1),* 114–121.

Lindner, J. R., & Wingenbach, G. J. (2002). Communicating the handling of nonresponse error in Journal of Extension Research in Brief articles. *Journal of Extension, 40(6),* 1-5.

Lindgren, I. (2013). *A study on who matters for public e-service development and implementation* (Doctoral Dissertation). Linköping, Sweden: Linköping University.

Linton, G. (2016). *Entrepreneurial orientation: reflections from a contingency perspective.* Örebro: Örebro University.

Linton, G. (2019). Innovativeness, risk-taking, and proactiveness in startups: a case study and conceptual development. *Journal of Global Entrepreneurship Research, 9(20),* I1-21. DOI: 10.1186/s40497-019-0147-5.

Lisboa, A., Skarmeas, D., & Lages, C. (2011). Entrepreneurial orientation, exploitative and explorative capabilities, and performance outcomes in export markets: a resource-based approach", *Industrial Marketing Management,* 40(8), 1274-1284.

Lomberg, C., Urbig, D., Stockmann, C., Marino, L. D. & Dickson, P. H. (2016). Entrepreneurial orientation: the dimensions' shared effects in explaining firm performance", *Entrepreneurship Theory and Practice,* 41(6).

Luck, D. J., & Rubin, R. S. (1994). *An Assessment of the Internet's Potential in Enhancing Consumer Relationships* (Chapter 4: Research Methodology). 92-118.

Ludeke-Freund, F., (2010). Towards a conceptual framework of business models for sustainability. In: *ERSCP-EMU Conference, Delft, The* Netherlands, 1-28.

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of management Review,* 21(1), 135-172.

Luper, I. & Kwanum, I. M. (2012). An Assessment of Risk Management of Small and Medium Scale Enterprises in Nigeria. *Research Journal of Finance and Accounting, 3(5), 151-158.*

Lyon, D. W., Lumpkin, G. T., & Dess, G. G. (2000). Enhancing entrepreneurial orientation research: Operationalizing and measuring a key strategic decision making process. *Journal of management, 26(5),* 1055-1085.

MacKenzie, S. B., & Podsakoff, P. M. (2012). Common Method Bias in Marketing: Causes, Mechanisms, and Procedural Remedies. *Journal of Retailing, 88(4),* 542–555.

MacKinnon, D. P. (2008). *Introduction to Statistical Mediation Analysis.* New York: Erlbaum.

MacKenzie, S.B., Podsakoff, P. M., & Jarvis, C. B. (2005). The problem of measurement model misspecification in behavioral and organizational research and some recommended solutions. *The Journal of Applied Psychology,90(4),* 710-730.

MacKenzie, S. B., & Podsakoff, P. M. (2012). Common method bias in marketing: causes, mechanisms, and procedural remedies. *Journal of Retailing*, *88*(4), 556–562. doi:10.1016/j.jretai.2012.10.002

Magretta, J. (2002). Why business models matter. *Harvard Business Review, 80(5),* 86-92.

Maholtra, N.K., Kim, S.S., Patil, A. (2006), Common method variance in IS research: Acomparison of alternative approaches and a reanalysis of research. *Management Science, 52(12),* 1865-1883

Mahoney, J. T., & Pandian, J. R. (1992). The resource-based view within the conversation of strategic management. *Strategic management Journal, 13(5),* 363-380.

Malek M. D. A. (nd). Research philosophy and literature review. https://www.ums.edu.my/pascav2/files/merged_document.pdf

Marr, B., & Schiuma, G. (2003). Business Performance Measurement–past, Present and Future. *Management Decision, 41*(8), 680-687.

Martins, L. L., Rindova, V. P., & Greenbaum, B. E. (2015). Unlocking the hidden value of concepts: A cognitive approach to business model innovation. *Strategic Entrepreneurship Journal,* 9, 99–117.

Masa'deh, Tayeh, R., Al-Jarrah, M., &Tarhini, I. M. (2015). Accounting vs. Market-based Measures of Firm Performance Related to Information Technology Investments. *International Review of Social Sciences and Humanities 9(1),* 129-145.

Masrek, M. N. (2009). The Effect of Information Technology Infrastructure Flexibility on Intranet Effectiveness, *Computer and Information Science,2(2),*57–67.

Mata, F. J., Fuerst, W. L.,& Barney, J. B. (1995). Information Technology and Sustained Competitive Advantage: A Resource-Based Perspective, *MIS Quarterly,* 19, 487-505.

Matysiak, L., Rugman, A. M.,& Bausch, A. (2018). Dynamic Capabilities of Multinational Enterprises: The Dominant Logics Behind Sensing, Seizing, and Transforming Matter!. *Management International Review, Springer,* 58(2), 225-250.

Matzler, K., Bailom, F., von den Eichen, S. F., & Kohler, T. (2013). Business model innovation: coffee triumphs for Nespresso. *Journal of Business Strategy*.

Maxwell, S. E., Kelley, K., & Rausch, J. R. (2008). Sample size planning for statistical power and accuracy in parameter estimation. *Annual Review of Psychology*, 59, 537–563. doi:10.1146/annurev.psych.59.103006.093735

Mazdeh, M. M., & Hesamamiri, R. (2014). Knowledge management reliability and its impact on organizational performance: An empirical study, *Program,* 48, 102-126.

Memon, M. A., Cheah, J., Ramayah, T., Ting, H., & Chuah, F. (2018). Mediation analysis issues and recommendations. *Journal of Applied Structural Equation Modeling, 2(1),* 1-9.

McGahan, A. M., & Porter, M. E. (1997). How much does industry matter, really?. *Strategic management journal, 18(S1),* 15-30.

McGrath, R. G. (2010). Business models: A discovery driven approach. *Long range planning, 43(2-3),* 247-261.

McKelvie, A., & Davidsson, P. (2009). From Resource Base to Dynamic Capabilities: an Investigation of New Firms.*British Journal of Management* 20*(1),* 63-80. DOI: 10.1111/j.1467-8551.2008.00613.x

McKinsey, C. (2017). Mastering new realities A blueprint to transform Indian banking. Online article access on 23rd January, 2017. Available from https://www.mckinsey.com

Meier, K. J.,& O'Toole, L. J. (2013). Subjective organizational performance and measurement error: Common source bias and spurious relationships' *Journal of Public Administration Research and Theory*, 23, 429-456.

Memon, M. A., Cheah, J., Ramayah, T., Ting, H., & Chuah, F. (2018). Mediation Analysis Issues and Recommendations. *Journal of Applied Structural Equation Modeling, 2(1),*1-9.

Messersmith, J. G., & Wales, W. J. (2013). Entrepreneurial orientation and performance in young firms: the role of human resource management.*International Small Business Journal, 31(2),*115-136.

Mezger, F. (2014). Toward a capability-based conceptualization of business model innovation: Insights from an explorative study. *R&D Management, 44*, 429-449.

Mitchell, A. (1997), Brand Strategies in the Information Age, Financial Times Report, London

Mihardjo, L. W. W., & Furinto, A. (2018). The Effect of Business Alliance and Innovation Management on Sustainable Competitive Advantages for Incumbent Telecommunication Companies in the Disruptive Era. *Advanced Science Letters, 24(1),* 260-263.

Mikalef, P., & Pateli, A. (2016). A Validated Measurement Instrument of IT-Enabled Dynamic Capabilities.*Twenty-Fourth European Conference on Information Systems (ECIS),* Istanbul, Turkey.

Mikalef, P. (2017). IT-enabled dynamic capabilities, environmental uncertainty, and competitive performance. *Twenty-fourth Americas Conference on Information Systems*, New Orleans, 2018 1-11.

Miles, R. E., Snow, C. C., Meyer, A. L., & Coleman, H. J. (1978). Organisational strategy, Structure, and Process. *The Academic Management Review, 3(3),* 546-562.

Miller, D.(1983). The correlates of entrepreneurship in three types of firms. *Management Science, 29(7),* 770−791.

Miller, D., (2011). Miller 1983 revisited: a reflection on Entrepreneurship research and some suggestions for the future. *Entrepreneurship Theory and Practice*, 35(5), 873−894.

Miller, D., &Friesen, P.H., (1983). Strategy-making and environment: the third link, *Strategic Management Journal, 4(3), 221−235.*

Miller, D., & Breton-Miller, L.(2011). Governance, social identity, and entrepreneurialorientation in closely held public companies. *Entrepreneurship Theory and Practice*, 35(5), 1051− 1076.

Miller, C. C., Washburn, N. T., & Glick, W. H. (2013). The Myth of Firm Performance. Organization Science, 24(3), 948–964. DOI: 10.1287/orsc.1120.0762.

Milovanović, B. M., & Galetić, F. (2008). Linking entrepreneurial orientation with the performance of Croatian hotel industry. In *4th International Conference An Enterprise Odyssey: Tourism - Governance and Entrepreneurship* 1–7.

Mintzberg, H., (1973). Strategy-making in three modes. *California Management. Review,16(2),* 44−53.

Mishra C. S., & Zachary, R. K. (2014). *The Entrepreneurial Value Creation Theory. In: The Theory of Entrepreneurship*. Palgrave Macmillan, New York.

Mithas, S., Ramasubbu, N., Krishnan, M. S., & Sambamurthy, V. (2005). Information Technology Infrastructure Capability and Firm Performance: An Empirical Analysis. Online article, retrieved onNovember, 2017.

Mitra, R. K., & Gupta, M. P. (2008). A contextual perspective of performance assessment in eGovernment: A study of Indian Police Administration. *Government Information Quarterly, 25 (2),* 278–302.

Morris, M. H., & Kuratko, D. F. (2002). *Corporate entrepreneurship: Entrepreneurial development within organizations.* South-Western Pub.

Morris, M., Schindehutte, M., & Allen, J. (2005). The entrepreneur's business model: Toward a unified perspective. *Journal of Business Research,* 58, 726–735.

Morioka, S. N., & Evans, S., &Carvalho, M. M. (2016). Sustainable business model innovation: Exploring evidences in sustainability reporting, *13th Global Conference on Sustainable Manufacturing,*

Mthanti, T., &Ojah, K. (2017). Entrepreneurial orientation (EO): Measurement and policy implications of entrepreneurship at the macroeconomic level, *Research Policy, 46*, 724− 739.

Mullens, D. (2018). Entrepreneurial orientation and sustainability initiatives in family firms, *Journal of Global Responsibility*, 9(2), 160-178, https://doi.org/10.1108/JGR-03-2017-0020.

Myler, L. (2013). Steps To An Irresistible Business Model. https://www.forbes.com/sites/larrymyler/2013/08/01/3-steps-to-an-irresistible-business-model-multiple-authentication-methods/#185ce3ca3c6c.

Najmi, K., Kadir, A. R., & Kadir, M. I. A. (2018). Mediation effect of dynamic capability in the relationship between knowledge management and strategic leadership on organizational performance accountability. *International Journal of Law and Management, 60(2),* 517–529. doi:10.1108/ijlma-01-2017-0004.

Naman, J. L., & Slevin, D. P. (1993). Entrepreneurship and the concept of fit: A model and empirical tests. *Strategic management journal, 14(2),* 137-153.

Narver J. C., &Slater S. F. (1990).The Effect of a Market Orientation on Business Profitability. *Journal of Marketing* 54(4), 20-35.

Nazha, G., Mathew, H., Oliver, M., & Arzea, K. (2017). The EO-as-Experimentation Perspective: The Examination of the Entrepreneurial Orientation and Firm Performance/Survival Relationship. *TheBritish Academic Management Journal, 1-9.*

Nazar, N., Ramzai, S. R., Anjum, T., & Shahzad, I. A. (2018). Impact of Entrepreneurial Orientation on Bank Performance in Pakistan. *Business Management and Strategy, 9(1),* 290-309.

NDIC,(2018). Annual Report Nigerian Deposit Insurance Corporation. Available at www.ndic.gov.ng

Neely, A., Adams, C., & Crowe, P. (2001).The performance prism in practice. *Measuring Business Excellence* 5(2) 6-12.

Neill, S., Metcalf, L., & York, J. L. (2015). Seeing what others miss: A study of women entrepreneurs in high-growth startups. *Entrepreneurship Research Journal, 5(4),* 293-322.

Nelson, R. R., & Winter, S. G. (1982). *An Evolutionary Theory of Economic Change.*Harvard University Press, Cambridge, MA.

Newsom (2018).Some Clarifications and Recommendations on Fit Indices. *Psychology 523/623 Structural Equation Modeling,spring* 1-4.

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.

Ngure, D. K. (2016). *Relationship Between Entrepreneurial Orientation And Bank's Performance. A Case of Standard Chartered Bank* (Doctoral dissertation, United States International University-Africa).

Niemand, T. Rigtering, C., Kallmünzer, A., Kraus, S., & Matijas, S. (2017). Entrepreneurial orientation and digitalization in the financial service industry: a contingency approach. *Proceedings of the 25th European Conference on Information Systems (ECIS), Guimarães, Portugal, June 5-10,* 1081-1096.

Nieves, J., & Haller, S. (2014). Building dynamic capabilities through knowledge resources. *Tourism Management, 40,* 224-232.

Nitzl, C. (2016). Mediation analysis in partial least squares path modeling: helping researchers discuss more sophisticated models.*Industrial Management & Data Systems,* 116(9), 1849-1864.

Nonaka, I. (1994). Dynamic Theory of Organizational Knowledge Creation.*Journal of Organisation science,* 5(1), 14-37.

Nonaka, I., & Toyama, R. (2007). Why do firms differ? The theory of the knowledge-creating firm. Knowledge creation and management. *New challenges for managers,* 13-31.

Norburn, D., & Birley, S. (1988). The top management team and corporate performance, *Strategic Management Journal,* 9(3), 225-237.

Okhuysen, G. A., & Eisenhardt, K. M. (2002). Integrating knowledge in groups: How formal interventions enable flexibility. *Organization science, 13(4),* 370-386.

Olson, D., & Zoubi, T. A. (2011). Efficiency and bank profitability in MENA countries. *Emerging Markets Review,12*(2), 94-110.

Omotayo, O., Anthonia, A., Hezekiah, F., Odunayo, S., Opeyemi, O., & Odion, E. (2020). Diversity management and organisational performance in deposit money banks in Nigeria. *Cogent Business & Management, 7(1),* 1-14. DOI: 10.1080/23311975.2020.1836751

Orfila-Sintes, F., & Mattsson, J. (2009).Innovation behavior in the hotel industry. *Omega* 37(2), 380-394.

Osisioma, H., Nzewi, H., & Mgbemena, I. (2016). Dynamic capabilities and performance of selected commercial banks in Awka, Anambra State, Nigeria. *European Journal of Business and Social Sciences, 4(10*).

Osiyevskyy, O., &Dewald, J. (2015). Explorative Versus Exploitative Business Model Change: The Cognitive Antecedents of Firm-Level Responses to Disruptive Innovation. *Strategic Entrepreneurship Journal: Special Issue: Business Models, 9(1),* 58-78.

Osterwalder, A., & Pigneur, Y. (2005). Clarifying business models: origins, Present, and future of the concept. *Community Association of Information Systems, 15* (May).

Otley, D. (1999). Performance management: a framework for management control systems research. *Management accounting research, 10(4),* 363-382.

Paauwe, J., & Boselie, P. (2005). HRM and performance: what next?*Human Resource Management Journal,* 15(5), 68-83.

Pallant, J. (2010). *SPSS survival manual: a step by step guide to data analysis using SPSS* (4th ed.). New York: Open University Press.

Pateli, A. G.,&Giaglis, G. M. (2005). Technology innovation-induced business model change: a contingency approach. *Journal of Organizational Change Management, 18(2),* 167-183. https://doi.org/10.1108/09534810510589589.

Pavlou, P. A., & El Sawy, O. A. (2006). From IT leveraging competence to competitive advantage in turbulent environments: The case of new product development. *Information Systems Research,17(3),* 198-227.

Pavlou, P. A., & Sawy, O. A. El. (2011). Understanding the elusive black box of dynamic capabilities. *Decision Sciences Journal, 42*(1), 239–273.

Pearce, J. A., Fritz, A., & Davis, P. S. (2010). Entrepreneurial Orientation and the Performance of Religious Congregations as Predicted by Rational Choice Theory. *Entrepreneurship Theory and Practice,34(1),*219-248.

Pei, N. S. (2008). Enhancing knowledge creation in organizations. *Communications of the IBIMA, 3*(2), 1-6.

Penrose, E. (1959). *1959 The theory of the growth of the firm Oxford:* Blackwell.

Peppard, J. (2007). The conundrum of IT management. *European Journal of Information Systems,*16(4), 336-345.

Pezeshkan, A., Fainshmidt, S., Nair, A., Frazier, M. L., & Markowski, E. (2016). An Empirical Assessment of the Dynamic Capabilities–Performance Relationship.*Journal of Business Research, 69(8),*2950-2956.

Peteraf, M. A., & Bergen, M. E. (2003). Scanning dynamiccompetitive landscapes: A market-based and resource-basedframework. *Strategic Management Journal, 24,* 1027–1041.

Peteraf, M., Di Stefano, G., & Verona, G. (2013). The elephant inthe room of dynamic capabilities: Bringing two divergingconversations together. *Strategic Management Journal, 34,*1389–1410.

Pittino, D., Visintin, F., & Lauto, G. (2016). A configurational analysis of the antecedents of entrepreneurial orientation, *European Management Journal*1-14.

Podsakoff, P. M., & Todor, W. D. (1985). A dimensional analysis of supervisor and subordinate attributions of success and failure. *Journal of Organizational Behavior, 6(2),* 131-142.

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of management, 12(4),* 531-544.

Podsakof, P. M., MacKenzie, S., Lee, J., & Podsakoff, N. P. (2003). Common method biases in behavioural research. *MIS Quarterly,* 30(1), 115-141.

Pohle, G.,& Chapman, M. (2006). IBM's global CEO report 2006: business model innovation matters.*Strategy & Leadership,* 34**,** 34-40.

Popp, A., & Holt, R. (2013). The presence of entrepreneurial opportunity. *Business History, 55(1),* 9-28.

Polonsky, M. J., Voss, Z. G., Voss, G. B., & Moorman, C. (2005). An empirical examination of the complex relationships between entrepreneurial orientation and stakeholder support. *European Journal of Marketing.9(9/10),* 1132-1150.

Polites, G. L., Roberts, N., & Thatcher, J. (2012). Conceptualizing models using multidimensional constructs: A review and guidelines for their use. *European Journal of Information Systems, 21,* 22–48.

Porter, M. E. (1980). *Competitive Strategy - Techniques for Analysing Industries and Competitors.* New York: Free Press.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior research methods, 40(3),* 879-891.

Pressley, M. M. (1980). Improving mail survey responses from industrial organizations. *Industrial Marketing Management, 9(3),* 231-235.

Priem, R. L.,& Butler J. E. (2000). Is the Resource-based 'view' a Useful Perspective for Strategic Management Research? *Academy of Management Review,*117-136.

Proeller, I. Kroll, A. Krause, T., & Vogel, D. (2011). How Dynamic Capabilities Mediate the Link between Strategy and Performance. *Conference of the European Group for Public Administration Panel on Strategic Management in Government September 7-9,* Bucharest, Romania.

Protogerou, A., Caloghirou, Y., & Lioukas, S. (2008). Dynamic Capabilities and their Indirect Impact on Firm Performance, Entrepreneurship and Innovation – Organizations. *Institutions, Systems and Regions Copenhagen*, CBS, Denmark, 17 – 20.

Pynnonen, M., Hallikas, J.,& Ritala, P.,(2012). Managing customer-driven business model innovation. *International Journal of Innovation Management,* 16**,** 1-13.

Ragin, C. C. (2008). *Redesigning social inquiry: Fuzzy sets and beyond*. Chicago:University of Chicago Press.

Rahman, A., Civelek, M., & Kozubíková, L. (2016). Proactiveness, Competitive Aggressiveness and Autonomy: A Comparative Study from the Czech Republic. Equilibrium. *Quarterly Journal of Economics and Economic Policy, 11(3),* 631-650.

Ramesh, R. (2016). Redesigning customer journey. Online video clip; retrieved on 12th August 2017.

Randerson, K. (2016). Entrepreneurial Orientation: do we actually know as much as we think we do?. *Entrepreneurship & Regional Development, 28(7-8),* 580-600.

Rauch, A., Wiklund, J., Lumpkin, G.T., &Frese, M. (2009). Entrepreneurial orientation and business performance: an assessment of past research and suggestions for the future, *Entrepreneurship. Theory Practice,* 33(3), 761–787.

Ray, G., Barney, J. B., & Muhanna, W. A. (2004). Capabilities, business processes, and competitive advantage: choosing the dependent variable in empirical tests of the resource- based view. *Strategic Management Journal, 25*(1), 23-37. doi: 10.1002/smj.366.

Ray, S. (2016). Cost efficiency in an Indian bank branch network: a centralized resource allocationmodel.*Omega 65(1),*69-81.

Reio, T.G.J. (2010). The threat of common method variance bias to theory building. *Human Resource Development Review, 9(4),* 405-411.

Real, J.C., Roldán, J. L., & Leal, A. (2014). From entrepreneurial orientation and learning orientation to business performance: analysing the mediating role of organizational learning and the moderating effects of organizational size, *British Journal of Management, 25(2),* 186-208.

Rezaei, J., &Ortt, R. (2018). Entrepreneurial orientation and firm performance: the mediating role of functional performances.*Management Research Review,41(7),*878-900.

Rhyne, E. (2010). The state of global microfinance: How public and private funds can effectively promote financial inclusion for all (pp. 55–59).

http://financialservices.house.gov/media/file/hearings/ 111/printed%20hearings/111-100.pdf

Richardson J. (2008).The business model: an integrative framework for strategy execution. *Strategic. Change.17,* 133–44.

Richard, O. C., Barnett, T., Dwyer, S., & Chadwick, K. (2004). Cultural diversity in management, firm performance, and the moderating role of entrepreneurial orientation dimensions. *Academy of management journal, 47(2),* 255-266.

Richard,P., J., Devinney, T. M., && Yip, G. S.(2009). Measuring Organizational Performance: Towards Methodological Best Practice. *Journal of Management 35(3),*718-804.

Richardson, H. A., Simmering, M. J., & Sturman, M. C. (2009). A tale of three perspectives: Examining post hoc statistical techniques for detection and correction of common method variance. *Organizational Research Methods, 12(4),* 762-800.

Richter, N. F., Cepeda-Carrión, G., Roldán Salgueiro, J. L., & Ringle, C. M. (2016). European management research using partial least squares structural equation modeling (PLS-SEM). *European Management Journal, 34 (6),* 589-597.

Rigdon, E. E. (2012). Rethinking Partial Least Squares Path Modeling: In Praise of Simple Methods. *Long Range Planning, 45(5-6),* 341–358. doi:10.1016/j.lrp.2012.09.010

Rigtering, J. C., Eggers, F., Kraus, S., & Chang, M. L. (2017). Entrepreneurial orientation, strategic planning and firm performance: the impact of national cultures. *European Journal of International Management, 11(3),* 301-324.

Rindskopf, D., &Rose, T., (1988). Second order factor analysis: some theory and applications. Multivariate. *Behavioral Research23 (1),* 51-67.

Ringle, C. M., Sarstedt, M., Straub, M. & D. W. (2012). A critical look at the use of PLS-SEM in MIS quarterly. *MIS Quarterly*, 36(1), iii–xiv.

Ringle, C. M., & Sarstedt, M. (2016). Gain more insight from your PLS-SEM results: the importance-performance map analysis. *Industrial Management & Data Systems,116(9),* 1 – 50.

Ringle, C.M., Wende, S., &Becker, J. M. (2018). SmartPLS 3.2.8 SmartPLS GmbH, Boenningstedt.

Ringim, K. J. (2012). *Effect of the Business Process Reengineering Factors and Information Technology Capability on Organization Performance*(Unpublished Doctoral Dissertation).University Utara Malaysia.

Ringim, K. J., Razalli M. R.,& Hasnan, N. (2012). The Relationship between Information Technology Capability and Organizational Performance in Nigerian Banks. *International Journal of Technology and Management,* (1)1, 1-10.

Ritter, T., (2014). *Driving Competitiveness and Growth through Business Model Excellence. CBS Competitiveness Platform.* Frederiksberg, Denmark.

Rizov, M. & Croucher, R. (2009). Human resource management and performance in European firms, *Cambridge Journal of Economics,* 33, 253-272.

Roaldsen,I. (2014). Dynamic capabilities as drivers of business model innovation – from the perspective of SMEs in mature industries, *International Journal of Entrepreneurship and Innovation Management*, 18(4), 349 -363.

Roscoe, J. T. (1975). *Fundamental Research Statistics for the Behavioural Sciences* (2nd ed.). New York: Holt Rinehart & Winston.

Rosenbusch, N., Rauch, A., & Bausch, A. (2013). The mediating role of entrepreneurial orientation in the task environment–performance relationship: a meta-analysis, *Journal of Management,* 39(3), 633-659.

Ross, J. W., Beath, C. M., & Goodhue, D. L. (1996). Develop long-term competitiveness through IT assets. *Sloan Management Review Fall,*31-42.

Rothaermel, F. T., & Hess, A. M. (2007). Building dynamic capabilities: Innovation driven by individual-, firm-, and network-level effects. *Organization science, 18(6),* 898-921.

Rucker, D. D., Preacher, K. J., Tormala, Z. L., & Petty, R. E. (2011). Mediation analysis in socialpsychology: Current practices and new recommendations. *Social and Personality Psychology Compass, 5*(6), 359-371.

Rungtusanatham, M., Miller, J. W., & Boyer, K. K. (2014). Theorizing, testing, and concluding for mediation in SCM research: Tutorial and procedural recommendations. *Journal of Operations Management, 32*(3), 99-113.

Saeed, S., Yousafzai, S. Y. and Engelen, A. (2014). On cultural and macroeconomic contingencies of the entrepreneurial orientation–performance relationship, *Entrepreneurship Theory and Practice*, 38(2), 255-290.

Saebi, T., Lien, L., & Foss, N. J. (2016). What drives business model adaptation? The impact of opportunities, threatsand strategic orientation. *Long Range Planning*. Advance online p ublication.

Sa´nchez, P., & Ricart,J. E. (2010). Business model innovation and sources of value creation in low- income markets,*European Management Review, 7(3,) September,* DOI: 10.1057/emr.2010.16.

Sanchez, P., & Ricart, J. E. (2010). Business model innovation and sources of value creation in low-income markets. *European management review, 7(3),* 138-154.

Sanusi, S. L. (2010). *The Ngerian Banking Industry: what went wrong and the way forward*. Retrieved April, 2018from:www.cenbank.org/documents/speeches.asp

Sanusi, L. S. (2012). *Banking Reform and Its Impact on the Nigerian Economy*. Lecture delivered at the University of Warwick's Economic Summit, UK, 17th February

Sanusi, L. S. (2014). Overcoming the fear of vested interests: Sanusi Lamido CBN Governor.

Santos, J. B., & Brito, L. A. L. (2012). Toward a subjective measurement model for firm performance. *BAR-Brazilian Administration Review, 9(SPE),* 95-117.

Santos, M. F. (2012). A Positive Theory of Social Entrepreneurship. *Journal of Business Ethics* 111, 335–351

Sanchez, P. & Ricart, J. E. (2010). Business model innovation and sources of value creation in low-incomemarkets. *European management review,* 7**,** 138-154.

Sanz-Velasco, S. A., &Saemundsson, A. R. (2008). Entrepreneurial learning in academic spin-offs: a business model perspective. *International Journal of Entrepreneurship and Innovation Management (IJEIM), 8(1),*

Salant, P., & Dillman, D. A. (1994). *How to conduct your own survey.* New York: John Wiley & Sons Inc.

Sambamurthy, V., & Zmud, R. W. (1997). At the heart of success: organizationwide management competencies. *Steps to the Future: Fresh Thinking on the management of IT-Based Organizational transformation,* 143-163.

Sarkar, M., Echambadi, R., & Harrison, J. S. (2001). Alliance entrepreneurship and firmmarket performance. *Strategic Management Journal,* 22(6/7), 701–711.

Sarstedt, M., & Mooi, E. (2014). A concise guide to market research. *The Process, Data, and, 12.*

Sarstedt, M., Ringle, C. M., Cheah, J.-H. , Ting, H., Moisescu, O. I., & Radomir, L., (2019a). Structural model robustness checks in PLS-SEM. *Tourism Economy.* 1354816618823921.

Sarstedt, M., Hair, J. F., Cheah, J., Becker, J., &Ringle, C. M. (2019b). How to specify, estimate, and validate higher-order constructs in PLS-SEM. *Australasian Marketing Journal,* in press.

Sarstedt, M., & Mooi, E. (2019). Regression analysis. In *A Concise Guide to Market Research* (pp. 209-256). Springer, Berlin, Heidelberg.

Sciascia, S., D'Oria, L., Bruni, M. & Larraneta, B. (2014). Entrepreneurial orientation in low- and medium-tech industries: the need for absorptive capacity to increase performance, *European Management Journal,32(5),*761-769.

Schwarz, A., Rizzuto, T., Carraher-Wolverton, C., Roldán, J. L., & Barrera-Barrera, R. (2017). Examining the impact and detection of the 'urban legend' of common method bias. Data Base for Advances in Information Systems, *48(1),* 93-119.

Schumpeter, J. A. (1934). *The theory of economic development.* Cambridge, MA: Harvard University Press.

Sekaran, U., & Bougie, R. (2009).*Research Methods for Business A Skill-Building Approach.* 5th Edition, John Wiley and Sons Inc., Hoboken.

Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill-Building Approach (7th Ed.).* John Wiley & Sons Ltd.

Schneider, S., & Spieth, P. (2013). Business model innovation: towards an integrated future agenda.*InternationalJournal ofInnovationManagement.* DOI10.1142/S136391961340001X.

Schneider, S. & Spieth, P. (2014). Business Model Innovation and Strategic Flexibility: Insights from an Experimental Research Design. *International Journal of Innovation Management,18(6),* 245-255.

Schneider, S. & Spieth, P. (2015). Business model innovativeness: designing a formativemeasure for business model innovation. *Journal of Business Economics,* 1-26.

Schneider, M. & Engelen, A. (2015). Enemy or friend? The cultural impact of cross-functional behavior on the EO-performance link, *Journal of World Business,50(3),*439-453.

Schumpeter, J.A. (1934).*The theory of economic development: an inquiry into profits,capital, credit, interest, and the business cycle*. Transaction Books.

Sekaran, U.,& Bougie, R. (2010). *Research methods for business: A Skills Building Approach* (2th ed) Chischester:John Willey and Sons ltd.

Sekaran, U., &Bougie, R. (2013).*Research Methods for Business A Skill-Building Approach.* 6th Edition, Wiley, New York.

Sekaran, U., &Bougie, R. (2016).*Research Methods for Business A Skill-Building Approach.* 7th Edition, Wiley, New York.

Sharma P. & Chrisman J.J. (1999). Toward a reconciliation of the definitional issues in the field of corporate entrepreneurship. *Entrepreneurship Theory and Practice, 23(3),* 11-28.

Shmueli, G., Ray, S., Estrada, J. M. V., & Chatla, S. B. (2016). The elephant in the room: Predictive performance of PLS models. *Journal of Business Research, 69(10),* 4552-4564.

Sharma, P. N., Shmueli, G., Sarstedt, M., Danks, N., & Ray, S. (2019). Prediction-oriented model selection in partial least squares path modeling. *Decision Sciences*.

Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J.-H. , Ting, H., Vaithilingam, S., Ringle, C.M., (2019). Predictive model assessment in PLS-SEM: Guidelines for using PLSpredict. *European Journal of Marketing,53(11),*2322-2347. https://doi.org/10.1108/EJM-02-2019-0189.

Shea, T., Cooper,B. K., Cieri,H. D., &Sheehan,C. (2012). Evaluation of a perceived organisational performance scale using Rasch model analysis, *Australian Journal of Management, 37(3),* 507–522

Shultz, S. D., & Luloff, A. E. (1990). The threat of nonresponse bias to survey research. *Community Development, 21(2),* 104-115.

Simmons, G., Palmer, M. & Truong, Y. (2013). Inscribing value on business model innovations: Insights from industrial projects commercializing disruptive digital innovations. *Industrial Marketing Management*42**,** 744-754.

Singh, S., & Gupta, V. (2016). Organizational performance research in India: A review and future research agenda. In G. Misra (Ed.) The Sixth Indian Council for Social Science Research (ICSSR) Survey of Psychology in India. New Delhi: Oxford Publishing.

Smith, K. G., Collins, C. J., & Clark, K. D. (2005). Existing knowledge, knowledge creation capability, and the rate of new product introduction in high-technology firms. *Academy of management Journal, 48(2),* 346-357.

Sosna, M., Trevinyo-Rodriguez, R. N., & Velamuri, S. R. (2010). Business Model Innovation through Trial-and-Error Learning the Nature house Case. *Long Range Planning*, *43,* 383-407.

Stone, M. (1974). Cross-validation choice and assessment of statistical prediction. *Journal of Royal Satatistical Society, 36(2),* 111–147.

Suri, P. K., & Sushil, (2017) Strategic Planning and Implementation of E-Governance. *Flexible Systems Management,*25 – 39. DOI 10.1007/978-981-10-2176-3_2.

Svejenova, S., Planellas, M., & Vives,L. (2010). An Individual Business Model in the Making: a Chef's Quest for Creative Freedom. *Long Range Planning, 43,*408-430.

Sidak, J. G., Teece, D. J., 2009. Dynamic competition in antitrust law. *Journal ofCompetition Law and Economics, 5(4),* 581-631.

Silva, F., A., & Borsato, M. (2017). Organizational Performance and Indicators: Trends and Opportunities, *Procedia Manufacturing* 11, 1925 – 1932.

Singh, S., Darwish, T., K., & Potocnik, K. (2016). Measuring Organisational Performance A Case for Subjective Measures. *British Journal of Management,* 27 (1), 214-224. ISSN 1045-3172.

SMEDAN (2017). National Survey of Micro Small &Medium Enterprises (MSMEs) 2017. Published; Small & Medium Enterprises Development Agency of Nigeria.

Snow C.C., & Hrebiniak L. G. (1980). Strategy, Distinctive Competence, and Organizational Performance. *Administrative Science Quarterly*.

Spieth P, Ricart J. E., Schneckenberg, D. (2014). Business model innovation state of the art and future challenges for the field. *R&D Management Journal* 44(3):237–247.

Spieth, P., & Schneider, S. (2016). Business model innovativeness: designing a formative measure for business model innovation. *Journal of business Economics, 86(6),* 671-696.

Spieth, P., Schneckenberg, D., & Matzler, K. (2016). Exploring the linkage between business model (&) innovation and the strategy of the firm. *R&D Management, 46*(3), 403-413.

Spivey, M. F., & McMillan, J. J. (2002).Value Creation and the Entrepreneurial Business. *Journal of Entrepreneurial Finance and Business Ventures*,7(1), 23-36.

Stephenson, J., & Weil, S. (1992). Educating for capability: some obstacles and ways forward. *Quality in Learning: a capability approach in higher education.*

Steyn, B., & Niemann, L.(2010). Enterprise strategy – A concept that explicates corporate communication's strategic contribution atthe macro organisational level. *Journal of Communication Management, 14(2),* 106–126.

Stubbs, W., & Cocklin, C. (2008). Conceptualizing a "Sustainability business model. *Organisational Environment, 21(2),* 103e127.

Sun, H. (2000). Current and future patterns of using advanced manufacturing technologies. *The International Journal of Technological Innovation and Entrepreneurship*,*20*(11), 631-641.

Svejenova, S., Planellas, M., & Vives, L. (2010). An individual business model in the making: A chef's quest for creative freedom. *Long Range Planning, 43(2-3),* 408-430.

Swarnkar, R., Choudhary, A. K., Harding, J. A. Das, B. P.,& Young, R. I. (2012). A framework for collaboration moderator services to support knowledge-based collaboration,*Journal of Intelligent Manufacturing*, 23, 2003-2023.

Tabachnick, B. G., & Fidell, L. S. (2014). *Using Multivariate Statistic (6th ed).* Boston: Pearson Education Limited.

Tan, J. and Tan, D. (2005). Environment-Strategy Co-Evolution and Co-Alignment: A staged model of Chinese SOEs under transition. *Strategic Management Journal, 26(2),* 141–157.

Tang, J., Tang, Z., & Marino L. D. (2008). Exploring an inverted u-shape relationship between entrepreneurial orientation and performance in Chinese ventures. *Entrepreneurship Theory & Practice*,*32(1),*219–239.

Tan, F. T. C., Tan, B., Wang, W., & Sedera, D. (2017). It-Enabled Operational Agility: An Interdependencies Perspective. *Information & Management,* 54(3), 292-303.

Taouab, O., & Issor, Z. (2019). Firm performance: Definition and measurement models. *European Scientific Journal, 15(1),* 93-106.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategicmanagement', *Strategic Management Journal*, 18(7), 509-533.

Teece, D. J. (2007a). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal,28(13),* 1319–1350.

Teece, D. J. (2007b). The role of managers, entrepreneurs and the literati in enterprise performance andeconomic growth. *International Journal of Technological Learning, Innovation and Development, 1(1),* 43–64.

Teece, D. J. (2010). Business Models, Business Strategy and Innovation', *Long RangePlanning, 43(2-3),*172-194.

Teece, D. J.(2012). Dynamic capabilities: routines versus entrepreneurial action. *Journal of Management Studies, 49(8),* 1395-1401.

Teece, D. J.(2014a). The foundations of enterprise performance: dynamic and ordinary capabilities in an (economic) theory of firms. *Academic Management Perspective, 28(4),* 328-352.

Teece, D. J. (2014b). A dynamic capabilities-based entrepreneurial theory of the multinational enterprise. *Journal of International Business Studies, 45(1),* 8–37.

Teece, D.J. (2016). Dynamic capabilities and entrepreneurial management in large organizations: toward a theory of the (entrepreneurial) firm. *European Economic Review, 86,* 202-216.

Teece, D. J., Peteraf, M. A., &Leih, (2016). Dynamic Capabilities and Organizational Agility: Risk, Uncertainty and Entrepreneurial Management in the Innovation Economy. *California Management Review, 58(4),* 1-32.

Teece D. J., & Linden, G. (2017). Business models, value capture, and the digital enterprise. *Journal of Organization Design* 6(8), 1-14. DOI 10.1186/s41469-017-0018-x.

Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning 51*, 40-49.

Baden-Fuller, C., & Teece, D. J. (2019). Market sensing, dynamic capability, and competitive dynamics. *Industrial Marketing Management*,DOI:10.1016/j.indmarman.2019.11.008.

Tehseen, S., Ramayah, T., & Sajilan, S. (20017). Testing and Controlling for Common Method Variance: A Reviewof Available Methods. *Journal of Management Sciences* 4*(2),* 142-168. DOI: 10.20547/jms.2014.1704202.

Ticehurst, G. W., & Veal, A. J. (1999). *Business research methods: A managerial approach.*

The Nigerian Microfinance Newsletter, (2017). *Diamond Bank Makes a Success Story of Women Financing Inside*. 21.

Tippins, M. J., & Sohi, R. S. (2003). IT competency and firm performance: Is organizational learning amissing link? *Strategic Management Journal, 24(8),* 745-761.

Timmers, P. (1998). Business Models for Electronic Markets: *Electronic Markets 8(2),* 3-8. DOI: 10.1080/10196789800000016.

Toby D. Wall, T. D., &Wood,S. J. (2005). The romance of human resource management and business performance, and the case for big science. *Human Relations (4),* 429–462.

Taran, Y., Goduscheit, R. C., & Boer, H. (2015, September). Managing business model innovation risks-lessons for theory and practice. In *16th International CINet Conference on Pursuing Innovation Leadership* (pp. 919-929).

Trimi, S., Faja, S., & Rhee, S. (2009). Impact of the Internet on interorganizational relationships. *Service Business, Springer; Pan-Pacific Business Association, 3(1),* 63-83.

Trimi, S., &Berbegal-Mirabent, J. (2012). Business model innovation in entrepreneurship, *International Entrepreneurship Management, Journal,8,* 449–465, DOI 10.1007/s11365-012-0234-3.

Uddin, R., Bose, T. K., & Yousuf, S. (2014). Entrepreneurial orientation (EO) and performance of business in Khulna City, Bangladesh. *Journal of Small Business & Entrepreneurship, 27(4), 343-352.*

Uma Sekaran, U. (2003). *Research Methods for Business: A Skill-Building Approach.* 4th Edition John Wiley & Sons, Inc. CA.

Upadhyaya, V. (2017). Why Value Creation Is Vital To Entrepreneurship. Retrieved https://m.dailyhunt.in/news/india/english/business+world-epaper-bizworld/why+value+creation+is+vital+to+entrepreneurship-newsid-79745028

Urban, B., & Nikolov, K. (2013). Sustainable corporate entrepreneurship initiatives: a risk and reward analysis. *Technological and Economic Development of Economy, 19(sup1),* S383-S408.

Veermer, T. (2016). The relationship between Business models and Firm performance through Business model components. *Proceedings of the 7th IBA Bachelor Conference 1st July* Netherlands.

Velu, C.,& Khanna, M. (2013). Business model innovation in India. *Journal of Indian Business Research,5,*156-170.

Venkatraman, N., & Ramanujam, V. (1987). Measurement of business economic performance: An examination of method convergence. *Journal of Management, 13(1),*109-122.

Vergne, J. P., & Durand, R. (2011). The path of most persistence: An evolutionary perspective on path dependence and dynamic capabilities. *Organization Studies, 32(3),* 365-382.

Voelpel, S., Leibold, M., Tekie, E., & Von Krogh, G. (2005). Escaping the red queen effect in competitive strategy: sense-testing business models. *European Management Journal*, 23*(1),* 37–49.

Voorhees, C. M., Brady, M. K., Calantone, R., & Ramirez, E. (2016). Discriminant validity testing inmarketing: An analysis, causes for concern, and proposed remedies. *Journal of the Academy of Marketing Science44,* 119-134.

Wade, M., & Hulland, J., (2004). The Resource-Based View and information Systems Research: Review, Extension, and Suggestions for Future Research. *MIS Quarterly, 28(1),*107-121.

Wales, W. J., Monsen, E., &McKelvie, A. (2011). The organizational pervasiveness of entrepreneurial orientation. *Entrepreneurship Theory and Practice,35(5),* 895–923.

Wales, W. J., Mousa, F. T., & Harper, S. R. (2015a). When less is more: EO's influence upon funds raised by young technology firms at IPO. *Journal of Business Research,68,* 306–313.

Wales, W. J., Gupta, V. K., & Mousa, F. T. (2013a). Empirical research on entrepreneurial orientation: An assessment and suggestions for future research. *International Small Business Journal,31(4),* 357–383.

Wales, W. J., Parida, V., & Patel, P. C. (2013b). Too much of a good thing? Absorptive capacity, firm performance, and the moderating role of entrepreneurial orientation. *Strategic Management Journal,34,* 622–633.

Wales, W. J. (2015). Entrepreneurial orientation: A review and synthesis of promising research directions. *International Small Business Journal* 1–13. DOI: 10.1177/0266242615613840

Wales, W. J., Mousa, F. T., & Harper, S. R. (2015a). When less is more: EO's influence upon funds raised by young technology firms at IPO. *Journal of Business Research* 68, 306–313.

Wales, W. J., Parida, V., & Patel, P. C. (2013b). Too much of a good thing? Absorptive capacity, firm performance, and the moderating role of entrepreneurial orientation. *Strategic Management Journal* 34, 622–633.

Wales, W. J. (2015). Entrepreneurial orientation: A review and synthesis of promising research directions. *International Small Business Journal* 1–13. DOI: 10.1177/0266242615613840

Walter, A., Auer, M., & Ritter, T. (2006). The impact of network capabilities and entrepreneurial orientation on university spin-off performance. *Journal of business venturing, 21(4),* 541-567.

Wang, C. L., & Ahmed, P. K. (2007). Dynamic capabilities: A review and researchagenda', *International Journal of Management Reviews* 9*(1),*31-51.

Wang, C. L. (2008). Entrepreneurial Orientation, Learning Orientation, and Firm Performance. *Entrepreneurship Theory and Practice*, *32(4),*635-657.

Wanke, P., Barros, C. P., & Emrouznejad, A. (2016). Assessing productive efficiency of banks usingintegrated fuzzy-DEA and bootstrapping: a case of Mozambican banks. *European Journal of Operational Research, 249(1),*378-389.

Wall, T. D., & Wood, S. J. (2005). The romance of human resource management and business performance, and the case for big science. *Human relations*, *58(4),* 429-462.

Walter, A., Auer, M., &Ritter, T. (2006). The impact of network capabilities and entrepreneurial orientation on university spin-off performance. *Journal of Business Venture*,*21*, 541–567.

Weick, K. E., & Roberts, K. H. (1993). Collective Mind in Organizations: Heedful Interrelating on Flight Decks. *Administrative Science Quarterly 38*: *September,* 357-381.

Weijters, B., Cabooter, E., & Schillewaert, N. (2010). The effect of rating scale format on response styles: The number of response categories and response category labels. *International Journal of Research in Marketing, 27(3),* 236-247.

Wernerfelt, B. (1995). Resource-based strategy in a stochastic model. In *Resource-Based and evolutionary theories of the firm: towards a synthesis* (pp. 133-145). Springer, Boston, MA.

Westfall, L. (2009). Sampling Methods, ASQ Quality Press, retrieved from www.westfallteam.com

Wetzels, M., Odekerken-Schreoder, G., &van Oppen, C., (2009). Using PLS path modelingfor assessing hierarchicalconstruct models: guidelines and empirical illustration. *MIS Quarterly 33(1),* 177-195.

Wiklund, J. (1999). The sustainability of the entrepreneurial orientation—performance relationship. *Entrepreneurship theory and practice, 24(1),* 37-48.

Wiklund J and Shepherd D (2003) Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic Management Journal* 24*(13),* 1307–1314.

Wiklund, J., &Shepherd, D. (2005). Entrepreneurial Orientation and Small Business Performance: A Configurational Approach. *Journal of Business Venturing*20*(1),* 71-91.

Wiklund, J.,& Shepherd, D. (2011). Where to from here? EO-as-experimentation, failure, and distribution of outcomes. *Entrepreneurship: Theory & Practice* 35*(5),* 925–946.

Winter, S. G. (2003). Understanding Dynamic Capabilities. *Strategic Management Journal,* 24, 991-995.

Wirtz, B. W., Gottel, V., &Daiser, P. (2016), Business Model Innovation: Development, Concept and Future Research Directions, *Journal of Business Models,* 4(2), 1-28.

Wittmann, C. M., Hunt, S. D., & Arnett, D. B. (2009). Explaining alliance success: Competences, resources, relational factors, and resource-advantage theory. *Industrial Marketing Management, 38(7),* 743–756.

Wong, C.-S., Law, K.S., & Huang, G.-h. (2008). On the importance of conducting construct-level analysis for multidimensional constructs in theory development and testing.*Journal of Management,* 34(4), 744-764.

Wold, H. (1982). Soft modelling: the basic design and some extensions. *Systems under Indirect Observation: Causality-Structure-Prediction*, 1-54.

Woodside, A. G. (2013). Moving beyond multiple regression analysis to algorithms:Calling for adoption of a paradigm shift from symmetric to asymmetric thinkingin data analysis and crafting theory. *Journal of Business Research, 66(4),*463-472.

Wu, H. Y., Tzeng, G. H., & Chen, Y. H. (2009). A fuzzy MCDM approach for evaluating banking performance based on Balanced Scorecard. *Expert Systems with Applications*, *36*(6), 10135-10147.

Xiao, L.,& Dasgupta, S. (2009). The Effects of Dynamic IT Capability and Organizational Culture on Firm Performance: An Empirical Study, *International Conference on Information Systems (ICIS)*2009 Proceedings170.

Yachtman, E., & Seashore, S. E. (1967). A System Resource Approach to Organisational Effectiveness. *American Sociological Review 32,* 891-903.

Yang, J. T., & Wan, C. S. (2004). Advancing organizational effectiveness and knowledge management implementation. *Tourism Management, 25(5),* 593-601.

Yang, Y., & Li, S. (2009). A Study on Novelty-Centered Business Model Based on Value Co-Creation of IKEA.*International Conference on E-Business and Information System Security*. doi:10.1109/ebiss.2009.5137903.

Yi, Y., He, X., Ndofor, H., & Wei, Z. (2014). Dynamic capabilities and the speed of strategic change: Evidence from China. *IEEE Transactions on Engineering Management, 62(1),* 18- 28.

Yousafzai, S.Y., Pallister, J. & Foxall, G. R. (2005). Strategies for building and communicating trust in electronic banking: a field experiment, *Journal ofPsychology and Marketing, 22(2),*181-201.

Yu, J., & Cooper, H. (1983). A quantitative review of research design effects on response rates to questionnaires. *Journal of Marketing research, 20(1),* 36-44.

Zahra, S. A. (1993). A conceptual model of entrepreneurship as firm behavior: A critique and extension. *Entrepreneurship: Theory & Practice,17(4),* 5–21.

Zahra, S.A. & Covin, J.G., (1995) .Contextual influences on the corporate entrepreneurship performance relationship: A longitudinal analysis,*Journal of Business Venturing, 10(3),* 43–58.

Zahra, S.A., Kuratko, D. F, & Jennings, D. F. (1999). Guest Editorial: Entrepreneurshipand the Acquisition of Dynamic Organizational Capabilities. *Entrepreneurship: Theory& Practice,* 23(3), 5-10.

Zahra, S. A. (2008). Being entrepreneurial and market driven: implications for company performance.*Journal of Strategy and Management*, 1(2), 125-142.

Zahra, S. A., & Wright, M. (2011). Entrepreneurship's next act. *Academy of Management Perspectives, 25(4),* 67-83.

Zehir, C., Can, E., & Karaboga, T. (2015). Linking entrepreneurial orientation to firm performance: the role of differentiation strategy and innovation performance. *Procedia-Social and Behavioral Sciences, 210,* 358-367.

Zhai, Y., Sun, W., Tsai, S., Wang Z., Zhao, Y., & Quan Chen, Q. (2018). An Empirical Study on Entrepreneurial Orientation, Absorptive Capacity, and SMEs' Innovation Performance: A Sustainable Perspective, *MDPIJournal of Sustainability,* 1-14,doi: 10.3390/su10020314.

Zhang, H. T. Z.,Li, H. C. Y., & Xu, W. H. D. (2014). Proposing andvalidating a five-dimensional scale for measuring entrepreneurial orientation.*Journal of Entrepreneurship in Emerging Economies 6*(2), 102 – 121. doi.org/10.1108/JEEE-03-2014-000.

Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis. *Journal of Consumer Research, 37*(3), 197-206.

Zott, C., & Amit, R. (2007). Business model design and theperformance of entrepreneurial firms. *Organization Science, 18(2),* 181.

Zott, C., & Amit, R. (2009). Business Model Innovation: Creating Value In Times OfChange', *Universia Business Review,* (23), 108-121.

Zott, C., & Amit, R. (2010). Business Model Design: An Activity System Perspective',*Long Range Planning*, 43(2-3), 216-226.

Zott, C., & Amit, R. (2013). The business model: A theoretically anchored robustconstruct for strategic analysis', *Strategic Organization*, 11(4), 403-411.

Zott, C., Amit, R., & Massa, L. (2011). The Business Model: Recent Developmentsand Future Research', *Journal of Management*, 37(4), 1019-1042.

Zott, C., & Amit, R. H. (2013). Crafting Business Architecture: The Antecedents of Business Model Design. *Academy of Management Proceedings*. *Academy of Management,*15289-152301.

Zikmund, W. G., Carr, J. C., & Griffin, M. (2013). *Business Research Methods* (Book Only). Cengage Learning.

APPENDIX I. RESEARCH INSTRUMENT

DEPARTMENT OF BUSINESS
ADMINISTRATIONFACULTY OF ADMINISTRATION
AHMADU BELLO UNIVERSITY ZARIA

ACADEMIC RESEARCH QUESTIONNAIRE

Dear Sir/Ma,

I am a PhDcandidate from the aforementioned university, currently conducting doctoral research on the *"Mediating role of IT-Enabled Dynamic Capabilities on the Relationship between Entrepreneurial Orientation, Business Model Innovations and Organisational Performance of Banks in Nigeria".*

This questionnaire is designed for this academic research only. Your response shall be treated with utmost sense of responsibility, respect and confidentiality, as such your identity is not required.

As it is part of the requirements for the student to conduct academic research in his field of study. there is no right or wrong answers. Kindly, help by completing this questionnaire as accurately as possible.

Thank you, in anticipation of your response.

Yours sincerely,

Mohammed Aliyu Dantsoho aliyudantsoho@yahoo.com
PhD Candidate Tel: 08038304040

Dr. Salisu Umar salumar2002@yahoo.com
Main Supervisor

Dr. MI Aminu miaminuscholar@yahoo.com
Co-supervisor.

Dr. Musa Idris
Co-supervisor.

General Guidelines for the Survey

The questionnaire is divided into four sections. You are requested to answer the questions in all the sections.Kindly tick [√] your response to all the statements in each of the sections.

Section One: Entrepreneurial Orientation (EO)

The following statements describe how your bank developed and used Entrepreneurial Orientation in the last three years (*in terms of Pro-activeness, Innovativeness, and Competitive Aggressiveness*) Please indicate your level of agreement or disagreement with each statement on the scales provided as follows:

Strongly disagree	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly Agree**
1	**2**	**3**	**4**	**5**

Statements	**Level of Agreement**				
Entrepreneurial Orientation					
PR1. The bank typically initiates action which competition then responds to.	1	2	3	4	5
PR2. The bank is usually the first to introduce a new product, services or operating technologies.	1	2	3	4	5
PR3. The bank excel at taking initiative in every situation ahead of competitors	1	2	3	4	5
IN1. The bank frequently introduce improvements and innovations in products and services	1	2	3	4	5
IN2. Changes in product and service processes have been very dramatic in the bank.	1	2	3	4	5
IN3. The bank is creative in its methods of operations.	1	2	3	4	5
IN4. The bank seeks out new ways to do things.	1	2	3	4	5

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1	2	3	4	5

Statements	Level of Agreement				
Entrepreneurial Orientation					
CA.1The bank typically seeks to undo and out-manoeuvre competition.	1	2	3	4	5
CA.2 The bank is very aggressive and intensely competitive.	1	2	3	4	5
CA.3 The bank use the unconventional strategies to challenge competitors.	1	2	3	4	5

Section Two: Business Model Innovations (BMI)

The following statements describe how your bank developed and used Business Model Innovationswithin the last three years (*in terms of Value Creation, Value Proposition, and Value Capture*). Please use the scales provided (1~7) to indicate your level of agreement or disagreement with each statement as follows:

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1	2	3	4	5

Statements	Level of Agreement				
Business Models Innovations (BMI)					
VC.1 The bank introduced new changes in its core competencies and resources.	1	2	3	4	5
VC.2 The bank internal value creation activities has been improved.	1	2	3	4	5
VC.3 The role and involvement of partners in the value creation process have been improved.	1	2	3	4	5
VC.4 The bank's distribution channels has been improved.	1	2	3	4	5
VP.1 The Target customers and market segments have been achieved.	1	2	3	4	5

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1	2	3	4	5

Statements	Level of Agreement				
Business Models Innovations (BMI)					
VP.2 The product and service offering in branches havebeen improved.	1	2	3	4	5
VP.3 The firm's positioning in the market has been improved.	1	2	3	4	5
VCP.1 The transaction processes and mechanisms has been improved	1	2	3	4	5
VCP.2 The value proposition toward customer has been improved	1	2	3	4	5
VCP.3The logic about how revenues are generated has been improved	1	2	3	4	5

Section Three: IT-Enabled Dynamic Capabilities

The following statements describe how your bank generated and used IT Enabled Dynamic Capabilities in the last three years(*in terms ofSensing, Learning, Coordination, Integration and Reconfiguration*)Please indicate your level of agreement or disagreement with each statementon the scales as follows:

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1	2	3	4	5

Statements	Level of Agreement				
IT Enabled Dynamic Capabilities (DITCs)					
SN1. The bank is frequently scanning the environment to identify new business opportunities through IT applications.	1	2	3	4	5
SN2. The bank usually reviewproducts and services offering to ensure they are in line with what the customer wants	1	2	3	4	5
SN3. The bank implements new ideas to improve existing products or services.	1	2	3	4	5
SN4. The bank anticipates discontinuities arising from changing regulation,	1	2	3	4	5

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1	2	3	4	5

Statements	Level of Agreement				
IT Enabled Dynamic Capabilities (DITCs)					
customer choice and technological development.					
LN1. The bank IT systems help to identify, evaluate, and import new important information and market knowledge.	1	2	3	4	5
LN2. The bank IT systems transform existing information into the new knowledge base.	1	2	3	4	5
LN3.The bank IT systems Assimilate new information and knowledge.	1	2	3	4	5
LN4. The bank IT systems use accumulated information and knowledge to assist decision making across the bank.	1	2	3	4	5
CD1. The bank provides more effective coordination among different functional units through IT resources and capabilities.	1	2	3	4	5
CD2. The bank providing more effective coordination with customers, business partners and distributors through IT.	1	2	3	4	5
CD3. The bank ensures the output of work is synchronized with the work of other functional units or business partners simultaneously.	1	2	3	4	5
CD4. The bank IT systems reduce redundant tasks or overlapping activities performed by different operational units.	1	2	3	4	5
IG1. The bank IT system helps to easily access data and other valuable resources in real time from business partners.	1	2	3	4	5
IG2. The bank IT system aggregates relevant information from business partners, suppliers and customers.	1	2	3	4	5
IG3. The bank collaborates with business partners in or product service demand forecasting and planning.	1	2	3	4	5
IG4. The bank streamlines business processes with suppliers, distributors, and customers.	1	2	3	4	5
RC1.The bank adjusts for and responds to unexpected changes easily.	1	2	3	4	5
RC2. The bank easily adds, remove or modify product, service or processin response to market changes.	1	2	3	4	5
RC3. The bank adjusts business processes in response to shifts in business priorities.	1	2	3	4	5
RC4. Thebank reconfiguresbusiness processes in order to come up with new capability.	1	2	3	4	5

Section Four: Organisational Performance

The following statements assess the Financial &Non-Financial Performance of the bank in the last three years.Please indicate your level of agreement or disagreement with each statement as follows:

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1	2	3	4	5

Statements	Level of Agreement				
Organisational Performance					
F1. The sales volume in branches has been achieved	1	2	3	4	5
F2. The return on assets in branches has been achieved	1	2	3	4	5
F3. The debt ratio in branches has been improved	1	2	3	4	5
F4. The earnings per share of the bank has been improved	1	2	3	4	5
F5. The return on investments of the bank has improved	1	2	3	4	5
F6. The net profit margin of bank has been achieved	1	2	3	4	5
F7. The sales performance in branches has been achieved	1	2	3	4	5
C1. The level of customer satisfaction in branches has been improved	1	2	3	4	5
C2. The target market share rate of the bank has been achieved	1	2	3	4	5
C3. The target profit per customer has been achieved	1	2	3	4	5
C4. The customer retention rate in branches has been achieved	1	2	3	4	5
C5. The number of new customers in branches has been increased	1	2	3	4	5
P1. The service process has been improved	1	2	3	4	5
P2. The customers complaints in branches has been reduced.	1	2	3	4	5
P3. The target for transaction efficiency in branches has been achieved	1	2	3	4	5
P4. The target for zero error operational process has been achieved.	1	2	3	4	5

Section Five: Organization Profile and Background Information

Please Kindly, tick [√] in the appropriates answer

Gender

☐ Male	☐ Female
Does your organisationengaged in Technological Transformation within the last three years?	
☐ Yes	☐ No
Which of the following does your organization consider the most objective of such transformation?	
☐ Increasing revenues	☐ Reducing operating cost
☐ Improving the quality of customer service	☐ Pro-active approach to preparing the organization
☐ A reactive approach to competitive pressure	☐ Compliance to IT standards
Where are your branches locations? You can choose more than one	
☐ All of them are located in the state capital	☐ Most of them in rural and few in an urban area.
☐ Most of them are in state capitals, few in cities	☐ Most of them in rural and urban, only a few in cities
Which of the following describe your job title?	
☐ Executive Director /General Manager	☐ SM/MGR
☐ Deputy General Manager/AGM	☐ Head of Department
What is the size of your organisation's branches?	
☐ 1 – 10 number of branches with ATM Machines	☐ 30 – 50 number of branches with ATM Machines
☐ 10 – 30 number of branches with ATM Machines	☐ Others specify ……
	☐ 50 – 100 number of branches with ATM Machines

Comments (optional):

_____
_____
_____
_____

Thank you for your participation and your time in answering the survey.

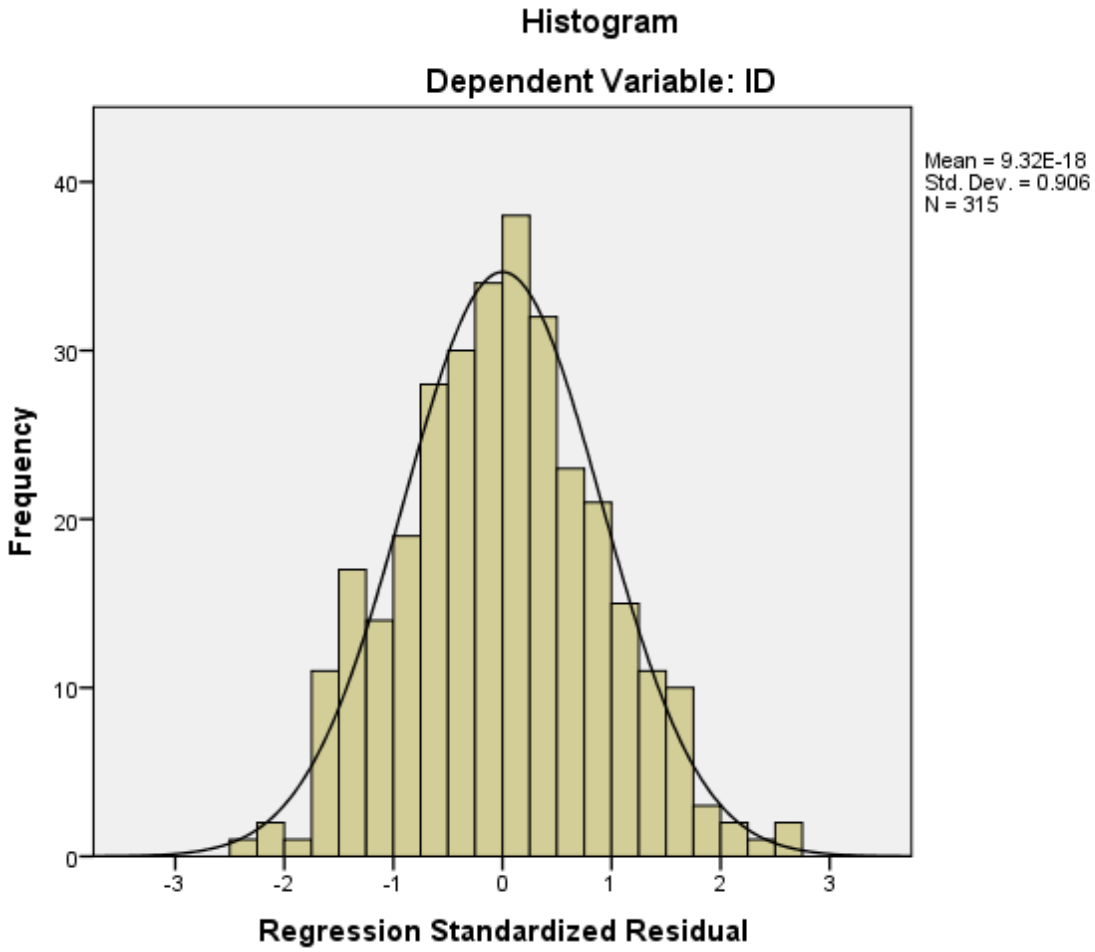
APPENDIX II.COMMON METHOD BIAS

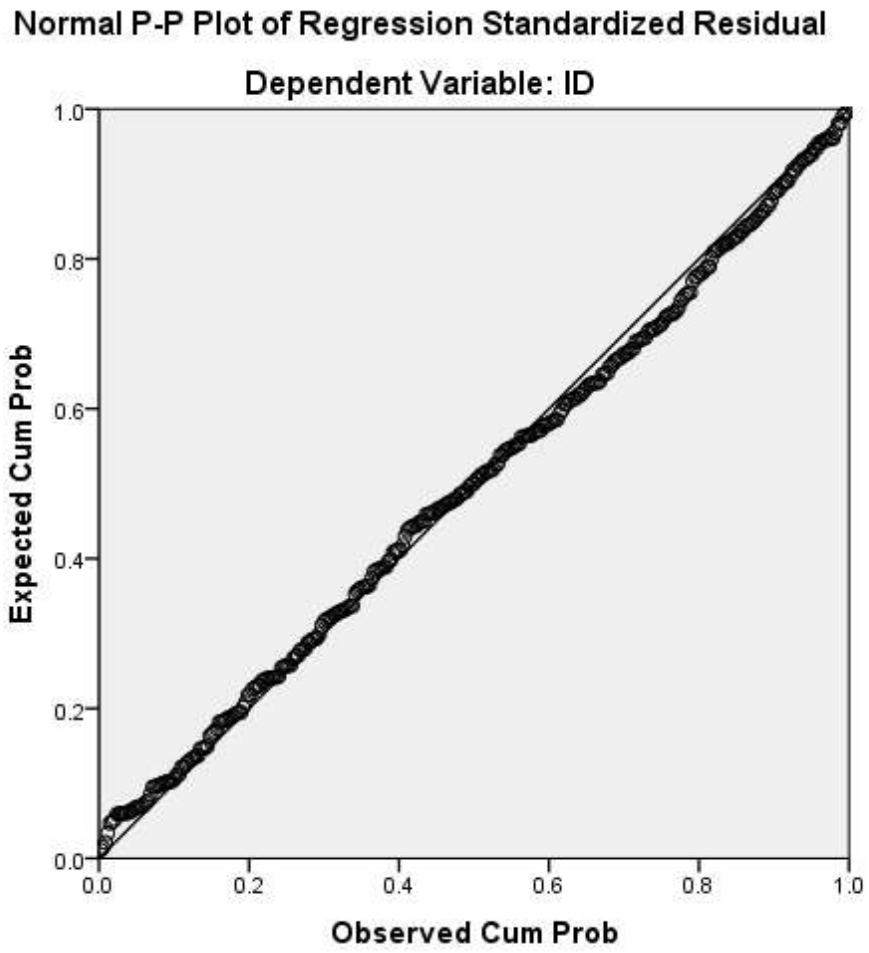
Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.559	43.729	43.729	6.559	43.729	43.729
2	2.468	16.451	60.180	2.468	16.451	60.180
3	1.432	9.545	69.726	1.432	9.545	69.726
4	1.160	7.731	77.457	1.160	7.731	77.457
5	.776	5.173	82.630			
6	.579	3.860	86.490			
7	.527	3.510	90.000			
8	.381	2.540	92.540			
9	.302	2.014	94.554			
10	.265	1.766	96.319			
11	.214	1.427	97.746			
12	.165	1.102	98.849			
13	.112	.745	99.594			
14	.061	.406	100.000			
15	5.551E-17	3.701E-16	100.000			

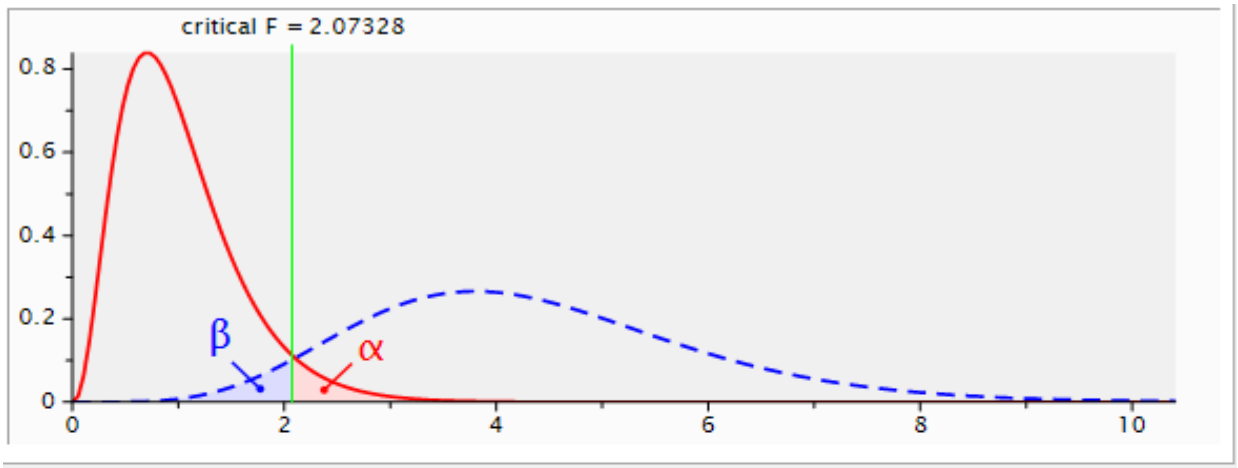
Extraction Method: Principal Component Analysis.

APPENDIX III. NORMALITY


Histogram
Dependent Variable: ID
Mean = 9.32E-18
Std. Dev. = 0.906
N = 315
Frequency
40
30
20
10
0
-3
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: ID
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

APPENDIX III SMARTPLS OUTPUTS



Test family: F tests

Statistical test: Linear multiple regression: Fixed model, R^2 increase

Type of power analysis: A priori: Compute required sample size – given α, power, and effect size

Input Parameters

Determine =>	
Effect size f^2	0.15
α err prob	0.05
Power (1−β err prob)	0.95
Number of tested predictors	7
Total number of predictors	7

Output Parameters

Noncentrality parameter λ	22.9500000
Critical F	2.0732820
Numerator df	7
Denominator df	145
Total sample size	153
Actual power	0.9503254

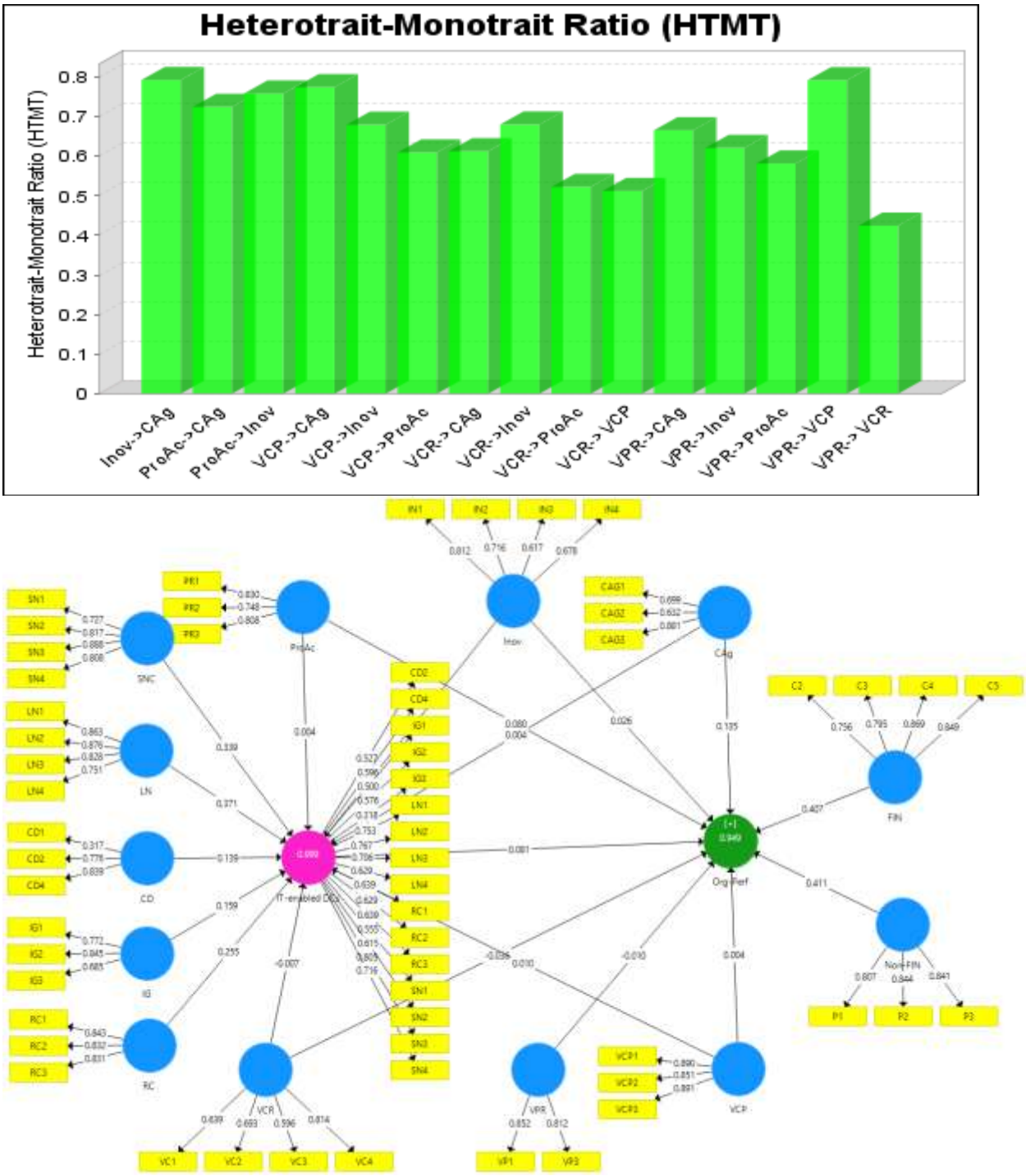


Figure 2. Repeated indicator

Table 1
The Extended Repeated Indicator Approach

Constructs	IT-enabled DCs	FIN	Non-FIN	Org-Perf
ProAc	0.207	0.278	0.185	0.223
Inov	0.202	0.297	0.461	0.426
CAg	0.159	0.202	0.047	0.113
VCR	0.054	0.020	0.125	0.159
VPR	0.059	0.205	0.262	0.092
VCP	0.216	0.116	0.002	0.134
IT-enabled DCs	N/A	N/A	N/A	0.018

Table 2
Embeded Two stage approach

	Stage one		Stape two	
Constructs	IT-enabled DCs	Org-Perf	IT-enabled DCs	Org-Perf
ProAc	0.004	0.080	0.060	0.160
Inov	-0.010	0.026	0.221	0.299
CAg	0.004	0.135	0.418	0.131
VCR	0.010	0.004	-0.110	0.143
VPR	-0.007	-0.010	0.047	0.118
VCP	0.010	-0.036	0.228	0.020
IT-enabled DCs	N/A	N/A	N/A	0.276

Table 3
Disjoint Two stage approach

Disjoint	Stage one		Stage two	
Constructs	FIN	Non-FIN	IT-enabled DCs	Org-Perf
ProAc	0.195	0.126	0.263	0.028
Inov	0.160	0.386	0.372	-0.001
Cag	0.152	0.145	0.232	0.099
VCR	0.029	0.257	0.103	0.010
VPR	0.221	-0.024	0.132	0.015
VCP	-0.016	0.043	0.001	0.106

APPENDIX II. POPULATION FRAME OF NIGERIAN MICROFINANCE BANKS(MFB) as at 13th Feb., 2019

S/No	Name	Address	Rand
1	Above Only Microfinance Bank Ltd	Benson Idahosa University Campus, Ugbor GRA, Benin	0.53
2	Abubakar Tafawa Balewa University Microfinance Bank	Abubakar Tafawa Balewa University (ATBU), Yelwa Road, Bauchi	0.81
3	ACE Microfinance Bank Limited	3, Daniel Aliyu Street, Kwali, Abuja	0.67
4	Ada Microfinance Bank Limited	Agwada Town, Kokona Local Govt. Area, Nasarawa State	0.57
5	Ahetou Microfinance Bank Limited	Akabuka, Onne Local Government Area, Rivers State.	0.94
6	Ahmadu Bello University Microfinance Bank Limited	Main Campus, Opp. Post Graduate School, Zaria, Kaduna State.	0.97
7	Ajewole Microfinance Bank Limited	Ilorin Road, Sabo, Ogbomosho, Oyo State.	0.55
8	Ajikobi Microfinance Bank Limited	13 Ajikobi Street, Ilorin, Kwara State	0.53
9	Ajingi Microfinance Bank Limited	AJINGI TOWN, AJINGI LOCAL GOVT. KANO	0.91
10	Ajuta Microfinance Bank Limited	Market Road, Loso Quarters, Ogbagi Akoko, Ondo State	0.78
11	Al-Barakah Microfinance Bank Limited	1, Thanni Olodo Street, Jibowu-Yaba, Lagos State	0.81
12	Algreb Microfinance Bank Limited	ALGREB MFB, 35 IYORCHIA AYU ROAD, WURUKUM, MAKURDI, BENUE STATE	0.69
13	Ally Microfinance Bank Limited	9 DUNUKOFIA STREET, AREA II, ABUJA	0.68
14	Alpha Kapital Microfinance Bank Limited	Plot 888, Joseph Gomwalk Street, Suite 24, Shalom Plaza, Gudu, Abuja	0.87
15	AMAC Microfinance Bank Ltd	Abuja Munincipal Area Council , Secretariat Area 10, Abuja	0.55
16	AMML Microfinance Bank Limited	Plot 1363, Ladoke Akintola Boulevard, Garki Model Market, Abuja	0.82
17	Anchorage Microfinance Bank Limited	Highbury Plaza, 104 Gado Nasco Road, Kubwa, Abuja	0.58
18	Aogo Microfinance Bank Limited	Oba Adesanoye House, Ondo, Ondo State.	0.79
19	Asha Microfinance Bank Limited	11, Boyade Oluwole Street, Off Awolowo Way, Ikeja, Lagos State.	0.92
20	Assets Microfinance Bank Limited	4 Apata Street, Somolu, Lagos State	0.78
21	Atlas Microfinance Bank Limited	Plot 1077, Cadastral Zone B02, Old Federal Secretariat Road, By Area 3 Junction, Durumi, Abuja	0.82
22	Azabe Zinariya	Phase 2, Ultra-Modern Market, Western Resevoir Road,	0.92

	Microfinance Bank Limited	Ilorin, Kwara State	
23	B.C. KASH Microfinance Bank Limited	No. 119, Ikorodu Road, Onipanu, Lagos	0.64
24	Babba Microfinance Bank Limited	126, Ahmadu Bello Way, Agaie, Agaie Local Government Area, Niger State	0.94
25	Babura Microfinance Bank Limited	Local Govt. Sec. (Opp. District Head's Palace) Babura, Jigawa State.	0.59
26	Bagwai Microfinance Bank Limited	Bagwai local Government Area, Kano State.	0.70
27	Baines Credit Microfinance Bank Limited	199, Igbosere Road, Lagos Island, Lagos	0.79
28	Balogun Fulani Microfinance Bank Limited	9 Balogun Fulani Road, Ilorin, Kwara State.	0.82
29	Balogun Gambari Microfinance Bank Limited	Ojagboro, Ilorin, Kwara State.	0.61
30	Bam Microfinance Bank Limited	Suite D77/67 Efab Mall, Ahmadu Bello Way, Area 11, Garki, Abuja FCT.	0.60
31	Banex Microfinance Bank Limited	SUITE C 1 & 2 BANEX PLAZA VINA WUSE II, ABUJA	0.50
32	Baobab Microfinance Bank Limited	NO 16E, AHMADU BELLO WAY, KADUNA	0.97
33	Barnawa Microfinance Bank Limited	Plot 3 Mozambique Road, BamawaShopping Complex, Kaduna South L.G.A, Kaduna State.	0.54
34	Batagarawa Microfinance Bank Limited	NO. 2, BATAGARAWA TOWN, BATARAGAWA L.G.A, KATSINA STATE	0.74
35	Bawyi Microfinance Bank Limited	5, Kuta Road, Opp. Gwada Community Health Centre, Shiroro L.G.A Niger State.	0.66
36	Bayero University Microfinance Bank Limited	Bayero University , Kano, Kano State	0.78
37	Bayetin MFB Microfinance Bank Limited	Grico Rice Mills Building, No. 1, Suleja-Minna Road, Bida, Niger State.	0.90
38	Benefits Microfinance Bank Limited	2, Station Market Road, Erunmu Egbeda L. G. A, Ibadan, Oyo State	0.80
39	Berachah Microfinance Bank Limited	5A Adekunle Banjo Street, Ketu, Lagos State.	0.78
40	Best Star Microfinance Bank Limited	Irefin Road junction, Itu-Taba Oje, Ibadan	0.59
41	BFL Microfinance Bank Limited	Hall 1 Abuja Shopping Mall, Wuse Zone 3, Abuja.	0.58
42	Bichi Microfinance Bank Limited	No. 1, Bichi Main Street, Bichi Town, Bichi LGA, Kano State	0.90
43	Bida Polytechnic Microfinance Bank Ltd	No 2, Mechanical Engineering Department, Opp Convocation Square Street, Fed. Polytechnic, Bida, Niger State	0.99
44	Bigthana Microfinance Bank Limited	No. 6, Ali Akilu Road, Kaduna State	0.93
45	BishopGateMicrofinance Bank Limited	39 Agege Motor Road, Moshalashi, Mushin, Lagos State.	0.90
46	Bmazazhin Microfinance Bank Limited	IBB Road, Gawu Babangida, Niger state	0.90

47	Boig Microfinance Bank Limited	33 Idumagbo Avenue, Lagos Island, Lagos State	0.66
48	Bokkos Microfinance Bank Limited	Bokkos Microfinance House, Barkin Ladi Road, Bokkos Local Govt Area, Plateau State	0.82
49	Bonghe Microfinance Bank Limited	90, AHMADU BELLO WAY, NUMAN, ADAMAWA STATE	0.65
50	Borno Renaissance Microfinance Bank Limited	1, SHEHU SANDA KYARI ROAD, OFF SHEHU LAMINU WAY, BY GIWA BARRACKS JUNCTION, MAIDUGURI	0.83
51	Boromu Microfinance Bank Limited	Ijoun Market Square, Ijoun Town, Yewa North Local Govt Area. Ogun State	0.71
52	Bosak Microfinance Bank Limited	Plot 8 Cocoa Industries Road, Ogba Ikeja	0.67
53	Bowen Microfinance Bank Limited	Baptist Academy Compound, Obanikoro, Ikorodu Road, Lagos State	0.73
54	Bowman Microfinance Bank Limited	1 Bode Onifade Street, Ewu-Tuntun,Oshodi-Isolo L.G.A, Lagos State	0.76
55	Brethren Microfinance Bank Ltd	No 1, EYN Headquaters, Kwarhi, Adamawa	0.88
56	Bridgeway Microfinance Bank Limited	49a, Lafiaji Way, Dolphin Estate, Ikoyi, Lagos	0.97
57	Bubayero Microfinance Bank Limited	DUKKU ROAD, GOMBE TOWN, GOMBE STATE	0.70
58	Bunkasa Microfinance Bank Limited	7 Jos Road, Jere, Kagarko L.G.A, Kaduna State	0.86
59	CAFON Microfinance Bank Limited	Garki Police Barracks, Garki 11, FCT Abuja	0.57
60	Canaan Microfinance Bank Limited	Block D211, Bola Ige International Market, New Gbagi, Ibadan Oyo State	0.76
61	Cedar Microfinance Bank Limited	114 Itire Road, Surulere Lagos	0.62
62	Chase Microfinance Bank Limited	Suite 46, Dolphin Plaza, Dlphin Plaza, Dolphin Estate, Osborne Road, Ikoyi, Lagos State	0.60
63	Cherish Microfinance Bank Limited	Batsari Local Government Area, Katsina State	0.86
64	Cintrust Microfinance Bank Ltd	No 1, Oba Adebimpe Road, Lebanon Street, Dugbe, Ibadan	0.69
65	Citizen Trust Microfinance Bank Limited	No 52, Olofa Way, Beside GTBank Plc, Offa, Kwara State	0.58
66	Civic Microfinance Bank Limited	Araromi Market, Agodi Gate, Ibadan, Oyo State	0.88
67	COE Minna Microfinance Bank Limited	2 Paiko Road, Niger State College of Education, Minna, Niger State	0.90
68	Confidence Microfinance Bank Limited	156 Ibrahim Taiwo Road, Ilorin, Kwara State.	0.68
69	Conpro Microfinance Bank Limited	Blk 116-123 Ikota Shopping Complex, Victoria Garden City, Lekki, Lagos	0.53
70	Consumer Microfinance Bank Limited	PLOT 2087, Herbert Macaulay, Zone 5, Wuse, FCT Abuja	0.98
71	Cowries Microfinance Bank	House 6, Second Avenue, Festac Town, Lagos State	0.83

	Limited		
72	Credit Afrique Microfinance Bank Limited	154, Awolowo Road, Ikoyi, Lagos	0.56
73	Credit Express Microfinance Bank Limited	27, Kakawa Street, Lagos Island.	0.76
74	Crossover Microfinance Bank Limited	63b, Raymond Njoku Street, South-West Ikoyi, Lagos State.	0.88
75	Custodian Microfinance Bank Limited	Plot 1, Road 2, Owode Housing Estate, Apata, Abeokuta Road, Ibadan, Oyo State	0.85
76	Dadinkowa Microfinance Bank Limited	FED. MORTGAGE BANK BUILDING, SECRETARIAT JUNCTION, JOS, PLATEAU STATE	0.77
77	Danels Global Microfinance Bank Limited	suite 24, shalon plaza, plot 1088, joseph gomwalk street, gudu district, apo, abuja	0.65
78	Dangizhi Microfinance Bank Limited	Enagi, Off Mokwa Road, Niger State	0.86
79	Dankingari Microfinance Bank Limited	Dakingari LGA, Kebbi State	0.99
80	Davodani Microfinance Bank Limited	Jolaade House, 28, Ogudu Road, Ojota, Lagos, Lagos	0.67
81	Dawakin Tofa Microfinance Bank Limited	Dawakin Tofa Town, Dawakin Tofa Local Government Area, Kano State	0.78
82	Dutse Microfinance Bank Limited	Main Street, Central Market Dutse, Jigawa State.	0.96
83	Earnwell Microfinance Bank Limited	No 12 IBB Way, Jobo Plaza, Lokoja, Kogi State.	0.89
84	Edumana Microfinance Bank Limited	ETSU YAHAYA ABUBAKAR ULTRA-MODERN MOTOR PARK,ESSO, BIDDA, NIGER STATE	0.91
85	Egwafin Microfinance Bank Limited	No 3, Salihu Road, Suleja, Niger	0.52
86	Ekondo Microfinance Bank Limited	No 44 Murtala Mohammed Road, Calabar, Cross River State.	0.94
87	Ere City Microfinance Bank Limited	Beside Ere City Town Hall, Ere Ijesha, Osun State	0.91
88	Evergreen Microfinance Bank Ltd	No. 13A, Oladipo Bateye Street, GRA, Ikeja, Lagos	0.59
89	Excel Microfinance Bank Limited	Hospital Road, Sango Eruwa, Oyo State	0.68
90	Excellent Microfinance Bank Limited	No 2 Ezekwesili Street, Beside "D" Divisional Police Station, Makurdi, Benue State	0.62
91	Fadama Farmers Microfinance Bank Ltd	C/o Plateau Agricultural Development Project, Fadamatu Project Office, Dogon Dutse, Jos	0.77
92	Fasildapo Microfinance Bank Ltd	No. 2, Barracks Road, Community Development House, Ifon, Ondo	0.52
93	FEDETH CO-OP Microfinance Bank Limited	Federal Secretariat, Phase 1, Room 5B 022, Annex 111, Shehu Shagari Way, Abuja	0.60
94	FFS Microfinance Bank Limited	30, Ijaiye-Ogba Road, Lagos State	0.96
95	Finatrust Microfinance Bank Limited	46, Toyin Street, Ikeja Lagos	0.93

96	Finex Microfinance Bank Limited	84 Bamgbose Street, Lagos Island, Lagos	0.52
97	First Heritage Microfinance Bank Limited	Opposite C.C.C., Oro-Ago, Ifelodun LGA, Kwara State	0.91
98	First Index Microfinance Bank Limited	27 Adegoke Adelabu Shopping Complex Annex, Orita Challenge, Ibadan, Oyo State.	0.60
99	First Lowland Microfinance Bank Limited	No. 10, Sabon Gida Road, P.O Box 16 Mabudi, Langtang South L.G.A, Plateau State	0.91
100	First Multiple Microfinance Bank Limited	Queenfem Plaza, Plot 2109, Aminu Kano Crescent (Opposite Mr Biggs) Wuse II Abuja	0.89
101	First Option Microfinance Bank Limited	42, Kogberegbe Street, Opposite Isolo0 General Hospital, Isolo, Lagos	0.82
102	Fiyinfolu Microfinance Bank Limited	38A, Ogudu Road, Second Church Bus Stop, Ojota, Lagos	0.60
103	Fortress Microfinance Bank Limited	20 Obokun Street, Off Coker Road, Ilupeju, Lagos State	0.79
104	FUD Microfinance Bank Limited	Ibrahim Aliyu ByPass, Dutse, Jigawa State	0.61
105	Fufore Microfinance Bank Limited	25 Gurin Road, Fufore, Adamawa State	0.75
106	Fullrange Microfinance Bank Ltd	1st Floor, Asabi House, 108, Adekunle Fajuyi Way, Adamasingba, Ibadan, Oyo	0.69
107	Gaa Akanbi Microfinance Bank Limited	Bola Saadu House, 10, Ahmadu Bello Way, G.R.A Ilorin, Kwara State	0.53
108	Gashua Microfinance Bank Limited	Gashua, Bade Local Govt Area,Yobe State	0.64
109	Gaya Microfinance Bank Limited	GAYA TOWN, GAYA LOCAL GOVT AREA, KANO STATE	0.99
110	Gbede Microfinance Bank Limited	Kabba-Ilorin Road, Opp. Hotel Charvid, P.M.B 1005, Aiyetoro-Gbede, Kogi State	0.57
111	Giant Stride Microfinance Bank Limited	KM 21, 1030 BADAGRY EXPRESS WAY,MEBAMU, CELE-NICA BUS STOP, OJO, LAGOS	0.71
112	Glory Microfinance Bank Limited	Plot 295, Ijegun-Ikotun Road, Ijegun, Ikeja Lagos	0.56
113	Gobarau Microfinance Bank Limited	35, Madawaki Way, Katsina State	0.59
114	Gold Microfinance Bank Limited	Block C, Suite 1 & 2, Local Airport Office Complex, Ikeja Lagos State.	0.75
115	Golden Choice Microfinance Bank Limited	OPP. ELEME CIVIC CENTRE, ALONG ELEME-BORI EXPRESS ROAD, ALODE/ELEME, PORT HARCOURT, RIVERS	0.85
116	Good Neighbors Microfinance Bank Limited	Zone B, R5 ASPAMDA, Trade Fair Complex, Ojo, Lagos State	0.92
117	Good Save Microfinance Bank Limited	Suite B1, Century Mall, St. Patrick Junction, Alaba International Market, Ojo, Lagos State	0.57
118	Grassroot Microfinance Bank Limited	No. 280, Maiduguri Road, Kano	0.55
119	Gulfare Microfinance Bank Limited	Yauri-Zuru Road, Opp. Rijau Local Govt. Secretariat, Rijau, Niger State	0.76
120	Gwadabawa Microfinance	Illella Road, BakinKasuwa, P.O.Box 4112, Gwadabawa,	0.67

	bank Limited	Sokoto State	
121	Headway Microfinance Bank Limited	NO. 1, ATUNWA STREET, OFF TOYIN STREET, IKEJA, LAGOS	0.95
122	Hedgeworth Microfinance Bank limited	Gouba Plaza, Suite B06/C06, 1st/2nd Floor, Plot 171, A.E. Ekukinam Street, Beside Chisco, Utako District, Abuja	0.85
123	High Street Microfinance Bank Limited	1, Okesalu Street, Ikotun, Lagos State	0.80
124	Highland Microfinance Bank Limited	Km 8 Jos Road, Jos South L.G.A, Plateau State.	0.71
125	Hinache Microfinance bank Limited	53, Funtua/ Yashe Road, Malunfashi, Katsina State	0.68
126	Iba Microfinance Bank Limited	3, Palace Way, Iba, Osun State.	0.78
127	IBBU Microfinance Bank Ltd	Site 1, Ibrahim Badamasi Babadngida University Campus, Lapai, Niger	0.89
128	Ibolo Microfinance Bank Limited	86, Olofa Way, Offa, Kwara State	0.92
129	Ibu-Aje Microfinance Bank Limited	10, Obafemi Awolowo Way, Osogbo, Osun State.	0.50
130	Ijare Microfinance Bank Limited	34, Obasola Street, Ijare, Ondo State	0.83
131	Ikorodu Division Microfinance Bank Limited	102, Sagamu Road, Ikorodu, Lagos State	0.50
132	Ikoyi-Ile Microfinance Bank Limited	"Shehu Hannafi House, Igbeti Road Orire L.G.A, Ikoyi-le, Oyo State.	1.00
133	Ilobu Microfinance Bank Limited	Osogbo Road, Ilobu, Osun State	0.64
134	Ilora Microfinance Bank Limited	Akibo Market, Oja-Isale, Ilora, Oyo	0.67
135	Ilorin Microfinance Bank Limited	Exit Gate of Baboko Market, Along Kuntu Street, Ilorin, Kwara State	0.60
136	Ipodo-Ikeja Microfinance Bank Limited	46, Obafemi Awolowo Way, Ikeja, Lagos State	0.93
137	Isale Oyo Microfinance Bank Limited	Sabo Market, Isale Oyo, Oyo State	0.97
138	Island Microfinance Bank Limited	33, Moloney Street, Obalende, Ikoyi, Lagos State	0.63
139	Iwa Microfinance Bank Limited	P.M.B. 008, Ayetoro-Oke, Okeho, Oyo State.	0.51
140	Iwoye-Ijesha Microfinance Bank Limited	1, Market Square, Iwoye-Ijesha,Osun State	0.78
141	Iya-Zakari Microfinance Bank Limited	NO. 8, MASHI TOWN, MASHI L.G.A, KATSINA STATE	0.78
142	Jamis Microfinance Bank Limited	140 Benue Crescent, Wadata, Makurdi, Benue State	0.64
143	Janmaa Microfinance Bank Limited	1, Jebba Junction, Eiyenkorin, Ilorin, Kwara State.	0.71
144	Janzama Microfinance Bank Limited	No 01 Janzama Town, Janzama, Mani L.G.A, Katsina State	0.53

145	Jewel Coop Microfinance Bank Limited	Commercial Layout, Gombe	0.79
146	Jointfarmers Microfinance Bank Ltd	No 105, Abiodun Atiba |Road, Opposite L.A Town School, Oyo	0.98
147	Josad Microfinance Bank Limited	Near Esu Kuchikau Palace, Kuchikau - Masaka, Keffi-Abuja Expressway, Karu LGC, Nassarawa State	0.81
148	Kabo Microfinance Bank Limited	NEAR GARO MOTOR PARK, KABO, KANO STATE	0.50
149	Kada Microfinance Bank Limited	5, Richachikun Road, Tundun Wada, Kaduna State	0.57
150	Kadpoly Microfinance Bank Limited	Behind Central Admin Block, Kaduna Polytechnic, Tundunwada, P.M.B 20121, Kaduna State	0.84
151	Kamba Microfinance Bank Limited	"Along Dole Kaino Road, Kamba, Dandi L.G.A, Birnin-Kebbi, Kebbi State.	0.82
152	Kankara Microfinance Bank Limited	NO. 002, KANKARA TOWN, KANKARA L.G.A. KATSINA STATE	0.71
153	Kankia Microfinance Bank Limited	NO. 4 KANKIA TOWN, KANKIA L.G.A. KATSINA STATE	0.90
154	Kano-West Microfinance Bank Limited	Kofar Kudu, Gwarzo, Kano State	0.53
155	Katagum Microfinance Bank Limited	Palace Road, Katagum Zaki LGA, Bauchi State	0.81
156	KCMB Microfinance Bank Ltd	159 Ibrahim Taiwo Road, Ilorin, Kwara State.	0.56
157	KHB Microfinance Bank Limited	5, Secretariat Road, Kafin Hausa, LGA, Jigawa State	0.89
158	Kirfi Microfinance Bank Limited	KIRFI TOWN, KIRFI LOCAL GOVT. AREA, BAUCHI STATE	0.51
159	Kisi Microfinance Bank Limited	Central Market Square, Kisi, Oyo State	0.78
160	Korede Microfinance Bank Limited	3, Luwoye Street, Igbotako, Ondo State.	0.63
161	Kudimoney Microfinance Bank Limited	176 Herbert Macaulay Way, Adekunle Yaba, Lagos State	0.68
162	Kumbotso Microfinance Bank Limited	Kumbotso Local Government Area, Kano State	0.77
163	Kunagaba Microfinance Bank Limited	KUMBASHI/KAKIHUM ROAD, BANGI MARIGA L.G.A NIGER STATE	0.60
164	Kunchi Microfinance Bank Limited	Kunchi Town, Kunchi Local Government, Kano State.	0.66
165	Kura Microfinance Bank Limited	Kura Local Government Area, Kano State	0.93
166	Kussalla Microfinance Bank Limi	KARAYE L.G.A. KANO STATE	0.93
167	Lawyers Microfinance Bank Limited	TRINITY HOUSE, PLOT431, CADASTRAL ZONE, B06, MABUSHI DISTRICT, ABUJA	0.73
168	Magnet Microfinance Bank Limited	22, Tijani Ashogbon Street, Bariga, Lagos State.	0.80
169	Maigatari Microfinance Bank Limited	2, Chiroma Ahmadu Street, Maigatari LGA, Jigawa State	0.81

170	Main Trust Microfinance Bank Limited	49, Ladipo Street, Mushin, Lagos State	0.91
171	Mainsail Microfinance Bank Limited	Plot 25b, Bodija Mini Shopping Centre, Bodija Market, Ibadan, Oyo	0.96
172	Mainstreet Microfinance Bank Limited	51/55 Broad Street, P.M.B. 12021, Lagos	0.56
173	Malachy Microfinance Bank Ltd	No. 2, Eya Eta Street, Calabar, Cross River State	0.77
174	Manna Microfinance Bank Limited	254 Agege Motor Road, Olorunsogo, Mushin, Lagos	0.89
175	Manny Microfinance Bank Ltd	14, Majolate Street, Ikorodu Road, Lagos	0.75
176	Maritime Microfinance Bank Limited	No 16, Burma Road, Apapa, Lagos	0.71
177	Matazu Microfinance Bank Limited	NO. 8, MATAZU TOWN, MATAZU L.G.A. KATSINA STATE	0.79
178	Mega Microfinance Bank Limited	No.11, Sultan Dasuki Way, Kubwa 2nd Gate, Behind Advance Link Filling Station, Kubwa Abuja Expressway, Kubwa	0.92
179	Microvis Microfinance Bank Limited	Alhaji Y.A. Ahmed House F6, Ahmadu Bello Way, Kaduna	0.99
180	Minjibir Microfinance Bank Limited	No.3 Minjibir Town, Kano State	0.91
181	Modiya Yekokpe Microfinance Bank Limited	Lagos-Kaduna Road, Opposite GTC Mokwa, Niger State	0.68
182	Moneywell Microfinance Bank Limited	No. 1, Ezimgbu Road; Off Circular Road, GRA Phase IV PortHarcourt Rivers State	0.97
183	Mountaintop (Mayfield) Microfinance Bank Limited	82 Adeniran Ogunsanya Street, Surulere, Lagos	0.88
184	Nakowa Microfinance Bank Limited	No. 9, Turunku Road, Sabon Gari Zaria, Kaduna	0.87
185	Namoda Microfinance Bank Limited	Kaura Namoda, Zamfara State	0.80
186	Nenzit Microfinance Bank Limited	Samaru-Kataf Round-About, Zamaru-Kataf, Zango-Kataf, Kataf LGA, Kaduna State	0.79
187	New Dawn Microfinance Bank Ltd	2, Udo Udoma Street, Uyo, Akwa Ibom	0.66
188	New World Microfinance Bank Limited	No 1 Salhi Road, Birnin-Kudu L.G.A, Jigawa State.	0.97
189	Ni'ima Microfinance Bank Limited	Bagudo Town, Bagudo Local Government, Kebbi State	0.77
190	Ningi Microfinance Bank Limited	4, Bank Road Ningi LGA, Bauchi State	0.86
191	North Capital Microfinance Bank Limited	Unguwar Sarki Batasari, Batsari Local Govt Area, Katsina State	0.94
192	NPF Microfinance Bank Plc	1, Ikoyi Road, Obalende, Lagos State	0.87
193	Nsuk Microfinance Bank Limited	NSUK Main Campus, Keffi-Akwanga Road, Keffi	0.98
194	Obafemi Awolowo University Microfinance	Oduduwa Hall Complex, Obafemi Awolowo University, Osun State.	0.76

	Bank Limited		
195	Obeledu Microfinance Bank Limited	Jemko House, Obeledu-Igbo Ukwu Road, Anaocha LGA	0.96
196	Octopus Microfinance Bank Limited	24, Community Road, Opp. Police Station Otto-Ijanikin Km 28, Badagry Expressway, Lagos	0.93
197	Odu Microfinance Bank Limited	Anyigba-Dekina Road, P.O.Box 35, Odu Dekina, Kogi State	0.99
198	Ogoja Microfinance Bank Limited	27 Mission Road, Igoli- Ogoja, Cross River State.	0.57
199	Ohon Microfinance Bank Limited	Aiyeunle-Gbedde, Ijumu L.G.A Kogi State	0.70
200	Ojokoro Microfinance Bank Limited	Lagos-Abeokuta Express, Ijaiye Bus Stop, Ojokoro, Lagos State	0.76
201	Okeagbe Microfinance Bank Limited	A2, Rufus Giwa Road, Afa, Okeagbe, Ondo State	0.76
202	Okebola NUT Microfinance Bank Limited	Oke-Bola Teachers' Cooperative House, Opposite St. Theresa's College, Oke-Ado, Ibadan, Oyo State	0.72
203	Omu-Aran Microfinance Bank Limited	92, Aperan Road, P.M.B 1037, Omu-Aran, Kwara State.	0.60
204	Orokam Microfinance Bank Limited	PMB 01, Orokam, Ogbadigbo LGA, Benue State	0.84
205	Oros Capital Microfinance Bank Limited	17, Commercial Avenue, Yaba, Lagos State	0.97
206	Ovidi Microfinance Bank Limited	1, Attah Road, Okene, Kogi State	0.51
207	Ozizza Microfinance Bank Limited	No. 1, Water Works Road, Abakiliki, Ebonyi State.	0.74
208	Parallex Microfinance Bank Limited	55, Kudirat Abiola Way, Oregun-Ikeja,	0.92
209	Parkway Microfinance Bank Limited	102/109 Broad Street, Mandilas Building, Lagos, Lagos Island	0.56
210	Pathfinder Microfinance Bank Limited	Osogbo Road, Temidire Okejigbo, Ila Orangun, Osun State	0.73
211	Peace Microfinance Bank Limited	Utako District, Abuja	0.76
212	Pearl Microfinance Bank Limited	6, Taiwo Ishola Street, Off Lola Holloway Street, Omole Phase 1, Ojodu Lagos	0.57
213	Peninsula Microfinance Bank Limited	1ST FLOOR, CONOIL BUILDING, BUDO LAYOUT, AJIWE, AJAH-LEKKI EXPRESS WAY, LAGOS STATE	0.86
214	Pennywise Microfinance Bank Limited	C/o Mrs Monotimbo Ayinde, 95, Awolowo Road, Lagos State	0.91
215	Personal Trust Microfinance Bank Limited	67, Ogunlana Drive, SuruLere, Lagos	0.92
216	Phoenix Microfinance Bank Limited	IBB Market, GRA Road, P.M.B. 65, Suleja, Niger State	0.63
217	Pillar Microfinance Bank Limited	Plot 12, Julius Nyerere Crescent, Asokoro, Abuja, FCT	0.52
218	Polybadan Microfinance Bank Limited	The Polytechnic, Ibadan Ventures, P.M.B. 22, U.I. Post Office, Ibadan, Oyo State	0.67

219	Prestige Microfinance Bank Ltd	Febson Mall, Plot 24/25, Herbert Macaulay Way, Wuse Zone 4, Abuja	0.84
220	Progressive Link Microfinance Bank Limited	Isanlu, Yagba East Local Government Area, Kogi State	0.88
221	Projects Microfinance Bank Limited	Integratedtrust House, 61, Marina, Lagos Island, Lagos State.	0.66
222	Providence Microfinance Bank Limited	Suite 3; 21, Ogundana Street, Off Allen Avenue, Ikeja	0.84
223	Quicash Microfinance Bank Limited	Plot 5A, Block A10, Admiralty Way, Lekki Phase 2, Lekki, Lagos	0.78
224	Rahama Microfinance Bank Ltd	No 13, Liman Zangina Road, Off Ahmadu Bello Way, Nassarawa, Kebbi	0.85
225	Rakib Microfinance Bank Limited	Kibiya Town, Kibiya L.G.A, Kano State	0.71
226	Rano Microfinance Bank Limited	RANO MFB, RANO TOWN, KANO LOCAL GOVERNMENT AREAS, KANO STATE	0.95
227	Regent Microfinance Bank Limited	Plot 1186, Cadastral Zone B06, Mabushi District, Along Kado Expressway, Abuja	0.87
228	RenMoney (Rencredit) Microfinance Bank Limited	89, Awolowo Road, Ikoyi, Lagos	0.94
229	RIC Microfinance Bank Limited	1, Adeola Hopewell Street, Victoria Island	0.54
230	Rima Microfinance Bank limited	Sambo Road, S/Gari, Goronyo, P.M.B. 02355, Sokoto, Sokoto State	0.75
231	Sabon Yelwa Microfinance Bank Limited	85 Kachia Road, Sabon Tasha, Kaduna	0.78
232	Sabuwa Microfinance Bank Limited	NO. 10, SABUWA TOWN, SABUWA L. G. A. KATSINA STATE	0.70
233	Sal-Fol Microfinance Bank Limited	25 Ibadan Municipal Shopping Complex, Bank Road, Bodija, Oyo State	0.54
234	Sandamu Microfinance Bank Limited	009, Sandamu Town, Sandamu Local Government, Katsina	0.98
235	Sepeteri Microfinance Bank Limited	Saki Road, Idi-Emi, Saki East Local Govt Area, Oyo State	0.67
236	Shanono Microfinance Bank Limited	Shanono L.G.A , Kano State	0.78
237	Shepherd Trust Microfinance Bank Limited	22, Thomas Salako Street, Ogba, Ikeja, Lagos State	0.95
238	Shield Microfinance Bank Limited	Obada Market, Ilara Mokin Ifedore Local Govt Area Ondo State	0.52
239	Sincere Microfinance Bank Limited	145, Olofa Way, Offa, Kwara State.	0.67
240	SLS Microfinance Bank Limited	FF 105, MKK Complex, Gudu Market Complex Junction, Gudu District, Abuja FCT	0.55
241	Smartmicro Microfinance Bank Limited	No 164, Sapele Road, Benin City, Edo State	0.81
242	Snow Microfinance Bank LImited	118 Coker Road, Ilupeju Lagos	0.72
243	Solid Allianz Microfinance Bank Limited	NO 1, ANUOLUWAPO STREET, SOMOLU, LAGOS	0.99

244	Solid Base Microfinance Bank Limited	Okedagba Quarters, Opposite Baptist High School, Ekinri Adde, Ijumu L.G.A, Kogi State	0.88
245	Standard Microfinance Bank Limited	Bornoma House, No 94 Mohammed Mustapha Way, Jimeta-Yola, Adamawa State	0.64
246	Stanford (Formerly Merchants) Microfinance Bank Limited	PLOT 115, F LINE EWET HOUSING ESTATE, UYO, AKWA IBOM STATE	0.94
247	Stellas Microfinance Bank Ltd	No. 164, Lagos-Abeokuta Expressway, Iyana-Paja, Lagos	0.95
248	Sunrise Microfinance Bank Limited	6, Ajayi Aina Street, Ifako-Gbagada, Lagos State	0.80
249	Support Microfinance Bank Limited	22, Isheri North Road, Isheri Estate, Ifo-Otta LGA, Ogun State.	0.71
250	Tsanyawa Microfinance Bank Limited	Old People Bank, Along Katsina Road, Tsanyawa, Kano State	0.81
251	Ultimate Microfinance Bank Limited	Sikiru Ayinde Oluwo House, Owode market, Ayobo Road, Ipaja, Lagos State	0.61
252	UMYU Microfinance Bank Limited	Umaru Musa Yar'Adua University, KM 10, Dutsinma Road, Katsina State	0.99
253	Ungogo Microfinance Bank Limited	Ungogo Local Government Area Council, Kano, Kano State	0.90
254	Unibadan MIcrofinance Bank Limited	1, Elkanemi Road, University of Ibadan, Ibadan Oyo State, Nigeria	0.84
255	UNICAL Microfinance Bank Limited	University of Calabar, P.M.B. 115, Calabar, Cross Rivers State	1.00
256	Unifund Microfinance Bank Limited	Suite 9/10 Block C, P.O.W.A Shopping Complex, Nyanya, FCT, ABUJA	0.80
257	Unilorin Microfinance Bank LImited	Permanent Site of University of Ilorin, Kwara State	0.64
258	University of Benin Microfinance Bank Ltd	University of Benin Main Campus, Benin City, Edo	0.55
260	Visa Microfinance Bank Limited	GOUBA PLAZA, PLOT 171, A. E. EKUKINAM STREET, UTAKO, ABUJA	0.93
261	Waila Microfinance Bank Limited	No. 7, Chrisgold Plaza, Keffi Road, Mararaba, Nasarawa State.	0.95
262	Wapo Microfinance Bank Limited	Nagazi, Ogaminana, Okene, Kogi State.	0.59
263	Wase Microfinance Bank Limited	1, Opposite Emir's Palace, Wase Local Govt Area, Plateau State	0.72
264	Yankari Microfinance Bank Limited	No 10, Yandoka Road, Bauchi	0.88
265	Yauri Emirates Microfinance Bank Limited	Old Kontagora Road, P.O.Box 1, Yelwa - Yauri, Kebbi State	0.59
266	Yeneng Microfinance Bank Limited	P.O BOX 1001, BUKURU, , NO 1 BANK ROAD GANAWURI, RIYOM L.G.A, PLATEAU STATE.	0.95
267	Yobe Microfinance Bank Limited	Plot 4, Ahmadu Bello Way, Damaturu, Yobe State	0.59
268	Zazzau Microfinance Bank Limited	Yantabimi Quarters, Zaria City, Kaduna State.	0.71
269	Zikado Microfinance Bank	Zintech Place, 11, Fubara Dublin Green Street, Igbo-	0.66

	Ltd	Efon, Lekki, Lagos	
270	Zuru Microfinance Bank Limited	Opposite Zuru Garage, Zuru, Kebbi State	0.54