

**An Exploration of Operational Risk Management
and Basel Implementation in Banking:
A Developing Economy Perspective**

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Dedication

I dedicate this work to:

My two boys Mario and Angelo

My parents Francis and Angela

My patron saints Theresa, Rita and others

My loving mother, Mary most holy

Above all, The Holy Trinity

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I am grateful to God for seeing me through this arduous journey. My faith in God is a gift from God. That gift kept me going when I was tempted to stop going and let things go. And tempted I was, from impossible sources. What God cannot do does not exist.

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Abstract

Within the past decade and a half, Operational Risk (OR, OpRisk) has evolved from being the risk without a definition, a residual category for risks, to become one of the dominant risks in the banking world. The Basel Committee on Banking Supervision (BCBS) issued regulatory frameworks and principles that cut across geographical diversities, in managing OR globally, and in strengthening systemically important banks. Although the Basel accords originally excluded developing economies, they have become globally accepted guiding principles for managing risks in banks. Nigeria, a developing economy embraced the Basel principles and frameworks on Operational Risk Management (ORM). As a practice-based discipline, literature on ORM theory in banking is scanty and even more scarce in African banking systems. This qualitative case study sought to explore operational risk management theory and practice in the context of Nigeria's banking system, in order to identify how Nigerian banks have adapted the application of Basel's ORM principles to suit their unique settings, manage operational risk, and achieve/maintain the foundation needed to meet global standards. The relevance of the study subsists in charting a trajectory of theoretical foundation for the management of OR, and to identify the impacts of implementation of Basel frameworks from a developing economy context.

Framed on interpretive worldview and constructive realism, data were obtained from documentary sources, and from semi-structured interviews of relevant persons in banks and regulatory institutions, including a consolidated United Kingdom (UK) banking institution. The data were analysed through detailed transcription, extraction, coding, thematic characterization and presented through descriptive and inferential discussion of the categories derived from aggregated patterns.

The first category of findings supports the thesis to postulate that studies of uncertainty and behavioural factors as root causes of risk, provide substantive theoretical underpinnings for the phenomenon of operational risk in banking. Furthermore, there are significant underlying linkages between risk, governance, behavioural and uncertainty theories as they can inform the operational risks faced by banks because of people, processes, systems and external events. The theoretical and practical aspects of ORM are then unpacked by examining the application of Basel's ORM

framework within the banking sector in Nigeria, to identify the challenges and opportunities posed in the process. Ultimately, the researcher propounds that superior management of operational risk in banks, require superior customized collaboration, derived from a purposeful engagement of both regulators and banks, under the Basel principles and pillars. The findings also show that Nigeria's consolidation agenda led to the introduction of risk-based supervision which formed a solid foundation for the application of Basel. The application of Basel principles has in some banks, provided innovative tools for improved bottom line in addition to appraisal and reward systems through bank-wide risk ownership, and new product development. Thus, a positive handshake is established between OR and HR. It has also revealed that some Nigeria banks are quite advanced in their ORM and Basel implementation, in contrast to Basel position on developing economies. Other findings indicate that: i) development of knowledge and competency can be innovatively deployed for building benchmarks of best practices and support systems that are mutually beneficial to all, as opposed to its traditional competitive advantage focus ii) asymmetric regulation results in banks bearing responsibility for fintech risks that could otherwise be borne by third parties iii) information remains asymmetrical and sometimes opaque between bankers and regulators while the same is shared among bankers affirming behaviourist perceptions. A few significant differences exist between UK and Nigeria in the application of Basel's ORM particularly in material risk categorization, as well as specialization of heads of groups.

The researcher suggests that policy designs and standards by global supervisors would perform better when made inclusive of all economies, both developed and developing economies. Also, Nigeria regulators and banks should pivot on the common objectives, leverage on cohesive competencies, and bridge regulatory asymmetry, so that both sides can seamlessly deliver the mutual goals of financial stability and operative global banks.

Keywords: Operational Risk, Risk Management, Bank Risk, BASEL, Nigeria banking, Risk Theories, Uncertainty, Governance, People Risk, Internal Control, Developing Economy.

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List of Acronyms

AI	Artificial Intelligence
AICPA	American Institute of Certified Public Accountants
AMA	Advanced Measurement Approach
AS(A)	Alternative Standardised Approach
Basel	Basel Committee on Banking Supervision
BBA	British Banking Association
BCBS	Basel Committee on banking Supervision
BIA	Basic Indicator Approach
BIC	Basic Indicator Component
BIS	Bank for International Settlement
BOE	Bank of England
BOFIA	Banks and Other Financial Institutions Act
CAMELS	Capital Adequacy, Asset Quality, Management, Earnings, Liquidity and Sensitivity to Market
CAR	Capital Adequacy Ratios
CBN	Central Bank of Nigeria
CCAR	Comprehensive Capital Analysis and Risk
COSO	Committee of Sponsoring Organisations
CRR	Composite Risk Rating
CSA	Control Self Assessment
RSA	Risk Self Assessment
DMB	Deposit Money Banks
ERM	Enterprise Risk Management
F &F	Fraud and Forgeries
FCA	Financial Conducts Authority
FDI	Foreign Direct Investments
GCR	Governance, Risk and Compliance
GDP	Gross Domestic Product
GHOS	Governors and Heads of Supervision

GSIB	Global Systemically Important Banks
HAC	Human Abilities and Characteristics
IBI	Islamic Banking Institutions
IC	Internal Control
IRRBB	Interest Rate Risk in Banking Book
ISO	International Standards Organisation
KYB	Know Your Business
LC	Loss Component
LCR	Liquidity Coverage Ratio
LIBOR	London Interbank Offered Rate
MCA	Minimum Capital Adequacy
NDIC	Nigeria Deposit Insurance Corporation
OECD	Organisation for Economic Co-operation & Development
OPEC	Organisation of Petroleum Exporting Countries
OR	Operational Risk
OpRiskNA	Operational Risk North America (OpRisk used by Risk.Net)
ORM	Operational Risk Management
ORX	Operational Risk Data Exchange Association, Switzerland
PEP	Politically Exposed Person
RAM	Risk Assessment Matrix
RAS	Risk Assessment Strategy
RBS	Risk Based Supervision
RCSA	Risk and Control Self Assessment
RIMAN	Risk Management Association of Nigeria
RMA	Risk Management Association
RWA	Risk Weighted Assets
SIB	Systemically Important Banks
T2	Tier 2 Capital
TCE	Transaction Cost Economics
VAR	Value at Risk

Chapter 1 – Introduction

1.1 Introduction

This study explores Operational Risk Management (ORM) in the Nigeria banking system, with a focus on the adoption and implementation of the Basel principles and framework. It examines the impacts, challenges, opportunities, and lessons for both theory and practice. Risk is generally inherent in every walk of life and managing risk has always been part of human existence. Although risk is common to most disciplines, risk in banking is of great significance to our economic survival because a resilient and robust banking system is pivotal to sustainable economic development. Banks are the crucible of intermediation between providers and users of money and provide essential services to the economy. Empirical evidence proves that high exposures to risk can result in bank failures which can cripple an economy. Banking risks were traditionally classified as credit, market, liquidity, and more recently, Operational Risk (OR). Although Operational Risk is as old as the banking industry, the industry has only recently arrived at a generally acceptable definition for it through the Bank for International Settlement (BIS)'s Basel Committee on Banking Supervision (BCBS).

In February 2003, the BCBS institutionalised operational risk management framework in banking through the issuance of the “Sound Practices for the Management and Supervision of Operational Risk”, a document further incorporated in “International Convergence of Capital Measurement and Capital Standards: a Revised Framework” issued on June 10, 2004 and popularly known as Basel II accord and consolidated in June 30, 2006. In this framework, Basel defines Operational Risk (OR) as *“the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events”*. This definition includes legal risk but excludes strategic and reputational risks. (BCBS96, 2003; BCBS128, 2006). The main object of Basel II was to respond to the banking crises of the 1990s and the criticisms of Basel I. Basel I had limited scope and general language which gave banks excessive freedom in interpreting the rules. As a result, banks held overly low capital reserves and took excessive and sometimes inappropriate risks. Basel II introduced new approaches to operational risk management and its capital provisions. Operational risk which was hitherto, a risk without a definition, became a dominant risk in the banking system (BBA, ISDA, PWC & RMA, 1999; Moosa, 2007, Chartis, 2014). Basel II framework

remains the global regulatory foundation for operational risk management in banking and has been integrated into the current consolidated Basel Framework, which is the full set of standards of the BCBS. The Sound practices document has also been updated into the Principles for the Sound Management of Operational Risk (PSMOR), a document which “reflects the evolution in operational risk management in the intervening years” (BCBS195, 2011). Basel II had flaws that provided inadvertent incentives for banks to underestimate credit and market risks, through its flexibility clause on capital requirement maintenance. Banks used their internal models in estimations of credit and market risk, and in determining capital. The manifestations of these drawbacks were astounding in the 2007-2009 financial crisis, weakening the global financial system by rendering markets weak. Thus, the need for a revision through the Basel III framework.

Basel III was a further global regulatory framework focusing on making banks more resilient. It sought to reduce excessive variability of risk-weighted assets (RWA). Basel III was therefore expected to address the weaknesses of the pre-crisis regulatory framework and provide a foundation for a resilient global banking system. Being an extension of Basel II, Basel III leaned towards increasing banks' liquidity. Several reforms were introduced in Basel III, and its transition timeline is currently from 2017 to January 1, 2023, as recently extended by the Governors and Heads of Supervision (GHOS) in order to increase operational capacity of banks and supervisors to respond to Covid-19 (BCBSd510, 2022,). Although Basel III prescribes the standardized methods for calculating the RWA for regulatory capital requirement for all the relevant categories of risks, Basel II framework remains the major accord that set down the principles of operational risk management, which should be in place for operational risk regulatory capital implementations. Also, while Basel I was superseded with Basel II, Basel II is consolidated and integrated in the substantive Basel document called The Basel Framework (BCBS, 2019). Hence, it was not rendered redundant by Basel III. Consequent upon its importance and relevance, this study anchors on Basel II principles of sound management (PSMOR), and the implementation in Nigeria banking system, with appropriate references to Basel III capital extensions as updated. Although the objects of Basel accords were initially explicit in stating that they were not recommended for adoption by developing economies (BIS, 2003, BCBSd96, BCBC128, Balin, 2008, BCBSd510, 2022, Hohl et al, 2018, Beck and Rojas-Suarez

(chairs), 2019), Nigeria is one of the developing economies that embraced the Basel accords and adopted the Basel principles in their banking system.

The backdrop to the Nigeria case began on July 6, 2004, when the Central Bank of Nigeria (CBN) commenced a plan to reform Nigeria banking system through a consolidation exercise. Its purposed was to induce a new era of globally repositioned banks with robust capital adequacy and financial resilience. Prior to the consolidation exercise, Nigeria banking system had a history of weak capital base, insolvency and illiquidity. There was overdependence on public sector deposits and foreign exchange trading, poor asset quality, and weak corporate governance. The consolidation agenda among other things, included the installation of Risk-Based Supervision (RBS) in the banking sector, to respond to the sector's post consolidation expansion both within and beyond Nigeria, and to usher in the implementation of Basel Accord. The 2005/6 banking consolidation indeed marked a new era of banking in Nigeria when it was acclaimed a successful reform, after several decades of a weak banking system fret with failures (Soludo , 2004; Africa Confidential, 2010, Barros and Caporale, 2012; Phillips & Janes, 2014). However, the acclaimed benefits of the consolidation exercise were short-lived as evidence began to emerge, indicating that the resultant figures were manoeuvred by some of the banks' executives (Sanusi, 2010) The outcome was a classic manifestation of operational risk events at board levels. The events became a reflection of the fabric of the political economy and highlighted the massive weaknesses in governance structures or a lack of it, in the banks. Yet, the Nigeria banking system is typically a regulatory controlled environment which is anchored mostly on governance, starting from the central bank down to the micro finance banks which cater for rural dwellers. The implicit dependence of the system on governance structures points theoretically to a stakeholder framework. However, a deeper exploration reveals several overlapping theoretical implications, most of which will be discussed in this work. Albeit, governance weaknesses were considered dominant, especially with several insider malpractices and senior management misconducts, including board members. In response, the CBN instituted a joint special examination of the consolidated banks, which revealed infractions in risk management, liquidity and particularly corporate governance. Consequently, boards of eight banks were dismissed and their chief executive officers replaced. The compliance-based

supervision that was in place during the consolidation was shirked and risk-based supervision (RBS) commenced.

RBS was preferred because it encouraged banks to develop and regularly update their internal risk management systems, to ensure that it is adequate and matches the scope and complexity of their operations. It also laid a foundation for market discipline, the third pillar of the Basel frameworks. All these culminated in implementation of Basel principles and framework by Nigeria banks, which commenced in 2011. Basel implementation remains a topical, relevant and an ongoing process in the global banking system. As at December 2019, the transitional arrangement for Basel III implementation was from 2017 to 2027, and more recently due to Covid-19, it has been extended by one year to 2028. Also, SGIBs are to implement Basel III OR standards by 2023. (BCBS424, 2018; BCBS,2019, BCBS, 2020).

In other to assess the impacts and objectives of the Basel implementation, this study seeks to explore operational risk management theory and practice in the context of Nigeria banking system with an aim to identify how Nigerian banks have adapted their application of Basel's ORM principles to suit their unique setting, manage operational risk, and achieve/maintain the foundation needed to face global economic challenges. Such studies for Africa, remain few and far between. Thus, this work provides a backdrop for Africa in particular, and for similar developing economies' adaptation to Basel, as well as for `governance, risk and compliance (GRC) structure. The rest of this chapter proceeds as follows: Section 1.2 presents the statement of the problem, Section 1.3 discusses the research questions, methodology and analysis Section 1.4 explores the Rationale for Nigeria Case, Section 1.5 presents the Significance of the study and Section 1.6 is the Scope of the study. Section 1.7 introduces the concept of risk and the theoretical background while Section 1.8 is the summary and recap of objectives.

1.2 Statement of the Problem:

Nigeria's financial system is said to have a chequered history of cycles of boom and bursts (Soludo, 2007), with bank failures, that mostly result from governance weaknesses, unethical practices and undue exposures to risks (NDIC, 2015, NDIC, 2017). There were eras that witnessed simultaneous collapse of several banks and got the economy entangled in massive loss of funds through various problems like mismatch, improper gapping of funds, misappropriation, poor management, bad loans

and lack of adequate capital base in addition to the political economy of the country. Prior to the regulatory induced consolidation exercise, the dominant banking system was fretted with small and fragile banks compared to the size and sophistication of the economy. Nigeria became one of the developing economies that embraced the wave of banking consolidation in 2005 when a reform strategy based on 13-point agenda was initiated by the Central bank governor, to overhaul the system. While the first point on the agenda was recapitalization, the second was - a shift of emphasis to risk-based supervision (Soludo, 2007). From that period, the emphasis on risk management has continually grown. However, post consolidated Nigeria banking sector was discovered to still be engulfed in huge deficiencies in capital adequacy, risk management and corporate governance (Phillips, Stephen & Jones, Alexander, 2014) despite the exercise. The risk factors dominating the Nigeria banking system included several operational risk factors, with a few others being the traditional banking risks of credit, market, and liquidity. The importance of operational risks became progressively more significant if not critical, in the face of various bank failures that were examined by the regulators (NDIC). Evidence from the NDIC examinations (2007-2017) led to the direct mapping of majority of bank failures to people risk factor, which makes this factor critical for examination. The evidence highlighted several deviations in governance and senior management misconducts among other operational risk events. Thus, this thesis has become essential, considering that people risk is a major OR factor affecting Nigeria and remains a grossly under-researched phenomenon, despite having the potential of crippling the entire banking system.

Secondly, when Basel initiated the accords, it was not recommended for developing economies (BCBSd96, BCBS107, BCBC128, Balin, 2008, BCBSd510, Hohl et al, 2018, Beck and Rojas-Suarez (chairs), 2019) due to concerns about its complexity and the limitations in technical capacity of banks and supervisors in emerging markets or developing economies. This position appeared to ignore the impact that global institutions' businesses and initiatives have on emerging markets. Nigeria and similar countries rely on international banking relationships and transactions including FDI, financial system trades and exchange, as well as interbank activities to fund their businesses and raise foreign exchange. International banks and potential investors consider compliance to these international frameworks, rules and guidelines, when evaluating the local banks, in order to make decisions on trades, business,

correspondence and other partnerships. They evaluate the strength, capacity, compliance and safety among other criteria, when choosing business partners. Thus, lack of compliance to such international standards entails a barrier for banks in developing economies to play in the global markets, and to enter new or maintain existing partnerships with globally systemically important banks. Such impasses can only be resolved by the adoption of the global rules. Consequently, Nigeria, like several other developing economies, embraced the Basel Accords despite the deterrent injunction from Basel. This thesis aims to investigate how Nigerian banking system after its consolidation, implemented the ORM principles and framework of the Basel rules, highlight the opportunities and challenges the banks have experienced as a result of Basel adoption, both from the regulator and banks' perspectives.

Next, conflicting signals between banks' reality and regulatory injunctions have been identified as one of the challenges that banks face. Often there is a disconnect between regulatory demands and the practicalities of bank operations, resulting in rifts and fines in place of a cohesive system. The resulting information opacity between the regulators and banks, although not peculiar to Nigeria, has been significantly impacted by the implementation of Basel principles, towards a convergence of ideas due to benchmarking. Nigeria banking sector constitutes a very strong case for examination, considering their proactive, regulatory induced banking consolidation as well as policy implementation. The consolidation seemed to have pre-empted Basel's initiatives on regulatory capital and ORM. The need to examine the ORM in Nigeria banking sector is therefore anchored on the need to ascertain how their adoption of Basel as a developing economy has impacted on the regulator/bank relationships.

Finally, this examination will exhume evidence on the impacts of Basel adoption on the country's banking system and its global objectives. It will help identify how Nigeria's actions can contribute to such policies in the future and perhaps bridge the gaps that made it imperative for Basel not to recommend the accords to emerging economies. Since Nigeria is referred to as the giant of Africa and remains highly relevant, and a benchmark in the region, the country's policy adoption is relevant for both African nations and other developing economies.

The important aspirations of this work have been summed up in the research questions presented below.

1.3 Research Questions:

The following research questions guided the conduct of the research and were developed to enable a detailed exploration of operational risk management practices in Nigeria banks, and how they are regulated.

1. What are the theoretical underpinnings of Operational Risk Management and how do they inform the Basel principles of ORM?
2. What is the extent to which the Nigerian banking system after its consolidation, implemented the ORM framework of the Basel Rules? What opportunities and challenges have been experienced as a result of its adoption?
3. What are the lessons from the Nigerian context and the experience of its banks for ORM theory and practice in general and Basel principles specifically?

The above questions will be used in pursuant of the aims/purpose of this work, which seeks to explore operational risk management theory and practice in the context of Nigeria banking system. It aims to identify how Nigerian banks have adapted their application of Basel's operational risk management principles to suit their unique setting, manage operational risk and achieve/maintain the foundation needed to face global economic challenges. This work is a case study research utilizing primary data from purposive semi-structured interviews in addition to documentary sources. Data was analysed using transcription, thematic extractions, and inferences from categorized patterns. Nvivo software was also applied to derive codes and nodes used for pattern summation. All these are justified on the premise of the study of an under-researched phenomenon, thereby enabling adequate generation of detailed information, substantive to achieve relevant validity.

1.4 The Rationale for Nigeria Case

Nigeria holds a significantly dominant position in both the economic and political stability of Africa despite its internal political and economic challenges. Usually referred to as the Giant of Africa, it is the most populous country in the continent estimated to have a population of about 206 million people (United Nations, 2019). It therefore holds Africa's largest market. Nigeria's FDI outflows to other countries stood at about N39, 737,237.59 in 'millions of naira as at 2018, and \$101,901.57 in 'millions of dollars in 2020 the pandemic year (see Appendix 12). Anecdotal evidence projects

that a good proportion of the funds from Nigeria to African countries are through banks and direct trading. The researcher's search on five Nigerian banks' websites revealed that those five banks altogether have more than four hundred and thirty (430) branches in African countries, apart from their few branches in China, UK, France, UAE and South Africa. Without Nigeria's FDI through banks, so many African locations will have no banking facilities. While those facilities are investments for Nigeria banks, they are major sources of economic development for African countries, regions, cities and towns. Furthermore, the banks are also engines of investments in other sectors, either through equity, debt or foreign exchange. It is safe to suggest that Nigerian banks are systemically important for the West African region and for Africa as a whole. Therefore, an examination of Nigeria banking system is like an examination of the mirror of African banking system.

Nigeria has abundant natural resources and a relatively inexpensive workforce in addition to its strategic location near many West African countries. Nigeria boasts a net inward FDI that has grown from \$207million in 1970 to \$3.5billion as of 2017 as reported by the World Bank (World Bank, 2018; Santander, 2018) Its stock of FDI is estimated at \$99.6billion in 2018 and its main investing countries are the USA, China, United Kingdom, the Netherlands and France (although these numbers have declined a bit in 2020 with all the global disruptions from Covid-19 in 2020). It is also a strong member of OPEC making it impactful on global oil prices. Nigeria banks provide banking and financial services to many African countries (See Appendix 12) and several are listed in the world's top financial centres such as London and New York exchange. According to Financial Times' The Banker, five Nigeria banks out of 24 are among top 500 global bank brands (Macknight, 2017; Akingbolu, 2017) . Several African countries economically rely on Nigeria and its financial support. Post consolidation, Nigeria has grown its capacity in the global debt markets, with individual banks' bond offerings providing huge investment opportunities to globally systemically important banks. Due to attractive interest rates, global systemically important banks channel substantial amount of resources to the Nigeria financial system for good returns. As a result, the management of operational risks in Nigeria banks is of critical importance to both international and local investors since a good number of risk events from the Nigeria system relate to operational risk indicators. They are also the major causes of bank failures (NDIC, 2017). Apart from the above points, Nigeria banking

system also experienced several challenges including bank distress and collapse of banks in the past. With such impactful FDI stock holdings by globally systemically important banks and nations, the resiliency of the Nigeria system is of concern to both local and foreign stakeholders including governments. Thus, the rationale for the choice of Nigeria for the empirical study.

Furthermore, majority of literature and data available on GRC are from developed economies. Empirical information about Nigeria and environs remains is still limited. Therefore, this study contributes to a significantly under-researched area. In addition, data from international development agencies do not present analytical discussions and theoretical values. They are also mostly extracted from publications of regulators such as Central bank and Deposit insurance. The few primary research data are mostly projections from limited area surveys. Thus, this work will add meaningful value to records and data. The few articles published on Nigeria operational risk are from secondary data focusing on banks' financial reports (Fadun and Oye, 2020)

Although Nigeria commenced risk-based supervision in 2009, it was in December 2013, that the Central Bank of Nigeria issued guidelines for the adoption of Basel II/III. The guidelines initiated the adoption of modified Basel frameworks (CBN, 2013), which was to fully commence Basel II in June 2014. A parallel run of Basel I and II minimum capital adequacy computations (MCA) was to run from January 2014 to June 2014. The guidelines also specified approaches for quantifying risk weighted assets (RWA) for Credit, Market and Operational risk regulatory capital, in line with Pillar I of Basel II. Pillar II and Pillar III requirements were to remain in force for all banks. Although the full adoption of Basel II MCA was to have commenced in June 2014, the parallel run of Basel I and Basel II was extended by three months to October 1, 2014. The CBN then issued a framework in July 2014 for Regulatory Capital Measurement and Management towards the implementation of Basel II/III. The framework included national discretionary application in nine aspects out of thirty-three listed in the document. Nigeria Banks were also specifically directed to apply Standardized approaches to Credit and Market risks but apply the Basic Indicator Approach to Operational risk. Domestic banks were to maintain 10% and internationally active banks 15% minimum capital ratio. The expectation was that an effective rating system would be developed within 2 years of its application. Nigeria is now in the sixth year of its adoption of CBN framework for Basel II compliance for operational risk

management. An impact assessment of the Basel adoption does not yet exist. Thus, the rationale for this study. Considering all the points raised above, the importance of Nigeria in African continent as well as various stakes from systemically important banks and countries, it became imperative that examination of Nigeria's application of Basel's ORM principles is important to a very diverse range of stakeholders, both locally and internationally. It is also of essence to Basel Committee, because Nigeria's implementation process, impact assessment, lessons learned as well as challenges faced can be used as benchmark and to inform useful propositions about developing economies when issuing accords. All the above as well as the need to examine the status and impacts of Basel adoption in the management of operational risks and to provide an analogous discourse on the pre and post consolidated Nigerian banking system in the face of the operational risk management practices are being met by this study.

1.5 Significance of Study

Several studies have been done to examine operational risk from different perspectives. Since the institutionalization of operational risk in banking by the Basel Committee on Banking Supervision, more academic studies have been done on operational risk, especially its quantification, measurement, performance, efficiency and applications, including VAR and capital requirements. However, studies from developing economies covering pre-Basel through Basel adoption are uncommon. This study is therefore significant as it aims to provide findings that will be novel and useful to academia, banks and operational risk practitioners as well as regulators.

1.5.1 Academia:

While there are a good number of empirical studies on operational risk in general, and several others on operational risk in banking, this study brings a whole new dimension by charting a theoretical pathway that informs operational risk management in banking, through a backdrop of economic theories. Although a few papers have applied some economic and corporate finance concepts (such as Sparrow, 2000 and Jarrow, 2008), they explained operational risk as an operations issue, not on operational risk management in banking as instituted by Basel. Such papers have also been based mostly on secondary research, using quantitative analysis of data. Furthermore, this work has, through its conceptual development on risk, crafted an in-

depth academic compendium of the various aligning theories and linkages, ranging from risk and uncertainty to behavioural economics, and arrived at a framework for ORM. The literature has captured each individual risk factor identified by Basel, providing foundations that can enable further research into these individual risk factors. It is novel to find this type of integrated academic literature, combined with a primary examination, and analysed with a qualitative approach, encapsulating the rich narratives that qualitative research brings into a phenomenon. Furthermore, there are relatively few high ranking journal studies that discussed ORM in banking systems in Africa. Paucity of literature and data results in gaps in ORM literature in the African continent. This study will add value in the content and source of academic work, especially being undertaken and supervised from a developed economy.

ORM is a practice-based discipline. As a result, literature on theoretical foundations of operational risk has been as scanty as writings on the practice and measurement of OR have been vast. This work aspires to fill the gap by projecting a discourse on some relevant theoretical and conceptual underpinnings drawn from diverse disciplines. In addition, theoretical research has been helpful in developing the empirical framework and in assessing empirical data.

Furthermore, it differs from existing literature as it embeds the assessment of operational risk management into the reformed Nigeria banking system at a time when the apex and individual banks are still testing their approaches to quantify operational risk and to derive an effective rating system.

In addition, most literature on operational risk in banking focused on analysing Basel frameworks, from perspectives of measurement, modelling and quantifying risk, (Alexander, 2000; Cornalba & Giudicib, 2004) and or quantifying regulatory capital charge (Froot et al, 1994; Embrechts, 2003). This research explores behavioural theories and theories of uncertainty, and governance as theoretical foundations of operational risk in contrast to quantitative literature. This research is unique because it is a qualitative research in a field dominated by quantitative work which people find easier to handle because it is more straightforward to produce quantitative data, apply statistical tests and show results. Across the various published works examined, qualitative research is a rarity. This work forays into a perspective of banking risks which is rarely researched- the people issues.

1.5.2 Banks and other Practitioners

This work comes at a time when the global banking sector is focusing on managing operational risk as one of the predominant risks in banking. Globally, banks are still in the process of implementing operational risk management frameworks and principles as set out by Basel, and presently have a transition period from 2017 – 2028, indicating the significance and topical status of ORM in today's world. Various aspects of ORM such as resilience, conduct risk, third party risks, cyber security risks, IT and technology risk have continued to emerge, even as the frameworks and principles have been continuously reviewed and updated to capture these emerging risks. This study has also provided a trajectory of the changes arising in Basel as well as practical records of their adaptations by banks from a developing economy through access from operational risk global conferences global top practitioners discuss operational risk management. This work has provided a platform for Nigeria bankers to present their experiences and practices, which can be compared to developed economies.

1.5.3 Regulators

This work adds value in examining the interrelationship between the regulators and banks, in their approach to operational risk practice and supervision. Basel implementation reports gaps identified gaps on information sharing, disparity and opacity, which cuts across supervisory colleges all over the world, in the implementation of Basel. The findings from this work are important to regulators who would wish to use the outcome to improve their supervision and regulations. Again, the issue of governance and compliance in banking, remains crucial to establishing sound ORM best practices. The combined concept of risk, governance and compliance is an area of significant interest to all stakeholders, and regulatory bodies in Nigeria have expressed interest in receiving recommendations from the study which they expect will add value to the banking system.

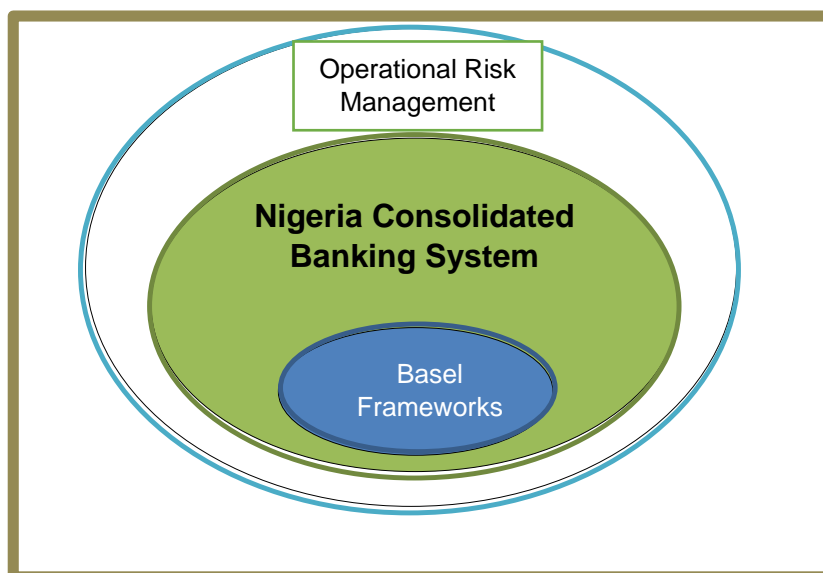
The findings underscore the importance of enacting universal rules in the banking world, since the Basel rules were originally exclusive to developed world but a developing economy is demonstrating the ability to meet the deliverables in spite of the peculiarities of the political economy. The recent covid-19 pandemic has heightened operational risk as banks continue to find ways to weather the crisis, with new focus on resilience. Sharing the findings of the study will encourage the less SIBs to be more aware and surefooted in responding to an evolving and increasingly

complex operating environment (National Risk Committee, Fall 2021), This study validates the efficacy of risk appetite frameworks as the future shape of financial regulation is being actively debated in the USA by academics, practitioners and regulatory bodies. This work is also significant due to its international implications since Basel is a global practice-based framework with global banking implications and there are global efforts to converge data and information about the status of implementation of Basel.

1.6 Scope of Study:

This study explored operational risk management in Nigeria banking system in the light of Basel reforms. Miles and Huberman (1994) and Yin (2003) suggest that every research needs to determine and express its ‘boundaries’. In line with this essential attribute of research, this study limits its scope to an examination of how Nigerian banking system after its consolidation, implemented the ORM framework of the Basel rules, highlight the opportunities and challenges the banks have experienced as a result of Basel adoption, both from the regulatory and banking perspectives. It focused on Operational risk and did not delve deeply into the other traditional banking risks such as credit, market and liquidity risks except for where necessary definitions are required for clarity. The data was gathered from 11 Nigerian post-consolidated banks, from the Central Bank of Nigeria, and from Nigeria Deposit Insurance Corporation. The study also examined the regulators’ perspectives in supervising and examining banks, as well as the introduction of policy and strategy for banks. The figure 1.1 below, has been designed to reflect the scope of this study in a simplified fashion.

Figure 1.1 Scope of the Study



Operational Risk Management is the big global banking concept and within its global application, the Nigeria banking system will be examined. The adoption and adaptation of Basel framework and how it sits in Nigeria is explored. Therefore, the contextual background and environment remain crucial in the examination. The study discusses ORM in Nigeria banking system, highlighting the opportunities and challenges the banks have experienced as a result of Basel adoption, both from the regulatory and banking perspectives. It is anticipated that the findings will generate knowledge to contribute to the understanding of the phenomenon of Operation Risk from the dynamics of developing economy. In addition to the above, an extra interview was obtained from a UK banking group for a comparative discussion. Furthermore, extracts from the seminal discussions and presentations from OpRisk North America conference (2019 and 2021) as well as GRC conference (2019), pertaining to Basel implementations by banks, as presented by practitioners from various institutions have been incorporated. This study does not attempt to model operational risk as in Moscadeli (2004) and Alexander, (2000) nor measure and quantify of operational risk as in Froot et al (1994) and Embrechts, (2003). It will not isolate individual banks and try to calculate their capital ratios considering that all the existing banks meet the CBN's CARs which have been set at rates higher than the Basel Standard. Although it is not purely a comparative study, it will include discussions from a UK banking group and also mention some North America examples that emanate from OpRisk North America conferences.

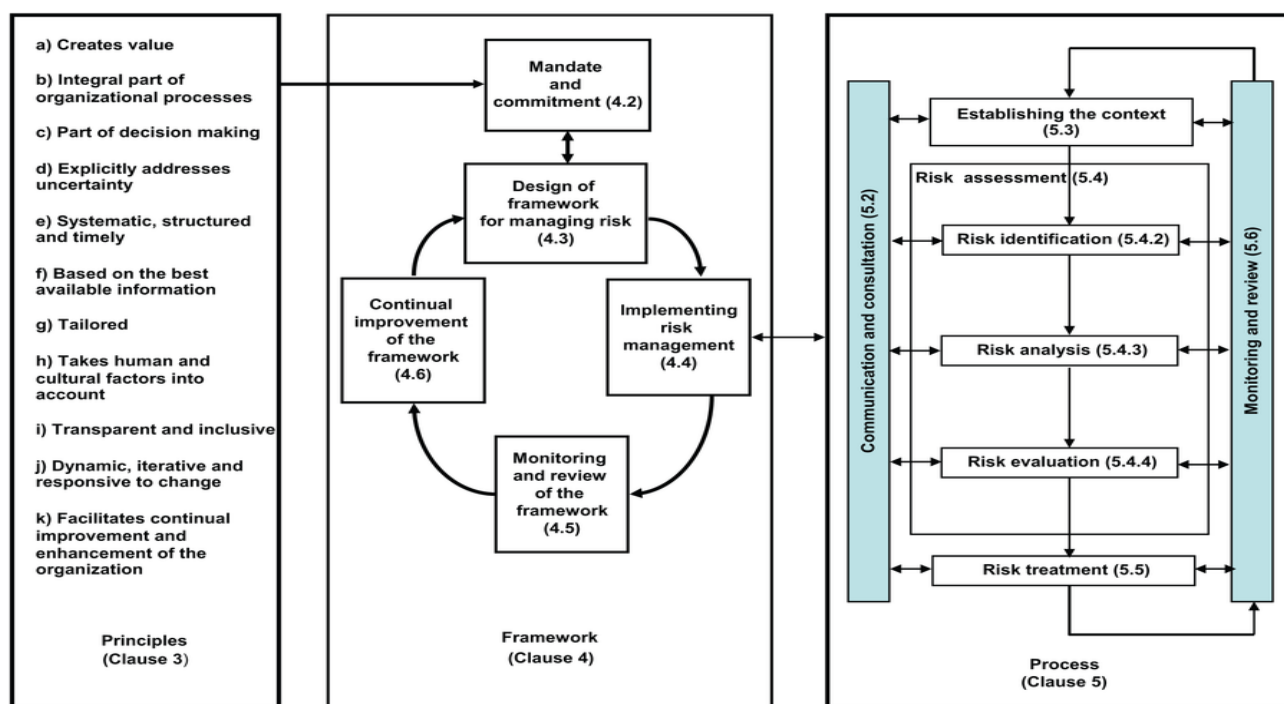
1.7 The concept of risk and the theoretical background.

As previously highlighted in Section 1.1, risk is generally inherent in every walk of life and managing risk is part of human existence. Banking risks are typically classified as credit, market, liquidity and more recently operational risk. Although Operational Risk (OR) is as old as the banking industry, the industry has only recently arrived at a generally acceptable definition for it (Hoffman, 2002; Metric Stream, 2015). OR is defined by the Basel Committee on Banking Supervision (2006) as: "the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events". The concept of risk renders itself open to approaches from different disciplines although studies show that there is limited financial and economic theory. Older debates on risk which were mainly Philosophy and Economics disciplines, tried to define risk from the perspective of its differentiation and association with uncertainty.

Starting with uncertainty as the main characteristic on which risk depends, Haynes (1895) suggests that the existence of uncertainty in the performance of an act is an instant assumption of risk and asserts that the distinguishing characteristic of risk is its fortuitous element. Therefore, risk is caused by the uncertainty in the outcome of an action (Haynes, 1895). Projecting further on uncertainty, Knight (1921) considers risk a measurable uncertainty, while uncertainty is unmeasurable probability. He highlights the fact that people live in a world of change and uncertainty, where there is no omniscience in economic decisions. Other discussions include Keynesian and post-Keynesian approaches dissected by O'Donnel (2013) into human abilities and characteristics (HAC) versus immeasurable uncertainty. Lawson (1985) and Krakow, (2010) hold that in contrast with Keynesian position, the fact of uncertainty is fundamental and that economic decisions can be constructively made, even in the face of unknown future. Further discussions on uncertainty and risk extend to the identification of risk factors of which the most prominent is the people risk factor. People risk factor is underpinned by several behavioural perspectives on ORM. These theories range from those who hold that risk of loss can be caused by people within an organisation, either intentionally or unintentionally (Hoffman, 1998) Those risks can be as a result of errors, misdeeds, frauds, forgeries, incompetence (Donahoe, 1999), or can be attributed to cognitive limitations, bounded rationality and limited competences (Foss, 1996; Simon, 2000; Prahalad and Hamel, 1990; Coase, 1960). Some suggest that governance and accountability are the bane of risk manifestations (Sanusi, 2010) (NDIC, 2017) while some believe that complexities limit and confine human rationality. Others suggest, and are impacted by computational complexity, chaotic behaviour and interconnections among system components. Others argue that risks stem from information asymmetry and its attendant problems. (Stiglitz) By and large, several theories have been identified that can inform the concept of risk in Banking. How then is risk managed in banking?

Risk management has been defined as a process of identifying risk, assigning measures, choosing risks to address, and monitoring resultant outcome towards delivering returns (Pyle, 1999). International Standard Organisation suggest that risk management involves a complete architecture. The architecture projects a framework of interrelationships and portrays risk management from a broad perspective to cover most practice contexts as shown in Figure 1.2 below

Figure 1.2 ISO Risk Management Architecture



Source: ISO 31000/2009

The architecture splits risk management under three major elements, namely processes framework and principles. Risk management processes, the framework and the principles can vary among institutions in their application, but the essential components remain the same. Jones (1998) in congruence with Basel II, categorised risk management process into four steps, namely; Identification, Assessment, Monitoring and Mitigation/Control (BCBS, 2003). In addition to categorising the processes, risks in banking are also classified into credit risk, market risk, liquidity risk and operational risk.

This study focuses on Operational Risk and emphasizes the four risk factors as follows:

People: which explains how people actions can lead to event losses (Katz, 1995; BIS, 2002; Power, 2005),

Processes : (Jorion, 2001;Davies et al., 1998),

System: (FSA (1999) and

External events: (Soludo, 2008) which make up operational risk.

In examining the Nigeria banking system this work explored the practical applications of risk management and the risk events that have crystalized via these fours risk factors.

1.8 Summary

In summary, the objective of this work is to examine operational risk management in the context of Nigeria banking system with an aim to identify how Nigerian banks have adapted their application of Basel's operational risk management principles to suit their unique setting, manage operational risk and achieve/maintain the foundation needed to face global economic challenges.

Its important aspirations are summed up in the following research questions:

1. What are the theoretical underpinnings of Operational Risk Management and how do these theories inform the Basel principles of ORM?
2. What is the extent to which the Nigerian banking system after its consolidation, implemented the ORM framework of the Basel Rules? What opportunities and challenges have been experienced as a result of its adoption?
3. What are the lessons from the Nigerian context and the experience of its banks for ORM theory and practice in general and Basel principles specifically?

This study has been structured into nine chapters and can be summarised as follows:

Chapter one is the introduction of the research and background of the study.

Chapter two provides is a comprehensive review of literature and theories on risk and its concepts. This review of the literature provided avenues for contributions to theoretical foundation for risk management in banks in line with research question and aim. This chapter also addresses research question 1.

Chapter three focuses on Operational risk, its factors, Basel principles and accords. This chapter contributes mainly to the research question 2.

Chapter four presents the research methodology which included the research design and details of the empirical research including steps undertaken and protocols observed.

Chapter five presents the background case- the Nigeria banking system.

Findings are presented in three chapters; Chapter 6 discusses the findings on research question 1, chapter 7 dicusses findings in respect of the Nigeria banking system pre and post consolidation, as well as attendant factors relating to Basel implementation including some opportunities and challenges experienced from Basel

adoption. This addresses research question 2. Chapter 8 addresses research question 3, presenting the summary of the rest of the empirical findings and the integration of the results with the theories and concepts identified in the literature. Chapter nine is the conclusion and recommendations for further research. The structure of this study has been tabulated for ease of review in table 1.2 below.

Table 1.1 Structure of Study

Chapters	Content	Research Question
One	Introduction	
Two	Literature Review	1
Three	Operational Risk and Basel	2
Four	Methodology	
Five	Nigeria Banking System Pre and Post Consolidation	2
Six	Key Findings I –Charting a theoretical pathway for operational risk in banking.	1
Seven	Key Findings II - Discussion and analysis of findings on the extent to which the Nigerian banking system implemented the ORM framework of the Basel, including opportunities and challenges experienced from Basel adoption?	2 and 3
Eight	Key Findings III – Discussion and analysis of the lessons from the Nigerian context and integration of theory and concepts	3
Nine	Conclusion and Recommendation for further research	

Chapter 2. Literature review

2.1 Introduction

This section reviews some of publicly available relevant writings on the various aspects of this study, which were used to build up the researcher's ideas, conceptual and theoretical frameworks on operational risk management. The review was guided by the research objectives and explored various theories, debates, arguments, and propositions provided by various writers on risk, risk management and operational risk management in banking. The review is bifurcated into conceptual and theoretical discourses in one part, and empirical and practice perspective in the other part. Part One which explored risk, risk management and operational risk management from the background of economic theories, led to establishment of conceptual and theoretical framework, based on fundamental theories of risk/uncertainty and behavioural theories. It provided an exposition into the linkages among various theories that underpin and inform operational risk in banking, starting with risk as an economic factor. This aspect of the work is considered a rarity, since most of the existing literature on operational risk management as found in the various databases, delved directly into various aspects of operational risk, but did not explore foundational theories to inform operational risk, or construct a conceptual or theoretical framework as done by this work. The section culminated in the identification of governance as fundamental in managing operational risk which aligns with Basel. In addition, it responded to Research Question One. Part Two of the review examined empirical literature on operational risk management in banks, highlighting works from other countries, with special attention to developing economies, African nations, and Nigeria. The review which aimed to identify the gaps in empirical work and thus, situate this work and its contribution to bridging gaps in operational risk management empirical literature, further substantiates the position highlighted in part one – that paucity of theoretical frameworks to inform operational risk in banking. Especially on the backdrop of economic theory.

The planning and execution of this literature review commenced with a retreat and reflection on the research questions which led to a two-staged browsing, extracting and summarizing of the literature. The first stage was a granular examination of both academic and practice-based publications from various databases and journals.

University of Hertfordshire Online resources and its several database linkages, were extensively utilized in addition to google scholar, databases provided by Massachusetts Board of Library Commissioners, and two other USA colleges library resources. Attention was paid to Association of Business Schools journal rankings in order to ensure that some high-ranked publications were assessed and employed, in addition to others. The second stage involved not less than five cycles of iterative writings that streamed from researching to writing, to submission, review, feedback, further research, revision, submission, until final approval. During the iterations, the resultant theoretical framework continued to evolve as patterns of information were refined and themed, enabling the researcher to properly situate the outcomes of this work as it responded to research question 1, and its contributions to filling the gaps identified in the literature on operational risk management. Appendix 5 shows the literature review outline, documents listing, the plan and processes, some of the databases used, as well as extracts of publications from Studynet database search. Sources of literature included, but was not limited to Economics, Finance, Banking, Engineering, Operations Research, Philosophy, Business, and Management, in addition to Basel publications and webpages, Central Bank of Nigeria websites, national newspapers and OR conference materials and other institutional risk publications. The rest of this chapter is structured as follows: theoretical perspective, conceptual clarification, forms of bank risks, fundamental causes and theories of risk, governance framework and empirical literature review.

2.2 Theoretical Perspective:

This section aligns theoretical underpinnings to provide a foundation for this work, as it seeks answers to research question No. 1:

What are the theoretical underpinnings of Operational Risk Management?

Identifying and reviewing theories that inform operational risk management is both essential and significant. This is because operational risk has become a predominant risk in banks in recent times, and is also largely a practice-based risk, a fact which has become even more pronounced since its institutionalization. There are several writings and published materials on ORM globally, but many have focused on its practice areas such as efficiency, performance, risk identification, assessment, measurement, modelling, values at risk (VaR) and risk capital. Significant paucity exists in terms of conceptual and theoretical foundation of ORM. Buttressing this position, a 2016 study

on operational risk management surveyed 279 academic papers written on the subject following Basel II and Basel III and covering from 1998 to 2014. The study revealed that studies on operational risk management, covered definition, classification, characteristics, measurement, estimation, and management of operational risk including concentrations on Basel pillars. Yet, despite vast inclusion of dominant practical themes, discussions on operational risk within the framework of economic theories have remained a rarity especially from the analysis of disclosures pillar (Pakhchanyan, 2016).

This scarcity of such theoretical foundations lends much credence to the significance of this study, which applies the labyrinths of theoretical research, to develop a theoretical framework and assess empirical data. Considering the foregoing, a broad outlook was taken on reviewing risk management literature to construct a relevant abstraction of the heterogeneous theories, (economic, financial and otherwise) into ORM. The relevance of the study is further enhanced as it provides a significant contribution by using a developing economy (Nigeria) applying primary research, and recording qualitative data in contrast to most other published work that focused on quantitative measures such as performance and efficiency of operational risk management, quantifying capital requirement, and such aspects, most of which anchor on return on assets or return on capital as measures of operational risk.

Firstly, the work will provide a conceptual clarification of risk, its forms and manifestations, then narrow down to risks in banking, identify causes of risk including theories of risk and then converge at ORM.

2.3. Conceptual Clarification

2.3.1 What is risk?

Providing a definition for risk has been considered a happy hunting ground for linguistics philosophers, mathematicians and actuaries and one can admit that there is no single definition of risk that can fit all purposes (Cade, 1997). Raghavan (2003) explored the etymology of the word risk which is said to be traced to the Latin word “Resecum” meaning “that which cuts”, and was originally related to danger or threats of mishap at sea (Raghavan, 2003, Liuzzo, et al, 2014). Raghavan further adds that risk accompanies uncertainty and is provided for by a charge on the fundamental, which in the case of business is the Capital. Cervone (2006) added that risk is a problem that has not yet happened. In a similar vein, Cambridge Dictionary, (2016) defined risk in a very generic and simplistic form, as “the danger or possibility of loss”.

Although, risk is common to most disciplines, perception and management of risk diverges among disciplines ranging from Philosophy, Psychology, Insurance, Engineering, Sociology, Medical field and Economics/Finance among others.

Starting with risk in the Insurance discipline, which is considered one of the earliest perspectives and applications of risk, Williams (1996) defined it as the probability of a negative occurrence caused by internal or external vulnerabilities that can be avoided through pre-emptive action. Concurring with this, Bland (1999) tried to define risk by suggesting that risk revolves around the quantifiable probability of occurrences that can cause harm or damage to the economic effectiveness of a company, but which the company can minimize its exposure to. Bland and Williams conceive risk with the mainstay of its avoidance or the ability to minimize it, which is actuarial. In this light, risk management is a purely technical aspect of insurance. This paradigm treats risk as “pure risk” and excludes speculative activities which have become the common foothold of risk in the banking sector. Thus, it would be inadequate to directly apply the insurance and actuarial definitions of risk to contemporary banking activities, irrespective of the commonality of the major element of risk which is probability of a negative occurrence.

From an Economics perspective, as far back as 1895, Haynes (1895) had suggested that the word risk had acquired no technical meaning in Economics, but bears the generic meaning of a chance of damage or loss. He held that the manifestation of risk was dependent on the main characteristic of uncertainty or the chance of a negative result. Thus, risk derives from uncertainty. This is aligned with Chapelle who defines risk as the impact of uncertainty on objectives (Chapelle, 2019). This relationship between risk and uncertainty forms a major conceptual foundation in the theories of risk. Other similar definitions include – the likelihood that an undesirable event will occur; the magnitude of loss from an unexpected event; the probability that “things won’t go right”, and the effects of an adverse outcome (Apostolik, et al, 2009: 12). All these definitions focus on a negative or downside risk. However, in modern business contexts, risk has taken a broader and perhaps more balanced outlook. It has therefore been defined as the probability of an actual outcome differing from the expected outcome. Such difference may not necessarily be negative. From this standpoint, Power (2005) suggests that risk could be both a positive and adverse

variance, an increase in a firm's value in contrast to a loss. Realistically, a differing outcome can be either positive or negative. However, Economics and Finance disciplines tend to focus on risk as the negative variance. This is evidenced in several of the earlier writings, such as Pyle (1999) who defined risk as "the reductions in firm's value due to changes in the business environment".

Bessis (2002) defined risk as uncertainties resulting in adverse variations of profitability or in losses. Jarrow (2007) portrays risk as a loss to a firm or portfolio, and Luc and Ross (2009) also defined risk in general, as the likelihood of a negative outcome and risk in financial terms, as the quantifiable likelihood of a loss or investment return being lower than expected. Bessis (2002) further suggests that risk refers to adverse effects on wealth. Although all these definitions focus on different downsides of risk, they highlight four important concepts of firm existence, namely- Value, Portfolio and Investment return which are essential concepts in Finance; and Profitability or Loss which are fundamental in both Accounting and Economics. The converging point in these definitions is that risk affects the core of a firm's existence in a negative form, a position that more contemporary perspectives on risk would find arguable, considering that modern-day banking is about engaging in higher risks to generate higher returns because, the higher the risk, the higher the expected returns. (Sharpe, 1964, Watson and Head, 2014; Brigham and Houston, 2014)

The lack of homogeneity in defining risk has led organisations to adopt different formal risk management processes for various types of risks and to suit their circumstances. In response to this, the International Standards Organisation (ISO) attempted to standardize the definition of risk, while providing the contextual framework for risk management application. ISO defined risk as 'the effect of uncertainty on objectives, the effect being either a positive or negative deviation from the expected' (ISO, 2013). ISO/Guide 73:2009 attempted to differentiate between the safety aspects of risk which focus on the undesirable and negative risk on the one hand, and the broader perspective which argues for both positive and negative risk in concept, application, and in various contexts and sectors (ISO, 2013). They hold that risk is characterized by events and consequences and is expressed in terms of combination of likelihood of an event and its associated consequences. This approach is considered a more balanced perspective for businesses.

However, as stressed by Cade (2013), business perspectives differ. Conversely, attention to risk in Finance and Economics focuses mostly on downside risk, which is the probability and impact of occurrence such as loss, impairment, liability, damage etc. Having considered all this, the idea of risk as a negative indicator is adopted for this work, since positive indicators reflect opportunities rather than impairments. Furthermore, this approach is adopted because organisations take actions to manage the negative impacts of risk while open to the positive. Also, regulatory frameworks are interjected in order to prevent, mitigate or hedge negative and not positive risks. Thus, the focus of managing risks in banking, irrespective of the risk type (such as liquidity, credit, market or operational), is to deal with the downsides of risk, which undermine the business objectives and can impair the fundamental which is the capital. All these go to justify why this research has adopted risk as a “negative” indicator. Consequently, Risk is hereby defined as *“the exposure to, and the threat of financial losses to business activities, either from internal or external factors, which may or may not be mitigated by known mitigators applications”*. Next, discussion focuses on risk in banking.

2.3.2 Risk in Banking:

Risk in banking has been considered from various perspectives ranging from earnings volatility, to human direct and indirect actions and systemic influences. Kuritzkes and Scott (2002) define the risks of financial institutions by concentrating on earnings volatility, arguing that earnings volatility creates the potentials for losses. Earnings volatility approach measures risk with Beta as it relates to markets (Sharpe, 1964). The definition appears to ignore other aspects that can also create potentials for losses apart from earnings volatility. For instance, losses from internal system errors and/or manipulations are not from volatile earnings. Thus, Kuritzkes and Scots’ (2002) perspective which focused on risks as earnings volatility, presents a rather narrow view. Financial institutions’ risks involve both direct financial and non-financial activities, as well as the processes involved in engineering or implementing the activities i.e. the operational aspect. Bessis (2002) and Greuning and Brajovic, (2009) hold a different view on risk. They suggest that banks are exposed to a wide variety of risks during their operations, and most of the risks are well known. Greuning, et al (2009) made efforts to define banks’ risks in terms of banks’ exposures, by

categorizing them into three categories namely, Financial, Operational, and Environmental Risks. Cade (1997) however considers a suitable definition of risk in banking to be “exposure to uncertainty of outcome”. He emphasized a) exposure, which connotes a stake in the outcome, without which there is no impactful interest and b) an outcome, which is a consequence of actions taken. Cade discards the idea of volatility as risk and emphasizes that risk in banking is both dynamic and speculative, encompassing both upside (profit) and downside (loss), unlike static risk which is only downside. It is easier to relate Cade’s definition of banking risk to contemporary applications of risk in banking. His definition highlights the new paradigm of positive and negative risks, giving room for the reality of contemporary banking activities. The major weakness with the definition, however, is that it limits risk to the direct action of persons involved in an exposure, whereas, some risks do arise from indirect actions of others, or from processes and systems. Furthermore, the definition also does not give room for risks that could affect already ascertained and earned incomes, perhaps due to deliberate actions such as misdemeanour.

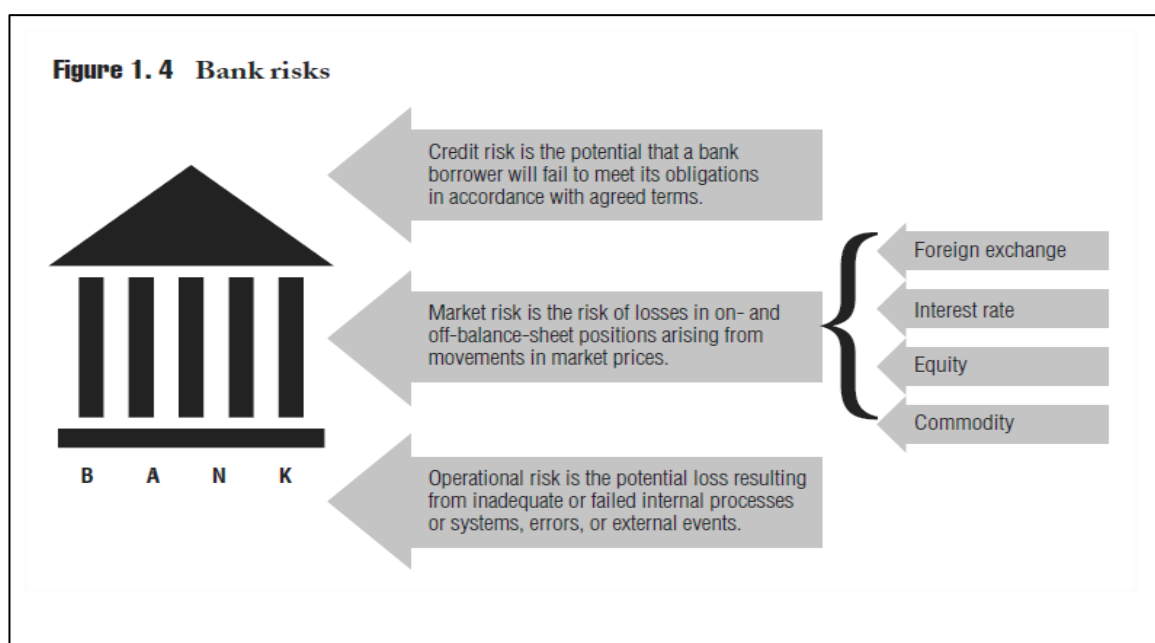
Another definition of risk in banking, is that presented by Bessis (2002) in which he defines banks’ risks as “*adverse impacts which several distinct sources of uncertainty can have on profitability*”. Bessis’ definition which has some similarity with Haynes(1895), brings to the fore, one of the most influential discourses on Risk and Uncertainty in the 20th century, namely Knight Frank (1921) who attempted to separate risk and uncertainty (discussed in detail in Section 2.3.2). As mentioned earlier, since risk is associated with uncertainty, it was reflected by way of a charge on the business capital (Raghavan, 2003). This recognition is perhaps the foundation for the capital charge entrenched in risk management practices by banks and financial services regulations such as the Basel II Minimum Capital Requirement, Capital Adequacy Ratio, and Value at Risk and more recently Comprehensive Capital Analysis and Risk (CCAR). It also links the definition of risk to risk-measurement which is paramount in banking. Some other statistical attempts have been made to define bank risks, but have been criticised as mostly confusing the measure of risk with risk itself. This engendered the argument by Cade (1997) that risk is not the volatility, per se, but the uncertainty of potential outcomes, which can be reflected in the volatility. Considering all the above diverse yet similar definitions, and in agreement with (Cade, 2013), the

concept of risk in banking may be better explained and synthesized by discussing the various forms of risks that banks face.

2.4 Forms of Banks Risks:

Both practitioners and academics have tried to classify bank risks. Although the classification of banks' risks is said to be subjective, the essence of such classification includes both to analyse theory, and enhance an understanding of the sources of risk, their significance, and approaches to managing them (Cade, 1997). Various authors suggest that risks in banking are generally recognisable. Some are generic, some pure and some speculative and they range from three to ten risk classes. The typical three risk classes are Credit (default) Risk, Market Risk and Operational Risk (Jarrow, 2008, Jorion, 2009; Bauer and Ryser, 2004; Bessis, 2010, Apostolik, et al, 2009; BCBS, 2003; Raghavan, 2003). Credit and Market risks are the traditional risks of the banking sector and several models and procedures had been developed to manage them (Cebenoyan, 2004). Most authors agree that Credit and Market Risks are financial risks while Operational Risks focus on internal control processes and governance (Jorion, 2009; Bauer and Ryser, 2004; Bessis, 2010). These three classes of risks have been illustrated by Apostolik et al (2009) into the matrix shown below:

Figure 2.1 Apostolik et al's Risk Classification



Source: Apostolik et al, 2009

In addition to the above three classes of risks, Apostolik et al (2009) also identified more risks, which they classified as “Others”. These are Liquidity risk which relates to a bank’s ability to meet ongoing obligations, Business risk which is related to banks being able to maintain competitive position; and Reputational risk which relates to banks’ standing in public opinion. Their classification of these three risks as ‘others’ connotes a relegation behind the three risks identified in the matrix. Such relegation is debatable because these risks are as important as credit, market and operational risks. They can equally collapse a bank within one day, as was evidenced in the case of Northern Rock – a well-known British 1850 (157 years old) bank which collapsed in 2007 due to a bank run that was triggered by the bank’s liquidity risk challenges, just before the global burst of financial crisis. It was a case of liquidity risk that materialized, resulting in massive runs that led to the bank’s collapse. Furthermore, the 2008 financial crisis exposed the importance of liquidity which has led to Basel III reforms. These reforms focus on banks’ liquidity and developed global liquidity standards as a basis for stress testing and supervisory monitoring. Basel ranks Liquidity standards in pari passu with the capital adequacy standards of pillar 1, pillar 2 and pillar 3. See Table 2.1 below. Thus, liquidity risk has proven over time to be as important as the three risks emphasized by Apostolic et al (2009) above.

Bessis (2010) extended banks’ risk classification further by linking them to three factors, namely; sources of losses, market movements or default on payment obligations by borrowers. He then classified them into six, namely Credit Risk, Liquidity (Funding) Risk, Interest Rate Risk, Mismatch Risk, Market Liquidity/Market Price Risk and Foreign Exchange Risk. Bessis differentiated these risks from Operational risks, which he associated with internal malfunctions. However, it can be argued that operational risks are not limited to internal malfunctions because external factors do cause operational risks as indicated in Basel II definition of Operational Risk (BCBS96, 2003). This throws a limitation in Bessie’s explanation. Santomero (1997) classified risks facing the banking sector into six generic types, namely: Systematic or Market Risk, Credit Risk, Counterparty Risk, Liquidity Risk, Operational Risk and Legal Risk. Other attempts to classify banks risks include Greuning and Bratanovic (2009) who provided a banking risk spectrum and classified banks’ risk exposures into three categories, namely Financial, Operational and Environmental Risks. Table 2.1 below articulates their Banking Risk Spectrum:

Table 2.1 Greuning and Bratanovic Banking Risk Spectrum:

Financial Risks		Operational Risks	Environmental Risks
Traditional Banking risks	Balance Sheet Structure	Internal Fraud	Country & Political Risk
	Earnings & income statement structure	External Fraud	Macroeconomic policy
	Capital Adequacy	Employment practices & workplace safety	Financial infrastructure
	Credit	Clients, Products and business services	Legal infrastructure
Treasury risks	Liquidity	Damage to physical assets	Banking crisis & contagion
	Market	Business disruption & system failures (technology risks)	
	Interest rate	Execution, delivery & process management	
	Currency		

Adapted from: (Greuning and Bratanovi, 2009)

Greuning and Bratanovi's framework split financial risks into two categories – Traditional and Treasury Risks, both of which encompass the most researched aspects of bank risk – namely; Market, Credit, and Liquidity Risks. They also identified two other classes of risks, namely; Operational Risks and Environmental Risks which they further divided into seven and five categories respectively. Their classifications are similar to the classifications made by Basel Committee in 1994 where they listed six risk classes as Credit, Market, Liquidity, Operational, and Legal Risks, with added substantiations resulting in further breakdown of legal and operational risks (BCBSc211, 1994).

In recent times, the focus on banks' risks has shifted from traditional risks to Operational Risk, highlighting its increasing importance. However, financial theory has only recently delved into Operational Risk, a limitation highlighted by Pyle, (1999a,) when he stressed that financial theory has little to say on Operational Risk, and practice managers have regrettably discovered that this risk is very important. This gap in academic literature underpins the issue of paucity of theoretical/conceptual frameworks on which to explain Operational Risk as highlighted by Pakhchanyan

(2016). It is hoped that this research would contribute to the betterment of this situation. Despite the theoretical hollow, substantial literature and publications exist on practical frameworks and models for operational risk such as Embrechts et al (2003), Di Clemente and Romano (2004), Cornalba & Giudicib(2004), Greuning and Bratanovic, (2009) and Chernobai et al (2007) among others, who discussed models for measurement, weighting, and approximations, all of which focus on data and quantitative aspects of operational risk. This aspect of operational risk has continued to grow in literature, while little is found on theoretical foundation. All these go to support the fact that Operational Risks management is viewed mostly as practice based discipline with rather too little contribution to provide a theoretical base. Financial theories of risk have developed in academic circles more from risk- return trade-offs in investment management (Buehler, Freeman and Hulme, 2008). In the same light, Bessis, (2010) asserted that Financial Risks (Market Risk, Credit Risk, Liquidity Risk) have over the years, become precisely defined while Operational and Environmental Risks are still evolving. A review of these common forms of banks' risks identified and classified by several authors, is presented below:

2.4.1 Market Risk

Market Risk also called Systematic Risk, is the probability of losses to a bank stemming from changes in the variables in the market. It is also defined as risk of loss due to changes in asset prices resulting from changes in market variables (Balin , 2008). Such market variables include interest rate, securities prices and foreign exchange rates, as well as financial securities or asset values like equities and commodities (Apostolik et al, 2009; Jarrow,2008). Such risks are not peculiar to any single bank but affect the whole financial system. (Bessis, 2010) included the phrase "period of liquidation" to the above definition, arguing that such adverse variations are relevant only within the period of liquidation of assets because the resultant changes in value can be hedged. An example can be found to have occurred between the 1980s and 1990s. This risk affected various American Savings and Loans (Thrifts) through upward spiralling interest rate fluctuations, which their fixed payment securities could not match and several of them were wiped out. The management of market risk has since then, advanced significantly, particularly with the growth and development in derivatives markets. Critical concepts such as value-at-risk and stress testing have become standard practice due to the application of sophisticated

techniques (Bernanke, 2006a). Raghavan (2003) succinctly summarized Market Risk Management as providing a broad and robust framework for measuring, monitoring and managing the interest rate, liquidity, equity, foreign exchange and commodity price risks of a bank. There have been innovations in the calculations of capital requirements and all these advancements have made Market Risk Management more established. However, the advancements could not prevent the 2008 financial crises nor deter the causal human errors of judgement and/or manipulations for self-interest. These human aspects underpin the theory of agency cost as adverse selections and moral hazard. In effect, the successful management of Market Risk is fundamentally linked to proper management of Operational Risk. Thus, Operational Risk is the focus of this study. The significance of operational risk is further seen in the rippling effect it has on Credit risk and Liquidity risk.

2.4.2 Credit Risk

Credit risk is the potential that a counterparty (borrower) may fail to meet their obligation when due. Also called Risk of Default (Jarrow, 2008), it is considered the single largest risk most banks face, being linked to the fundamental roles of banking which is lending. This risk can arise as losses from either:

- a) default or
- b) deterioration in the value of a portfolio that is short of a default. (Jarrow, 2008)

The latter situation (b above) was witnessed in December 2007, when a major Swiss Bank (UBS) among others, experienced the loss of over USD10 billion due to depletion in value of sub-prime lending portfolios (Cade, 1997). Credit risk combines default and exposure risks. In financial theory, Credit risk is expected to be covered by adequate pricing of risk assets through risk premiums and reserves. The objective of managing credit risk is to minimize the risk and maximize bank's returns, which is normally adjusted by risk parameters. Innovations in information systems and technology have led to significant sophistication in banks' management of credit risks despite concurrent advancements in financial instruments, products and activities (Bernanke, 2006a). Bernanke (2006b) adds that although banks are more active in their management of credit and other portfolio risks, banks have also become more appreciative of independent controls in their credit review and rating processes. The case for application of controls substantiates the existentiality of information

asymmetry in credit risk management because they mitigate moral hazard, an economic output of both information asymmetry and agency problem. Such controls are fundamental to Operational Risks Management Frameworks and portray the link between information asymmetry, adverse selection and moral hazard in operational risk management.

Basel II encourages this development and buttresses it with the emphasis on both good corporate governance and application of internal control policies and procedures in the frameworks. The framework further links banks' risk-taking to their regulatory capital, with the capital charge entrenched in the enhanced Basel II framework of 2009. Occurrences of the crisis period exacerbate the need for the integration of controls and adequate governance. All these indicate a major overlap between Credit and Operational Risks. Thus, it remains apparent that just like Market Risk, management of Credit Risk can only be successful if the fundamental Operational Risk issues are addressed.

2.4.3 Liquidity or Solvency Risk:

Liquidity Risk is about cash flows and ability to manage the deposit and withdrawals of funds from the bank without jeopardizing its ability to continue to operate. It is a risk that a bank may fail to meet its obligations due to insufficient cash and liquid assets. Crockett (2008), suggests that this risk is easier to recognize than define while Raghavan, (2003) highlights that this risk is made up of time, funding and call risks. The UK Northern Rock bank experienced Liquidity Risk impacts in 2007 when expectations of its weakening liquidity position resulted in the biggest bank run in 150 years and in one day, led to its collapse as previously mentioned. The US Federal Reserve Bank appears to recommend a rules-based approach¹ to the management of liquidity risk as observed in Parkinson (2010). Arguments to the contrary suggest that such compliance approach is incapable of reducing the likelihood or impact of risk disaster (Kaplan and Mikes, 2012). The Basel committee's response to this reality

¹ Liquidity risk for the U.S. operations of FBOs should be managed with processes and systems appropriate for the U.S. entities' size, complexity, risk profile, and scope of activities. Regardless of the scope or scale of U.S. operations, the risks undertaken are expected to be managed with: 1) effective governance and management oversight as appropriate; 2) adequate policies, procedures, and limits on risk taking; and 3) strong management information systems for measuring, monitoring, reporting, and controlling liquidity risks. While elements of these risk management processes may be implemented locally or outside of the United States, the Federal Reserve expects to have ready access to the information necessary to maintain an understanding and assessment of these functions. <http://www.federalreserve.gov/boarddocs/srletters/2010/sr1006.htm>

gave rise to the enhancement of Basel II in 2009 and the roll out of Basel III in 2011, which increased capital enhancement, leverage, counterparty credit and valuation adjustments. Liquidity Risk is a consequential risk that arises from Credit Risk deterioration and/or Operational Risk events. Thus, Operational Risk is essential in managing Liquidity Risk, especially through effective governance and management oversight.

2.4.4 Operational Risk (OR)

While the definitions of Credit and Market Risks are comparatively clear, the definition of Operational Risk (OR) has evolved over time. Pyle (1997) suggested that Operational Risk results from costs incurred through mistakes made in carrying out transactions such as settlement failures, regulator requirement failures and untimely collections. His definition limits Operational Risks to mistakes, ignoring moral hazards which are the stark evidence of Operational Risk events generated by deliberate and direct manoeuvres, including fraudulent actions and hubris. Operational Risk has also been defined as “every type of unquantifiable risk that a bank faces” (Lopez, 2002). This is an ambiguous definition exhibiting the difficulty faced by earlier writers in identifying operational risk. Besides, tail losses have made it possible to quantify Operational Risk events and so, it is safe to suggest that calling it unquantifiable may no longer be appropriate.

Operational Risk was also hitherto, considered as “anything that does not fall in the Market Risk or Credit Risk categories” (Hoffman, 2002). Further attempts at defining Operational Risks include (Karow, 2002) who suggested that it is the risk of loss caused by deficiencies in information system, business processes and internal controls as a result of internal and external events. Grinsven, (2009) presents an enumeration of various OR definitions in order to explicate its characteristics. (Power(2005) defines operational risk as risk of a loss from operationa systems, or loss from incentives, including both fraud and mismanagement. The table below presents differect perspectives of operational risk definitions from varous authors.

Table 2.2 Operational Risk Definitions

(BCBS, 2003b)	The risk of a loss resulting from inadequate or failed internal control processes, people and system or from external events
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(McDonnell, 2002)	Risk deriving from a company's reliance on systems, processes and people. These include succession planning, human resources and employment, information technology, accounting, auditing and control systems and compliance with regulations.
(Karow, 2002)	An operational risk is the risk of loss caused by deficiencies in information systems, business processes or internal controls as a result of internal or external events
(King, 2001)	A measure of link between a firm's business activities and the variation in its business results
(Medova Kyriacou, 2001)	A consequence of critical contingencies, most of which are quantitative in nature and many questions regarding economic capital allocation for operational risk continue to be open.
(BCBC, 2001b)	An operational risk is the risk of a loss resulting from inadequate or failed internal control processes, people and systems or from external events.
(RMA, 2000)	An operational risk is the risk of a direct or indirect loss resulting from inadequate or failed internal control processes, people, and systems or from external events.
(Doerig, 2002)	Operational risk is the risk of adverse impact to business as a consequence of conducting it in an improper or inadequate manner and may result from external factors.
(Pyle, 1997)	Operational risk results from costs incurred though mistakes made in carrying out transactions such as settlement failures, failure to meet regulatory requirements and untimely collections

Sources: (Grinsven, 2009)

The most generally accepted definition of Operational Risk in today's banking sectors is that of Basel Committee on Banking Supervision which defines OR as *the "the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events"* (BCBS96, 2003). This definition includes Legal Risk but excludes Strategic and Reputational Risk for the purpose of minimum regulatory capital charge. The committee recognizes that OR has a variety of meanings within the banking industry, and allows banks to adopt their own definitions of Operational Risk as far as there is a clear understanding of what is meant, and it captures the most significant causes of severe operational losses, in order to ensure effective management and control of the risk category. Basel's flexibility approach underscores the fact that responsibility for risk identification, management and control ultimately rests with bank management, highlighting the importance of governance and its structures in managing risks. However, having considered the various

definitions of Operational Risk by different authors, Basel definition which has gained a universal acceptance among practitioners and academics and has been generally-adopted in global banking industry is adopted for this research.

Basel defines Operational risk as *“the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events”* (BCBS96, 2003). This enquiry focuses on Operational Risk Management in Nigeria banks with a view to ascertaining the extent to which post consolidated banks in Nigeria fit into the ORM practices as implied by the Basel rules. It also seeks to examine how the theoretical underpinnings of ORM relate to Basel principles.

2.4.5 Reputational Risk

Reputational Risk is the potential loss that can result from a decline or damage in a bank’s standing or estimate in the public opinion (Apostolik et al, 2009; Perry & De Fontnouvelle, 2005). While some argue that Basel II ought to include Reputational Risk in Operational Risk (Hoffman, 2002), it is safe to suggest that Reputational Risk was excluded because it is difficult to measure and measurement is a key focus of Basel II (Perry & De Fontnouvelle, 2005). However, Hoffman (2002) warns that this exclusion may cause firms to ignore the importance of Reputational Risks. Also, Perry & De Fontnouvelle, (2005) have empirically established that equity markets react to the reputational consequences of operational loss events.

This work suggests that from practice experience, businesses are not likely to ignore their reputation which is a large part of their brand. Reputation is established by gaining and retaining the confidence and trust of the stakeholders in the business which includes customers, suppliers, employees, as well as shareholders (McDowall, 2006). This risk affected Salomon Brothers, a USA top investment bank in 1991, when they fraudulently obtained Treasuries and were eventually fined USD290 million (Apostolik et al. 2009). It also affected Barclays Bank in 2013 due to its market rigging and resulted in fines of USD453million. More recently, reputational risk has been linked directly with an aspect of operational risk called Conduct risk. This was particularly relevant to Wells Fargo bank in United States, in which the bank suffered reputational loss due to improper and illegal conducts as a result of mis-selling of insurance to customers (Tayan, 2019). An Economist Intelligence Unit research in the UK highlighted how important CEOs and Boards consider Reputational Risk, as they ranked it most important when compared to other risks (EIU, 2005). Although this

research was not specific to banks, the main attribute of bank existence is trust and trust is eroded by any negative reputation (Fiordelisi et al, 2011; Fistuccia, 2013). This empirical study also strengthens the case for reputational risk because Nigerian regulators interviewed in this study consider reputational risk as a powerful cause of bank collapse. From the Nigeria experience as shared by a director, reputational risk ought to be classified at par (if not higher) with credit risk because while the risk of credit default takes a while to make critical impacts, and is a slower cause of bank collapse, reputational risk is a swift killer. As soon as people's perception about a bank goes negative, it triggers a flurry of actions that could bring the bank down very quickly, including bank runs.

2.4.6 Environmental risks

Greuning and Bratanovic (2009:4) state that "Environmental risks include all types of exogenous risks that, if they were to materialize, could jeopardize a bank's operations or undermine its ability to continue in business". Environmental Risks have to do with a bank's business environment, which includes macroeconomic, legal, regulatory and policy factors that affect overall financial sector. The dimensions of the environmental physical risks include climatic, geologic, and eco-systemic aspects. (Bank of England et al, 2017). While they can be external events listed in operational risk factors, environmental risks also include climatic physical and transition which are becoming more concerning to central banks. According to Torinelli and Almeida daSilva (2021), environmental risks are becoming sources of financial risks, which may affect the performance of assets especially investments of international reserves. Such issues also affect the general infrastructure and payment systems of the economy in which a bank operates. Like market risk, environmental risk, is general and systemic to all, but its impacts on banks can vary.

In summary, there are several classifications of bank risks and some of them bear overlapping characteristics. Clearly defining the categories of risks and how they connect and perform with each other enables a better understanding of the various risks that banks face. Although operational risk is the focus of this study, defining the relevant risks that banks face provides a good background for exploring the fundamental causes and theories of risk.

2.5. Fundamental Causes and Theories of Risk

In seeking answers to the research question No 1- what are the theoretical underpinnings of ORM? this section explores diverse schools of thought and disciplines in order to establish a theoretical foundation for operational risk management. Operational Risk was defined in Section 2.4.4 as “*the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events*” (Basel Committee on Banking Supervision, 2003). This definition identifies what is referred to as “risk factors” of operational risk in banks, namely, processes, people, systems and external events. As previously highlighted, most literature on operational risk focus on risk measurement, performance, efficiency, modelling, weightings, values at risk and risk quantifications. In exploring various economic, financial, and philosophical literature among others, this empirical research projects two major theoretical constructs towards informing operational risk factors and management. These two dominant perspectives enabled us to derive a cohesive and appropriate theoretical foundation to inform the phenomenon of operational risk in banking. They are 1) uncertainty and risk and 2) behavioural factors.

2.5.1. Uncertainty and Risk:

Uncertainty is a situation of unknown. It is the possibility of alternative outcomes which have probabilities that cannot be measured in an economic system. It goes hand in hand with risk, yet is distinguished from risk and has been explored by several economists as bearing fundamental causal relationships with risk. One of the earliest attempts to identify the fundamental causes of risk was presented by Haynes (1895) in his article, Risk as an Economic Factor. Having conceded that risk in Economics had no technical meaning, due to the traditional theory of the firm as omniscient, but signifies chance of damage or loss, he had proceeded to advance the position that risk is universal, that humans live in a perpetual state of risk and such risks ought not be excluded from economic risks. Haynes suggests that the existence of uncertainty in the performance of an act is an instant assumption of risk and asserts that the distinguishing characteristic of risk is its fortuitous element. Therefore, risk is caused by the uncertainty in the outcome of an action. He classifies such resultant risks as *Static and Dynamic Risks*. Haynes conceptualizes risk as any point between a continuum of two extremes, namely; absolute certainty of harm and almost absolute certainty of security. Arguing that absolute certainty is in itself not risk, he doubts the

existence of an absolute certainty in any case. Haynes explains this by citing examples indicating that an absolute certainty of an occurrence does not establish an absolute certainty of its impact and there is in addition, the uncertainty of the time of occurrence. On this premise, he then argues against Mangoldt²'s attempt to differentiate economic risks from irregularity of results. He cites the example of a champagne maker and broken bottles, in which he asserts that a champagne maker is aware that there will be bottle breakage, but certainty of breakage does not indicate how many bottles or breakage can occur. Thus, it is an economic risk. (Haynes, 1895:409). Haynes's arguments clearly projected uncertainty as the underlying factor of risk and he held that all risks fall within the scope of economics. Haynes continued to suggest that owners of wealth, if rational, will invest it (or consume it) and such investment will face:

- *the risks of loss by dishonesty of other (classified herein as part of Operational Risks),*
- *risk of deterioration in value (classified herein as operational and financial risk) or*
- *change in the value of money (classified herein as financial risk).*

Analysing Haynes's three classifications, one can deduce that his articulation corresponds directly with what are known as causes and classification of risks in contemporary banking. His propositions form a sound theoretical underpinning for both Operational and Financial Risks, with his projection of a strong interaction to uncertainty as well as behavioural factors. The risk of loss by dishonesty, which is behavioural, maps directly to an aspect of the People Risks in Basel's classification, No. 5 of "Sound Practices for the Management and Supervision of Operational Risk" (BCBS96, 2003: 2). Basel's sound practices 96 identifies internal fraud (such as intentional misreporting, employee theft, insider trading), external fraud (such as robbery, forgery, kiting), employment practices, amongst others. This type of risk is a major cause of tail loss in Operational Risks in banking even though the use of the word dishonesty sounds rather simplistic. There are several complex ways in which People Risks manifest, in addition to plain dishonesty. Examples include the cases of rogue traders, such as Nick Leeson of Barrings Bank, Jerome Kerviel of Societe Generale, Kweku Adobolu of UBS (Kaplan and Mikes, 2012), and self-interest credit

² Mangoldt was described by Hayes in 1895 as the only writer who has attempted to distinguish economic risks from other risks, saying that a distinction must be made between mere irregularities (Unregelmassiglceiten) of results and economic risks.

grants of the CEO of Nigeria's Oceanic Bank among others (Africa Confidential, 2010). All of these cases involved intricate and complex activities of individuals geared towards either institutional or self-aggrandizement or both. These risks map directly to the behavioural risk factors.

Haynes's risk of deterioration in value can affect financial assets as well as commodities. It can result from both internal and external factors affecting banks' assets and can be related to volatility of asset prices and investments which is a financial risk. However, an interesting aspect of Haynes's classification is that it focuses on deterioration- a downward swing, which excludes the fact that volatility implies both upward and downward swings. The pivot of rational investment is the chance that values will swing positively, causing gains instead of losses. Therefore, a rational investor's exposure to risk ought to be portrayed in the total sense, in order to provide the broad insights that are fundamental to bank investment activities. Furthermore, deterioration in value can impact both the value of the bank's equity and internal assets as well as the treasury activities of bankers. Apart from dishonesty and deterioration, Haynes had also listed change in value as different from deterioration in value. This presupposes that Haynes considered both upward and downward change in value where deterioration focused on downward or losses and change focused on upward change which is gain. Haynes considered both sides of what could happen to the wealth of an investor which could be both the upward change in value and or deterioration.

Haynes' (1895) perception of upward and downward changes in value of money is found to be an expression connoting astounding foresight in risk and uncertainty. Such change can be viewed from both external and internal influences. External influence could be systemic changes like inflation, recession, depression, increase in interest rate, all of which will affect the whole market. Internal influence however could emanate from volatility of a bank's financial assets and their values, which translate to volatility of earnings – a major aspect of banks' risk definition too. Although assets during Haynes's time (1895) were mostly held as real assets and securitization had not yet been invented, his projections align with those in the markets today, implying that Haynes made ground-breaking projections of future treatment of risk and uncertainty in banking. Haynes also asserts that by trying to escape any of these risks through hoarding, the owner of wealth faces opportunity cost or loss, and if he consumes all the wealth at once, he faces risk of poverty. Additionally, Haynes

distinguishes risk from harmful events and establishes that there are ineffective risks as against effective risks, where “ineffective risks” are the minimal risks all persons must face, which do not affect production, while “effective risks” are assumed when a reward is expected, and thus productive. Haynes holds risks’ causes as being either “static risks” which include natural causes, ignorance, carelessness, moral hazard or “dynamic risks” which are due to dynamic changes in activity and economic production. Haynes’s analysis implicates static risks as stemming from people issues unlike the dynamic risks. Haynes’s static risk can be related to Simon’s bounded rationality (discussed in detail in Section 2.4.2.) which expounds on costs due to human limitations. However, Haynes opines that dynamic changes can convert static risks to dynamic risks. He further argues that while risk hinders production, risk is considered productive because it yields gains. Therefore, risk is a cost and assumption of risks must be compensated. This cost aspect of Haynes’s discourse can be related to transaction cost economics, in which the costs are considered costs of the economic system, and can be minimized with good governance structures. This is also discussed in more detail in Section 2.4.3. Haynes concluded by predicting that progress in various things such as insurance, science, ethical progress and government regulations help to eliminate or reduce risk. Thus, while static risks tend to diminish with progress and advancement, estimates of risks and number/magnitude of dynamic risks will tend to exacerbate, leading to risk becoming increasingly more important. Haynes’s conclusion in 1895, on the growing importance of risk, is a mirror of risk in banking today. Although his classification of risks as “static” may be arguable, it is worthy of note that just as predicted by Haynes, continuous progress in risk management has led to significant advancements in both identification of and in risk management. These developments in financial engineering and innovation of financial products have resulted in more significant risk identification and increased the importance of risk and risk management, affirming Haynes’s predictions. It is therefore safe to suggest that his projections in 1895, about estimates, number and magnitude of dynamic risk increase for the future, have come to fruition.

Focusing on his discussions on progressive management of static risks, Haynes is also vindicated, as aftermaths of financial crises have led to more regulatory incursions, while various laws and acts, some of which have manifested in development of frameworks for managing risks, are addressing ethical infractions. A salient example is the Basel Framework and more recently, the rules on Conduct risk.

All these attest to how much more important Risk has grown – aligning with Haynes’s projections. In summary, Haynes attributes fundamental causes of risk to the uncertainties inherent in the fact of human existence. He separates static risk, which hinges on life from dynamic risk which results from productive activity and therefore deserves to be recompensed. This study shows that Haynes’s theoretical discourse underpins what is known today as banking risks, including development of banking risk frameworks, especially the Operational Risk frameworks which appear to address primarily what Haynes called static risks.

Another early twentieth century attempt to identify the fundamental sources of risk is that presented by Frank Knight (1921) in his thesis – Risk, Uncertainty and Profit. Knight’s discourse started with an individual psychology of valuation, in which he uses a step-by-step progressive factorial addition to build a competitive industrial society, on the assumptions of a perfect competition which holds that all participants are all knowing. This is the orthodox economics standpoint of perfectly competitive system. In order to debug this assumed practical omniscience, Knight had philosophically explored the theory of knowledge, its nature, limitations, and the relationship between knowledge and behaviour. Knight’s previous propositions had assumed it conceivable that all change is within known platforms, an assumption which he then stripped to explore the theory of knowledge. Concluding with the obtrusive fact that people live in a world of change and uncertainty, Knight established that there is no omniscience in economic decisions and that all people have imperfect knowledge of the future. His position marked a good foundation for the exploration of risk and uncertainty, as it is currently discussed. This is a clear departure from the classical economics’ assumptions of full knowledge. Knight proceeded to examine the meaning and significance of uncertainty. Using psychological insights, Knight differentiates between risk and uncertainty where risk is a known chance, a measurable uncertainty, while uncertainty is unmeasurable probability. Knight’s argument suggests that this known chance, which can be measured, is a downside outcome – a loss, and that is why it is a risk. If it were an absolute certainty of a gain, it would not be a risk. Whereas on the other hand, uncertainty being an unmeasurable probability is inclined to both a positive outcome (gain) and a negative outcome (loss). This deduction is based on the premise that a known chance, an uncertainty that can be measured, implies that the outcome is already known and can be quantified. That is, risk being a measurable outcome as

against true uncertainty that cannot be measured (Dizikes, 2010, Glancey, and McQuaid, 2000). If one can indeed measure the chances of an occurrence, then decisions will be knowledge based. Relating this to bank risks, in a very simplified form, it would imply that speculative activities are uncertainties while loss events are risk activities. This standpoint would align with risk definition, as a chance of a loss, but simultaneously imply that risk and uncertainty could mean the same in the context of speculative bank activities, thus providing a linguistic meal for philosophers and contesting economists. It is also possible to liken and contrast Knight's definition to Haynes articulation of absolute certainty of harm, and almost absolute certainty of security discussed above, with special emphasis on the implications of "absolute". Haynes suggested that nothing is absolute. It is therefore debatable to say risk as a known chance is not a chance at all.

Alluding to the earlier attempts to define risk in Section 2.3.1, one can identify the perspectives and disciplines that are in congruence with Knight's assertions on risk and uncertainty, such as Finance and Economics. It is safe to suggest that his general representation of both risk and uncertainty in decisions, embodies the idea of risk in Finance and Economics. It resonates with the broader definition of risk in business which aligns with (ISO, 2013) articulation of risk having both downside and upside dimension. Thus, Knight's thesis posits a fundamental theoretical ground on which risk in banking can be discussed. However, it is noteworthy that his aspect of objectivity and subjectivity in the discourse, which suggests that in risk, the distribution of outcome in a group of instances is known, contrary to uncertainty, which is not known, could be arguable. Although up till this point, Knight's propositions tend to be in tandem with what has been identified so far from literature on risk definitions in banking, his suggestion of knowledge of the distribution of outcome gives room for contrasting views. This is because, when the distribution of an outcome is known, then one cannot expect to categorize the event as risk because whatever is known with certainty is no longer risk. Although it could be argued that of all the potential distributions, for example, a low return in comparison to a high one would constitute a risk, the essential point is in making the decision "to venture or not to venture". Knowledge of the outcomes would imply a knowledge-based decision, and if all distributions are known, would it not imply the classical omniscient perspective? Whatever is known with certainty is no longer risk. This is in consonance with Haynes' (1895) musings on the

matter in which he states that absolute certainty is not risk. It becomes a purposeful action. Consider an example – the case of a suicide bomber. Taking on the role of a suicide bomber is no risk. It is suicide! This can be applied further in a banking situation- recruiting a person who has a history of unauthorized withdrawal of funds from customers' accounts is no risk. The outcome is already known although the extent of damage may not be certain. The bank only faces a risk if the history of new recruits is unknown and there is a chance that one recruit can be such a fraudster. Although it can be argued that this depends on circumstances, the central focus in this decision remains internal. If an external force becomes involved, like the case where the fraud committed by an employee is ordered by his/her superior, then the consideration, likewise, will include external risk causes.

Another controversial argument in Knight's distinction of risk and uncertainty is the suggestion that it is only in uncertainty that positive returns can occur, as the outcome of risk is already certain - negative. This conflicts with banking risks, particularly financial risks, in which a rational investor expects higher returns for assumption of higher risks (Watson and Head, 2014; Brigham and Houston, 2014). Thus, the typical axiom- "the higher the risk, the higher the expected return" is contradicted by the assumption. Also, speculative activities (bets) and trades in non-demand deposit banks (investment banks and hedge funds in particular) are clearly driven by the expectations of positive returns on risky transactions, most of which they believe have a certain level of assurance (a higher probability which does not always work) towards positive outcome. But of course, these arguments are tenable in the light of modern banking business in which financial engineering and technological wizardry have resulted in new waves and arrays of financial activities and financial products which hitherto, were unfathomable and alien to the times of Knight. All these modern actions are referred to as Risk transactions. Several banks' treasury transactions are embarked on from day to day which have led to huge loss cases such as Merrill Lynch, Barrings, Barclays, Bankers Trust, to mention but a few. Most of these banking activities involved uncertainties about market reactions to financial asset prices, interest rates, irreversible investments etc. It is even more so, with large influx of financial products through financialization, bets and speculations, to achieve excessive profits. In modern times, bankers bet with derivatives which were originally engineered as hedging instruments, with the hope of making profits through market

shifts. Of course! Markets are not perfectly competitive and all other motives cannot be held constant, including behaviours of participants some of which are adaptive, some rational and some not so rational which is where moral hazards erupt.

Projecting Knight's position further into contemporary classification of bank risks will be to consider Operational Risk as mere irregularity and treasury risks as uncertainty which will be an oversimplification. It could be argued that as at 1921 and even several years beyond, the category of Operational Risks was not known or rather, not institutionalized. Modern risk theories delved more substantially into risk-return trade-offs in investment (Buehler and Hulme, 2008). However, Operational Risks have in recent times, become quite the main cause of major bank failures and huge losses. As a result, OR has gained much prominence, resulting in their regulatory identification and institutionalization. The regulatory regimes were elicited by events such as rogue trading and financial crises. Knight however acknowledges the logical difficulties and paradoxes in the process of ascertaining uncertainty and attitudes towards uncertainty. He highlighted Adam Smith's point that men will readily risk a small amount in the hope of winning a large one when the adverse probability (known or estimated) against winning is much in excess of the ratio of the two, but will refuse to incur a small chance of losing a larger amount (Knight, 1921:235, 298). Knight concludes that average investors tend towards rationality and people will prefer a predictable line of activity to more speculative operations. Contrary to this, behaviourists argue that people make emotive investment activities which conflict with rationality (Hubbard and O'Brien, 2014). In addition, modern day hedge funds and investment bankers also make financial deals that are in contrast with rationality. Although they claim the use of assessments, forecasting and predictions, some live incidents have proven that such assumptions of risk, by predicting the odds of a future outcome do not always result in the expectations. Thus, Dizikes (2010), suggests that such assessments and predictions are not only inadequate, but also reveal that their assumptions of risk are probably invalid. On this note, some economists argue that Knightian thesis which asserts a clear distinction between risk and uncertainty is overblown (Dizikes, Explained: Knightian uncertainty, 2010). Knightian thesis argues that risk clearly differs from uncertainty, because risk applies to situations where one can accurately measure the odds of an outcome and thus, risk can be converted to effective certainty while uncertainty is "not susceptible to measurement" and applies

to situations where one cannot set accurate odds. While there are evidence to suggest that financial firms who have believed that they were operating in Knightian risks and applying measurable odds have ended up with huge failures, and realised that their supposedly precise risk assessments were not really that certain, they have also learned that conditions thought to be certain could also be Knightian uncertainty. The implication is that real world events are so complex that assessments and application of measured odds are all efforts at managing true uncertainty. Consequently, Knight's treatise on risk and uncertainty provides a solid theoretical platform for analysing the fundamentals of risk and uncertainty and can reliably be recognised as a foundation theory for operational risk management.

In the light of the above, this research draws on Rakow (2010)'s discourse on Risk, Uncertainty and Prophet – in which Rakow focused on Knight (1921)'s distinction between risk (known chance) and uncertainty (unmeasurable probability) as a major insight and a foreshadow of several revolutionary advances in psychological decision making. Rakow advances that Knight's theory laid the foundation for Simon's bounded rationality and its effects on economic decision making, which rejects the classic theory of omniscient, rational profit maximizing, but acknowledges the human limitations to rational decision making. Such limitations stem from environmental and cognitive weaknesses, trajecting to imperfect knowledge since humans have finite intelligence. Thus, decisions are made on the basis of constructed suitable inferences which can be likened to Simon's Satisficing. Rakow also draws on Knight's work as the foundation for Prospect theory in which behavioural patterns are accounted for when making decisions under Risk, a departure from the dominant expected utility models. The focus here lies on changes in wealth as against absolute amount of wealth, being important for decisions under risk, a position that resonates with modern day financial and bank risk management as well as marginal utility benefits in Economics. Rakow tries to portray a flow of Economic thoughts stemming from Knight and enlists psychologists to acknowledge their insights from the study of past theories. Although his approach has been criticized as not exactly scientific, his suggestion leads one to ascribe that it is absolutely worthwhile and becoming for modern banking risk theorists to give due acknowledgement to Haynes whose Risk theories as at 1895 obviously foreshadowed contemporary Operational Risk categorisation and institutionalisation. Most contemporary writings on bank risks jump directly into risk

assessment or risk measurement and quantifications, providing very little on theoretical foundation, which is perhaps the cause of paucity of adequate theoretical framework on Risk in Banking.

Keynes (1937) also contributed to the issue of fundamental uncertainty, arguing that irreducible uncertainty was distinct from risk which was measurable probability. Like Knight, Keynes while discussing the issue of wealth creation, argued that uncertainty deals with matters for which there is no scientific basis to form any calculable probability and this differs from matters that which their probability can be calculated, which translate to risk. Uncertainty means that we simply do not know, yet wealth owners and those seeking wealth creation must make decisions and take necessary actions in the awkward situation as if “we had behind us a good Benthamite calculation of a series of prospective advantages and disadvantages, each multiplied by its appropriate probability, waiting to be summed” (Keynes, 1937:214). Another common ground found in Keynes’ discussions on uncertainty is that he concerns himself with events that may or may not happen in future. Keynes’ foray into organised investment market actions speaks of maintenance of a convention in investment where risk is only that of a change in the news in the near future while overlooking longer periods. This provides liquidity to the individual, who invests over successive short-term periods as against long term.

Scholars of critical realism also contributed to the theories of risk and uncertainty. Lawson (1985) in his *Uncertainty and Economic Analysis* strongly argues in line with Keynes, that the fact of uncertainty is fundamental and that economic decisions can be constructively made, in the face of unknown future. He asserts that “Uncertainty as opposed to mathematical risk is a pervasive fact of life”, an opening statement which clearly defines his paradigm about Uncertainty and Risk as being differing concepts. Lawson challenges the argument by Coddington (1982) that Keynes’ notion of uncertainty in economic decision is either innocuous or destructive of economic analysis, arguing that Keynes’ notion of uncertainty is concerned with lack of certainty of a kind. He asserts that “not certain” is not the same as improbable. Connecting this to banking risks, this Keynesian position could suggest an absence of uncertainty in banking. This is so because all bank activities have known outcomes implicating risks. As problematic as their assessment may be, they either succeed and generate profit i.e. add value, or fail and generate losses- loss of value. The only issue is that the

degree of success or failure may sometimes, not be measured with accuracy pre-event, and that is only sometimes, because at other times, the extreme limits are known. Although this may be considered an extremist view, it is a tenable argument. As an example, a speculative purchase of stocks at a given price will yield either a profit or a loss to a specific amount of price increase or price decline whenever sold. However, one may not be sure that price will rise or fall as expected. Furthermore, in contrast to Keynes' CW XIV:113 position on probable events (projecting 1970 at point 1937), modern financial models including present value applications have made it possible for decision makers to project (though not always with precision), the price of commodities such as copper, the price of financial assets, and expected interest rates in years to come, using the time value of money concept (Brigham and Houston, 2014). The progress made in financial modelling as well as technological advancements have created an obvious gap in literature between these earlier theories of uncertainty/risk and today's practices of the concept of risk in banking. However, the theories still hold strong implications that provide the fundamental bases that inform risk management in banking.

Lawson further expounds on Keynes' emphasis on short term as against long term and likens the view to Simon's notion of bounded rationality in which calculation of future outcomes if possible, would be made as a guide to action, based on available information. Acting on such existing practices is referred to as being rational. Lawson did not fail to highlight that Keynes recognised but did not dwell much on behavioural incursions such as whims and sentiments, which could affect an investor's decisions outside mathematical calculations. He concludes his writings by suggesting that more resources be allotted to the use of case-studies and the like for evaluating research priorities because existing priorities provide only organised method of thinking, which in the face of arbitrary objectives, result in excessive theorising leading to irrelevancy. It is interesting to observe that in Keynesian writings as vigorously analysed by Lawson, (1985), there is very little application of the word Risk which is a major bank nomenclature and considered consistent with Uncertainty in contemporary banking practice. In spite of several convergences of opinions with Knight (1921) who explicitly defines risk, Keynes' theories lay heavily on Uncertainty as Immeasurable Uncertainty. Although uncertainty can be considered a major cause of risk, there exists a literary gap in demonstrating a linkage between this source and contemporary risk in banking. It is hoped that this theoretical discourse, through its exfoliation of the different

perspectives, is contributing to bridging this gap by charting a course of congruence among them. This will enable the establishment of cohesive theoretical foundation and framework that informs operational risk management in banking.

Some post Keynesian economists also highlight other important factors relating to uncertainty as root cause of risk (irreducible reality). They propose two dimensions on the issue: one is in relation to human abilities/characteristics (HAC - defined as epistemological uncertainty) and the other in relation to ontological uncertainty, i.e. the forms in which it exists (O'Donnell 2013). HAC proponents consider lack of logical ability in perceiving relevant probability relations a permanent disability, suggesting that successive learning cannot eliminate it which is in tandem with Simon (2000) discussed in more detail in Section 2.4.2. They suggest that some future outcomes remain forever uncertain and this applies to all events including business decisions. Thus, this uncertainty is the root driver of risk. If that were not the case bank traders' bets will not result in bank losses, or rather, traders will not even venture to bet at all. The interesting aspect of this assertion is that it suggests Keynes as classifying Uncertainty into three, to include both quantifiable and non-quantifiable aspects, attracting the criticisms of pure mathematical theorists on one hand and the support of the psycho-social theorists on the other. This appears to contrast directly with Knight (1921) who separated risk from uncertainty. While Knight categorically split risk from uncertainty where risk is known probability and uncertainty is unknown probability the HAC approach considers both aspects as Uncertainty. Relating this to risks in banking, the HAC perspective of Keynesian theory is congruous with the fact that the future is unknown and investments in financial assets cannot be predicted with certainty. However, it renders the fundamental thought that the average investor is rational incongruous. This is because for a fact, an average investor is aware that the future is unknown and insightfully applies probability as an imperfect guide to investment decisions whether it concerns fellow humans, financial assets, or a combination of both. Reflecting on this, the idea of measuring risk with probability and standard deviation in finance raises the question of assignment of arbitrary numbers as probability, because such numbers are chosen from the reality of the person measuring the risk, which may not be a universal reality, if there is ever any such. Various people could also have differing realities and assign different probabilities to the same risk. Thus, with or without knowledge, probabilities can still be assigned, and

in its place, past figures for similar events can be used, such being factual numbers. However, the past does not always predict the future. It is therefore pertinent to underscore the importance of the trends-of-thought portrayed in the Keynesian approaches and to find the divides or convergence with risks in banking. Furthermore, the point that many future-oriented economic decisions in the real world closely resemble singular events than multiply repeatable ones may appear out of sync with banks and financial decisions of modern banking because repeatable patterns can be observed in positive investments in the finance world. People (both private and public, individuals and regulators) learn from past mistakes and events as they try to reduce risk. It is the premise of learning from past events that underpin the establishment and continuous evolution of regulations such as the Basel Accords, actions like ring-fencing of Retail from Investment banking by regulators in UK post financial crisis of 2007 - 2009, establishment of the Dodd-Frank Wall Street Reform Act 2010 in USA, etc. This approach reinstates the superiority of relative frequencies as a source of objective probabilities and reinforces the Ergodic/Nonergodic (ENE) perspective.

O'Donnell proceeds to discuss the ENE approach, which focuses more on Keynes' General Theory (GT), and holds that Keynes is in tandem with Knights' position about measurable risk and unmeasurable uncertainty. The ENE postulants argue that there is no question of probability and measurability with uncertainty, rather, measurability only occurs with knowledge and certainty. Thus, there is certainty and knowledge as against uncertainty (lack of knowledge). This holds ample foundation for explaining the epistemological source of uncertainty and provides a theoretical foundation for risk. Again, applying this to the reality of banks' financial activities and information, evidences vary in terms of usage of time and space statistics. Some writers support the use of stochastic process in measuring and managing risks especially Operational Risk, while others favour the application of non-quantifiable and mutable approaches. Conversely, Davidson (1996;482) criticized the use of probability as a tool for reducing uncertainty insisting that "the result is that past and current information does not, and cannot, provide reliable data for forecasting the future" (Davidson, 1996: 482; Davidson, 2005:463) affirming the non-Ergodic stand. This agrees with Fama's efficient information theory suggesting that strongly efficient financial markets cannot enable fundamental analysis to generate abnormal profits (Fama, 1970). Thus, one cannot use probability to reframe uncertainty as risk; in contrast with mainstream

economists' position. This stand affirms that nonergodic uncertainty is independent of human ability or capability in contrast to the earlier viewpoint. These contrasting arguments bring to fore the conundrum that philosophical and epistemological approaches to practical concepts often combat with each other.

In concluding, it is safe to suggest that whatever the idea adopted in the post Keynesian factions, banks consider that probabilities are always in existence in business decisions and can relate to certainty and knowledge as well as uncertainties in outcomes. The implication is that risk may or may not be reduced to actuarial certainty but remains an exposure to both a negative and/or positive outcome, which can result in losses/gains in value. In Banking, risk and uncertainty go hand in hand and from a practice perspective, appear to be directly at parallel with the philosophical musings projected in the divergent theories discussed. These diverse viewpoints therefore raise the question as to whether Risk in banking ought to be redefined from the perspective of uncertainty to align with economic theory in line with Haynes(1895). A more practical approach will involve a fusion of the diverging perspectives, in the face of the banking business. If the HAC holds in its pure form, then there will be no need to operate a bank, while if the ENE holds in its pure form, risks can be reduced to certainty with probability statements. The fact is that with or without probabilities, future economic outcomes remain uncertain, at least to some degree.

Having therefore examined the depth and application of the earlier theories ranging from Haynes to Knight to Keynesian and post Keynesian era, and to more recent times, it is apt to suggest that both Haynes and Knight theories and their insights are a foreshadow to both psychological, economic and financial decision making under risk and uncertainty. Haynes' perspectives however, project a more direct and suitable theoretical undertone for contemporary banking risks especially operational risk. This is because his assertions on uncertainty as a cause of risk and his predictions on static and dynamic risk have all come to fruition as well as his articulations of what happens to an investor when he does and does not invest. Knight's treatises have however, been more popular in discussions and academic writings on risk and uncertainty. It behoves enquiry that even though Haynes propositions on risk are more in congruence with contemporary bank risks, especially Operational Risks, it has not been sufficiently recognised or cited on risk literature, perhaps because literatures on risk management in banking have also not delved deeply into theoretical foundations,

particularly economic theories which is what makes this work quite significant and contributory. Albeit, considering the trends in banking and investment dimensions, the researcher propounds that while risk can be measurable uncertainty and uncertainty immeasurable probability, there are significant overlaps between the two in banking, considering contemporary incidents and events. It is expected that this work has to a reasonable extent, illuminated the gaps in this evolution of risk theory and made contributions to the theories of risk and uncertainty. Next is an exploration of the theories on People Risk.

2.5.2 Behavioural Theories – People Risks

Behavioural theories underpin people risk factors in Operational Risk Management. These are theories that attempt to explain the behaviours of people that cause risk exposures to business organisations, in this case financial institutions. Such exposures can impact the fundamental of business and erode their capital. Theoretical perspectives on these risks will be addressed in two parts. Part 1 will focus on Complexity, Bounded Rationality and Cognition while part two will focus on Information Asymmetry and its attendant Adverse Selection and Moral Hazard partners.

Bounded Rationality and Cognition

People risk has been defined as the risk of loss caused by people within an Organisation, either intentionally or unintentionally (Hoffman, 1998). Intentional risks include frauds, forgeries, embezzlement, arson, system crackdown, suppression, duplications/multiplications, kiting, roundtripping, gross mis selling, false trades, etc. while unintentional risks include errors, misdeeds, incompetence (Donahoe, 1999). Starting with rationality, neoclassical conceptualization of economic rationality requires investors to be rational utility maximisers. One of the most predominant contra theories on people's perspective on rational decision making comes from Simon (2000). Our examination relates Simon's discourse on bounded rationality and complexity directly to Unintentional risks in rational decision making. Simon suggests that while neoclassical conceptions of rationality peaked, further theoretical developments and logical/mathematical modelling incursions, paradoxically resulted in a collapse of their conception (Simon, 2000). His work redirects neoclassical economic theory which held under assumptions of perfect market, information, etc., that humans are rational maximisers, making decisions for the purpose of maximizing utility while focusing on the probability of occurrence of a choice. Contrary to this

school of thought, Simon projects that developments in behaviour of complex dynamic systems have changed the neo-classical posture on rational decision making under uncertainty. Simon assessed complexity analysis by considering the limits and confines of human rationality. He examined the constraints on human rationality springing from Gödel's theorem, computational complexity, chaotic behaviour and interconnections among system components. The key points of Simon's notions which were based on review of Albin's work (*Barriers and Bounds to Rationality*) are that: the demands of classically defined rationality go beyond the capabilities of human actors to deal with world's complexities, and these are the barriers and bounds to rationality. His work revealed experiments as showing that decision makers frequently behave contrary to the predictions of classical theory, explaining that the human brain is not capable of higher levels of rationality required to maximize expected utility when confronted by real world complexity. Relating this to bank risks, Simon implies that humans are not sufficiently endowed to cope with the complexities of life in making decisions, even in the absence of uncertainty. His assertions could implicate that cognitive limitations of the human brain (competencies and ability), is the root cause of people risks. These constraints form barriers to rational decision making as they restrict the capabilities and competence required to deal with uncertainty, and to create and implement systems to deal with uncertainty and risk, thus undermining rationality. Thus, people risks arise as a result of human weaknesses and not intentional.

This position conflicts with Hoffman's definition which holds that people's risk can be both intentional and unintentional. Simon's bounded rationality can be related to Haynes' Static risks already discussed in Section 2.3.1. which are caused by ignorance, moral hazards, natural causes. A large class of static risk is ignorance which limits economic decisions. The difference in the theories however is that Haynes argues that static risks can be converted to dynamic risk via a dynamic change through training, development learning and knowledge. Simon's bounds to rationality did not provide room for such dynamic impacts because a cognitive constraint cannot be changed or improved by repeated study. Furthermore, Haynes' static risk included things such as moral hazard, an aspect also relegated by Simon's bounded rationality but links to intentional people risk as projected by Hoffman (1998) but Simon's bounded rationality relegated such intentional risks. If all risks are unintentional, perhaps an appropriately tailored governance structure and tool can effectively

manage such risks through avoidance, prevention and mitigation. However, evidence from cases examined by the NDIC show that while some risks may be unintentional, a good number of cases are fraud and forgeries which are intentional (NDIC, 2017) Reflecting on the above issues, it is safe to suggest that Simon's assertions can hold, but only in some conditions of risk and not in others. For instance, it ignores moral hazard and intentional risk actions and inactions, while focusing on uncontrollable human cognitive constraints.

Another earlier theoretical position that Simon's cognitive constraint can map to is HAC's irreducible uncertainty (IU) discussed by O'Donnell (2013) in which the idea is that irreducibility is due to human inabilities to determine the probabilities. As highlighted in Section 2.3.1 above, the logical precept is that IU is a human factor, which derives from ignorance due to a lack of logical ability in perceiving relevant probability-relations. Simon applied experimental aspects in which he considered logic. He used Gödel's theorem to discuss the incompleteness of logic since rich logic is not able to prove some theorems as true or false, and is not able to determine if a theorem is decidable. Thus, the use of logic cannot fully define rationality, just like the actions of rogue traders in bank risk cases cannot be explained away with logic. Simon's cognitive constraint corresponds directly to O' Donnell's IU theory which holds that inability to make optimal economic decisions and maximize utility as a result of human limitations. Reflecting on the above issues in respect of people risk, it is safe to suggest that Simon's assertions do hold, in some aspects, but not in others. For instance, it ignores moral hazard and intentional risk actions and inactions, while focusing on uncontrollable human cognitive constraints. Sparrow (2000) examined operational risk, focusing on risk trade-off and realizing opportunities. He suggested that due to limited capacity of individuals, managing opportunities by intuitive and implicit methods, is not as effective and efficient as using systematic and explicit assessment methods. His work implies bounded rationality, which aligns with Simon(2000).

These analyses depict the various relatedness of the theories on risk as they inform bank risks in general and banks' operational risk in particular, due to people risk factor. Collectively, they provide a collage of theoretical foundations that can inform Operational Risk in banking.

Computational Complexity

Simon also examined computational complexity and stated that the most important problems solved daily, are beyond computationally feasible optimization. Thus, computations are used to satisfice and not maximize. In respect of bank risk management systems and solutions, computational facilities pose two faceted issues. The first issue is a concurring perspective that computational complexities can place limits on using computer systems to find solutions to risky decision making in banks which is Simon's angle. Computer systems are not able to deal completely with uncertainty in banks decision makings, as much as they can simulate situations and assign probabilities. The second perspective however, reasonably contradicts the first, and will suggest that it is innocuous to believe that major decisions cannot be executed at least in modern times, without the use of computational facilities which not only analyse but can also integrate and link information. Practically most banking decisions today rely on computers. It is therefore not arguable that greater computational proficiencies have added muscle to financial innovations, allowing complex calculations to be made within unparalleled time. This has engendered growth in liquidity and added integrity in pricing, bringing it close to real time and enabling more optimal decisions based on informational content (Buehler, Freeman and Hulme, 2008). Therefore, use of computational methods, may not just be taken to achieving satisficing solutions as Simon suggested.

However, on the other hand, empirical evidence show that the use of computer systems also engenders opportunities to exploit weaknesses in automated systems in order to perpetuate actions that translate to people risk. Herein lies the system related Operational Risks which exacerbated in the face of financial engineering and explosion of products. The system risks include factors that may lead to a failure in the integrity, confidentiality and/or availability of an information system, essential for the purpose of a bank's business. The threat of such factors could be triggered by either deliberate or accidental causes which are human and therefore people risks. Example, algorithms have been written intentionally to exploit computational systems for personal benefits.

On the other hand, system risks (risks emanating from information technology systems used by banks) which manifest as a result of lack of knowledge have triggered vulnerability in the smooth operations of a technological system. Thus, the issue of computational complexity suggested by Simon, ought to be examined from the various

resultant perspectives and not just from innocuous limitations. This recalls the new era of computational advancement which we consider worthy of mention in this discourse – the development and use of Artificial Intelligence (AI). Progress made in this area suggest that it may be possible in the future for computational complexities to achieve currently humanly impossible solutions to risky decision making. It is believed that AI can overtime achieve rational responses to uncertain situations for economic benefits. Yet it is ironic that the human intellect and capabilities which develop the components of AI, its mechanisms and proficiencies, do not have the cognitive ability to make rational decisions under complexity. Perhaps artificial intelligence can combat these cognitive barriers to rational decisions by bridging the competency gaps in developing systems, so as to realise rational decisions under risk and uncertainty. An example is the use of cognitive analytics in catching fraudsters. Further system risk issues are analysed under Basel practicalities section in Chapter 3.

Another relevant offshoot of the computational systems and complexity theory is the Network theory. The point of networks is that the interconnection of systems (Herbet, 1987), both technological and human systems, is a predominant factor in the birth of Chaos in modern day banking. Hitherto, when banks were standalone institutions, risks were not as dispersed and chaotic in their manifestations, affecting only specific banks when they occur. In today's banking world, all systems are interconnected, and tethered to each other in such a way that impacts of activities or risks deal affective blows among the institutions. Rausand (2011) used the bow-tie cause and effect diagram, Bayesian models and fault trees to accentuate the rippling impact of small events on interconnected networks, which could lead to chaos.

Simon also discussed the impact of chaos theory highlighting that even a little injection of chaos renders serious limitations and tough implications on economic forecasting. Agreeing with this position, a good reference point for his implication would be the financial crisis of 2007/08 which introduced chaos to the housing bubble resulting in the collapse of The USA economy. A direct progression from this which exemplifies Simon's interconnections of system components, is the dispersion of the financial crisis from USA economy to the global economy due to the inter relationships and connections between financial markets globally. Furthermore, the intervention of regulatory and monetary authorities brought about the qualitatively diverse behaviours

of the financial institutions and maps directly to Simon's explanation of market behaviour as an aspect of bounded rationality.

All these encapsulate a correlation between these economic theories and banking sector practices and hence bank risk management. Simon's conclusions that activities lying beyond calculations are so many and so economics should not aspire to predict the unpredictable, but should focus on a range of paths, can be likened to dealing with uncertainties as immeasurable or unquantifiable. Thus, his discourse is a progression of the uncertainty theories, by focusing on the limitations of humans in achieving optimal solutions to business problem in the face of both physical limitations like computational boundaries, chaotic behaviours, automata as well as interconnections between people and systems. The rationality of market players is thus limited by the available information, other participants and occurrences in the dynamic market system, ensuring that rationality itself has no single definition. He then suggests that studies should focus on how humans adapt to the limitations and boundaries, uplifting empirical research as against computational simulations and modelling. The gaps that can be identified from these theories subsist in Simon's eschewing the aspects of people risk which stem from deliberate behaviours or moral hazards and adverse selections. Actions such as fraud and malpractice which are the bane of Operational Risk in banking cannot be excused as purely due to human constraints in dealing with complexity. In the same way, system and process manipulations cannot be excused as being a result of computational weaknesses even though such weaknesses could contribute. Having defined people risk as caused by both intentional and unintentional actions (Hoffman, 1998), Simon's barriers can only be said to explain one aspect of people risk which is the unintentional. Simon is suggested to have dwelt strongly on asymmetric information in proposing bounded rationality, but he focused more on the scale, computability and complexity rather than asymmetry (Rosser, 2003). However, Akerlof (2002) argues that asymmetric information leads to behavioural economics and some suggest that Simon's work was fundamental to the whole approach.

Tversky and Kahneman, (1979) further substantiated Simon's bounded rationality theory in Prospect Theory. Like bounded rationality view, Prospect Theory, projects an alternative model to expected utility theory as an evocative model of decision making under risk. It suggests that when people make choice decisions under risk,

they exhibit behaviours that are inconsistent with utility theory in the manner in which they weigh probable outcomes in comparison with uncertain outcomes. Its main ideology is that people ignore common components and focus on exclusive components when deciding between alternatives under risk. This was called **Isolation Effect**. The resultant effect is that people's preferences will differ for the same choice event when the components are presented with different emphasis. An emphasis on the negative attributes of a component will more likely result in a negative choice as against an emphasis on its positive attribute. Thus, inconsistent preferences occur because of people's perceptions of the relationships and dependencies among events. In summary, choices can be altered both by varying representations among events and varying representations among outcomes. This theory proposition can be likened to the aspect of interconnections and their impacts in Simon's bounded rationality. Isolation effect highlights that people's preferences are not static, rather they can change on the same prospect under different circumstances or depending on how choices are presented, whether as a risk or as a prospect. A choice when a person is the only contestant would be different from when there are other prospective contestants. Thus, Kahneman and Tversky (1979) highlight the issue of perception of prospects and perception of risks in people's behaviour when there is risk involved.

Prospect theory also highlights Certainty Effect which contributes to risk aversion when choices involve sure positive outcome – gain, and risk seeking when choices involve sure losses. Simply put, people's appetite for risk increases when there's prospect of loss, but possibility of gain receives less appetite. Describing decision making under risk as a choice between prospect or gamble, Kahneman and Tversky (1979) assigned values to gains and losses and replaced probabilities with weights to show the impact of perception on decision due to biases. They also exposed the value function as changes in wealth rather than asset values. Their analysis of preferences between risky options show that people's attitudes towards uncertainty reveal that the sum of weights associated with complimentary events is less than the weight associated with certain event. They conclude by suggesting that two themes emerge from analysis of preference under risk, whereby one deals with editing of compositions to determine how prospects are perceived and the other, evaluating of gains and losses and weighting uncertain outcomes.

Their propositions can be related to people risks in areas of competence in decisions. The approximations highlighted in isolation effect and the editing process also relate to the constraints in bounded rationality but extends further to the aspect of value weighting and convenient approximation of prospect weights. They also show how people attempt to use probabilities, weights and impacts of decision on value to determine course of action. This aspect of their discussion can be related to process related risks which according to Wilson (2000), are losses incurred due to lack of or deficient procedures. The behaviour of summing down or up two extremes can very well be likened to deficiency in adhering to full due processes. Simply put, this is use of short-cut, which could mean that such people are deficient in observing rigors of detailed attention to process or simply a short attitude of non-compliance to set procedures and policies and akin to a gamble or prospect speculation. Prospect theory is thus useful in explaining this Operational Risk factor.

Progressing from this to the issue of gains and losses versus marginal value which Kahneman and Tversky (1979) postulated, it could be argued that contrary to their view, bankers do focus more on gains and losses while making decisions under risk, much more than on marginal value. Their assertion that humans are myopic rather than rational, sacrifice rationality for convenience and depth for summarization can resonate with process risk but may not apply in terms of end result of gain or loss. Also, their argument on myopia in some measure, does conflict with Simon whose contention is that humans satisfice because of their limitations and their subjective view of a situation. Thus, Gigerenzer (1996) argues against Kahneman and Tversky, and supports Simon's bounded rationality by suggesting that humans are rational but bounded by constraints which could be dynamically improved using heuristics. He holds that models actually predict when frequency judgments are valid and when they are not and that decision under Uncertainty is different from decisions under Risk; whereby he defined risk as options with all known probability which aligns with Keynes. Gigerenzer focuses on absolute risk as against probability statements and tries to prove that humans are being taught to overcome situations prescribed by prospect theory.

In summary, considering these complexity, bounded rationality and cognition theories, from the perspective of Operational Risk Management in Banks, the theories highlight how human limitations and perceptions can affect their competence and ability to

make decisions resulting in risk exposures. Although Simon suggests that people end up making satisficing decisions under the limitations, it is also possible for such limitations to result in suboptimal and somewhat less rational decisions under risk. Furthermore, these constraints impact directly on operational activities and actions implored in the execution of business objectives through their limitation of competence by reducing the development and application of appropriate procedures and processes in executing the activities to achieve goals. It can include things such as inability or inadequacy in recruiting, training and retaining skilled staff, inadequate policies of operations, suboptimal treasury decisions etc. By and large, one can suggest that as a result of gaps in capability, information, interdependencies of systems, insufficiency and the like, they can result mostly in Adverse Selection. Very little is espoused on moral hazards in these theories.

Knowledge, Competence and Risk

Another relevant aspect of people risk relating to behavioural theory was projected by Foss (1996). Foss draws on knowledge-based aspect as he focuses on the multi-person entity in the economic theory of the firm. His primary requisites of a theory of the firm is a theory that addresses the existence, boundaries, and internal organisations of the firm (Foss, 1996) as originally projected by Coase (1937). He argues with Kogut and Zander (1992:384) in their position that “employees will invest on creating social community of voluntary actions”, as he suggests that a firm should be seen as an efficient contractual entity in its conceptualization and argues that a firm is a repository of productive knowledge which can learn and grow based on the knowledge (Foss 1996). As a result, the firm bears capabilities, competences, and various knowledge-based conceptualizations and individuals in firms are opportunists being contracted in the firm. This argument relates well to the core competency perspective projected by (Prahalad, and Hamel, 1990) in which they opine that where collective learning in an organisation is used to co-ordinate and integrate diverse resources and skills, and to forge a strong strategic position which leads to a distinguished market dominance and advantage for a firm. This works by eliciting co-operation, communication and breaking organisational boundaries. (Prahalad, and Hamel, 1990). However, the thrust of Foss’s argument is that the perspective from which a person wishes to examine the firm, defines which aspect of knowledge approaches to utilize, emphasizing that the existence, internal organisation and

boundaries must employ the use of contractual/Coasian insights. He argues that a knowledge perspective can only compliment and not replace the contractual perspective in the explanation of the existence, boundaries and internal organisation of a firm. The more relevant aspect of Foss's discourse is that he takes issues with those who argue against the assumptions of the selfish motives of individuals resulting in shirking or dishonesty and its place, suggest that organisations are social communities in which expertise are transformed into economic products and services such as (Kogut and Zander, 1992). Such argument considers a firm as an entity where the individuals in the firm do not have any competences, motives etc. except as part of the organisation. Foss maintains that individual interests hold sway even in the collective development of the competences of the firm. This is in line with the organisation of banks and financial services in which individual motives have led to bad behaviours that result in financial crises, risk manifestations, and losses. A skeptic may however argue that perhaps, if they had the requisite knowledge, the crises could have been abated, but is it really a lack of knowledge that leads to such people risk events?

Furthermore, Foss opines that it is an obvious fact that explaining the existence of a firm cannot be done without reference to opportunism since the boundaries and internal organisation of the firm fundamentally involve considerations for opportunism and moral hazard. This discussion is presented in Information asymmetry theories under opportunism.

Summarising the bounded rationality and related theories on people risk, it is safe to suggest that although there are several perspectives and ideas on the conceptualization of people risk, the main themes are as follows: People risks can stem from cognitive constrains that people have, which hinder them from making the rational decisions that manage or prevent risks. These are the bounded rationality theories and map to risks that result from weak systems, lack of competence in establishing and managing processes and systems to mitigate and prevent risks.

Information Asymmetry, Adverse Selection and Moral Hazard

Commencing with Stiglitz (2000), the discussion on information in the twentieth century shows that information is imperfect and costly, and there are important information asymmetries, the extent of which are determined by both individual and

firm actions. The discovery of these essential issues has provided explanation to hitherto unexplained positions in earlier economic and social theories. Earlier 18th and 19th century theorists recognised imperfect information. According to (Stiglitz, 2000), economists such as Adam (Smith, 1776) who suggested that best borrowers drop out of market when interest rates rise, Marshall (1890) who observed that workers are not paid according to the tasks performed due to difficulties of observing the task and suggested that economic analysis will be greatly complicated by information imperfections, among others, mostly assumed a perfect information for the purpose of their analysis, and so avoided delving into the process of information acquisitions and its impacts. As such, they provided insights but no analysis or models of examination. Stiglitz substantially quotes Stigler as suggesting that transactions costs associated with information can be the causes of imperfections in capital markets. The overarching idea behind Stiglitz is that information is scarce, costly and imperfect. He dealt with information about characteristics and behaviour and focused on identifying characteristics (the selection problem) and monitoring behaviour (the incentive problem).

Considering selection, individuals reveal information about themselves from the type of choices they make. The essential idea in selection is that there is mutating self-selection whereby one party- the informed; signals and the other (uninformed) screens and sorts the signals in order to select a decision. Relating this to banks, he suggests that banks signal their strength and trustworthiness by their edifices while firms signal their quality by guarantees, and people have to interpret and make inferences, which will vary, from these signals. He also espouses the moral hazard aspect which he uses insurance to illustrate saying that people lose incentive to guard against risk when they get insured. Information economics brought clarity to the issue of separation of ownership and control. Although managerial incentives are designed to align interests, market forces also create the incentive to make noise, which induces price dispersions, or which induces managers to undertake activities that conceal information (Stiglitz, 2000: p1470).

(Rosser, 2003) undertook a review of the works of Stiglitz, Akerlof and Spencer and put in perspective, the origins of the theory. He suggested that Bearle and Means (1933) were among the first to introduce information asymmetry through their labelling of Separation of Ownership from Control, referred to today as Principal- Agency

problem, and a classic problem of information asymmetry. Akerlof (1970) then produced the key paper on the issue, using Lemon problems, indicating that the owner of a used car knows more about it than the buyer, and the buyers, ignorant of the potentials will assume it to be low quality (lemons) and bid low. Low prices will drive those with good cars from the market, Moreover, those with good cars forced by circumstances to sell will get insufficient prices due to this inefficiency in information (Hubbard and O'Brien, 2014; Rosser, 2003). This lemon problem leads to adverse selection. Akerlof noted that reputation could resolve this problem, but Spence (1973) studied this in signalling in labour market and found that the inefficiency does not get resolved. Using asymmetry between employer and potential employee, Spence proved that employer would rely on signals due to inability to discern potential employee skills. Spence further analysed the cost of generating signals and potential benefit output which gets reduced. Further to these, Stiglitz looked into screening of signals using insurance markets which is the main stay of asymmetric information leading to moral hazards and adverse selection. The screening engenders self-selection revealing lower risk and higher risk agents but does not resolve the conflict of information transmission and risk re-distribution.

The essential point of asymmetric information is that people risk can also be explained from the context of information asymmetry, considering the importance of information economics in business decisions both for the firm and for managers. Information asymmetry arises from disparity in the information between one party and another in a financial contract. Operational risks that arise from behaviour of individuals can arise as result of managers or bank employees holding more information than investors or owners. Such risks have been associated with self-interested individuals (opportunists) who take advantage of their insider or superior information to better themselves as the expense of the business. Some of the resultant actions may not even be to better themselves per se. In more recent times, activities of bank traders including excessive risk taking and prolonged cover up trades that led to a \$6.2 billion trading disaster at JPMorgan Chase in 2012 ("London Whale"), US\$2 billion at Swiss bank UBS in 2011, Bernard Madoff's \$50 billion fake scheme in 2008, and the \$7.2 billion trading loss at Société Générale also in 2008, all manifest the evidence of information asymmetry and how operational risks and losses can result form actions of informed individuals.

Information asymmetry can lead to adverse selection and moral hazards. Adverse selection relates to such actions as selecting wrong projects for lending and investments, or wrong people for employment because the banks do not have the full information about them which is referred to as lemon problems by Akerlof (1970) and Hubbard, and O'Brien (2014). Moral hazards include events such as the risk of 'agent' acting for his/her own benefit rather than that of his principal as in the cases of Barings and Nick Leeson, Ibru and Oceanic Bank and similar cases. These hazardous risks also relate to opportunism as highlighted by Foss (1996).

Foss (1996a) discussed moral hazard on the precept of opportunism when he continued his critique of the knowledge-based theory, arguing that there cannot be an independent-of-opportunism firm, in contrast to Kogut and Zander (1992) and Conner (1991). He insisted that although the former reject the pure contractual interpretations of the nature of the firm and hold onto the firm as a knowledge bearing entity, the existence of the firm cannot be independent of transaction costs, incentives and opportunism. His argument remains that hierarchy can better control opportunism and moral hazard leading to emergence of higher order organising. His underpinning point that makes sense in the risk and uncertainty discussion, is the importance of governance as a mean of controlling the opportunistic actions of people, leading to a better accountability and less of selfish pursuits. Chernobai, et al, (2011) and Wang and Hsu (2013) showed that stronger governance and internal control systems reduce the incidence of operational risk in financial institutions.

An interesting aspect worth evincing is the twist of moral hazard that has caused people like Kweku Adobolu to lose billions of dollars. This twist is because the employee was working to fulfil the expectations of managers- to conform to an image for which he has been acclaimed and positioned, and not purely for personal financial benefit. This conflicts with the opportunism earlier discussed. The same goes for Nick Leeson who laments the fact that history keeps repeating itself on trading desks. One is prompted to ask the following questions:

Could there be another basis for moral hazard, that leans towards conformity to expectations, as against personal interest?

Could there be adverse selections that are due to performance pressures in addition to lemon problems?

And so, bringing all these economic discourses into the context of Operational Risk in banking, it is clear how each aspect of the discourse resonates with both banking risk in general and Operational Risk in particular. Information asymmetry and lemon problems commence from the very first step to the last of banking operations and decision making. Employee recruitment is directly explained by Spence due to inability of banks to determine actual potentials. Although education level and grades which are screening variables can potentially be used to determine expected level of skill, such cannot determine character attributes which manifest in attitudes and behaviours that impact directly on banks risk exposure. Such behaviours could range from attending to bank customers, executing routine job processes and procedures, to managing cash, investment and securing other people's money. Lemon problems also manifest in employee recruitment and are more likely to result in adverse selection not as much in choosing cheaper employees, but in recruiting more expensive employees who may not really deliver the best results. Thus, it is dicey to determine the best way of dealing with risk and uncertainty in banking situation.

The same is applicable from the perspective of bank customers who try to choose which bank to bank with, what to present when borrowing and investing, how the general bank see them. The same applies in setting up systems, processes and procedures for managing various aspects of bank operation, including ways and who to implement, monitor and evaluate. In terms of investment risk, adverse selection has manifested in so many bank losses as have been previously mentioned. It has impacted on credit risks, whereby credits are issued to wrong customers. It has also impacted on the risk of the right people to carry out the various responsibilities within a bank. Stiglitz' application of his information asymmetry to credit and financial markets in less developed economies, led him to identify extreme fragility and volatility in those markets. Akerlof also found that deeper sociological and psychological factors amplified the impacts of information asymmetry in these economies. It further shows a trajectory of the impacts to behavioural economics. It is suggested that governance can provide the basis for managing these risks and uncertainty, especially those related to people behaviours.

2.5.3 Risk and Governance

Following the stream of conceptual and theoretical discourses, it is proposed in this thesis, that ORM requires a system of governance to deal with risks of uncertainty and human behaviour. Hence, the aim of this section is to discuss the relevance of theories of governance for risk management. Some of the most profound contributions to the theory of governance as a means of risk management are made by Institutional economist. For example, in *Institutions, Institutional Change and Economic Performance*, Douglass North argues that institutions as part of governance structures “play a major role in society to reduce uncertainty” (North, 1990:6). Expounding on transaction cost, he explained changes in the institutions on the basis of the rational interests of individuals who in order to maximize net benefits, attempt to structure the world around them. Similarly, Williamson (1998; 1999; 2000) presents governance as lenses for the study of strategy and by projection, risk management through governance. Like North, he recognizes the risks and costs associated with aspects of asymmetric information (which he refers to as opportunism), uncertainty, bounded rationality, etc, and argues that these risks and associated costs (called transaction costs) can be reduced through appropriate governance systems involving formal and informal rules and codes of conduct, which are collectively called institutions.

Williamson pays special attention to competence. According to him, governance relates more to economic reasoning where choices are explained via transaction costs while competence gives more prominence to organisational theory and the importance of process. He presents governance and competence as separate identities challenging each other, although the researcher opines that governance and competence ought to be seen as operating in a continuum, enforcing and reengineering each other and not in challenging camps. Williamson asserts that governance, being rooted in Economics, is more operationalised and established. The thrust of his work is that while governance hinges on protection of various things, alternative modes of governance are decided by transaction cost economics, which are implemented through six key themes, namely; human actors, unit of analysis, the firm, purposes served, empirical testing and efficiency criterion. Although each of the various themes can be related to risk, the focus of this work is on the theme of human actors which correlate to people’s risk and the difficulties faced by people in rational decisions. Williamson’s studies and discourse look at transaction cost economics as

assuming that actors have the capacity of foresight to recognize and mitigate risks and uncertainty. The central approach considers transaction as the basic unit of analysis. Organisations' governance structures serve to economize on these transaction costs. He applies the use of bounded rationality (Simon, 2000), explaining that humans are intendedly rational but limited by the complexities beyond them. However, some are given to opportunism. Contrasting the behavioural economist perspective, he disputes that human agents are myopic as suggested, but rather, ascribes foresight to human actors, suggesting that people indeed apply foresight in making decisions under risk and uncertainty, in spite of the cognitive constraints. Like Foss, Williamson also throws light on the attribute of self-interest; another transaction cost economist axiom, which he says extends beyond its orthodox description to include adverse selection, moral hazard and opportunism. These claims apparently resonate well with attitudes and risks in banking. He argues that economic organisation and governance are means to economize on bounded rationality and mitigate hazards that accrue to opportunism, implying that cognitive specialisation is a means to economize on the mind; which is a scarce resource, while holding governance as an essential activity in this economizing process.

Moosa and Li (2015), agree with Williamson in suggesting that the link between operational risk, the rule of law and corporate governance has been recognized. They highlight that as people risk comes from both deliberate actions and incompetence, corporate governance provides a means to manage people risk as well as provide framework for management to establish procedures framework. This implies that management sets the procedures and behavioural rules to govern both structure and nature of operations (Moosa and Li, 2015: 2054). This is further asserted by Chernobai, et al (2011), when they showed the correlation between operational risk, credit risk, and the role of corporate governance and proper managerial incentives in mitigating operational risk.

Furthermore, Williamson explores competence and capabilities in which his overarching theme is Processes. He decries the fact that Processes have not been operationalised as much as governance which rooted in economics, has been explored for a longer period and thus well established. He attempts to also analyse competence from the six themes and inferred that end stories determine the success of the processes and by implication competences. In relating this position to process

related risk in banking, the question will be; can successful end stories be sustained, and can they be consistently repeated? When we look at bank bursts due to individual activities such as rogue traders, it is safe to suggest that the reverse is the case, as temptations to keep short-cutting processes create an euphoria that ends up in losses, resulting in further attempts to cover losses, which eventually go burst. Thus, process risks remain topical, and governance should essentially monitor adherence to laid down processes and not be driven ex-post.

Williamson further argues that competence perspective in contrast to governance, emphasizes myopia, whereby adaptations under the competence perspective, are prompted by crises and not proactivity. Relating his points to risk management in banking, especially ORM which focuses more on exposures from people, processes, systems and external forces, it is possible to liken his reference to myopia in processes to the various manifested cases of regulatory regimes in bank risks management, which have been quite reactionary. Many such rules and regulations arose in response to risk events such as financial crisis, banks runs, banks failures. For instance, the enhanced Basel II and Basel III provisions, all of which were fueled by resultant effects of financial crises, were reactionary and not proactive. They go to suggest that weaknesses subsisting in both people, processes and systems are not necessarily managed by people's competences or lack of it, but are as a result of limitations of the mind in perceiving them, even though people try to apply foresight in decision making. Williamson however insists that competency de-emphasizes self-interest. We then ask, could competence de-emphasize opportunism? And could opportunism lead to self-interest and vice versa? His assumption appears to be in congruence with some of the risks faced in banking that have been traced directly to individual incompetence and self-interest motivations; for instance, the Oceanic Bank saga of Nigeria where the CEO was said to have given several crippling credit facilities to their own companies in addition to purchase of assets for private usage depicting both incompetence and self-interest pursuits. Williamson highlighted Hudgson (1998) as suggesting that competency can answer the same key questions as transaction cost theory but did not explain why the effects work better or worse in a unified firm. In concluding, Williamson asserts that governance can mitigate moral hazards but questions if opportunism could be eliminated by governance. This aligns with the much-emphasized corporate governance rules entrenched in bank risk management

practices, whereby a risk management partnership is formed with each key player having a clearly defined accountability for specified area of responsibility (Greuning and Bratanovic, 2009). Supporting this, Chernobai, et al (2011) demonstrated that operational risk events reflect weaknesses in controls, governance, improper practices and executive misconduct including excessive risk taking. In addition, Wang and Hsu (2013) also found that stronger governance helps mitigate the incidence of operational risk in financial firms. Yet, Williamson holds that zeroing opportunism is a utopian fantasy. His argument is that in spite of governance having been operationalised and used from economics perspective for several years, it still does not deal with the issue of opportunism- a moral hazard common in financial investments and banking risks. He concludes by suggesting that competence challenges governance to be responsive, arguing that both governance and competence are bounded rationality constructs and share common grounds in the organisation. By and large, better governance structures that embed transaction cost economizing will perform better. However, this perspective does not sufficiently implicate the adverse selection and moral hazard deriving from actions of self-interested individuals as a result of agency relationships and information asymmetry which would receive more attention in this discussion.

2.5.4 Section Summary

In conclusion, we began this section by asking the question: What are the theoretical underpinnings of Operational Risk Management? This foray into the various literature that provides foundation for risk in economic theory of the firm in general and Operational Risk management in particular, has led us to identify an advancement of several relevant theories and literatures which underpin risk management. Starting with Haynes (1895), to Knights (1921), pre- and post-Keynesian theories summarized by O'Donnell (2013), Lawson (1985) and others, we explored the breath of attempts which identify uncertainty as the root cause of risk whereby distinguishing characteristic of risk is its fortuitous element, implying that *risk is caused by the uncertainty in the outcome of an action* as Risk is also considered a measurable uncertainty while uncertainty is unmeasurable probability and further explained as irreducible uncertainty(IU) where IU is a human factor. In general, Knight has been considered as a founding father of the risk and uncertainty theory and it remains unarguable that Knight provided immense insights into the risk and uncertainty

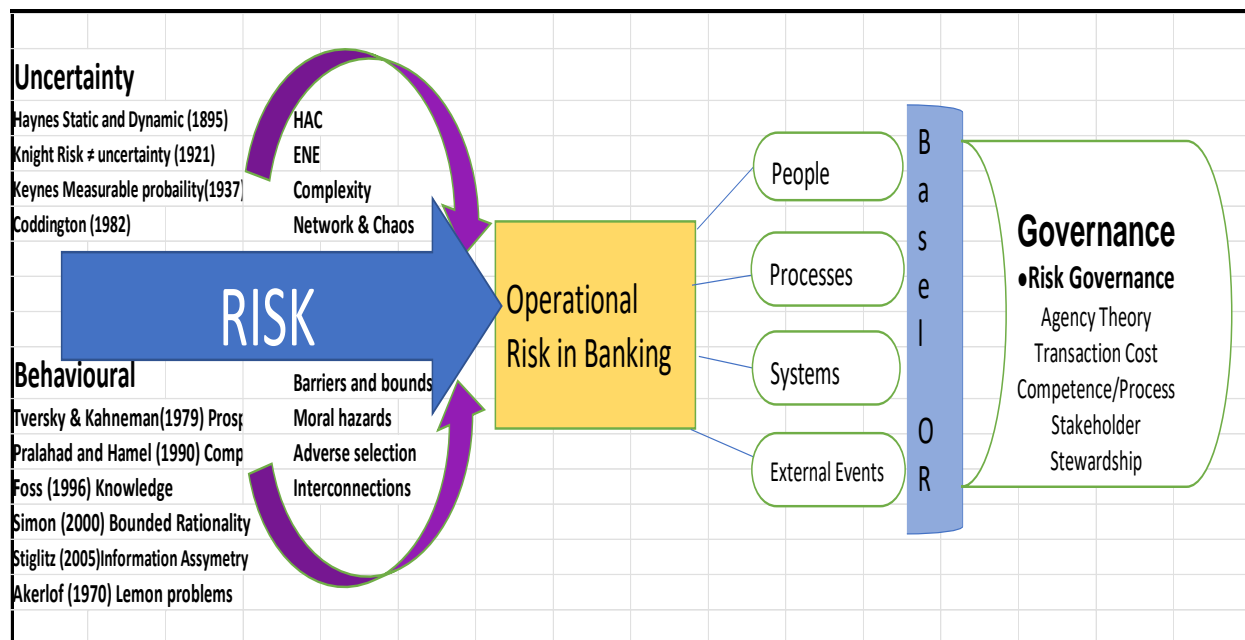
concepts. However, we also discovered a predecessor of the risk concept in Haynes (1895) whose submissions can be considered prophetic illumination into bank operational risk management. His postulations that over time, while static risks will tend to diminish with developments and progress, estimates of risks and number/magnitude of dynamic risks will tend to increase, making the importance of these risks to increase. Haynes not only projected contemporary banking risk and uncertainty path, but also articulated the major components of Operational Risk which align with the most acceptable definition as provided by Basel II, one hundred and nine years ex-post.

Progressing on the human factor, we examined people's risks, commencing with Simon's bounded rationality and which is useful in explaining the risk that is caused by indeliberate actions of participants due to cognitive constraints, but is inconsistent with risks arising from deliberate human actions. In addition, it is also impactful in considering complexity and system related risk as pertaining to weaknesses from computational issues and interdependencies. Furthermore, we considered prospect theory in which we found that Kahneman and Tversky's observations are useful in analysing some behaviours especially in areas of process risk and myopia but cannot substantiate changing behaviour from repetitive actions. Transactional cost and knowledge-based theories were also considered including the competence perspective. Furthermore, the theoretical foundation of opportunism as well as Information Asymmetry were implicated as relevant in informing people risk, in which the composite discourses of Foss, Stiglitz, Spence and Akerlof (lemon problems, adverse selection, moral hazard, principal-agency problems, information cost etc.) were found to cover sufficient depths and breaths of Operational Risk issues in banking, proving consistency in interpretation of people actions causing risk and their resultant tail losses. From the foregoing, it becomes clear that the vast behavioural manifestations and solution efforts culminate in risk governance. Governance provides an umbrella under which both the issues of uncertainty and risk and the behavioural factors of risk actions are integrated in the operational risk management process. Thus, governance is further explored as a theoretical basis for guiding ORM.

Figure 2. 2 below is an articulation of how the various literature had developed on the backdrop of economic theory, to conceptualize ORM. It further shows the various

linkages that inform a conceptual framework, cover the thesis, and form a theoretical framework.

Figure 2.2: A Conceptual and Theoretical Framework for ORM in Banking



Framework articulated and devised by researcher

2.6 Governance Framework for Operational Risk Management

The emerging patterns from the above significant body of work on causes and theories of risk, implicate the predominance of governance as a fundamental theoretical foundation in guiding and managing operational risk. Academic literature on governance, is similar to risk in that it is found to be rather eclectic and relatively disjointed (Jessop, 1995, Stoker, 2008). It has theoretical routes in institutional economics, political science, public administration, finance, international relations and several others. What then, does governance imply? The traditional use and definition of governance was as a synonym for government (Stoker, 2008) but the word governance has evolved to imply a new process of doing things whereby previous orders now give way to new, resulting in outcomes that are parallel to government. Governance is used in both academics and practitioner settings to capture a shift in thinking and ways of working. In banking however, governance has been narrowed at corporate governance. Corporate Governance is a relatively new development in financial literature but has routes in earlier disciplines. Corporate governance is

defined as a group of mechanisms used by stakeholders to ensure that directors efficiently manage resources to meet the objectives of the business (Zingales, 1998). Also, it is defined as 'procedures and processes by which an organisation is directed and controlled and its structure specifies the rights and responsibilities among the stakeholders including rules for decision making (OECD, 2005, Moosa and Li, 2015). Mallin (2007) and Clarke (2004) identified six, out of several theories associated with the development of corporate governance. They are Agency theory (Jensen and McKlen), Transaction Cost economics, (Williamson), Stakeholder and Stewardship (Donaldson and Davis, 1991), Class Hegemony and Managerial hegemony among others. This discourse will dwell on the first four theories mentioned above.

Starting with Agency theory, while Friedman (1970) is suggested to have raised the ideas behind the theory, the work of Jensen and Meckling (1976) and other works such as Fama and Jensen (1983) were essential in its development. Agency theory identifies the principal-agency relationship and highlights the points of conflict of interest, as well as opportunism. Furtherance of these issues usher in the fact of information asymmetry already discussed in Section 2.5.2. According to Mallin (2007), agency theory views corporate governance apparatus as a strong means of monitoring the operations so as to minimize the principal-agency problems. Corporate governance entails institutional arrangements for control and checks, so as to ensure proper accountability and no abuse/misuse of power and information. Of course, the attendant costs of abuse/misuse of power, as well as the cost of the institutional arrangements and apparatus make up agency costs. Aligning with this theory, Basel's operational resiliency discourse on sound management of operational risk has also identified Governance as the first core principle for sound management of operational risk in contemporary banking. A proper risk culture mindset derives from the governance mandate and determines how any banking institution will perform in their application of any framework. Such mindset is further determined by the socio-political and economic background as well as environmental influences. In the contest of Nigeria banking system, governance remains a fundamental tripod on which operational risk management principles are balanced. Operational risk management covers four central actions, namely risk identification, risk assessment, risk mitigation and risk monitoring (Chapelle, 2019). These actions in addition to controls and compliance, rely on a structure of functional oversight that spans the entire banking

system, in an independent manner. Transaction Cost Economics (TCE) was explicated by Williamson (1975) and Williamson (1984) who viewed the firm as a governance structure in contrast to Competence which gives greater prominence to organization theory, or agency which focuses on contractual relationships. TCE bears relevance in the assumption of fully operationalized governance principles. Operationalized governance perspective as projected by Williamson (1999), dares to provide a melting pot for the application of the various operational risk management principles as he argues that cost of misaligned actions could be reduced by choice of good governance structures. Both TCE and agency theory are considered to assume that managers are self-seeking opportunists. They also have bounded rationality (Simon, 2000) and are given to moral hazards. Thus, the board structure is a mechanism of control and governance, is “an economizing response, a means by which order is infused in a place where potential conflict threatens opportunities for mutual gains” (Williamson, 1999). Again, these perspectives have also been discussed previously in behavioural dimension in Section 2.5.2. Noteboom, (2004) however argues that there are new instruments of governance which are not included in TCE. He suggests that **Trust** must be added as a factor of governance and that governance and competence ought to be combined. In this respect, risk and uncertainty are considered when designing governance.

Stakeholder theory considers a wider group of relevant people as against shareholders only. Under this theory, the focus is not the overriding point of maximizing shareholder wealth, rather, the satisfaction of the wider group of individuals with various interests, is paramount. Firms generally try to maximize shareholder value without ignoring the interests of the rest of stakeholders such as employees, community, suppliers, customers, government, etc. In some respects, shareholders and stakeholders favour differing governance structures and control/monitoring apparatus. Examples exist in the UK code of corporate governance versus the German code of corporate governance. What is therefore essential with regards to this work is the empirical evidence of stakeholder perspectives in the management of operational risk in banks. The applied principles of risk ownership across units and boards, resonate with the idea of a wider group of constituents requiring best practices for mutual benefits, including the regulators and the domestic economy or benefit of society as a whole.

Another relevant theory identified by Mallin (2007) in the development of corporate governance theory is the Stewardship theory that Donaldson and Davis (1991) introduced as an alternative corporate governance approach, highlighting agency theory and its attendant problem. Stewardship theory considers other behavioural premises of individuals which align with organizational objectives as against purely opportunistic and self-serving behaviours, which dominates agency theory. Thus, it applies psychological and sociological frames to define situations in which managers are not motivated by individual goal but are aligned stewards of the principal's objectives. Agency theory advocates separation of CEO from Chairperson while stewardship advocates unifying same in one person, in order to enable executive actions. Nigerian system has long adopted the British separation of CEO from Chairperson, which is in line with combined code for separation of executive and non-executive, to engender checks and balances and adequate monitoring. It is not clear whether the separation has impacted on the conducts of CEOs considering the number of bank executive boards that have been dissolved by the Central Bank due to manifestations of people risk events and losses, mostly from management misconduct. Management misconduct is indeed a global issue, which has brought Conduct risk to the fore, both in developed and developing economies.

The UK FCA, 2013 lists Information asymmetries, Biases and heuristics, and inadequate financial capability as major drivers of conduct risk (FCA, 2013), implicating once again, the same theoretical concepts that inform people behaviours which we identified earlier, and discussed in Section 2.5.2. Although there have been various initiatives for financial institutions to deal fairly with external stakeholders such as the UK 2006 Financial Conduct Authority ('FCA'), BIS compliance, more recent efforts have been provoked by global financial events leading to stronger rules for compliance and corporate governance in banks.

2.6.1 Governance in Banking

Elliott et al, (2000) argue that the nature of governance in organisations has a direct effect upon the nature of risk management. (Elliot et al, 2000:48) Governance in banking is said to have some peculiarities due to information asymmetry that arise

from financial intermediation and the attendant complexities. According to (Levine, 2004), banks differ from all other industries because of two major things, namely-greater opaqueness and greater government regulations. These factors accentuate the peculiarities of corporate governance in banking (Caprio et al 2007; Andres and Eleuterio, 2008). Gup (2007) further suggest that corporate governance in banking derives from agency issues arising from separation of bank management and government. Affirming this, Elliot et al (2000) argue that corporate governance encourages effective knowledge management, which in turn creates opportunities to communicate and manage risks better, but wonder if governance standards can handle this (Elliot et al, 2000:48). Hence, governance and its regulation are of critical importance in the management of operational risk. From a practical perspective, the OECD in 1999, developed and published some principles for corporate governance for member nations with due consultations with members. Furthermore, the Basel committee on banking supervisions found it necessary to issue guidance which has the purpose of assisting banking organisations in enhancing their existing governance frameworks. Basel in 2015, published corporate governance principles for banks, emphasizing the critical position governance holds in achieving a robust and transparent risk management (BCBSd328, 2015).

Risk management is an important aspect of banking governance. According to Comptroller's handbook, Corporate and Risk Governance Version, (2016:4), "governance is the framework in which the board and senior management govern the bank's operations and structure as well as how they set the bank's strategy, objectives, and risk appetite". The handbook set out the following objectives as part of the governing strategy against risks in the banking sector. They are- the establishment of bank's risk governance framework, and to identify, measure, monitor, and control risks. To supervise and manage the bank's business and protect the interests of depositors, protect shareholders' or members' (in the case of a mutual FSA) obligations, and consider the interests of other stakeholders. To align corporate culture, activities, and behaviours with the expectation that the bank will operate in a safe and sound manner, operate with integrity, and comply with applicable laws and regulations. From the aforesaid, risk management has become an intrinsic part of governance in organizations, especially in banks because of their corporate responsibility to numerous shareholders, stakeholders, national and world economies. This is no small responsibility but one that requires diligent processes of governance.

To do this effectively well, it is inevitable that those who are at the helm of affairs and manage corporate enterprises should have a good knowledge of those possible elements, factors and situations that may pose problems to their establishment. Invariably this has necessitated the articulation of risk management under corporate organization and the budding studies on this area.

BIS had drawn some principles in response to the fundamental issues of corporate governance in banking, a good number of which reared during the financial crisis in 2008. Key areas of particular focus include: (1) the role of the board; (2) the qualifications and composition of the board; (3) the importance of an independent risk management function, including a chief risk officer or equivalent; (4) the importance of monitoring risks on an ongoing firm-wide and individual entity basis, (5) the board's oversight of the compensation systems; and (6) the board and senior management's understanding of the bank's operational structure and risks. The principles also emphasize the importance of supervisors regularly evaluating the bank's corporate governance policies and practices as well as its implementation of the Committee's principles. These principles have been further enhanced and grouped into three categories namely, Governance, Risk Management Environment and Role of Disclosure. While all these dimensions of providing appropriate governance structure for risks management in banks are emphasized, it is important to recognize that governance for risk management should not be treated as a compliance issue that can be solved by establishing rules and "theoretically", ensuring that employees follow them. While such rules are useful, several failures in both the financial services industry as well as other industries go to highlight the point that rules-based risk management may not reduce the likelihood or the impact of disaster, (Kaplan and Mikes, 2012, The National Commission, 2011). Thus, a deeper and more custom-made governance package needs to be devised by those who will own, apply and safeguard, the same, for effective risk management in the banking institutions.

2.6.2 Section Summary:

The above section has expounded on the theoretical foundations provided by Governance and its principles. The discussions suggest that governance is a foundation that cuts across both risk/uncertainty as well as behavioural theories in guiding operational risk management. The overarching position of corporate governance in managing banks risk, creates a convergence in application of the

principles. This is because, the majority of risk manifestations are from people and processes, while corporate governance sets rules which cover the 'people, processes, technology, procedures/rules, information, and the infrastructure that implements them.

It is therefore safe to suggest that Governance framework can be considered an umbrella theory guiding operational risk management in banking. In addition, more recent practices are integrating governance, risk and compliance as a more productive risk management process, including transaction cost reduction.

2.7 Empirical Literature Review

In furtherance of the theoretical review presented above, this part is a review of the empirical literature on operational risk management and Basel implementation, with more focus on developing economies or emerging markets. Databases used were sourced from Studynet online resources, google scholar and ebsco. Repeated searches were executed for relevant themes relating to operational risk and banks operational risk management, Basel operational risk, and operational risk management in Nigeria banking. While the searches generated several titles, selected work were mostly related to periods starting from the institution of Basel principles to present (2000 to 2022). The review sought to situate this work, by identifying the gaps in other empirical works that this research aims to fill. Further searches were made through the reference lists of reviewed papers, including recommended readings from supervisors and examiners. Although publications on operational risk management have grown in number and diversity over the past ten years, this review focuses on publications that are relevant to this topic. It covers operational risk, risk management practices in banks, operational risk and financial performance in banks, Operational risk management and efficiency, operational risk capital measurement and quantification, and highlights emerging markets, African nations and Nigeria. The plan and outline of the literature review is also attached as Appendix 5.

Starting with Sparrow (2000) who examined the forces underlying operational risk management by considering operational risk management alongside realization of opportunity, Sparrow defined ORM as "the trade-offs made to run an efficient and effective organisation". Sparrow examined the trade-offs made between risk and opportunity in order to run an efficient and effective organisation and suggested that

managing opportunities by intuitive and implicit methods, is not as effective and efficient as using systematic and explicit assessment methods. He held the opinion that formal techniques and methods devised to manage operational risks will be more economical on processes and data. Sparrow highlighted the degree of judgement involved in managing operational risk both in public and private sectors. He noted the challenge of incomplete information or intangibles, in the decision-making process, which then relies on intuition, rather than intellect. Sparrow used Boisot's model to underscore the value of information, data and knowledge in decision making. He suggested that knowledge should be explicit and documented, easing continuity and data cost, and illustrating the dynamics of risk and opportunity. Simply put, Sparrow is of the opinion that explicit knowledge, data and information makes the decision process in risk and opportunity cheaper and more efficient than intuition which is limited to the capacity of individuals.

Sparrow(2000)'s treasury working paper, appears to utilize some applications of transaction cost economics in its derivation. However, Sparrow does not explicitly cite economic theory, making his work subject to the same implicit and intuitive application of judgement that he criticized throughout the work. While his work is titled Operational Risk, which makes it attractive to anyone wishing to examine the concept, his discourse differs from operational risk in banking which is being examined in this study. He takes a generalized position of managing business operations from either public or private sector, and not in the context of banking. Banking is a highly regulated sector and now has a focused definition of operational risk from Basel, which has become generally accepted in the banking world. Therefore, studies of operational risk management in banking would define operational risk in this context which Sparrow did not, perhaps because Basel definition came out in 2003. While Sparrow applied some economic models in explaining his thoughts, his work which aimed at optimizing exposure to risk by realizing opportunities, focuses on intuitive judgement versus formal methods. While Sparrows work highlights the limitations of human intuition in the decision-making process which could align with the earlier discussion bounded rationality in section 2.5.2, it does not relate the possible solutions to the frame of governance which this work has exhumed from further reviews. Sparrow's work can be explained as a theoretical inquest, with some philosophical discussions, and not the outcome of an empirical research, in contrast to this work.

Embrechts and Samorodnitsky (2002), discussed operational risk management from the perspective of calculating the capital charge on quantifiable operational risks using stochastic models and ruins theory. They tried to investigate the kind of methodological problems people face, when calculating a capital charge for quantifiable operational risks, and introduced some insurance analytics and insurance risk theories. They suggest that tools from the realm of insurance will be useful in quantifying operational risk capital under Basel but doubt that statistical modelling can be sufficient in calculating a full operational risk capital charge.

In furtherance of their earlier work, Embrechts et al (2003) re-examined ORM from the perspective of quantifying the regulatory capital. They suggested that VAR, although a good model for delivering risk capital, is fret with the issue of irregular data which makes modelling complicated. Furthermore, other models are also out of sync because of operational loss data. The issue of data complication was raised by Power (2005) and remains a challenge across facets of operational risk management.

Cornalba & Giudici, (2004) approached operational risks management and capital requirement measurement pursuant to Basel II from a perspective of modelling. They applied the used of some models which allow banks to manage operational risk. In their opinion, losses from operational risk differ from other losses because the events are complex, and the causes heterogenous. They highlighted that lack of historical database makes it difficult to apply some statistical techniques. They analysed the top down and bottom-up approaches, including the standardized and advanced measurement approaches in the methods and suggested that Bayesian approaches offer solutions to banks seeking to combine quantitative and qualitative data into meeting their capital measurements.

In respect of analysing the causes and types of OR, Moosa (2007) surveyed operational risk literature, as a relatively new risk of which its definition was controverted by various authors, but received a single global definition by Basel. He analysed the different types, causes, management frameworks, capital requirements and discussions from varying perspectives. Moosa came to the conclusion that Operational risk is not yet well understood as there were disagreements about its features. He also opined that there were more disagreement than agreement amongst academics and professionals in both the concept, causes and consequences of

operational risk, as well as its characteristics and management. While it was agreed that operational risk is diverse, there is more consensus that it is difficult to measure. Moosa's work provided some clear background to the various challenges faced in the earlier days of operational risk identification and institutionalization. His prediction that operational risk will become a major area of research has come to fruition because within the past decade, the volume of empirical research on operational risk management in banking has risen significantly. Measures of operational risk however, remain diverse. While Moosa's work highlights the challenges faced by banks in managing operational risk in the earlier days of Basel's ORM, which is useful for current (then future) trajectory reviews, it does not examine any specific country or region in order to identify their reality in managing operational risk. It neither captures primary evidence, nor theoretical pathways to inform ORM which this work has done.

Another study by Zhang, et al (2007) examined banking operational risk management in three commercial banks in China, following Basel II, on the basis of DS evidence theory. The central idea was to quantify information from experts by using uncertainty reasoning theory since data for measuring operational risk was dependent on expert knowledge and experience. Their work modelled the risk management framework on four main operational risk indicators, namely; Management Stratagem, Service Quality, Internal Control and Directorate. Although their work was based on uncertainty reasoning theory with expert knowledge and experience which bears similarities in concepts to this study, it was focused on operational risk measurement. It therefore differs from this study which employed information from expert knowledge and experience for the purpose of examining practice and status of implementation of principles. Nigeria employed the basel BIA for measurement and quantifying of operational risk capital.

On the issue of Basel implementation, Tinca (2007) examined operational risk and reviewed all the various aspects of Basel II, highlighting the challenges of implementing the accord in its global scope, in contrast to implementing Sarbanese Oxley in USA. Tinca explained the three approaches to capital requirement, adding that European banks are more advanced in the implementation of Basel II compared to banks in America and Asia. He suggested that the banks using AMA imply that their internal controls were more adequate. Thus, he concluded that when banks invest in adequate risk control, their reserve capital requirements will gradually reduce. Tinca's

work made little reference to theoretical and other frameworks apart from Basel, unlike this study which employs various theoretical discourses to arrive at a framework. Tinca's conclusions are also rather simplistic because he provides no justification for the claim that Europe banks are more advanced in implementing Basel II, apart from the reference to American banks implementing Sarbanes Oxley at about the same time as Basel. Furthermore, Basel is discontinuing AMA methods by December 2022 due inherent complexity and lack of comparability due to banks using varying internal modelling practices.

Examining ORM from the perspective of implementation, Anakiramani (2008) assessed the status of operational risk management in the Indian banking system in the context of Basel II. The study used the data from FSI/Basel status of implementation report to compare the state of India's preparedness and implementation of Basel II with non-member countries in Asia, Africa, and Middle East. The questionnaire primary research obtained data from 22 commercial banks in India, about their level of operational risk management. The survey found that Basel II, regulatory compliance and desire to establish and implement good controls were the major drivers of operational risk management in Indian banks. It also indicated that there were impediments to the implementation of operational risk management framework in India due to insufficient internal data, difficulties in collecting external loss data and modelling complexities. As at then banks were focusing on implementing the BIA. The survey suggested the need to devote more time and resources if banks desire to implement the advanced approach under Basel II. The survey conveyed the status of banks in Operational risk implementation as at 2012. Janakiramani's work laid a meaningful foundation for evaluating banks' preparedness and relates in many aspects to this study. Although the India study was done in earlier days of Basel II and several reviews have been made by Basel since then, the approaches to the survey are relevant to, and convey similar information as this work. However, it differs from this work as it has no theoretical inclination but focuses directly on practice. While Janakiramani's classification of areas of comparative survey is quite revealing and could be useful for future study, it does not include evidence from regulators which this research has. Also, this work includes both pre-Basel and Basel and was conducted with interviews which provided richer and more detailed qualitative information.

Abdullah et al (2011) assessed operational risks in Islamic banks in Malaysia and focused on the issues associated with measuring and managing OR. They conceptualized risk in Islamic banks in respect of two Sharia dimensions, namely; prohibition of gharar, and freedom of contract³. They used descriptive, analytical, and comparative analyses to discuss the issues of operational risk in Islamic banks on the basis of Basel II. They highlighted the importance, yet complicated nature of discussions on operational risk in Islamic Banking Institutions (IBI) in comparison with conventional banks, due to the unique features and legal environment of IBI. Their work found that basic Basel principles of effective banking supervision apply are well suited and apply to IBI, but risk measurement and risk management practices need specific adaptations for Islamic banks. This work is conceptualized on uncertainty and risk as theoretical foundations which conflicts with the Islamic dimension referred to as prohibition of gharar. Secondly, although Nigeria has recently licensed Islamic banks and as at 2022, has four Islamic banks, their operational areas are not the same as the conventional banks. The scope of this work does not cover Islamic bank operational risks.

Looking at the Nigeria angle, Owojori et al (2011) analysed banking risk in post-consolidated Nigerian banking sector with a view to provide an overview of risk management practices in insured banks. Their work which examined credit default risk and operational risk in much detail, found that banks violated limits and directors did not adhere to regulatory codes of conduct. It also showed that banks devised and applied some “creative accounting” and recording to meet Basel II capital adequacy requirement including misapplication of special purpose vehicles in lean bookings and issues. They argue that operational risk events have become more pronounced post consolidation, judging by increase in fraud and forgeries which are the commonest operational risk events in Nigeria. They further suggest that inadequate legal and institutional framework which facilitate consolidation and risk management and by extension, the health of the banking and financial sector is a major issue. While

³ Abdullah et al (2011:pg 133) “According to shariah (shariah law), gharar is any elements of chance involving asymmetric information, uncertainty, risk or even speculation leading to illicit profits, such as is excluded by the religious and consequently by the mortal percepts of Islam. Islam offers full freedom of contracts to economic agents as long as the resulting contract is within the boundaries defined by shariah which mainly exclude riba and gharar. Given the freedom of contracts and the understanding of gharar, Islam fully recognizes risk generated by financial and commercial factors and elements extrinsic to the formation of the business”.

Owojori's work is significant in highlighting some of the issues facing Nigeria banks, it is possible that there was a fallacy of association being deemed causation due to increase in number of fraud and forgeries reported. This work found that the increase in fraud and forgeries was directly related to the better risk identification and assessment which started with the implementation of the combined RBS and consolidated supervision framework that gave rise to risk data mining, increased reporting, as banks moved from manual and incomplete reporting to more sophisticated and technology driven report rendition. Also, risk-based supervision enabled efforts being channelled to the higher risky areas which produced more reports. Furthermore, this work found that with consolidation came the advent of ATM machines, which changed the terrain of banking and increased system challenges. Thus, fraud and forgeries increasing post consolidation was also associated with Information Technology revolution through the use of ATMs as well as fast and direct reporting and direct access to individual bank data by Central Bank, and not simply by consolidation.

Lyambiko (2012) studied the effects operational risk management practices on the financial performance in commercial banks in Tanzania. She used data from 36 commercial banks in Tanzania in year-end 2013. The study adopted a descriptive survey, using secondary data found in the Central bank and other banks financial statements. The study found positive relationship between operational risk management and financial performances of commercial banks. As seen in several other studies of efficiency, Lyambiko measured financial performance with percentage return on assets. The study found that credit risk, insolvency risk and operational efficiency had varying degrees of impacts on the financial performance of banks, and that operational risk management is directly related to financial performance. It recommended that commercial banks handle risk factors appropriately in order to boost image. However, specific risk factors were not clear in the study, instead they referred to macroeconomic factors.

Adeusi et al (2013) examined the association of risk management and the financial performance of banks in Nigeria. They argued that banks' motivation for risk management stems from an aversion to underperformance where performance is epitomized by increase in shareholder return. Adeusi et al. examined the financial reports and statements of ten Nigerian banks over a period of four years from 2006 to

2009, the period immediately after the regulatory consolidation of Nigerian banks. They argue that risk management issues affect both bank performance, economic growth and general business development. They adopted a panel data estimation technique in their research, with a view to determining how performance and underperformance drives banks' risk management attitudes, style and policies. They defined liquidity, credit and market risk to be cost of bad and doubtful loans, nonperforming loans and liquidity, where performance is represented by Return on Capital Employed (ROCE), Return on Equity or Return on Assets. Their research derived an inverse relationship between bank financial performance measured by ROCE and cost of bad/doubtful loans as well as a significant positive relationship between debt/equity ratio and banks' performance. They suggest that reduction in cost of bad and doubtful debts increases performance. Their scope did not include operational risk since their definition of risk excluded operational risk effects on cost of bad and doubtful loan. In contrast, this study considered the effects of operational risk (people risk) on bad and doubtful loans, identifying it as an essential element of the causative factors for non-performing loans. Furthermore, Adeusi et al did not refer to the direct impact of adoption of Basel's framework in their review. Thus, the gap in studying operational risk in the context of Basel remains a phenomenon that behoves enquiry, which this work is filling.

Several studies have dealt into ORM from efficiency perspective. Liu and Cortes (2014) examined efficiency of operational risk management in Taiwanese banks. They examined shock absorption capability and its impacts on banks' output performance. They also examined governance, risk control and compliance (GRC) and banks' volatility as well as transparency. Their work applied a stochastic frontier analysis to Taiwanese bank data from 2008 to 2010. They broadly reviewed literature on the efficiency of the three pillars proposed by the Basel Committee on Banking Supervision, namely: profitability, stability and continuity on 36/37 Taiwan banks, and focused on efficiency of performance. They examined panel data, operational risk management and inefficiency factors for 2008 – 2010 covering period when Basel was imposed because Basel was not in the Taiwanese banks before 2008. Their work found that shock absorption capability, governance, risk management with compliance assessment and transparency all positively affect a bank's operational efficiency. They also showed that by applying risk managerial strategies, banks can improve their

performance which is measured by RAROC (Risk adjusted return on capital). Liu and Cortes' work is similar to several other works because it focused on efficiency and provided a value-facing result for operational risk management efficiency in Taiwanese banks. It however differs from this work in several ways. While it covered the operations of Taiwanese banks from Basel II, it did not explore the banks' trajectories that led to their position during Basel II implementation. It also focused on efficiency defined as RAROC which has a limited scope. In contrast to RAROC, this work which examines the impacts of ORM from qualitative perspectives, implicating the experiences of the practitioners.

Ayodele and Alabi (2014) examined risk management in Nigeria banking industry using only one bank as a case study, out of the 23 post-consolidated banks. According to their research which employed chi-square and ANOVA techniques, they tried to identify if risk management techniques put in place by banks are able to curb operational risks. They found that banks are affected more by credit and operational risks than by market risk. They suggested that most risk events that manifested in losses were fraud and forgeries and insider related bad loans. Furthermore, their test of data revealed that Nigerian banks have strengthened their general risk management practices which have to some significant extent, curbed some of the losses. However, the legal framework in which the banks function have substantial gaps that need to be filled in order for banks to comply with and meet other international regulatory standards such as Basel. Ayodele and Alabi's work provides useful insight, but used a rather limited sample, that may be too limited for generalization. They examined only one domestic public bank (that did not undergo consolidation) which is grossly insufficient as a representative of the Nigeria banking system that is made up of both public and private, domestic, international subsidiaries, and regional banks. In contrast, this study has a wider and more coverage of banks, including subsidiaries of foreign banks. Ayodele and Alabi's work did not explore operational risk management in sufficient depth as they used the terminology operational risk management in a general form in their hypothesis, listing fraud and forgeries which is an integral part of operational risk, as different from operational risk. They also left gaps as they neither related the risk management practices to Basel framework nor examined risk-based supervision from the regulators' perspectives, all of which were drawn-in by this study.

Mitra et al, (2015) studied operational risk arising from operation activities and highlights that there are minimal if any decision support systems, especially in emerging markets. They suggest that the lack of investment in decision support systems in emerging markets implies a lack of understanding of their level of exposure. They measured operational risk in emerging and developed markets, by comparing 100 firms across four industry sectors in five countries. The measure of operational risk was stock price data over five years as well as balance sheet information, all selected with the consideration that emerging market survey requires variables. Applying simplified models, they demonstrated that operational risks are affected by the level of market development. They also found that operational risk depends on the industry, being linked to business operations, but the impact is less important than market development. Mitra et al's work is significant because it focuses on emerging markets, and compares their decision support systems to developed markets. However, the work differs from this work because it applies quantitative model to focus on measuring risks of operation that are not directly in tandem with Basel operational risks in banking. While their findings are appealing in sensitizing emerging market operators to improve their operational risk management and measurement systems, it does not indicate specific theoretical framework to inform the recommended improvement.

Oluwagbemiga et al, (2016) investigated risk management guidelines from CBN and NDIC in respect of risk limit setting, monitoring and review by the board of directors of Nigerian banks. They undertook a survey research using questionnaire drawn largely from the OECD risk management guideline and administered them to the chief risk officers and internal auditors of 21 Nigeria banks. They also extracted time series data from the audited financial statements of the banks to measure the effectiveness of risk management practices under credit, operational and market risks management. Credit risk was taken total bad debit written off by the bank for the period, operational risk was measured as sum total of internal and external fraud, market risk was measured as the loss in cash flow or fair values of financial instruments while ROCE and earnings per share were measures of financial performance. Using descriptive and inferential statistics, they found among others, that Operational risk is significantly positively correlated with the return on capital employed. Oluwagbemiga et al's work, while incorporating ORM, did not focus on

ORM but analysed all three risks and financial performance using ROCE, which is similar to several other works available on the topic of operational risk in banking in Nigeria

From Tunisia, Anouar et al (2018) examined operational risk management in Tunisia banks in the light of Basel II requirements. They sought to identify how Tunisia banks have managed their risks and sheltered themselves from global financial crises. Their study discussed the new challenges of operational risk for banks, as well as the capital measurement methods set up by Basel. They highlighted that the Basel II reforms do not concern only G-10 banks, but also emerging countries. They obtained data from annual reports of ten Tunisia banks to calculate required capital, using first BIA, than standardized approach. According to their work, the magnitude of operational risk is positively related to business volume. Also, the higher the bank's average gross income, the higher the required capital for operational risk. They further commented that risk exposure measurement is found to be rough in Tunisia banks and recommended that banks should aim for more advanced measures of operational risk capital. Anouar et al's work which was appealing, was also rather simplistic. It had no substantial theoretical background and the major literature discussed was Basel. Although their work had the potential of projecting the status of implementation of Basel's operational risk principles and standards in Tunisia, the study was short of those details and rigor, stopping at using data from annual report to calculate capital requirements. Thus, they did not show the status of implementation of Basel principles as done by this work. Furthermore, this research employed personal interviews to obtain rich qualitative data on operational risk management, in addition to setting a theoretical framework.

From Ethiopia, another study was conducted by Tassew and Hailu (2019) which examined the effects of risk management on financial performance of commercial Banks in Ethiopia. Using a sample of 17 Ethiopian commercial banks, they examined secondary data covering 2013 to 2017 and applied quantitative research by analysing with panel random regressions model. They analysed credit risk, liquidity risk, operating risk and market risk. Tassew and Hailu applied financial distress theory for credit, liquidity, and operational risk, as well as extreme value theory to link market risk. They measured effects of these risks on Return on Asset (measure of financial performance). In their work, operational risk coefficient was ratio of operating expense

to operating income. Their study showed that credit risk, liquidity risk, operational risk (operating expense/operating income) and market risks have significant negative impact on financial performance of commercial banks in Ethiopia. The study did not define operational risk from the four risk factors identified by Basel but measured operational risk narrowly, as operating expense divided by operating income. While their work may be appealing as it uses similar measures with other works, it differs from this work which delves into the four risk factors, and excavates some qualitative impacts of ORM on the income through the rich narratives of practitioner experiences supported by evidence. Also, their work treats operational risk event losses as expenses but expenses are routine operational costs unlike event losses.

Focusing on financial performance, Fadun and Oye (2020) analysed the impact of operational risk management practices on the financial performance of commercial banks in Nigeria for 10-years from 2008 to 2017. Their work sampled six out of twenty one banks and analysed secondary data obtained from audited financial statements of the banks. It was a secondary research that applied linear multiple regression. In their study, credit risk was measured by non-performing loan ratio, liquidity risk measured by liquidity ratio, and operational risk was measured by efficiency of assets utilization, bank size and cost ratios. They found that although bank size and cost ratios had positive and insignificant impact on financial performance, operational risk management has positive and significant statistical impact on bank's performance. Fadun and Oye's work differs from this work in several ways. First it focused on measuring impact on financial performance measured by ratios. Then it utilized secondary data and sampled six banks. Its purpose was not to establish theoretical underpinnings of operational risk nor did it analyse Basel application, rather it selected specific financial statement variables as measures of operational risk and related them to ROA to draw a relationship. Fadun and Oye (2020) acknowledged the limited scope of their study.

Kofarbai and Yauri (2021) examined corporate governance, risk management and bank failures in Nigeria. They examined four banks for the period 2014 to 2019, using financial ratios and regression analysis with SPSS as tool of analysis. Their study employed ex-post as research design and utilized a panel data report of the annual financial statement of the four sampled banks (Kofarbai and Yauri 2021:13). Their work found that bank distress and failures in Nigeria are caused by non-adherence to

corporate governance codes and abuse of risk management principles. They recommended that female directors should be included in boards to foster gender balance and diversity which could help with checks and balances. They also suggest maximum punitive actions against boards and management that ran a bank aground, and strict enforcement of corporate governance codes by regulators. Kofarbai and Yauri's work differs from this study by the focus on bank failures, even if through the lenses of corporate governance and risk management. They did not apply primary study and examined four banks. Their highlights on governance and gender are worth further examination.

Further on governance but with financial performance backbone, Kafidipe et al, (2021) examined the role of corporate governance and risk management in the financial performance of deposit-money banks in Nigeria. They suggest that corporate governance has two dimensions, one relates to openness in corporate activity, while protecting the interests of investor and concerns agency problems, and the other dimension relates to development of sound system of risk-management. In line with this study, Kafidipe et al held that corporate governance stems from Economics, and its significance in banks, for emerging markets has been noted by several authors. Their work delved into several corporate governance empirical literature since their emphasis was on corporate governance as an investigated variable. In contrast, to their work, this work which examined operational risk management, arrived at governance as a fundamental framework in managing operational risk, implying an emphasis on risk governance as a part of corporate governance (CG). CG covers several other aspects such as compensation, supervision, disclosure, audit and compliance. Kafidipe et al's work used econometric model and descriptive statistics of 12 banks to investigate the relationship between corporate governance and effective risk management, and financial performance. They suggested that information on operational problems in the banks are hoarded. They also find that sound corporate governance systems increase profitability of loans and bank stability, but sophisticated risk management strategy undermines the company's market performance. While their work examines some banks' boards, corporate governance, and some board situations that affect profitability, it does not address operational risk specifically but enterprise risk management as a whole. Also, while they employed secondary data from financial statements for a quantitative study, this work differs by its use of primary

research and qualitative approach. While their result is quite relevant and appealing, it leaves a gap in not measuring operational risk specifically, nor relating to Basel implementation which is a major basis for requirement of sound governance. The researcher observes that their findings upholds Basel's position on operational risk capital including discontinuation of AMA due to its sophisticated complexity, but their work did not relate to that fact.

Nsaibi et al (2020) examined the effects of governance practices on banks ORM. They used seven indicators of OR, in 14 banks from 2006 to 2013, and tried to analyse the relation between the operational loss events and seven indicators of governance: which are board size, the proportion of foreign administrators, the proportion of a government representation, the proportion of institutional directors, the proportion of independent directors, the rotation of the director and the internal rating of the bank. Their study found that six of the governance indicators have significant effects of on OR. They also stated that the internal rating variable is related to the severity of operational losses, while turnover has no impact on the operational risk management.

Another work from Ghana by Arhenful et al (2019) examined ORM and evaluated the effects of operational risk management of commercial banks in Ghana. Their study applied descriptive analysis to examine data sourced from 32 commercial banks in Ghana. The primary research study had appealing coverage having represented all the 32 commercial banks in Accra, the capital of Ghana and headquarter of all the banks. Their study found that there is minimal common understanding of operational risk management in the banks, in addition to a lack of systematic risk identification procedures. They also found that while a significant number of banks assess the likelihood of operational risk occurrence, there was low prioritization and active management of risk, and a minimal risk assessment. Arhenful et al also found that there were no obvious development of active methods of risk monitoring and control and recommended that commercial banks should inculcate the culture of risk awareness, proper risk identification and widespread risk monitoring and control approaches. Although this study has similarities and the method, results and recommendations are quite appealing, it provided no clear definition of operational risks, nor its risk factors as identified by Basel. Therefore, it was not clear what the banks' common understanding were being evaluated on. Also, it differs from this work as their measure of operational risk focused on quality service and customer

satisfaction, in contrast to tail losses from risk events as institutionalized by Basel Operational risk framework.

Having examined the above various empirical literature on operational risk management and Basel from various developing economies, and looking at relevant publications from 2000 to 2021, the researcher finds that many of the work focused on operational risk and financial performance or efficiency, others examined operational risk measurement and quantification while others studied the implementation and impacts of operational risk management from Basel era. Each study holds a gap in literature and which lends significance to this work. This study first synthesized various economic theories to carve a conceptual foundation and chart a theoretical framework that informs operational risk management in banking. The framework so produced is illustrated in Fig 2.2. This is a rarity among the existing literature on operational risk management. Understanding the theories that inform operational risk management in banking helps in positioning the risk factors and developing an appropriate model for managing operational risk management in banking. This study further reviewed empirical literature on Operational risk management focusing on developing economies which enabled the positioning of this work in filling the gaps in literature. Furthermore, this study included the background of Nigeria banking consolidation, thereby capturing the trajectory of risk management pre and post consolidation, and the resultant risk-based supervision (RBS). RBS was found to have facilitated the implementation of Basel principles of operational risk management. While many studies of consolidation exist, little if any, can be found in this dimension of linkage with Basel II implementation. This study also applied qualitative data analysis in extracting rich narratives that explain the implementation of Basel's operational risk management in Nigeria- a major developing economy in Africa. Majority of other empirical works examined on operational risk, focused on quantitative data using ROCE, RAROC, ratios and measures of performance and efficiency. Qualitative data enables a better understanding of the industry players and practices, which engenders better response to the research questions.

Chapter 3 Operational Risk Management & Basel Accords

3.1. Introduction

Having reviewed the theories underpinning bank risk management in general and Operational Risk specifically, including empirical studies on operational risk management from developing economies, chapter 3 considers the question:

At a practical level, how do the theories of risk relate to the Basel Principles?

In order to respond to this question, this section took the structure of exploring some relevant aspects of OR and ORM in details, such as classifications, risk factors, OR events and ORM processes. The purpose is to provide a contextual background to the

origin of the Basel Accords, their evolution, as well as the diffusion of the Basel principles. The Basel principles and frameworks are then chronologically discussed, so as to articulate how they relate and link to the theories afore presented. First, Operational Risk and its classifications are recapitulated:

Operational Risk has been defined in Section 2.4.4 as “the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events” (BCBS, 2003). More recent evidence suggest that Operational Risk has become increasingly important with evolving components such as cyber risk, third party technological interfaces, etc. (National Risk Committee, Fall 2021, Chartis, 2014,). The deregulation and globalisation of financial services, coupled with the emergent sophistications in financial technology and innovations, have led to more complexities in banking activities and risk profiles (BCBS, 2003). This has brought to light, the fact that risks other than credit risk, liquidity and market risks are also substantial. It is suggested that financial turmoil has exposed severe shortcomings in internal management and oversight functions in banks (Kirkpatrick, 2009) and the issue of Operational Risks has become more highlighted with emphasis (Cummins, & Embrechts, 2006). Power (2005:579) suggests that Operational Risk is a “label for a diverse range of practices, a vision of control and regulation in an elusive field, and an imperative to manage a newly visible range of problems.” It can therefore be applied in different areas of expertise, ranging from risks in credit markets, to risks in technological applications. Several tensions subsist in the application of Operational Risk due to issues of quantification, data gathering and differences between soft and hard manifestations of Operational Risk and its losses. As for the hard and soft losses, Risk Management Association’s exposition on direct and indirect losses relate directly to the hard and soft manifestations (RMA, 2000). On the tensions, Power (2005) holds that some of the tensions have been linked to regulatory thinking, although he concedes on a positive note that the regulatory approach adopted in the central measurement of Operational Risk capital is evolutionary in vision. This central measurement was entrenched in the Basel II reforms. Prior to Basel II reforms, Operational Risks were essentially a residual classification for risks that were difficult to quantify or manage in traditional ways. In recent years, attention has shifted to internal controls and governance frameworks as major aspects of Operational Risk management framework in banks. The simple reason is because potential impacts of

Operational Risk on banking institutions are quite significant and do affect firms both directly and indirectly, ranging from effects on net income, loss in market capitalization, to regulatory sanctions both financial and otherwise, and reputation damage. Ever since Nick Leeson caused the spectacular collapse of Barings bank in 1995, which happened to be the UK's oldest merchant bank, the market has been aware of 'rogue trading' but it did not stop others such as Kerviel of Societe (2008) and Adobolu of UBS (2011) from happening (Buerger, 2013). Furthermore, issues such as LIBOR scandal, product mis-selling, fraud in exchange-traded fund, and securities financing markets in Europe have further pushed OR to the forefront. With further related disciplines being incorporated into and extending on from Operational Risk management, it occupies a position at the core of the modern risk function; a position which is mostly captured more from practitioners than from academics. The Basel frameworks have therefore become the most globally accepted practice-based frameworks, providing regulatory agenda for Operational Risk.

Basel is considered a comprehensive and pragmatic standard for improving the safety and soundness of banks by linking regulatory capital requirements with bank risk through the assessment of capital adequacy (Bernanke, 2006a). According to Power (2005), Operational Risk has been invented, through its institutionalisation by Basel II. He suggests that the emergence of Operational Risk as a distinct risk category via the conduit of the Basel II framework, has made possible the ex post facto framing of Barings and Daiwa cases. Thus, the importance of the Basel II approach in tasking individual banks to standardize themselves under regulatory monitoring and back testing (Power, 2005).

3.2 Operational Risk Classification:

Hoffman (2002) classified Operational Risks as risks emanating from people (intentionally and unintentionally), relationship (clients, shareholders, regulators, third parties), technology and processes, physical sources and other external sources. His in-depth classification was based on a rigorous process that helped categorize loss scenarios such as business disruptions, control failures, omissions, errors, external factors and commissions or misdeeds, both from the marketplace and in their firm. We suggest that since some of the classifications overlap, it may be possible to compact them further into fewer classes as found in the classifications by Crouhy, et al (2006). Crouhy et al (2006) classified operational risks into three main areas of People,

Processes and Technology and structured them into repetitive or non-repetitive risk events as depicted below:

Figure 3.1 Crouhy et al Operational Risk Classifications

			Repetitive		
1	People Risk	• Incompetency		No	
		• Fraud		No	
2	Process risk	a) Model risk	• Model/methodology error	Yes	No
			• Mark-to-model error	Yes	No
		b) Transaction Risk	• Execution error	Yes	
			• Product complexity	Yes	No
			• Booking error	Yes	
			• Settlement error	Yes	
			• Documentation/contract risk	Yes	No
		c) Operational control risk	• Exceeding limits	Yes	No
			• Security risks	Yes	No
			• Volume risk	Yes	No
		3	Technology Risk	• System failure	Yes
• Programming error	Yes				
• Information risk	Yes				
• Telecommunications failure	Yes			No	
• Model/methodology error	Yes			No	

Adapted from (Crouhy, et al. 2006)

Crouhy et al, (2006)'s articulation shows that the people risks of fraud and incompetence, are typically non-repetitive while process risks are typically repetitive. It can be argued that risk of fraud and incompetence do repeat themselves not only in developing economies, but also in developed economies, even though controls are usually improved ex-post to prevent repetitions. However, it may not be a repetition of exactly the same incident. Losses such as proprietary trading incidences tend to repeat themselves although the volume of losses are not usually published. Corroborating this view, RMA (2002), reports that there are numerous other losses in the industry that usually never make it to the headlines especially with more suppression and opacity arising after first announcement. (Barakat et al, 2014). In Nigerian banking system for instance, some of the people risks are more prevalent than process/system risks, due to the highly sophisticated technological systems that Nigerian banks invest in to prevent process/system losses because of the nature of their functional environment. Awareness of fraud and corrupt practices is high; thus, banks try to invest heavily in strong technology and internal controls at employee level. The areas that behave

enquiry are the managerial and executive levels, where the power controls tend to override the internal controls. As a result, management and senior executives get involved in fraudulent activities repetitively. This is evidenced by the submissions of the erstwhile governor of Central Bank of Nigeria where he evaluated the banking consolidation and stated that “CEOs set up Special Purpose Vehicles to lend money to themselves for stock price manipulation or the purchase of estates all over the world. One bank borrowed money and purchased private jets which were registered in the name of the CEO’s son. In another bank the management set up 100 fake companies for the purpose of perpetrating fraud. A lot of the capital supposedly raised by these so called “mega banks” was fake capital financed from depositors’ funds” (Sanusi, 2010). Thus, it is safe to suggest that people fraud risks are repetitive.

Basel also classified operational risks events that banks face and included legal but excluded reputational risks⁴, After careful consideration and analysis, the researcher has adapted the Basel II classification of operational risk into the table below for use and adoption in the research.

Table 3.1 Operational Risk Events Classifications and Risk Factors

PEOPLE RISK FACTOR	<i>Internal fraud</i>	<i>For example, intentional misreporting of positions, employee theft, and insider trading on an employee’s account.</i>
	<i>External fraud</i>	<i>For example, robbery, forgery, cheque kiting, and damage from computer hacking.</i>
	<i>Employment practices and workplace safety</i>	<i>For example, workers compensation claims, violation of employee health and safety rules, organised labour activities, discrimination claims, and general liability</i>
	<i>Clients, products and business practices</i>	<i>For example, fiduciary breaches, misuse of confidential customer information, improper trading activities on the bank’s account, money laundering, and sale of unauthorised products.</i>
SYSTEMS RISK FACTOR	<i>Business disruption and system failures.</i>	<i>For example, hardware and software failures, telecommunication problems, and utility outages</i>

⁴ Basel Committee on Banking Supervision excludes strategic risk and reputational risk in determining capital charge.

PROCESS RISK FACTOR	<i>Execution, delivery and process management</i>	<i>For example, data entry errors, collateral management failures, incomplete legal documentation, unapproved access given to client accounts, non-client counterparty malperformance, and vendor disputes.</i>
EXTERNAL EVENTS	<i>Damage to physical assets</i>	<i>For example, terrorism, vandalism, earthquakes, fires and floods.</i>

(Developed by Researcher based on BCBS 2003 – Basel II)

This work explores how Nigerian banks have, from a practical perspective, attempted to manage each operational risk classification post consolidation and how both the banks and the regulatory bodies have applied the Basel principles, their impacts and current position in the sector. It will also determine other classes of risk if any, identified as peculiar to Nigerian Banking system and how they are all reflected in theory. The exercise will engender the deduction of contributory ideas to theories on risk management. In furtherance of this standardisation, attempts have been made by different authors to identify the Operational Risk factors in order to engender appropriate and rounded application of the Basel principles. To put all this into appropriate context, we discuss below the contextual development of the Basel principles. First, the risk factors-

3.3 Operational Risk Factors:

The Basel Committee, having defined Operational Risk(OR) as “*the risk of loss resulting from inadequate or failed internal processes, people and system or from external events*”, (BCBS96, 2003:4) recognizes that the term OR holds a variety of meanings within the banking industry. The committee allows that banks may choose to adopt their own definitions of OR. In order to consider Operational Risk and its management thoroughly, it is important to dissect each Operational Risk factor within the line of business in order to manage them well. As aptly suggested by Davies et al(2006), an essential requirement of a risk allocation process is to assess the extent to which the exposure to a risk factor impacts on earnings volatility. The four risk factors listed in the Basel definition (people, process, system and external events) (BCBS96, 2003; BCBS195, 2011:10), are therefore considered the primary risk factors in this research and attempts would be made to consider how their practical aspects relate to theory:

3.3.1 People Risk Factor

People risk factor identified by Basel practical principles relate directly to the behavioural risks which are informed by the behavioural theories presented in Section 2.5.2. Every significant definition of Operational Risk includes these human factor, ranging from error (Katz, 1995), impact and inadequacy (Rachlin, 1998; Lam, 2003), fraud; (BBA, ISDA, PWC & RMA, 1999; and Alexander, 2000), failure (BCBS33, 1998; BCBS131, 1998), criminal activity (FCA, 2016) to outsider activity (BBA, ISDA, PWC & RMA, 1999). Errors and inadequacy can be explained from a number of theoretical perspectives. One perspective is bounded rationality which limits people's ability to make the rational decisions and to design and implement adequate processes for managing risk. Simon, 2000; Hoffman, 1998 expounded on cognitive limitations. Another is competency and knowledge-based theories (Foss, 1996; Prahalad, C K and Hamel, G, 1990; Williamson, 1999) which implicate the use of collective learning and knowledge in an organisation that build up positive result. Incompetence can lead to operational errors and inability to achieve goals resulting in market disadvantage and in this case, loss events. Lack of knowledge of policies, processes and operational procedures could also result in losses in contrast to sound knowledge. Losses generated from human errors and inadequacies abound in banking sectors and can be seen from the data available on operational risk losses (ORX, 2016, 2020, 2021). Operational Risk Data Exchange Association (ORX) provides a platform for secure and anonymized exchange of operational risk loss data and has built a global banking database showing cumulative loss events from 2014 to December 31, 2020. The current data contains 841,012 loss events worth over €513billion (ORX, 2016, ORX 2020, ORX, 2021). The historical data presented in the table is not static because they are updated as members submit data. Secondly, the data are only from member reports, which means that if non-member operational risk loss data are added, the actual loss events would be even more. Table 3.2 below shows the ORX high level global data from 2014 to 2020 (ORX, 2021).

Table 3.2 ORX Growth of the Global Banking Operational Loss Data

Year Up to	Cumulative total gross loss	Cumulative frequency of operational risk events reported to ORX	Total number of firms that have contributed data
2020	€513bn	841,012	103
2019	€496bn	792,052	102
2018	€478bn	728,798	101
2017	€459bn	666,495	98
2016	€437bn	600,613	94
2015	€409bn	532,273	89
2014	€247bn	419,954	80

Extracted from Annual Banking OR Loss Reports on ORX Global database 2021 and 2020

The information on the operational risk loss data provided by ORX is broken down substantially, such that different areas and business lines are captured. Such records would imply that firms have their business line data for tail loss easily available for standardised CAR calculations. It also enables members to see operational risk trends. According to a member firm, *“The ORX loss data allows us to compare loss experience against our peers and identify areas for focusing our loss mitigation efforts and resources.”*

In respect of fraud and criminal activities, theories and concepts such as information asymmetry (Stiglitz, 2000) as well as opportunism (Foss, 1996) do provide a relevant menu of explanations that link to results from practice. Akerlof (1970) and Tversky and Kahneman (1979) also expounded on information asymmetry (see 2.5.2) which are various factors of people risk. Selfish interest, agency problems and hubris all relate to fraud and criminal activities found in operational risk and they become more difficult to manage when perpetrated from senior management as against lower level staffs. O'Donnell (2013) draws from the interaction of these real risk factors in his articulation of irreducible uncertainty resulting from human inability to determine probabilities for predicting what might happen in the future for business decisions (See 2.5.1.). Due to the prevalence of these people risk factors in every business activity, which affect the actions of people and their interest in achieving organizational goals, there is need for

establishment of appropriate governance structures to deal with the weaknesses. (Katz, 1995; BIS, 2002; Power, 2005).

Drawing from the review of theory, one aspect of such people risk factor is embedded in governance and competence. According to Alexander (2000), “the best business strategy will fail if people within the organization are not properly aligned and prepared to execute these strategies. This fact statement resonates with governance and competence as discussed by Williamson (1999) in which he highlighted that governance and competence are the lenses through which strategies are successfully executed, in this case, Operational Risk management strategy. Also, Kaplan and Mikes (2012) and The National Commission (2011) expounded the argument that managing people risk factor should not be about establishing rules and expecting the people to comply, but should embrace a triangulation of rules-based system and more dynamic and pragmatic approaches. They recommend applying qualitative distinctions between risks such as preventable, strategic, and external to enable the proper approaches to dealing with them. Properly established and implemented governance and competence in management would enhance the Operational Risk management strategies and are more likely to produce the desired results in an organisation. Governance in bank risk management cannot be overemphasized. As Kearney (2013) asserted, if a bank is serious about risk management, then it will be serious from the top to down. The governance structures set up and implemented in a bank will engender or endanger its risk management goals. Basel framework emphasized the importance of sound governance in its enhanced framework, specifically listing the key features that supervisory guidance and responsibility must adopt. Such features include expectations of active board and senior management oversight and covers areas such as:

- Appropriate policies, procedures and limits;
- Comprehensive and timely identification, measurement, mitigation, controlling, monitoring and reporting of risks;
- Appropriate management information systems (MIS) at the business and firm-wide level; and
- Comprehensive internal controls.

An entire bank governance structure includes valuation governance structure, governance structure for the production, assignment and verification of financial

instruments, governance of liquidity, and encapsulates sound stress testing practices. Governance which works hand in hand with controls becomes a risk when there is a weak or inadequate buy-in by the management of a bank. Adequate controls need to be set up, implemented and monitored, with associated reporting systems to ensure effectiveness. Oversight functions lie with board and management and if there are conflicts of interest, such could be a source of risk to a bank. A fundamental theory on risk that can be related here is that of governance and competence as projected by (Williamson 1999) in which he suggested that governance, being rooted in Economics, is well operationalised and established in contrast to competence. It is not clear, if indeed Williamson's assertion can be assumed to hold or do reflect the reality in ORM in banks. This is because, the use of governance in managing risk is still a developing content, and a number of gaps in implementations have been seen in the global banking sector. That is why the regulatory regimes, continue to apply emphasis on governance in each successive framework. Competence on the other hand emphasizes the capabilities and abilities of people to perform efficiently and effectively to achieve goals. Competence is related to the knowledge-based approaches (Foss, 1996, Williamson, 1999, Pralahad and Hemel 1990). Knowledge, capability, reliability and experience of the people who are directly or indirectly involved in business processing are also critical risk factors (COSO, 2007).

In addition, network, interconnectedness and chaos have their parts to play in the cyclical and revolving impacts of operational risk events across banking sector.

Given that People risk is the risk of loss caused intentionally or unintentionally by people within an organization, it includes employee error or misdeed, employment disputes involving employees and loss of intellectual capital. The results of such bad behaviours have directly impacted on major banks' controversial issues such as "Too big to fail" syndrome. Further evidence are available in "The list of bank biggest settlements" in which Grocer (2014) enumerated various banks settlements arising from banks' intentional bad behaviours and conducts. That is why ex-post events, banks get fined and are found guilty. The attitude therefore appears to be – don't get caught". Pezier (2002) highlights that some of the misconducts emanate from senior management, people who should be trusted to safeguard the business. The issue of management loss action can also be explored from ethical perspective, in addition to behavioural theories.

According to Kingsley et al (1998), an organization's most valuable resource is its people but unfortunately, some organisations do not invest in developing the people. Some of the neglect comes from gaps in modelling and measuring people risk. Alexander (2005) argues that measuring and managing risk of human error is the most difficult aspect of operational risk measurement and modelling. For instance. How does one model human error associated with lack of integrity, or dishonesty? Is it possible to measure lack of focus and professionalism or lack of respect and teamwork? Other areas include lack of knowledge, insufficient and imbalanced training and skills set, as well as intellectual or cognitive abilities. This practical aspect can be related to Simon's bounded rationality theory which postulates that cognitive constraints can be the cause of wrong or satisficing decisions and further resonates with knowledge-based approaches to managing risks. Hoffman (2002) supported this idea but quips that ORM can be successful if everybody in an organisation is bought-in, both management and employees alike. Hoffman studied the place of HR in ORM to identify a minimum consensus on how human factor should be considered in ORM. He provided a comprehensive analysis of the contribution of human resource unit of an organization in improving and contributing to enterprise risk management and hence the general well being of the organization. He suggested an approach based on the principles and practice of "know your staff" (KYS) and "know your customers (KYC)". Such knowledge can enable appropriate training and placement of individuals in positions. This can be related to Akerlof's issues of lemon problems and ways in which banks have tried to address the issue through the KYC and KYS policies, such as relationship management and data mining.

On the other hand, (McConnell, 2008) highlights that the boundaries of the people risk category is ill-defined, in spite of Basel's categorisation. According to him, this ill-defined nature of people risk makes it difficult for managers to recognize or determine the adequacy of their risk management processes. His study was based on the argument that Basel II as a regulatory document has adequately defined 'people risk' and what it actually covers. According to him, without a clear understanding of what precisely constitutes people risk, there can be little hope of fully identifying, assessing and mitigating such risks. We suggest that the study of various theories in order to provide a theoretical framework that informs people risk, is useful and relevant for devising solutions. McConnell concludes that OR managers must reach out to other

disciplines in managing risk in Financial institutions. Banks have tried to comply with the Basel II requirement but difficulties exist in the identification of “people risk” as well as assessment, control and mitigation. (McConnell, 2008) produced a generic framework for identifying and classifying people risk which he described as the “People Risk Framework, in which he postulated that people risk can be considered as occurring within four areas, namely; incident, individual, institution and industry. He developed a matrix aligning severity and frequency of losses, articulating that severity of loss is higher at the top of organisational hierarchy but frequency is lower. Other contributors to the people risk aspect include Katz, (1995) Cade, (1997) FCA, (2016); Lam, (2003), Alexander, (2005); and Hoffman (2002) among others. There is no generally accepted model for dealing with people risk, but there are general consensus that establishing proper ethics and good governance, including good oversight and adequate employee development including buy-in, can aid in identifying sources of people risk. It will also engender integration into the whole enterprise risk management framework. In addition to governance, the issue of Trust articulated by Noteboom(2004) is also essential in managing people risk through governance. When the people see and feel that the governance structure is fair to all and can be trusted, they block the loopholes in a system. When they feel otherwise, they exploit the loopholes.

3.3.2 Process Risk Factor

Basel’s process risk factors reflect a concern that governance of operational risks arising from uncertainty and behavioural factors may be inadequate or faulty. Governance of operational risks involve specified rules, internal regulations and control. Operational failures can emanate from failure in business line processes and the handling of business activities. Issues such as breakdown of processes, inadequate or failed internal control processes, non compliance with set policies and procedure, delays and distraction during execution of transactions can all amount to process risk (Jorion, 2011). In relating these practicalities of ORM to theory, Williamson (1999) quickly comes to mind as a relevant theoretical perspective that relates to the process risk factor. Williamson’s opinion is that governance being rooted in Economics, is operationalised and established and is implemented through human actors, unit of analysis, efficiency, among others keys. He highlights that structures serve to reduce transaction costs. This implies that in ORM, processes are set up to

enable efficient functioning and thereby minimize costs and losses. Also, efficient control processes can reduce lemon problems since they can lead to information and knowledge of the details of institutional operations. In other words, repeated processes lead to mastery which cuts costs and lead to identifying and addressing weaknesses in the processes. Banking business environment in Nigeria changed dramatically in 2005 during consolidation (Soludo, 2006). Larger banks emerged with enlarged operations, which implied increased processes and more business lines' development. The aftermath was over-stressed existing procedures, affecting transaction processing and hence eventual decline in expected profits. Also, several publicized and unpublicized operational risk events resulted.

This is not peculiar to Nigeria as such instances also existed in USA leading to collapse of some organizations (Jorion 2001). It is postulated that it was not the mergers that brought down these organizations but the difficulty faced by the organizations' processes. Alexander (1999) and Wilson(2000) agreed that all banks need to be proactive and institutionalize sound operational risk management framework, both before and after any structural change which is expected to impact on its processes. This will ensure that the structural changes do not exacerbate process weaknesses. Also, it will allow the banks to address process risks which may result from the restructure. This scenario played out well with the Nigeria Banking Consolidation during which several merging banks, and even acquirer banks faced severe breakdown and process failures during and after mergers. Some of the banks discontinued their mergers half way through, as they could not streamline their consolidating processes. Some others also aborted their acquisition bids.

Crouhy et al, (2006) addressed process risk as including execution errors and inability of employees to accept new methods. Risk officers are expected to understand various process changes and evolution, so as to device appropriate mitigation processes and prevent errors that can hamper organisation's daily transactions. Kingsley et al. (1998) added that a bank is a constant process environment which requires efficiency. In the case of Nigeria, the banking consolidation was a rather systematic event and involved huge process changes due to the recapitalization of banks from NGN5billion to NGN25billion. As a result, several merger and acquisitions tremendously impacted the process environments of the merging banks, thereby

affecting the whole financial system. Banks not only increased, and bought new systems and processes, but faced the pressures of process integration both for the increased sized and for combined operations. Data integrity and quality were also affected due to the changes in business environment. This proves Power (2005) and Davies et al, (2006) who held that the process environment is a major operational risk factor of an organisation and need to be managed carefully. All these are implicated in this empirical study which assesses risk management in post consolidated Nigeria banking system. The uniqueness of the system is that it has undergone consolidation processes in the face of recent political and economic changes, as well as environmental/systemic changes. It is however salient to ensure that process risk factors are not confused with system risk factors, despite their overlaps.

3.3.3. System Risk Factor

System risk factors encompass all those exposures that stem from the set-up, operation and administration of information technology systems, which banks use in their day to day operations. It includes both infrastructure, softwares and configurations as well as the implementation, use, processes, runs, which make up the input-process-output flow, in any system. There are also the soft aspects of systems which intertwave with human factors. These risks could arise from both uncertainty and behavioural factors and management needs to develop appropriate governance structures to avoid system risks. Elky, (2006) suggested that all banks are exposed to uncertainties, which could lead to system risks when they impact on their systems. Thus, bank management needs to determine ways of understanding and managing uncertainties in order to ensure survival and growth. His consideration of uncertainty as a cause of system risk aligns with theory, as risk is caused by the uncertainty in the outcome of an action (Haynes, 1895). However, his approach to management gaining an understanding and managing uncertainty is rather simplified, because uncertainty is suggested to be an unmeasurable probability (Knight, 1921) and a pervasive fact of life in contrast to mathematical risk (Lawson, 1985). However, system risk consist in exposures that could lead to business disruption or even failure. Basel (BCBS96, 2003) enumerates business disruption and system failures, for example, hardware and software failures, telecommunication problems, and utility outages as systems failures. The fundamental object of system security is to support the business of an institution be it banking or otherwise. Banks rely heavily on IT

systems to run their businesses, distribute data, integrate business processes and provide online-real time services which are the major thrust of their competitive advantage. As such, if information systems do not properly support the business operations and strategic objectives of an enterprise, the ability of the business to survive and succeed can be jeopardised (O'Brien, 1996). According to Risk.Net, IT Disruption has been ranked the No 1 operational risk category by Industry practitioners in two consecutive years (Marlin, et al, 2021). System risk management is also the process of understanding and responding to factors that may lead to a failure in the confidentiality, integrity or availability of an information system. System risk can emanate both from inside the bank and from outside, especially if the bank relies on outsourcing of some aspects of its system delivery, a position which increases vulnerability and risk profiles. Typically, Nigerian banks keep their system infrastructure, maintenance and monitoring in-house, and restrict external impact to only suppliers. In more recent time, FINTEC risks have become more rampant due to financial engineering from information technology. Banks are usually exposed to systems security risks. Systems security risk was described by FCA (2016) as the harm to a process or the related information resulting from some purposeful or accidental event that negatively impacts the process, the related information, or the entire business of a bank. Basel (BCBC128,2006) listed the system risks for banks to stem from the following sources:

- *the greater use of more highly automated technology, if not properly controlled, has the potential to transform risks from manual processing errors to system failure risks, as greater reliance is placed on globally integrated systems;*
- *Growth of e-commerce carries potential risks (e.g., internal, and external fraud and system security issues) that are not yet fully understood;*
- *Large-scale acquisitions, mergers, de-mergers and consolidations test the viability of new or newly integrated systems;*
- *The emergence of banks acting as large-volume service providers creates the need for continual maintenance of high-grade internal controls and back-up systems;*
- *Banks may engage in risk mitigation techniques (e.g., collateral, credit derivatives, netting arrangements and asset securitisations) to optimise their exposure to market risk and credit risk, but which in turn may produce other*

forms of risk (e.g. legal risk); and

- *Growing use of outsourcing arrangements and the participation in clearing and settlement systems can mitigate some risks but can also present significant other risks to banks.*

The above list provides a broad range of sources of system risks, which can affect a banking institution. Basel further addresses systemic risk and interconnectedness in their framework (BCBS128, 2006), a position consistent with (Simon, 2000) on computational complexity and interconnectedness already discussed in Chapter 2 as conditions that can cause inadequate risk decision. Sometimes, banks invest hugely in systems which eventually turn out to be ill-designed or unsuitable for their operations. Although this also happens in other business sectors, the impact on banks are more critical due to their type of business, and also because they serve all other businesses. BCBS136 (1989) established that a bank faces an increased threat of system failure if it has an ill designed system. The committee further suggests that banks should adopt systems which are compatible with their regulators and counterparties. Systems could be subject to intentional exploitation or their vulnerability can be accidentally triggered. Practical situations could include new system deployment and implementation, upgrades, extensions and similar activities, while inadequate employee knowledge, resistance as well as system constraints including chaos, can disrupt the effective cut-over and adoption of the new system. These again, can be related to Simon's bounded rationality and its causes where cognitive constraints limit operational decisions as discussed under People's risk theories. It can also be linked to knowledge and competency in organisational environment. Sometimes, system risks can overlap with an aspect of external risk referred to Third party or outsourcing risk. Several banks depend on technology or Fintech companies to provide platforms for some banking transactions resulting in exposure to this risk. Third party risk has been ranked among the top 5 operational risks in 2020 by Risk.Net (Marlin et al, 2021). The impact was exacerbated by the Covid-19 pandemic due to the shift to cloud computing by many banks as people transited to remote work.

3.3.4 External Risk Factor

External factors falling beyond the direct control of banks also pose risks to banking operations. Basel highlighted the following as examples of such risks:

- *External fraud. For example, robbery, forgery, cheque kiting, and damage from computer hacking.*
- *Damage to physical assets. For example, terrorism, vandalism, earthquakes, fires and floods.*

They also include other things such as Systemic risk affecting the whole economy, bank failures etc, which have broad consequences on the business environment. External risks also have uncertainty related aspects (e.g. unpredictability of terror attacks, vandals, earthquakes, etc. Some of these can possibly be managed by governance systems while some such as natural disasters may not, except perhaps for insurance services which aid disaster recovery and business continuity. Also, the behavioural aspects of these external risk factors such as fraudulent behaviour outside the banking sector affecting the banking activities, issues with third party vendors, are all part of external risk factors. In recent times, outsourcing is increasingly used by banks both as a means of cost reduction and for strategic objectives. But it bears potential impacts across many business activities, including information technology. Its impact and position in banking industry is even more enhanced than other businesses because outsourced technologies provide platforms for hitech financial products. Things such as thumb/fingerprint access to bank accounts, biometric access, contactless payments etc, are all part of external products that banks leverage on. As a result, BCBS (2005) stated that “*outsourcing has the potential to transfer risk, management and compliance to third parties who may not be regulated, and who may operate offshore*”. As a result, it becomes a factor for businesses since they need to remain confident that they are in control of their own risks, and in charge of their businesses which have sensitive interface with third parties. In addition, banks are highly regulated and need to comply with regulatory authorities while many of the third parties fin tech contractors do not. Banks face the challenge of demonstrating their compliance with third party interfaces too. Although Basel has not prescribed specific framework for managing these external risks, in 2005, they provided some guiding principles for managing outsourcing (BCBSjoint12, 2005) and emphasized the use of best practices. Perry & De Fontnouvelle, (2005) discussed the direct impact of operational loss events on reputation and market value and recommended a basic methodology for managing external risks. However, they did not explore the economic cost of implementing the model. Although there is a link between systemic risk and

operational risk, those systemic risks which are considered under market risk, are not within the purview of this work.

In summary, this section presented in detail, the four risk factors listed in the Basel definition of operational risk, namely; people, process, system and external events (BCBS96, 2003; BCBS195, 2011:10). These risk factors are the major sources of operational risk events in banks. While several approaches and perspectives explain each risk factor, effective management of these factors through a sound operational risk management framework, will mitigate the operational risk events. Each factor is a primary risk factor in this research, and attempts have been made to explore how Nigeria consolidated banks have adopted and applied the Basel recommended principles and frameworks, in order to manage these risk factors. Table 3.3 below shows Risk.Net’s Top Ten Operations risks obtained from their qualitative and subjective survey of industry practitioners referred to in the discussions.

Table 3.3 Top Ten Operational Risk Categories 2021, 2022

TOP TEN OPERATIONAL RISK CATEGORIES			
	2021	2020	Change
IT disruption	1	1	
Data compromise	2	2	
Resilience risk	3	5	↑
Theft and fraud	4	3	↓
Third-party risk ⁵	5	4	↓
Conduct risk	6	7	↑
Regulatory risk	7	8	↑
Organisational change	8	6	↓
Geopolitical risk	9	9	
Employee wellbeing	10		

Source: Risk.Net Top Ten Operational Risks

3.4 The Basel Accords - Origin

The Basel Committee on Banking Supervision was a reactionary output of the financial turmoil that arose from the 1973 collapse of the Bretton Woods exchange rate management system. The collapse meant that banks incurred huge foreign currency losses. BankHaus Herstatt was one of such banks as in 1974, Germany withdrew its banking license because it had forex exposures that amounted to more than three times its capital base. The bank went burst taking several other banks in Europe and America in its tail, due to their exposures to Herstatt. In addition to Herstatt, Franklin National Bank in New York also shut down due to huge foreign exchange losses. The

impact of these losses became international and in response, G-10 formed the eleven nation Basel Committee for Banking Supervision (BCBS) in order to harmonise banking standards and regulations between member states, by creating a forum for *“regular cooperation between its member countries on banking supervisory matters”* (BIS, 2015). Since its inception, the Basel Committee has expanded its membership from the initial G10 to 45 institutions from 28 jurisdictions.

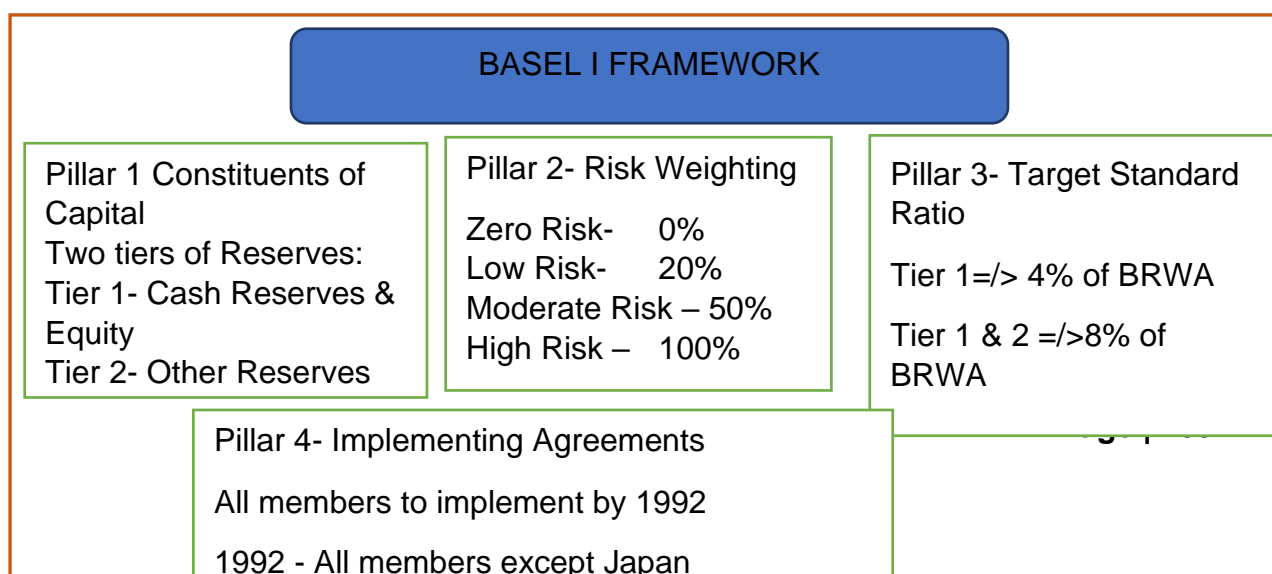
The main objective of the BCBS was to develop a framework that would strengthen the soundness and stability of the international banking system as well as maintain adequate consistency such that the regulation on capital adequacy will not be a major source of competitive inequality among banks that are internationally active (BCBS, 2006). The agreements reached through the committee processes are referred to as the Basel Accords and according to Balin (2008), they are considered the most influential agreements in modern international finance. The framework was based on committee’s extensive consultations spanning from initial proposals of 1988 through 2006. The committee in recognising the present supervisory and accounting systems in individual member countries, sought to arrive at more conceptually sound risk-based capital requirement for banks. The Framework therefore uses risk assessment from banks’ internal systems to derive capital charge. While providing a range of options for calculating capital requirements for credit and operational risks, it allows for a limited amount of national discretion in the way each option can be applied. This enabled banks in different national markets to adapt to the standards without jeopardizing the essential consistency in global application of the framework.

Alluding to the Basel Accords, three frameworks have evolved from Basel I to Basel II and Basel III. The substantive document which consolidated the updated accords is now called The Basel Framework. It is essential to mention that the Basel Committee’s decisions had no legal force but were to be guidelines and best practices which individual nations were expected to enforce, although in global banking status, most banks apply the Basel rules like it is mandatory. Following several consultations, the committees’ first paper called Basel Capital Accord was released to banks in 1988. In discussing the frameworks, a most detailed attention would be paid to Basel II and its updates, because it focused mostly on Operational Risk. It was Basel II that institutionalized Operational Risk in the financial world.

3.5. Basel I

Tracing the trajectory of the Basel agreements, Carvalho (2005) explains that Basel Committee initially started with setting foundations for supervisory standards, and progressed the forum such that by 1988, attention which had shifted to capital adequacy, resulted in the Basel Accord. The first Accord aimed at levelling the playing field for the competition between internationally active banks because some banks had cost advantages due to more lenient regulations in their countries while others did not. Balin, (2008) recorded that all the G-10-member countries were considered developed markets and the agreements were tailored to developed markets, expressly stating that it was not intended for emerging markets in consideration of the sophistication and complexity. Furthermore, Balin (2008) suggested that Basel I which was called the Basel Capital Accord gave regulatory space to individual central banks and considered domestic currency and debt as the most favourable instruments. Its focus on providing adequate capital was to guard against mostly credit risks but ignored market risks such as interest rate and currency fluctuations which were to be taken care of within member states. Furthermore, it only proposed minimum capital requirements for internationally active banks and warns against viewing capital adequacy ratios in isolation. Ultimately, the framework became a standard for most countries that had international banks, in addition to the G-10. Basically, the accord called for a minimum of 8% as capital to risk-weighted asset ratio. The Accord was divided into four pillars, as shown in the Figure 3.2 below:

Figure 3.2 Basel I Framework with Four Pillars



Prepared by Vivien Ojadi from BIS,

3.5.1 Basel I Accord and Risk Theories:

As mentioned previously, the major focus of Basel I Framework was credit risk. Credit risk has been defined in Section 2.4.2 as the risk of counterparty failure (BCBS04a, 1988). Why would a borrower fail to payback. From bank's perspective, why would a bank be unable to recover credit when due? The first issue that comes to mind is Adverse Selection. What are the possibilities that the banks have faced lemon problems and lent money to the lemon? Typically, lemons will fail to pay, based on theory. Thus, we can relate that the issue of information asymmetry created due to adverse selection, can cause the problem that Basel I was attempting to solve. Another theoretical explanation to the practical problem faced is moral hazard. What are the chances that having been lent money, the counter party has diverted the funds to other objectives? Banks are expected to use information economies and Know Your Customer (KYC) relationship foundation to determine whom they lend money to. However, the obvious fact that globally, counterparties default ex-post grant of credit resonates clearly with the point of theory on moral hazard. Moral hazard in credit risk could also be as a result of the actions of the bankers themselves. An example is the case of Nigeria's Oceanic bank, and several other failed banks in which the CEOs and some other directors of the bank, were guilty of unethical lending practices, including granting irregular credits to their private businesses, most of which were not recovered (NDIC, 2015, NDIC, 2016, NDIC, 2017).

Another theory that resonates well with the Basel practical perspective was stated by Haynes (1895), in which he highlighted that fortuitous element of risk, citing uncertainty as the cause of risk. His point that losses could occur as a result of dishonest action of another which we classified as operational risk in Section 2.4.4. also maps to the credit risk issue being addressed by Basel. Furthermore, not only are people risks

implicated but also the issue of measurability of uncertainty highlighted by Knight (1921) and Keynes (1937) comes to mind in the use of weights to determine the minimum capital adequacy ratio of 8%. All these go to confirm Raghavan (2003)'s assertion that risk is provided for by a charge on the fundamental, which is Capital. Whether such a charge is therefore sufficient to cover for risks can only be determined if losses do materialize.

3.5.2 Criticisms of Basel I:

Basel 1 has been criticised on four major points, namely:

- It covers only credit risks and was only for G-10 countries. Its scope is too narrow to ensure adequate financial stability. It omitted market discipline.
- Its publicity made it appear to be the solution to financial stability problems and all others were made to conform as a sign of strength and resilience, which it was not, and its implementation was fraught with technicalities that were difficult for operators to practicalize.
- Banks found ways to cherry pick their risk assets in the books to generate best risk weights, and yet take on riskier assets.
- Banks in emerging markets were compelled to apply the accords due to several pressures to do international business.
- It also moved investors from long term debts to excessive short-term debts amplifying hot money (Balin, 2008)

Basel I was amended in 1996 to include Market risk and banks could use internal models like value at risk to determine market risk capital requirement. With the financial crises of 2008, it was found that Basel I provisions were insufficient to prevent the risks banks exposed themselves to. BCBS commenced a regime of amendments to the Basel I Accord which culminated in the roll out of the Sound practices (Principles) for operational risk management, and the Capital Convergence document called Basel II. It is important to highlight that Operational risk was ushered in by Basel II. Prior to Basel II, there was no requirements for Operational Risk capital and as Chappelle (2019: 287) put it, "there was no shared appreciation or requirement to set aside capital for operational risk".

3.6. Basel II

Basel II, officially called *International Convergence of Capital Measurement and Capital Standards: A Revised Framework* (BCBS107, 2004), was preceded by the Principles and Sound Practices for Operational Risk Management discussed in 3.6.1 Principles and Sound Practices:3.6.1 below. Basel II began as a proposal for new capital adequacy framework to replace Basel I by expanding its scope, depth and technicality. It wanted to improve how underlying risks are captured by the regulatory capital requirements and take cognisance of innovations in banks' financial products. Prior to Basel II, there was no provision for operational risk capital as there was no distinct operational risk category to be controlled and managed, with its own tools (Eceiza et al, 2020). Basel II introduced capital provisions which previously existed only for credit and market risks (Grody, 2019). In contrast to Basel I, Basel II of 2004 had stability as the core of the new agreement. (Carvalho, 2005) asserts that the change in focus of Basel II was fuelled by the fact that many countries adopted the 1988 Basel I as a guide to prudential regulation, although that was not the original intent of the authors. As a result, the committee had to respond by adopting an in-depth regulatory document. He argues that in this new focus lies the difficulties of the document. His contention is that the strength of Basel I, is in its simplicity, and the attempt to transform it into a detailed road map for prudential regulation may be an impossible task in practice. He asserts that Basel II does not spring out of Basel I, on the contrary, it represents a major change in scope, while retaining a suggestion of continuity of Basel I especially on its foundation of capital adequacy requirements. A most significant thing about discussions on Basel II is that it highlights more of the Committee's adaptation of itself to the developments that took place after Basel I⁵, a reactive approach to regulatory landscape. Prior to Basel II, banks adopted various approaches to manage risk. Example includes the Enterprise Risk Management (ERM) which was defined in September 2004, by the Committee of Sponsoring Organizations⁶ of the Treadway Commission (COSO) and published in a document called *Enterprise Risk Management—Integrated Framework*. It was an attempt to manage risk in a comprehensive manner, aligning it with the strategic direction of an

⁵ The main features of Basel I and Basel II are presented in (BIS, History of the Basel Committee, 2015) (Carvalho, 2005) and (Balin B. J., 2008)

organisation as well as integrating it with the day to day management of the organization. However, research evidence suggests that Basel II provides a most comprehensive enterprise risk management framework for banks which is specific (Garcia, 2004). Thus Basel II is an embodiment of ERM. Every approach to managing risk involves a number of processes. Jones (1998) categorised risk management process into four phases – namely risk identification, risk estimation, risk evaluation and risk mitigation. Basel II and others also presents risk management processes in four steps, namely; Identification, Assessment, Monitoring and Mitigation/Control (BCBS96, 2003, Chapelle, 2019).

3.6.1 Principles and Sound Practices:

Preceding the roll-out of Basel II, was the document – Sound Practices for the Management and Supervision of Operational Risk (BCBS96, 2003), revised as BCBS195, 2011 in which the principles “that provide a framework for the effective management and supervision of operational risk, for use by banks and supervisory authorities when evaluating operational risk management policies and practices” were outlined. The 2011 revision of the principles was to incorporate the lessons from the 2007–09 financial crisis. The principles grouped into 1-4 contained practices for developing appropriate risk management environment and 5-7 outline the risk management process. Principles 8 -9 highlighted the role of supervisors, principle 10 being business continuity and Principle 11 the role of disclosure. In 2014, Basel reviewed the implementation of the principles so as to assess the extent of implementation by banks, identify significant gaps and discover emerging and notable ORM practices not currently addressed by the Principles. The review identified some areas of weakness in implementation by such as risk identification and assessments including RCSA, change management programmes, implementation of the three lines of defence, board and senior management oversight and risk appetite articulation and disclosures (BCBSd515, 2021). The present document consists of 12 principles. The previous version (2011) and current version are tabulated in Appendix 6 showing the modifications which are primarily in area of change management and information communication technology, and to improve clarity.

As a background to the Capital Adequacy content, this study provides a brief discussion of the sound practice principles 6 -8 which highlight the risk management processes for banks. The processes are: risk identification, risk assessment,

monitoring and mitigation/control (BCBS96, 2003,). This section maps each process to Basel's regulatory framework and relates the practical aspects to theory.

3.6.1.1 Principle 6 – Risk Identification and Assessment

Under this principle, Basel states that:

- *“Banks should identify and assess the operational risk inherent in all material products, activities, processes and systems. Banks should also ensure that before new products, activities, processes and systems are introduced or undertaken, the operational risk inherent in them is subject to adequate assessment procedures”.*
- *(Senior management should ensure the comprehensive identification and assessment of the operational risk inherent in all material products, activities, processes and systems to make sure the inherent risks and incentives are well understood. (2021 version improved for clarity)*

Risk identification is usually the first step in the risk management process and is paramount for the effective development of a risk control and monitoring process. (Hull, 2012) suggests that there are two broad risk management strategies open to a financial institution. One approach is to identify risks one by one and handle each one separately. This is sometimes referred to as risk decomposition . The other is to reduce risks by being well diversified. This is sometimes referred to as risk aggregation . Both approaches are typically used by financial institutions. Basel Committee holds that effective risk identification considers both internal and external factors that could adversely affect the attainment of bank objectives. Internal factors include things such as the structure of the bank, human resource quality, employee skills and turnover, etc while external includes industry changes, technological advances and such. Banks are also expected to assess their vulnerability to the risks and determine their risk profile. The following tools have been listed by Basel as useful in identifying and assessing operational risks:

- **Self-Assessment:** An internally driven process which involves the use of checklists, profile matches and workshops to identify and strengths and weaknesses as well as opportunities and threats. Scorecards are also useful in allocating economic capital and for comparisons.

- Risk Mapping: This process involves mapping of various processes, procedures and units by risk type in order to reveal weaknesses and set priorities for managing them.
- Risk Indicators: These are rubrics, metric and statistical quantities used to set alerts for risk concerns. They provide insights into a banks' risk position. Indicators can also reveal severity of risk exposures.
- Risk Measurement: This is similar to indicators as they imply the use of quants. It is used to quantify exposure and allocate probabilities. The processes is consistent with the theoretical foundation on risk and uncertainty, where risk involves the application of measurable probabilities and uncertainty is said to be immeasurable.

Principle 7 held that “Senior management should ensure that the bank's change management process is comprehensive, appropriately resourced and adequately articulated between the relevant lines of defence”. (*no change in the current version*)

3.6.1.2 Principle 8 – Monitoring

Senior management should implement a process to regularly monitor operational risk profiles and material operational exposures. Appropriate reporting mechanisms should be in place at the board of directors, senior management, and business unit levels to support proactive management of operational risk. An effective monitoring process is very essential as it offers the advantage of early detection and correction of vulnerabilities. Monitoring has to be effective with adequate feedback of information to reduce potential losses, both frequency and severity.

3.6.1.3 Principle 9 – Control and mitigation

“Banks should have a strong control environment that utilises policies, processes and systems; appropriate internal controls; and appropriate risk mitigation and/or transfer strategies” (BCBS195, 2011, BCBSd515, 2021). Previously, this principle was *“Banks should have policies, processes and procedures to control and/or mitigate material operational risks. Banks should periodically review their risk limitation and control strategies and should adjust their operational risk profile accordingly using appropriate strategies, in light of their overall risk appetite and profile.”* Control activities focus on addressing the operational risks that are identified and ensuring that action plans are implemented. Mitigation and control also include establishing effective and tested disaster recovery, contingency and business continuity plans.

In the March 2021 version, the 2011 was not changed. The principles were the foundation for implementing the framework pillars.

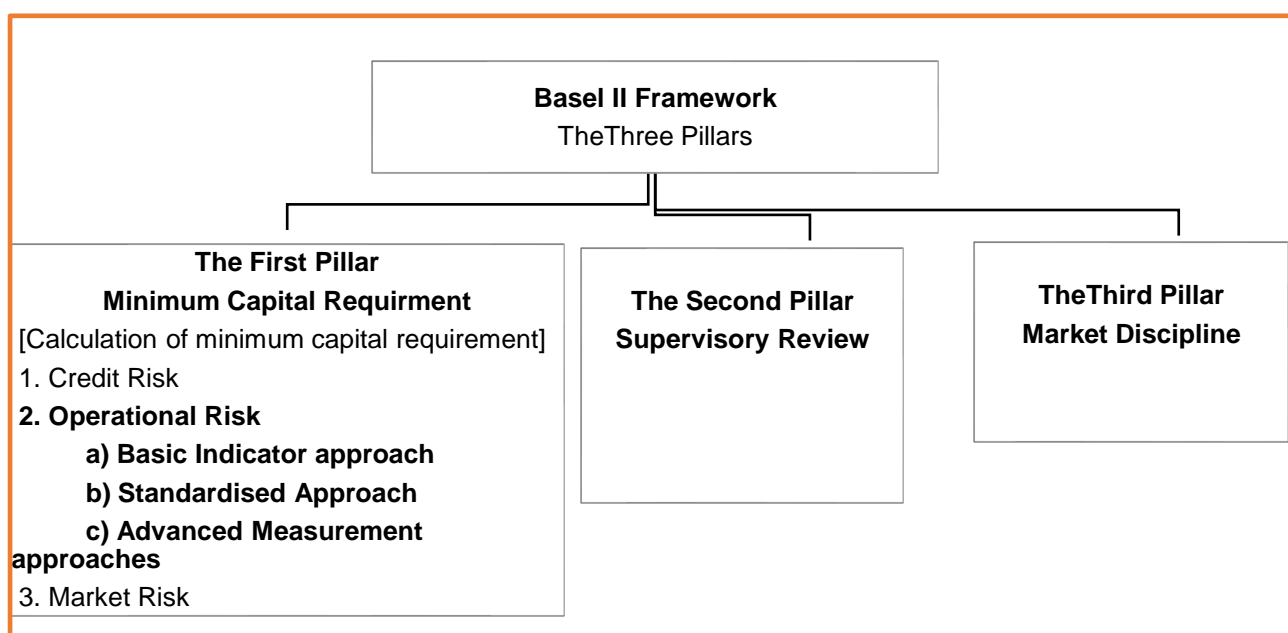
3.6.2 The Three Pillars

In addition to the principles established for implementing operational risk management practice of Risk Identification, Assessment, Monitoring, and Mitigation/Control, Basel II maintained the pillar framework of Basel I, but articulated the pillars into three as against four in Basel I. the three pillars are as follows:

1. Minimum Capital Requirements – expanded the standardised rules set out in the 1988 Accord;
2. Supervisory Review (of bank’s capital adequacy and internal assessment process) which implicates Governance and
3. Market Discipline (effective use of disclosure to strengthen market discipline and encourage sound banking practices. (BIS, 2015) .

The figure below is the researcher’s articulation of the Basel II framework.

Figure 3.3 Basel II Framework: The Three Pillars (Consolidated)



Prepared by researcher from BIS

3.6.2.1 Pillar I – Minimum Capital Requirement

In response to the criticisms of Basel I, Basel II provided a more sensitive way of calculating risk weighted assets and tried to eliminate the loopholes which made it possible for banks to manipulate or camouflage their increased risks while meeting the prescribed requirement on paper. Capital is the only element common to all banks in

all countries of the world and is wholly visible in reports. It is therefore a foundation for judgement of capital adequacy. Like in Basel I, the core capital was the equity capital plus disclosed reserves called Tier 1. However, some room is given for supplementary capital call tier 2; which in this framework, cannot exceed 100% of the Tier 1. The framework held that total capital ratio (capital and risk-weighted assets) must be a minimum of 8%, same as in Basel I. However, expansions covered holding company assets of internationally active banks, aimed at eliminating the loophole of hiding assets in subsidiaries, and to show the complete health picture of global firms. This again brings to mind the theoretical perspective of information asymmetry as well as governance. The fact of asymmetry in information implicates the base risk in banks' practices of which governance becomes an important path to managing the risks generated by information asymmetry. The Basel framework is to be applied by all internationally active banks at every tier. However, an even more interesting theory begins to emerge at this point. The fact that bank' management would try to "hide" the true picture of risk assets using subsidiaries, yet try to present a position that meets the regulatory requirement ratio, without really trying to reduce the risks stirs up the issue of conduct and conformity in explaining the behaviours exhibited by banks and financial institutions in their management of risks. And this was coming from developed economies who were expected to implement the Basel rules. This behaviour manifested itself in the banks' applications of Basel I framework, leading to development of Basel II framework, thereafter, to Basel III after the financial crises. This research has identified that the Basel II framework applied by developing economies is succeeding in mitigating some of the risky behaviours, especially operational risk. The relevance of this is that applying the pillars in a deep internalised manner, in contrast to compliance conformity seen among some developed nations (as highlighted by regulators during OpRisk North America conference in 2019), leads to reduction of the risk factors. However, the extent of reduction is not measured, but the impact on the banks' bottom line as expressed by interviewees is useful in showcasing the impact of the difference in behaviours. The scope of this study does not include identifying why there are differences in conformity behaviour. However, the results provide sensible evidence to inform conduct risk under various regulatory regimes. Basel II minimum capital requirement, unlike Basel I, expanded the scope to include market and operational risks in addition to credit risk. Several methods were set to calculate the risks and supervisors worldwide faced the challenge of how to approve the use of

specific approaches to measuring risk in multiple jurisdictions. Basel II tried to eliminate the loopholes in Basel I by creating a more sensitive measure of banks' risk-weighted assets. Basel III has now streamlined the measurements of the capital adequacy ratios (CAR) by eliminating advanced measurement approach. Banks' risk weighted assets are to be measured using standardised approach.

3.6.2.1.1 Weighting Credit Risks:

The approaches to measuring Credit Risk were –

- The Standardised approach: which involved using standard ratings of market-based rating agencies for sovereign debts, some modification or extension for bank debt, and a similar extension for corporate debt.
- The Internal Ratings Based approach (IRB) – where banks create their own internal models with approval of regulators. There are two of these – Foundation IRB and Advanced IRB which uses probability assignments, the main difference being that banks determine assumptions of proprietary credit default in Advanced IRB. The issue of probability calls to mind the theoretical discussion on Risk and Uncertainty whereby risk involves known probabilities while uncertainty does not (Knight, 1921) (O'Donnell, 2013). Basel III has made changes to the IRB approach for credit risk by removing the option to use the Advanced -IRB approach for exposures to financial institutions and large corporates. Also, no IRB for equity exposures and where IRB approach is retained, probability of default has minimum levels (BCBS424, 2018). The Basel framework sets out minimum conditions and disclosure requirements in order to use the IRB approach (BCBS-CRE, 2019). However, the scope of this research is on Operational risk, and discussions would focus more on the Capital Requirement Pillar for Operational Risk.

3.6.2.1.2 Weighting Operational Risks:

Basel II is acclaimed to have institutionalised Operational Risk in bank risks (Power, 2005). Having defined operational risk as risk of loss resulting from inadequate or failed internal processes, people and systems and from external events. It sought to assess and protect banks from operational risks by providing for a charge on the capital (Raghavan, 2003). This process involves determining the amount of reserves that would be adequate to guard against failures in internal processes, decisions of individuals, systems and external events (Balin, 2008).

Basel II initially outlined three approaches for calculating operational risk capital charges namely:

- a. Basic indicator approach,
- b. Standardised approach and
- c. Advanced measurement approach.

These approaches were mutually exclusive, and banks were expected to progress along the continuum as they grow in sophistication and risk sensitivity. The framework also established criteria for banks to qualify to use each method, whereby the internationally active and sophisticated banks must use more advanced method than the basic indicator. Also, banks were not allowed to revert backwards in the methods they use. Before proceeding with the details of the approaches, it is important to highlight that Basel III regulatory framework has made changes by replacing the three current approaches with a single standardised approach. This simplifies the framework and makes it easier to compare banks RWA. Banks are expected to transition to the single approach between 2017 and 2027

a. Basic Indicator Approach

Under the basic indicator approach, banks are required to hold 15% of their average positive annual gross income for the previous three years (α) and negative annual incomes are excluded, denoted as follows.

$$K_{BIA} = [\sum GI_{1...n} \times \alpha] / n$$

where:

K_{BIA} = the capital charge under the Basic Indicator Approach

GI = annual gross income, where positive, over the previous three years

N = number of the previous three years for which gross income is positive

A = 15%, which is set by the Committee, relating the industry wide level of required capital to the industry wide level of the indicator. (BCBS128, 2006)

Regulators were allowed the flexibility of adjusting the 15% based on their risk assessment of each bank. Banks using this approach were expected to comply with the committee's Sound Practices for the Management and Supervisions of Operational Risks, 2003 (which lists all the principles earlier discussed in 3.6.1), since no specific criteria was set for the use of this basic approach.

b. Standardised Approach:

This approach divides bank activities into eight business lines and tries to determine the amount of cash the bank must hold to protect itself against operational risk. Each line is weighted by its relative size using the gross income per line. The lines are: corporate finance, trading & sales, retail banking, commercial banking, payment & settlement, agency services, asset management, and retail brokerage. The capital charge for each business line is calculated by multiplying gross income by a factor (β -beta) assigned to that business line. It is important to note that with the Standardised Approach, gross income is measured for each business line, not the whole institution. Beta serves as a proxy for the industry-wide relationship between the operational risk loss experience for a given business line and the aggregate level of gross income for that business line (BCBS128, 2006; BCBS-OPE25, 2019). Below are the Target reserves listed in the 2006 Revision. Less risky business lines have lower reserve targets.

Table 3.4 Business Lines and Capital Charges Targets

Business Lines			Beta Factors (% of Profits to keep in reserves)
Corporate finance		(β 1)	18%
Trading and sales		(β 2)	18%
Retail banking		(β 3)	12%
Commercial banking		(β 4)	15%
Payment and settlement		(β 5)	18%
Agency services		(β 6)	15%
Asset management		(β 7)	12%
Retail brokerage		(β 8)	12%

(Adapted from BCBS128, 2006 and BCBS-OPE25, 2019).

As can be seen from the above, the business lines with less potential for operational risk have lower reserve targets. The total capital charge is a three-year average of the sum of the regulatory capital charges from each business line. In any given year, negative capital requirements (gross loss) in any business line may offset positives in other business lines without limit. Where the aggregate capital requirement across all

business lines in any year is negative, then the numerator input for that year will be zero. The Capital charge is denoted as follows:

$$K_{TSA} = \{\sum_{\text{Years } 1-3} \max [\sum (GI_{1-8} \times \beta_{1-8}), 0]\}/3$$

where:

K_{TSA} = the capital charge under the Standardised Approach

GI_{1-8} = annual gross income in a given year, as defined above in the Basic Indicator Approach, for each of the eight business lines

β_{1-8} = a fixed percentage, set by the Committee, relating the level of required capital to the level of the gross income for each of the eight business lines.

The values of the betas are already stated above.

In order to qualify to use the Standardised approach, banks have to meet certain criteria such as the board and senior management being directly involved in the oversight of the operational risk management framework and the banks has a conceptually sound operational risk management system that is implemented with integrity and also has adequate resources to use the approach in the major business lines and in its areas of control and audit (BCBS-OPE25, 2019). Clearly, these criteria once again, border on Governance, stressing the importance of Governance in the management of operational risk in banks. There will usually be a period of initial monitoring by the Supervisory body, before approval to use the approach for regulatory purpose (BCBS128, 2006).

There is also the Alternative Standardised Approach (ASA) which can be used with approval from supervisory body. Once a bank has been authorised by the regulator to use the ASA, it is not allowed to revert to the Standardized approach without the permission of its supervisor. Basel does not envision that large and diversified banks in key markets would use the ASA. In ASA, the operational risk capital charge is the same with Standardised Approach except for Retail banking and Commercial banking lines whereby loans and advances multiplied by a fixed factor 'm' is used in place of gross income as the exposure indicator, denoted as:

$$K_{RB} = \beta_{RB} \times m \times L_{ARB}$$

where

K_{RB} is the capital charge for the retail banking business line

β_{RB} is the beta for the retail banking business line

L_{ARB} is total outstanding retail loans and advances (non-risk weighted and gross of provisions), averaged over the past three years

m is 0.035

Banks can also aggregate retail and commercial banking segments with a 15% beta factor.

As from year 2022, the Standardised approach will be the only approved methodology for calculating Operational Risk Capital. Banks are expected to continue to transition till 2027. The components of the OR regulatory capital will be the following:

- 1) the Business Indicator (BI) which is a financial-statement-based proxy for operational risk;
- 2) the Business Indicator Component (BIC), which is calculated by multiplying the BI by a set of regulatory determined marginal coefficients (α_i); and
- 3) the Internal Loss Multiplier (ILM), which is a scaling factor that is based on a bank's average historical losses and the BIC. (BCBS-OPE25, 2019)

Operational risk capital requirements (ORC) are calculated by multiplying the BIC and the ILM, as shown in the formula below. Risk-weighted assets (RWA) for operational risk are equal to 12.5 times ORC.

$$ORC = BIC \times ILM$$

BI comprises three components: the interest, leases and dividend component (ILDC); the services component (SC), and the financial component (FC) and is defined as

$$BI = ILDC + SC + FC$$

The ILM is defined as: $ILM = \ln[\exp(1) - 1 + \{\frac{LC}{BIC}\}^{0.8}]$

where the Loss Component (LC) is equal to 15 times average annual operational risk losses incurred over the previous 10 years:

c. Advanced Measurement Approach (AMA):

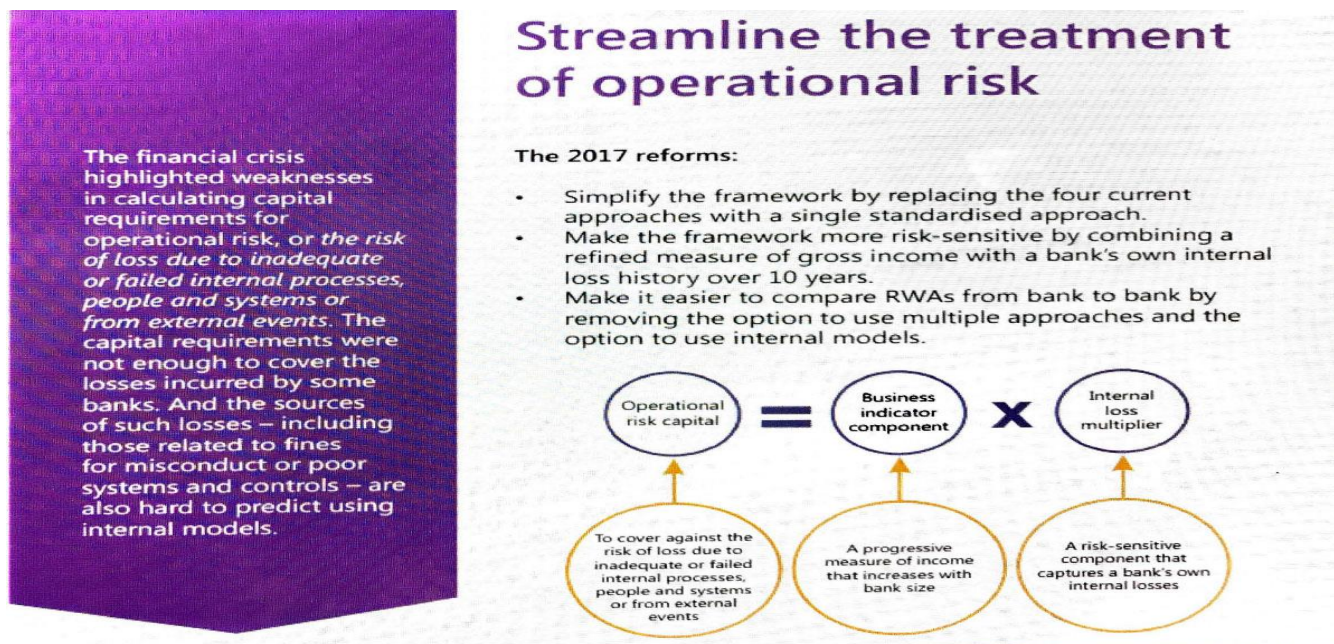
The AMA is similar to the IRB approach mentioned in credit risks, whereby banks generate their own reserve calculations for operational risk with the approval of the host supervisory body and support of the home supervisor. Such bank would use both quantitative and qualitative criteria to generate their risk measure. Banks using AMA can use an allocation mechanism for determining the capital subject to approval of supervisors. According to Balin (2008), this approach was “an attempt to bring market discipline and self-surveillance into banking legislation and a move to eliminate “wobble

room” whereby banks obey regulations in rule but not in spirit”. Basel III has streamlined approaches to remove the Advanced measurement and focus on Standardized approach for all institutions. This is to eradicate the diverse discretionary options which banks took advantage of to create irregularities in their capital and to harmonize results. This essence here is that it exposes challenges with people and process risk factors and the underlying side-lining of the principles 5, 6 and 7. On the whole, the process of allocating capital charges serves merely as cushions to the financial management of the risks. The capital charge will reduce the amount of cash that banks have to run with and ultimately reduce their profitability. It also serves as a limiting factor in that measuring the charges bring to management’s knowledge, the amount of risk exposures they are open to in various business lines and should help to curb excessive exposures while assuring that management is keeping the necessary amount of self-surveillance. Whether all that rigor and compliance activity is done for window dressing, or actually considered internally acceptable becomes a different issue. Therein lies the usefulness of the People risk theories afore- mentioned, in an attempt to identify how the Nigerian banking system fits and how the concepts, both theoretical and practical perform. Similar to the standardised approach, banks also need to qualify by meeting certain criteria, in order to use the AMA. In this case, there are three sets of standards, the basic ones being about the same as the Standardised while the- Qualitative and Quantitative Standards are added. Qualitative include having an independent operational risk management function responsible for the design and implementation of the bank’s operational risk management framework which will be integrated in the day to day operations among other things. Quantitative standard includes the AMA soundness standard that requires a bank to demonstrate that its approach captures potentially severe ‘tail’ loss events. And that its OR measure meets a soundness standard comparable to that of IRB approach for credit risk. (BCBS128, 2006). Like the SA, there will also be a monitoring period pre-approval. Banks will be required to calculate regulatory capital as the sum of Expected Loss (EL) and Unexpected Loss (UL), unless the bank can show that EL is sufficiently captured in internal business practices. Use of EL and UL can be related to the arguments raised in theory about risk and uncertainty, whereby some argue that risk is measurable uncertainty (MU) while uncertainty is unmeasurable probability (UP). Thus, we begin to see where the theoretical exploits presented in chapter 2, begin to inform the practice of ORM. The application of this measure of OR regulatory capital can directly apply to theory in

respect of EL being estimated with probabilities based on history, while UL cannot really be determined because it is an unmeasurable probability and thus, a real uncertainty. On the other hand, being that both EL is a MU while UL is UP, the question that arises is, how does one determine Unexpected Losses and apply a measure to it in order to calculate a regulatory capital? Clearly, some arbitrary probability including assumptions will apply. This practice is therefore summed up by our theoretical extract from Keynes, in which he stated that *“in matters in which there is no scientific basis to form any calculable probability, in matters in which we simply do not know, practical men must make decisions and take necessary actions in the awkward situation as if “we had behind us a good Benthamite calculation of a series of prospective advantages and disadvantages, each multiplied by its appropriate probability, waiting to be summed”* (Keynes, 1937:214).

Furthermore, this can be related to the epistemological (HAC) and ontological (ENE) theories on risk and uncertainty, how does a firm measure immeasurable uncertainty. How does a firm measure Unexpected Loss except perhaps in retrospect, or by adaptation, which means using previous period's actual figures. Now if there have been previous periods for such losses, then it is either the firm has not taken actions to mitigate such, or the firm accepts repetitive risks as listed in Crouhy, et al (2006)'s risk classification. If that is the case, what is the effectiveness of their governance structure? Also, what is the supervisory body's response to such repetition and how do all these relate to the essence and principles of the Basel Accords? Such paradoxical ambiguities are the causes of grey areas in the application of the framework and can lead to what Balin (2008) referred to as “wobble” from banks. Thus, the issue of governance is once again pushed to the fore and Simon's bounded rationality which discussed the limitations of people using systems and applying models is implicated. On the other hand, Lawson (1985) had argued in Section 2.4.1. that “not certain” is not the same as “improbable”, providing a basis to explain why both Expected Losses and Unexpected Losses (UL) can be measured for the regulatory capital charge. In response to the underlying loopholes and inconsistencies observed in the application of this discretionary standard by banks, Basel III reforms were made in 2017, with updates in the new Basel framework 2019, to respond to the issues by replacing the four approaches with a single Standardised Approach. The figure below illustrated the streamline process as postulated by BCBS for the with treatment of Operational:

Figure 3.4 Streamline treatment of Operational Risk for Standardized CAR



3.6.2.1.3 Weighting Market Risk

In addition to Credit and Operational Risks, Basel II also included Market risks in its Pillar II and tried to quantify the reserves to be held by banks due to market risks. Market risks have been defined as the risk of loss due to movements in market prices. The risks subject to the requirement are interest rate, related instruments and equities as well as foreign exchange and commodities risks in the bank. Basel II applies the charges to these two sets of risks independently as it differentiates between fixed income and other securities such as equity, forex, commodity etc. These have been consolidated and integrated in the current Basel Framework 2021 (BISd465, 2019).

3.6.2.2 Pillar II- Supervisory Review

The supervisory review aims to ensure that banks have adequate risk management techniques in monitoring and managing their risks in addition to adequate capital to support all the risks in the business. Bank management bears responsibility to develop an internal capital assessment process and sets capital targets that match the bank's risk profile and control environment. This calls for an affective framework to identify, assess, monitor and control risks (Embrechts, 2006; Embrechts et al, 2003). The governance theoretical perspective (Williamson, 1998, 2000) discussed in Section 2.6. is relevant to the Supervisory review pillar of the basel framework. Furthermore, Pillar

It addresses the supervisor- bank interaction and extends the rights of regulators in bank supervision as well as bank dissolution. This pillar empowers regulators to supervise the internal risk evaluations that were proposed in Pillar I and to adjust them as suitable in their environments. The Supervisory regime also means that for the application of various internal based approaches and advanced approaches, regulators must first monitor, assess and approve before the use of the approaches. Banks are responsible for assessing their overall capital drafting their own risk profiles and are to present correct position to regulators. Regulators can penalize banks if found at fault. In the words of Balin (2008), regulators are also empowered by Basel II to create additional capital requirements if banks appear to be “skirting” around the capital adequacy goals of the accord. Pillar II relates directly to the operationalised governance as discussed by Williamson (1999). Williamson’s studies and discourse look at transaction cost economics as assuming that actors have the capacity of foresight to recognize and mitigate risks and uncertainty. The entrenchment of these oversight responsibilities and empowerment in the Basel implementation suggests the evidence of foresight. However, the reactionary origins of the accords suggest the lack of the foresight in the first place. Perhaps these processes will exacerbate the development of the competence-based systems needed to manage operational risks in particular and banking risks in general. This is being captured by the proactive reviews and updates that have culminated in the Basel Framework- Supervisory review Process (BIS, 2019)

The central approach in Williamson’s theory considers transaction as the basic unit of analysis. Organisations’ governance structures serve to economize on these transaction costs. It is expected that the cost of the oversight functions of the supervisors in implementing, monitoring and evaluating the frameworks would not be above the potential merits to the implementing institutions and nations. Although no published empirical research has yet determined this, from our search and review of academic literature, it may be worthwhile for supervisory firms to consider whether the cost of the oversight functions have yielded the desired benefits, especially for emerging economies. Some evidence from our empirical research has shown that the banks have found positive value in implementing Basel. The creation of BCBS in the aftermath of serious turbulence in financial markets arising from the failure of BankHaus Herstatt is aligned completely with Williamson in his assertion that

economic organisation is a means to economize on bounded rationality and mitigate hazards that accrue to opportunism. The G-10 decision to ensure that no bank would escape supervision; and that supervision would be adequate and consistent across member jurisdictions resonates with the principle of governance. Williamson holds governance as an essential activity in arguing that cognitive specialisation is a means to economize on the mind which is a scarce resource.

3.6.2.3 Pillar III -Market Discipline

Pillar III introduces disclosure requirements for firms using the Basel framework. Some of the disclosures include qualifying criteria for using specific methodologies or approaches. The market discipline aspect focuses on the role of disclosure, a subject very close to the Information Asymmetry theories discussed in 2.3.2. Provision of accurate and reliable information to the market through regulatory reports is essential. In the Basel Principle 10, Banks should make sufficient public disclosure to allow market participants to assess their approach to operational risk management. The Basel Committee believes that timely and regular disclosure of relevant information by banks can lead to enhanced market discipline and more effective risk management. The size, risk profile and complexity of a bank's operations should match the amount of disclosure. It is also known that operational risk disclosure of banks is not yet well established, as banks are still developing operational risk assessment techniques. However, banks should disclose their ORM framework to enable stakeholders to assess the bank (BCBS, 2003). Effective disclosure practices are consistent with (Stiglitz, 2002) and can enhance corporate governance in addition to reducing lemon problems and impacts on equity pricing, investment and good quality participants in the financial market.

It is important to state that several revisions were made on Basel II. However, while the Capital measurement and RWA revisions were updated in Basel III, and further consolidated and now integrated into "Basel Framework" (01, Jan 2021), the principles for the sound management of operational risk which were domiciled in Basel II, remain the substantive document for ORM as revised in 2011 (BCBS195, 2011).

3.6.3. Critique and Support of The Basel II Framework

The first major criticism of Basel II was its applicability in the emerging markets. Balin (2008) and chairs Beck and Rojas-Suarez, (2019.) argue that the accords effectively

ignore the implication of the rules on emerging markets. While Balin (2008) argues that the implication is that the accords are not truly global banking standards, because to use them as truly international banking standards predicates the inclusion of emerging markets in each accord, Beck and Rojas-Suarez (2017) argue that if only advanced countries implement Basel, there will be spill-over effects and financial stability versus financial development trade-offs. So, although Basel initially stated that the frameworks are not recommended for application in emerging market, many, if not most emerging economies including Nigeria, already adopted and apply the Basel frameworks (BCBSd430, 2017, BCBSd510, 2022, Hohl et al, 2018), which goes to prove the arguments that such a standard ought to include emerging markets to be truly global. The revised framework highlights that it is crafted for “internationally active banks”. Another argument against Basel II was from Danielsson et al (2001). They argued that operational risk modelling is impossible given the current state of data bases and technology. In contrast, Moscadelli (2004) had applied inferential analysis on operational risk data obtained from Banks’ business lines (BL) by Risk Management Group of Basel Committee and concluded that there is clear evidence of the considerable magnitude of operational risk in the businesses carried out by the 2002 loss data collection exercise (LDCE) of banks, as well as of the differences in the riskiness of the BLs.

Supporting this view, Münstermann (2005) argues that Basel II emphasizes the measurement and management of key banking risks in addition to increased emphasis on stress testing and call for transparency in corporate governance. In his evaluation, Münstermann, (2005) asserts that among other strengths, Basel II philosophy is more in tune with the industry and promotes modern and effective risk management. In agreement, Carvalho (2005) also speaks in support of Basel II when he argues that the criticisms fail to recognise the strengths in Basel II framework which brings regulatory capital closer to the risk-based economic capital that underlies it. Dowd et al, (2011) also criticized Basel II in their focal study of its most ambitious feature which they referred to as risk-based regulation. According to them, the Basel regime is powerless against the prevalent enticements to excessive risk-taking that permeate the modern financial system, particularly those associated with government-subsidized risk-taking. They argue that a more formidable framework should radicalise banking system by abolishing central banking and deposit insurance and extend personal liability to key decision makers. In contrast, Bernanke (2006a) had discussed

the importance of Basel II as a framework for promoting the stability of the financial system by ensuring the safety and soundness of banks in linking capital requirements more closely to bank risk and improving the adequacy of supervision. He highlighted the incorporation of operational risks in Pillar I which is a significant step that recognises the need for banks to minimize operational failures. He concludes that the ongoing work on the framework has led organisations to improve their systems of identifying, measuring and managing their risks.

This research into the Nigeria banking sector aligns with Bernanke's argument in respect of organisations managing risk and improving their systems. The Nigerian banking sector has been undergoing continuous reforms since 1999. However, the first major risk exercise was the assessment of the risk asset quality of banks post-consolidation, which led to the removal of eight CEOs and the injection of N600 billion into the banks (BGL, 2010). This assessment aligns with the consolidated Basel II framework and resulted in a more formidable application and strength for banks. The Central Bank of Nigeria's regulatory incursion suggests that the framework if properly implemented can yield positive results.

Various literature reveal that Basel II opened up a broad ranged discussion concerning the measurement of operational risk for banks (Embrechts et al, 2003). Measurement and quantification of operational risk remains an issue of controversial debate among authors. The various approaches and subsequent changes are indicative of the challenges involved in practicalizing this. Several authors have tried to generate models for quantifying and measuring OR (Cruz, 2002; Alexander, 2000; Embrechts, 2003; Moscadelli, 2004; Froot, 2001). While some argue on the weaknesses of quantifying OR due to the limitations of operational loss data, some focus on devising models for such quantification and others dwell on the efficiency of operational risk measures (Liu, and Cortes, 2014; Gillet et al, 2010; Saunders and Allen, 2010, Cummins and Embrechts, 2006). The Basel II framework has evolved from 2004 when it was first issued. Several consultations have resulted in version changes, modifications and updates leading to the present version which is the consolidated and integrated Basel Framework. However, the principles enumerated in the Sound practices for Basel II have remained relevant, operational and the backbone for the implementation of the international convergences which focus on capital measurement.

Basel III stress testing and global liquidity framework attempts to address the shortfalls of Basel II in areas of liquidity and coverage which arose due to the financial crisis. Although Basel III was relatively new and its implementation process ongoing, a number of authors presented critiques of the framework suggesting that it is fret with similar fundamental flaws as Basel II (Pakravan, 2014). Further updates in the face of weaknesses, coupled with the outbursts of the global pandemic led to the more recent consolidated Basel Framework January 2021.

3.6.4 Summarising Basel II Principles and Related Theories

In summary, the Basel II framework identifies 3 pillars for financial system soundness, namely: minimum capital requirements, Supervisory review of capital adequacy and public disclosure called market discipline. It also envisions significant quantification of operational risk charge, using both internal and external data and quite importantly, recognizes the need for more subjective approaches such as scenario analysis to cover situations where data are unavailable or inadequate because operational risks cannot be reduced to pure statistical analysis (Embrechts, 2006; Lopez, 2002). In the current transition, Operational risk capital charge is ultimately to be determined with the Standardized Approach, after a trajectory trial of basic indicator, standardized and advanced measurement, based on the level of sophistication and sensitivity of risk of the institutions in question.

From a theoretical perspective, most writings on the Basel framework have focused on measurement and quantification of operational risk rather than explore theories that can inform the management of operational risk. The Basel framework being a practical framework was perhaps not expected to map directly to theories, being a framework that originates for practical experiences of firms. However, it has been possible in the course of this study, to see how several aspects of the framework designed to respond to practical issues, are consistent with and can be explained by several theoretical underpinnings identified in the literature in Chapter 2. For Instance, the Pillar I of the Basel frameworks, has tried to address issues that have arisen due to Information Asymmetry between different international banks and also between banks and regulators. It is salient to highlight that international banks operate under dual supervision, one from their host country and one from their home country, creating more complexity in responsibility of reporting. Relating to Information asymmetry, we

identified that lemon problems (Akerlof , 1970) exist in the type of risk assets in banks' books. Banks especially in developed economies have taken of the gaps in the frameworks to skirt around their exact risk exposures, leading to their carrying more risks than they are declare. Also, bifurcated moral hazards exist from both bank employees and senior management, making operational and process decisions. These hazards also exist in decisions between lenders and borrowers. All these result in possible losses from risk assets. Basel tries to get banks to account for their possible losses by taking a capital charge based on risk measurements from the business areas. Risk measurements are dependent on variables some of which are known with certainty and some of which are uncertainties. Thus, probability becomes the determining factor of these measures. In this way, theoretical underpinnings of uncertainty as root cause of risks whereby Knight, Haynes, Keynes, Lawson. O'Donnell and several others have provided explanations for these risks and measurements holds.

The need to migrate from one Basel accord to another was elicited by the conducts of banks which instead of fully applying the Basel principles, exploited the loopholes. In this regard, we see manifestation of opportunism and as well as weaknesses in governance which also result in compliance conformity (McLeod, 2016; Asch, 1951; Kelman, 1958).

Other theories that have been indicated include bounded rationality, which explains that it may be possible that due to cognitive constraints, the intent and complexity of the framework may be misinterpreted. Also, the activities that resulted during the financial crisis introduced chaos in the system, which has made it difficult for the full benefits of the standards to be derived (Simon, 2000).

The Basel accords evolved from Basel I to Basel II in an attempt to address the evolving manifestations of bank risks. There is no industry more regulated as the Banking sector especially in Nigeria. Emerging markets have embraced the Basel accords which were not originally recommended for them due to their needs to obtain, retain and maintain value, relationships and opportunities of operating in the global banking system, while some banks in developed economies have found ways to circle around the rules through the loopholes in the systems, indicating different ontological positions. (Balin, 2008). Consequently, a further framework Basel III was developed to deal with the issues that arose from the crisis situation.

The matrix below has been developed to provide a visual illustrative presentation of the mapped relationships between Basel operational risk management governance principles, pillars and the theories discussed.

This matrix is presented below as Table 3.5. Governance mechanisms to deal with risks related to behavioural factors and uncertainty

Core Governance categories for ORM	Summary of Basel principles to apply	Responsibility	Mapping to Basel Pillars	Target risk category
<i>Developing an Appropriate Risk Management Environment</i>	1) Awareness and distinction of Operational Risk, Firm-wide definition of OR, Set up of framework for OR Management	Board of Directors	Pillar 1- Capital adequacy Pillar 2- Supervisory Review	1) Competence 2) Cognitive limitations 3) Information asymmetry 4) Uncertainty
	2) OR Framework subject to comprehensive, effective and regular independent internal audit	Board of Directors		
	3) Responsibility for consistent bank-wide implementation of OR framework, policies, procedures, processes for all.	Senior Management		
<i>Identification, Assessment, Monitoring and Mitigation/Control</i>	4) Banks to identify and assess the OR inherent in all material products, activities, processes and systems & assess OR before new product introduction.	ORM team Senior Management	Pillar 1- Capital adequacy Pillar 2 Supervisory Review	1)Uncertainty 2)Transaction Cost 3) Moral Hazard
	5) Banks to implement a process of regular monitoring and reporting of OR profiles and material exposures to losses to senior management and the board.	Board Senior Mgt. ORM team		1) Information Asymmetry/Opacity 2) Hubris, Moral Hazard
	6) Banks to have policies, processes and procedures to control and/or mitigate material operational risks. Periodic reviews of control strategies and adjust OR profile in light of their overall risk appetite.	Board, Senior Management ORM team		1) Competence Agency/ Moral Hazard 2) Cognitive
	7) Banks to have contingency and business continuity plans to ensure their ability to operate on an ongoing basis and limit losses in the event of severe business disruption.	ORM team		1) Uncertainty
<i>Role of Supervisors</i>	8) Bank supervisors to require that all banks, regardless of size, have an effective framework in place to identify, assess, monitor and control/mitigate material operational risks as part of an overall approach to risk management.	Regulators	Pillar 2 – Supervisory review	1) Competence 2)Information Asymmetry and Opacity
	9) Supervisors to conduct, regular independent evaluation of a bank’s OR policies, procedures and practices & to ensure that there are appropriate mechanisms in place which allow them to remain apprised of developments at banks	Bank Supervisors & Examiners		
<i>Role of Disclosure</i>	10) Banks should make sufficient public disclosure to allow market participants to assess their approach to operational risk management.	Board	Pillar 3 Market Discipline	Information Asymmetry and Opacity

Column 1 represents Basel's four core categories and column 2 represents the ten numbered Basel principles which identify the good practice of OR implementation. Column 3 shows responsible personnel in banking and column 4 showcases the mapping to Basel 3 Pillars of Risk Management. Lastly, column 5 identifies the relatable theories identified from literature and secondary research (referred to in Question 1 above), that underpin and inform the ORM practices.

It is important to state that a number of revisions were made to Basel II Capital measurement and RWA which were updated in Basel III reforms and all are now integrated in "Basel Framework" (01, Jan 2021). However, the principles of operational risk management as revised in 2011 which were domiciled in Basel II, remain substantive with minor revisions in 2021 (BCBS195, 2011, BCBSd515, 2021) Appendix 6. These principles remain the major contextual documents for this work.

3.7. Basel III

As the 2008 financial crisis problems emerged, it became obvious that the provisions of some aspects of Basel II were not sufficient to address all the weaknesses in the financial system. Basel III reforms were established as a response to the 2008 financial crisis to deal with aspects not previously or sufficiently addressed such as liquidity risk, counter party risk and stress testing of capital requirements. Basel III is a comprehensive set of measures to improve both individual financial institutions' and overall financial system's resilience by strengthening their ability to absorb shocks arising from financial and economic stress, irrespective of the source (BCBS, 2010). The Framework also aims to improve risk management, governance, strengthen banks' transparency and disclosures. Basel III targets bank-level micro-prudential regulations to help raise the resilience of banks during stress as well as macro-prudential system wide risks that can have spiral effects. The idea is that bank level resilience would impact system-wide resilience making the two approaches complimentary. It builds on Basel II especially the areas mentioned. Specifically, two main shortcomings in Basel II framework were addressed by Basel III. Firstly, for some banks, the capital requirements for operational risk were insufficient to cover operational risk losses. Secondly, banks' use of their own internal models to estimate capital requirements for operational risk proved challenging since those models could not cover some peculiar loss events such as misconduct, inadequate systems and controls. Thus, the Committee streamlined the operational risk framework removing the advanced measurement approaches which are based on banks' internal models and

Ojadi, Vivien (2022): Operational Risk Management and Basel Implementation in Banking: A Developing Economy Perspective replaced them all with a single risk-sensitive standardised approach. This provided a uniform measure to be used by all banks globally (BCBSd424, 2017).

Formerly called –A Global Regulatory Framework for more resilient Banks, it maintains the three pillars as established in Basel II. Focusing on leverage, stress testing, and counterparty risk, it appears as a subsequent review for a continuum in those areas identified as gaps, such as bank capital adequacy, liquidity, counterparty credits risks, leverage exposures by reforms. The main thrust of the framework is that it supplements the risk-based capital regulatory requirements with a leverage ratio, has a forward looking provisioning and introduces a global liquidity standard.

3.7.1 Pillar I Capital, Risk Coverage and Leverage

The Basel III framework supplements the risk-based capital requirement with a leverage ratio. A prominent feature of financial crises was that banks built up leverage both on and off-balance sheet which had severe adverse impacts. The supplementary leverage ratio is aimed at constraining leverage in the banking sector so as to mitigate the risk of inhibiting deleveraging processes. Also, it acts as safeguard against risk measurement errors by adding a simple, transparent, independent measure of risk. It will also help to reduce pro-cyclic shocks. It also highlighted the weaknesses in risk management structures in respect of complex trading activities, re-securitisations, and exposures to off-balance sheet vehicles. It includes capital loss absorption at the point of non-viability making private sector contribution more in resolving future financial crisis. In terms of risk coverage, it strengthens the capital treatment for complex securities, especially derivatives and re-securitised product exposures. It introduced more stringent measures for counter party risk which could help to reduce moral hazards. Pillar I also adds a buffer to the capital requirement by raising the equity portion of requirement. Thus, Tier I requirement is expected to increase up to 2.5% ranging from 1% increase, depending on the systemic importance of the bank. The projections of the Basel III capital buffer resonate directly with the recommendations of those who have argued against further bail-out of banks, especially too big to fail, since the bad behaviour has been pointed as one of the causes of financial crisis. This also is consistent with the use of contributing equity in dealing with moral hazards. However, the impact of such would still be more on the equity holders and not on the managers whose equity may not really be involved. The issue of agency theory therefore comes to mind as it would seem that the principles are placing burdens more on the equity holders (principals) than on the actual participants who are the managers (agents). Most of the additions on the Capital are on Credit Risks. Operational Risk

Ojadi, Vivien (2022): Operational Risk Management and Basel Implementation in Banking: A Developing Economy Perspective framework mostly remains as established from Basel II with transitional timelines increased by one year due to the pandemic. Market risk was also reviewed in respect of addressing systemic risk and interconnectedness especially from systemically important banks. Again, shocks were amplified due to procyclicality but were even much worse due to interconnectedness of such banks. Basel continues to look into ways to foster more shock absorption from such banks. However, this aspect shows consistency with Simon (2000)'s assertions on chaos and interconnectedness of systems. The manifestations of chaotic behaviours and interconnected amplified crisis, relates to Simon's discourse on decisions under risk and uncertainty which are affected by information asymmetry. Example includes freezing of interbank lending by financial institutions during the financial crisis. Uncertainty about the status of other banks led banks to freeze lending to avoid risk.

3.7.2 Global Liquidity Standard:

In addition to the capital requirements buffers, Basel III introduced a global harmonized liquidity standard as well as more robust supervisory requirements. The essence is to achieve two complementary goals; First *"to promote short-term resilience of a bank's liquidity risk profile by ensuring that it has sufficient high quality liquid resources to survive an acute stress scenario lasting for one month, and second, to promote resilience over a longer time horizon by creating additional incentives for a bank to fund its activities with more stable sources of funding on an ongoing structural basis."* (BCBS189, 2011). They used Liquidity Coverage Ratio (LCR) for the first objective and Net Stable Funding Ratio (NSFR) for the second. The Principles for Sound Liquidity Management and Supervision incorporates the lessons learnt from the financial crisis on liquidity. In addition to the ratios, supervisory monitoring remains emphasized. The Basel III reforms have been very useful for bank resilience in the face of challenges and priorities during the covid19 global pandemic. Banks were better capitalized and had more liquidity (Carstens, 2020).

3.7.3 Pillar II Risk Management and Supervision

The major additions to this pillar from Basel II are in areas of off-balance sheet exposures, securitisation activities, compensation practices, valuation practices, stress testing, corporate governance and supervisory colleges. Basle III requires buffering of governance and risk management structures in order to capture the above-mentioned areas much more effectively. It also provided an extensive guidance on Interest rate risk in the banking book (IRRBB) and the IRRBB management process. Disclosure requirements are enhanced and the threshold identifying outlier are made stricter.

3.7.4. Pillar III Market Discipline

The additional requirements introduced in the market discipline are in the areas of exposures to securitization and off-balance sheet vehicles. Enhanced disclosures requiring details of components of the regulatory capital, including comprehensive explanations of how they are calculated were added to the market discipline pillar. It produced an integrated and improved framework, covering all the reforms to the Basel framework and introduced a console of key prudential metrics for banks. Basel III Reforms of 2017 made some changes to restore credibility in the calculation of risk-weighted assets (RWAs) (BCBS424, 2018). It increased “the level and quality of capital through the Tier 1 capital calculations, enhanced risk capture, constrained bank leverage and improve bank liquidity. It limits procyclicality” (BCBS424, 2018).

Basel III reforms have been integrated into the Basel Framework which was further updated on 22 January 2021 and now incorporates all changes that the BCBS has published since the December 2019 of Basel III Launch. For operational risk, these reforms highlight the methodologies for calculating operational risk capital requirements. The OPE10 explains how RWA are to be calculated. In the future Framework expected to take effect from January 1, 2023, the Framework indicates the components of the Business Indicator for calculating the operational risk capital requirements. In addition, it describes how to apply the standardised approach for measuring operational risk capital requirements in a banking group (OPE10, 2020). The AMA is discontinued on January 2023.

Figure 3.5 provides a summary of Basel III Reforms (BCBS).

Basel Committee on Banking Supervision reforms – Basel III

Strengthens microprudential regulation and supervision, and adds a macroprudential overlay that includes capital buffers

		Capital			Liquidity	
		Pillar 1	Pillar 2	Pillar 3		
		Capital	Risk coverage	Containing leverage	Risk management and supervision	Market discipline
All Banks	<p>Quality and level of capital</p> <ul style="list-style-type: none"> • Raising minimum common equity to 4.5% of risk-weighted assets, after deductions. • A capital conservation buffer comprising common equity of 2.5% of risk-weighted assets brings the total common equity standard to 7%. Constraints on a bank's discretionary distributions will be imposed when it falls into the buffer range. • A countercyclical buffer within a range of 0–2.5% comprising common equity will apply when credit growth is judged to result in an unacceptable build-up of systematic risk. <p>Capital loss absorption at the point of non-viability Allowing capital instruments to be written off or converted to common shares if the bank is judged to be non-viable. This will reduce moral hazard by increasing the private sector's contribution to resolving future banking crises.</p>	<p>Revisions to the standardised approaches for calculating</p> <ul style="list-style-type: none"> • credit risk; • market risk; • credit valuation adjustment risk; and • operational risk <p>mean greater risk-sensitivity and comparability.</p> <p>Constraints on using internal models aim to reduce unwarranted variability in banks' calculations of risk-weighted assets.</p> <p>Counterparty credit risk More stringent requirements for measuring exposure; capital incentives to use central counterparties for derivatives; a new standardised approach; and higher capital for inter-financial sector exposures.</p> <p>Securitisations Reducing reliance on external ratings, simplifying and limiting the number of approaches for calculating capital charges and increasing requirements for riskier exposures.</p> <p>Capital requirements for exposures to central counterparties (CCPs) and equity investments in funds to ensure adequate capitalisation and support a resilient financial system.</p> <p>A revised output floor, based on Basel III standardised approaches, limits the regulatory capital benefits that a bank using internal models can derive relative to the standardised approaches.</p>	<p>A non-risk-based leverage ratio including off-balance sheet exposures is meant to serve as a backstop to the risk-based capital requirement. It also helps contain system-wide build-up of leverage.</p>	<p>Supplemental Pillar 2 requirements address firm-wide governance and risk management, including the risk of off-balance sheet exposures and securitisation activities, sound compensation practices, valuation practices, stress testing, corporate governance and supervisory colleges.</p> <p>Interest rate risk in the banking book (IRRBB) Extensive guidance on expectations for a bank's IRRBB management process: enhanced disclosure requirements; stricter threshold for identifying outlier banks; updated standardised approach.</p>	<p>Revised Pillar 3 disclosure requirements Consolidated and enhanced framework, covering all the reforms to the Basel framework. Introduces a dashboard of banks' key prudential metrics.</p>	<p>Global liquidity standards and supervisory monitoring</p> <p>The Liquidity Coverage Ratio (LCR) requires banks to have sufficient high-quality liquid assets to withstand a 30-day stressed funding scenario that is specified by supervisors.</p> <p>The longer-term, structural Net Stable Funding Ratio (NSFR) is designed to address liquidity mismatches. It covers the entire balance sheet and provides incentives for banks to use stable sources of funding.</p> <p>The Committee's 2008 guidance Principles for Sound Liquidity Risk Management and Supervision takes account of lessons learned during the crisis. It is based on a fundamental review of sound practices for managing liquidity risk in banking organisations.</p> <p>Supervisory monitoring The liquidity framework includes a common set of intraday and longer-term monitoring metrics to assist supervisors in identifying and analysing liquidity risk trends at both the bank and system-wide level.</p>
	SIBs	<p>The Committee identifies global systemically important banks (G-SIBs) using a methodology that includes both quantitative indicators and qualitative elements. In addition to meeting the Basel III risk-based capital and leverage ratio requirements, G-SIBs must have higher loss absorbency capacity to reflect the greater risks that they pose to the financial system. The Committee also developed principles on the assessment methodology and the higher loss absorbency requirement for domestic systemically important banks (D-SIBs).</p>				

Figure 3.5 Basel III reforms

Source: BIS website

3.8. Integration of Basel Principles and Accords to Risk Theories

In this chapter, the question– “*at a practical level, how do the theories of risk relate to the Basel Principles*” was examined. The Basel principles and the Basel framework were presented starting from the origins. The components, their practical applications and changes over time were identified and sequenced alongside the risk theories identified in Chapter 2 that can inform the principles at a practical level. Having considered the principles for the sound management of operational risk and the role of supervision, including the trajectory of Basel frameworks from Basel I through The Basel Framework, it has been possible to relate several appropriate aspects to the theoretical foundations in which consistency have been found. Such theories include theories of Haynesian, Knightian and Keynesian contributions on risk and uncertainty, Information Asymmetry as projected by Stiglitz, Simon’s bounded rationality as well as governance and competence (Williamson). It is evident that the implementation of the Basel principles requires a process of utilising strong governance structures. It stresses the importance of risk governance as part of a bank’s overall corporate governance framework and promotes the value of strong boards and board committees together with effective control functions (BCBS195, 2011; BCBSd328, 2015), all geared towards the ultimate goal of managing risks and uncertainty that could result in depletion of banks’ capital. It also involves developing competence to deal with the future of our financial systems. Whether those competences translate to the individual bank players and participants remain to be seen. Such competences would be essential in furthering the purpose of international convergence in building globally stable, resilient and sound banks. They would also engender the development of sound operational risk management systems built on values.

A broad outlook of integrated governance and competency development could also reduce the transaction cost of implementation of frameworks. It will also impact on the applicable measures of risk and uncertainty. The Basel processes require that consultations are made. Such consultations should include both academic and practitioners. It would be useful to apply theoretical inquests in the development of practice and to build frameworks that take cognizance of the relevant theoretical implications. Basel pillars include supervisory review and market discipline both of

which work in tandem with governance, controls and information. Weak regulatory oversight can shelter weak risk governance while compensating collective incompetence which translates to costs in addition to operational losses.

Another important issue is that BCBS did not initially recommend the implementation of the frameworks and principles for emerging economies, which was rather flawed. Subsequent frameworks have been subtle on that flaw, utilising specifics for “systemically important banks” and “international banks”, but not limiting developing economies or emerging markets. Almost all emerging economies have already embraced the Basel principles, but since they are not mandated, they are at liberty to apply as they wish. Such applications can be saddled with errors or “wiggles” that can distort the information and data which are salient for stability, both in domestic economies and host economies. Even with or without errors, there are evolutions of good practices, the knowledge of which could be lost to the global financial system instead of providing opportunities for development of transferable competences and practices. Loss events often impact most markets and huge ones affect banks globally whether international systemically important or not, because money circulates in the global economy. For instance, Foreign Direct Investments in Nigeria treasury bills through Nigeria banks have provided profits to foreign banks over time due to higher interest rates. When such foreign banks lose money in their own countries, they pull back their investments in Nigeria; an action that creates a cycle of global depletion of resources and decline in business activities. Thus, the interconnectedness of systems ought not be overlooked when establishing global frameworks and standards. Also, systemically important banks have subsidiaries and partnerships with banks in emerging economies. Such subsidiaries report both to host and holding countries. Furthermore, most emerging economies have banks with international presence, even if just a few branches. Several Nigeria banks are on London and New York Stock exchanges. In addition, other direct investments including fixed income securities from emerging economies are good income sources for internationally systemically active banks as well as private and public institutions in developed nations. Participants in foreign direct investments also wish to know that their equities are in resilient institutions.

The adoption and use of the Basel Accords predicate that emerging economies are included in evaluating and judging related banks. The next important aspiration is to

consider how these relevant theories, practices and significant discourses play a further role in ORM in the Nigerian banking system as banks embrace and implement the Basel principles and frameworks. Of particular interest are the challenges associated with developing economies such as weak infrastructure, young governance systems and ethics. Nigeria like most other economies, has experienced bank failures resulting from mostly governance weaknesses, undue exposures to risks, and unethical practices (NDIC, 2009- 2017).

These operational risks are inherent in all banking products, activities, processes and systems, and are mostly driven by people risk factors. The effective management of operational risk is a fundamental component of a bank's risk management programme. The establishment and implementation of such programs depend on the critical importance of effective risk governance for the safe and sound functioning of banks. In appreciation of all these issues, this work has adopted a case study approach to provide an empirical examination of the adoption and implementation of Basel in Nigeria banking system. Chapter 4 provides a detailed explanation of the methodology employed for this study and while chapter 5 presents the Case study- The Nigerian Banking System.

Chapter 4: Methodology

4.1 Introduction:

This study sought to explore operational risk management in the Nigeria banking system, with a focus on examining the adoption and implementation of the Basel principles and framework post consolidation. The impacts, challenges, opportunities and lessons for both theory and practice are also examined. The important aspirations of the study are summed up in the following research questions:

1. What are the theoretical underpinnings of Operational Risk Management and how do these theories inform the Basel principles of ORM?
2. What is the extent to which the Nigerian banking system after its consolidation, implemented the ORM framework of the Basel Rules? What opportunities and challenges have been experienced as a result of its adoption?
3. What are the lessons from the Nigerian context and the experience of its banks for ORM theory and practice in general and Basel principles specifically?

The methodology or systematic plan for this study was enacted to dig into the theories of risk from various disciplines with focus on ORM, and to discover how these theories inform ORM and relate to the Basel Principles. It also tried to find out the extent to which the Nigerian banking system after its consolidation in 2006 fits to the ORM practices implied by the Basel principles and frameworks, and in a developing economy context (i.e. Nigerian banking system), to discover how these theoretical and practical ORM principles perform including their strengths and weaknesses. Thus, the chapter presents the methodological platform for the conducting of the research. Section 4.2 provides a background discussion on social sciences research paradigm to which this subject belongs. Next, it describes philosophical approaches assumed in the conduct of the research, registering its ontological and epistemological

foundations; followed by the research design and strategy. Section 4.3 highlights the methods used in collecting data, which enabled the researcher to obtain empirical knowledge about the phenomenon of Operational Risk and the applications of the Basel principles in ORM in the Nigeria banking system. The chapter concludes with discussions on the ethical observations, limitations, and a summary of the chapter.

4.2. Research Approach and Strategy:

Research in Social Sciences follow competing methods of quantitative and qualitative data collection (Blumberg et al, 2005; Collis and Hussey 2003) unlike in pure sciences where quantitative methods are predominant, deriving from scientific formulae, assumptions and empirical processes. The most appropriate method for acquiring data, understanding and attempting to resolve any given problem depends on a large number of variables. Such variables include the object of research, environment, information technology, cost, time. No research method is considered 100% free from faults but some command more respect of both scientific and social researchers than others (Hart, 2005). Under diverse situations, the process of building a research design and adopting a method to fit the research goal and achieve stated objectives is what research methodology is about (Bryman and Bell, 2007).

4.2.1 Philosophical Approaches:

Like most research, the design is based on the philosophical position of the researcher. Typical philosophical positions are trajectories of researchers' beliefs and their perception of the nature of reality (ontology) and nature of knowledge (epistemology). An appropriate approach to research involves philosophical assumptions as well as distinct methods or procedures (Creswell, 2011). This highlights the importance of a researcher identifying and bringing a philosophical worldview assumption to the research. Guba's (1990:17) definition of 'Worldview' as "a basic set of beliefs that guide actions" has been adopted.

Ontological and Epistemological Positions: Several Ontological positions are known to exist. They include: i) Realism which suggests that there is a reality in existence independent of the way humans observe and describe it. ii) Constructivism; which suggests that reality is a social construction that can be defined and altered by the way humans interact with it. This implies that each researcher presents his/her version of reality and iii) Subtle Realism which holds that there are some aspects of reality on

which researchers cannot impact. Such elements of reality exist independently of whatever claims researchers can make about them following their selective research process. There are assorted versions of each ontological view like in a continuum. On the other hand, Epistemological positions include a) Positivism- which suggests that truth is fixed and knowledge as a process is rational implying that knowledge can be observed, studied and objective conclusions drawn because knowledge is clear, factual, and can be explained, b) Critical- which holds that knowing the truth requires testing against empirical data and since these data are generated by humans, knowledge derived from them can only be considered tentative knowledge. They can change with further human tests and activity; c) Postmodernism- which suggests that whatever is counted as knowledge or truth can be questioned because the complexities of life and existence make all things transitory, and lastly d) Open approaches to knowledge, which suggests that knowledge is provisional and always developing. It involves both rational and critical epistemology and everything is open to criticism,

This study draws from interpretive approach, using constructive realism and open approaches to knowledge as the philosophical windows. The justification for this methodological stand is that constructive realism offers a suitable framework for the development of an in-depth understanding of an under researched phenomenon (Creswell 2003) and leads to the unearthing of richly detailed narratives on operational risk management practices in the Nigeria Banking system. Applying constructive realism engenders the acknowledgment that in the context of banks and application of Operational Risk frameworks in Nigeria, long run reality remains dependent on how the researcher approaches them, although some elements of reality may in the short run not be impacted. The emphasis is applied through a selective research process. Creswell's use of theory generation, understanding, and multiple-participant meaning in analysing qualitative data is co-opted. In this context, the facts are needed, even though they may be imperfect, and they need to be understood and explained using theory (Gillham, 2000). Gillam further suggests that although theory is assumed to be something established, it is also something researchers create, perhaps by modifying existing theory or by starting from scratch. Gilliam's postulation remains highly relevant in this case, where operational risk deriving from a practice base, involves the creativity of assigning, modifying and even abstracting theories. The interpretive

window implies the utilization of first-hand accounts with in-depth, rich and broad descriptions and provision of findings in engaging and sometimes evocative form (Yin, 2003). It also implies inductively generating patterns of meaning by applying them to the first-hand accounts and extracting in rich details, practical experiences, processes and systems. Interpretive window further acknowledges that the social world is not easy to know or define as the natural world, because humans are not fixed in act, deed or thought. Therefore, understanding people requires accepting their interpretations and the meanings they give to what they do. The above two approaches were adopted after due consideration and arriving at the fact that none of the other philosophical positions is better suited to inductively develop and generate patterns of meaning in the way and manner that can adequately capture and present the information from the research into Nigerian banking system. This research is unique because it is a qualitative research in a field dominated by quantitative work which people find easier to handle. It forays into a perspective of banking risks which is rarely researched- the people issues, more so, through primary research.

4.2.2. Research Design and Architecture

The usefulness of research is inherent in the existence of a gap in knowledge. The gap in knowledge is then translated into a research issue, which the researcher seeks to explore, aiming towards a possible resolution. In this quest Trafford and Leshem (2010:170) established that in creating an architecture for a research project, the research architect aims to use research statements and research questions to build a conceptual framework which would be the foundation for the research design. A research design represents a logical set of statements with qualities that can be judged by testing their trustworthiness, credibility, confirmability and dependability (Yin, 2003; Office, 1990). The tests of validity were formally categorized into:

Construct Validity: E.g. Use multiple sources of evidence at Data Collection.

Internal Validity: E.g. Build patterns and match data at Data Analysis.

External Validity: E.g. Use theories and replicate logic at Research Design.

Reliability: E.g. Develop a case study database at Data Collection. (Yin 2003:34).

These four tests of validity summarized in Kidder and Judd, (1986::26-29), namely, tests of construct validity, internal validity, external validity and reliability were performed throughout the process of this research. Their specific applications are shown below in Table 4.1

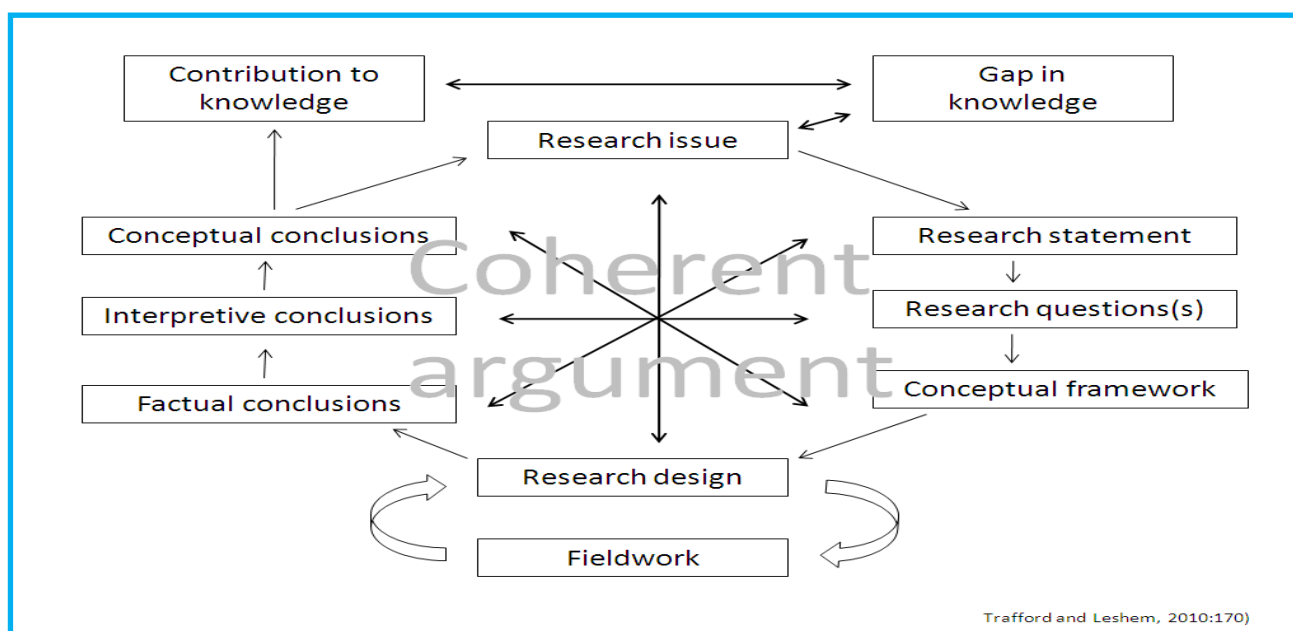
Table 4.1: Tests of validity

Test	Design Tactics	Application Phase in research
Construct Validity	Several sources of evidence from the banking system: Public banks (Plc), private banks (Ltd), and regulators and UK bank.	Data collection stage
Internal Validity	Manual thematic pattern extraction. Computer assisted pattern extraction and matching. Discrepant highlight	Data Analysis stage
External Validity	Theoretical inquest and extrapolation	
Reliability	Repeated test of narratives from participants. Matching of themes	Data collection and Data analysis

(Developed by researcher from this fieldwork evidence)

Upon execution of fieldwork, factual conclusions, interpretive conclusions and conceptual conclusions are derived from the fieldwork enabling contributions to be made to knowledge and towards filling the gap. Trafford and Leshem's (2010) architecture has been applied in this research work. This architecture is depicted below in Fig 4.1:

Figure 4.1 Research Architecture



Trafford and Leshem, 2010:170)

Based on the model, the gap in knowledge was identified in terms of application and adaptation of ORM in Nigeria, a developing economy which like other developing economies, embraced the Basel Accords despite the injunction that were specifically for advanced economies and not recommended for developing economies. It became important to find out why developing economies embarked on implementing the Basel accords, what it implied for them in the global financial system if they did not adopt the Basel framework, how they defined operational risk, how they adapted the Basel principles to their specific circumstances and environment, at what stage they are at, what the benefits, strengths, weaknesses and challenges as well as lessons from the process are, and if indeed, Basel's exclusion of such economies would be considered apt in view of the outcome of their adoption of Basel. Nigeria banking sector constitutes a very strong case for examination considering their proactive, regulatory induced banking consolidation which seemed to have pre-empted Basel's initiatives on regulatory capital and ORM and their quest to play in the global financial system. Based on this, a case study approach was adopted in order to explore in-depth, this under-researched phenomenon.

Armed with the identified gap and attendant points listed above, research issues became more evident and clearer, leading to formulation of the research questions. Thereafter, it became imperative to understand the concepts of Risk and Operational risk in banking and to develop a conceptual framework. The conceptual framework followed with the review of theoretical/conceptual background literature. Evidence from theoretical inquest showed that the concept of risk is versatile and has been defined from various perspectives. Risk in banking is also perceived from angles of dispersion and volatility, bordering on credit, market and such traditional risks, while operational risk bothers on actions of humans, processes and systems including external events. Most of the actions are managed from the pivot of governance. Theories of corporate governance in banking therefore add to the theoretical base for the research design. The theoretical base is also one of the two integral aspects of this dual faceted study on operational risk management in banking and Basel principles' applications, thus implicating a robust research design. The research was designed to be an incursion into banks and regulators in the Nigeria banking sector. With the fore knowledge obtained from theoretical background, the process enabled

an excavation of how these theories inform the practice of ORM in Nigeria banking system.

Chapters 1 to 2 discussed the background to the study and the relevant theories including abstractions from various disciplines on the concept of risk in general and operational risk in particular. Chapters 3 explain Basel Principles, Accords and Framework, Chapter 4 presents the process of the research, activities carried out, people met, questions asked, documents reviewed, data collected and analysis. Chapter 5 reveals the details found about the Nigeria banking system pre and post consolidation. Findings from the survey are presented in three chapters - 6, 7 and 8 addressing each question. Chapter 6 focuses on the summary of the theoretical excavation and abstraction, Chapter 7 presents the extent to which the Nigerian banking system after its consolidation, implemented the ORM framework of the Basel rules, as well as opportunities and challenges. Chapter 8 summarizes rest of the findings from the empirical enquiry including lessons learnt implications as well as conclusions drawn. Chapter 9 demonstrates contributions to knowledge, practice and recommendations.

The research questions identified in Section 4.1 stem from the gaps highlighted in this study. So far, questions 1 and 2 have been reasonably addressed as indicated below: Question 1a: The theoretical and conceptual framework presented in Chapter two has elucidated upon a trajectory of the theories of risk, charted through a collage of interdisciplinary orientations, starting from classical economics through the various dissensions, up to contemporary discourses on Operational Risk Management in banking. The empirical literature review in Section 2.7 implicates the evidence that there is paucity literature on theoretical frameworks for operational risk management in banking. This could be related to operational risk being a practice-based discipline. From Basel's institutionalisation of operational risk in Banking, most academic writings have focused on risk management process, measurement of risk, value at risk calculations and other such quantitative aspects with little if any, on economic theory as deduced from the literature review, in addition to Pakhchanyan (2016). Thus, in this study, the theoretical underpinnings of Operational Risk Management have been developed, articulated and illustrated in Figure 2.2. Economic theories such as Haynes, (1895)'s projections of uncertainty as the root causes of risk, Knight (1921)'s

foundational definition and distinction of risk and uncertainty, Keynes (1937)'s probability measures of risk, Simon (2000)'s bounded rationality, Agency theory including information asymmetry and moral hazard (Stiglitz, 2000), Competency (Williamson, 1999) and knowledge-based (Foss, 1996) have so far been implicated in the conceptualisation. The mapping of these risk management theories to the governance perspectives in banking provide sound theoretical foundations that explain the phenomenon of operational risk and its management. This aspect of the research has been based on secondary exploration of existing materials on ORM. Various data content and relevant discourses have been studied, extracted, and matched, with a view to providing a meaningful framework.

Question 1b: The relationship between the theories and the Basel principles, which not only institutionalised OR, but also established the universal framework for managing OR have been traced and linkages have been highlighted in Chapter 3, and summarized in Chapter 6 of this discourse. (see Table 6.1)

Question 2: What is the extent to which the Nigerian banking system after its consolidation implemented the ORM framework of the Basel Rules? What opportunities and challenges have been experienced as a result of its adoption?

Question 3: What are the lessons from the Nigerian context and the experience of its banks for ORM theory and practice in general and Basel principles specifically?

Questions 2 and 3 form the thrust of the empirical research. The empirical research design involved firstly, a single case of Nigeria with several units ranging from banks to regulators. An additional case of a consolidated UK banking group test case was added for a comparative discussion. The process involved an accumulation of descriptive information because of access to a situation that is inaccessible to direct scientific observation. This process is revelatory, yet embedding, stemming from intricacies, sensitivity and opacity of information (Yin, 2003). The primary field work contributed in displaying the practical aspects of Basel adoption, adaptation and implementation by Nigeria banks – a developing economy perspective. The factual and interpretive conclusions drawn, provide relevant contributions to the gap.

4.2.3 Qualitative Analysis:

Several academic researchers have debated on the superiority of quantitative and qualitative research, arguing on each side of the paradigm (Hunt, 1991). Goulding (2002) while analysing several of the opposing views, suggests that those supporting qualitative research argue that “positivists in management-related subjects are rigid, pseudo-scientific, myopic, mechanistic and limit themselves to testing of existing theories at the expense of developing new theories while supporters of quantitative perceive qualitative research to be unscientific, exploratory and laden with conjectures and distorting of good science” (Goulding 2002:11-12). Goulding argued that the divide is due to the misconceptions and misinterpretations based on philosophy and nature of the two. She maintained that both have strengths and weaknesses, and each has important roles in generating knowledge. Bryman (2001) as well as Trochim (2005) held that having been involved in the debate, the conclusion is that the differences exist mainly at the level of assumptions but disappear at the data level because while quantitative data can be converted into words, qualitative data can be converted into numbers. Thus, each method is useful for its purpose. Also, as Creswell (2013) suggested, the nature of the topic and research questions will determine the method. Qualitative method, however, has enabled the enrichment of management related subjects through innovative interpretive approaches despite its complexity, in contrast to the single reality of positivist approach. Qualitative approach also enables a researcher to gain an in-depth understanding of the problem because they are usually descriptive and inferential in character (Gillham, 2000). Creswell & Poth (2013) suggested that qualitative studies are most applicable in under-researched environments.

The Nigerian banking sector and its application of the Basel principles in operational risk management satisfies the above conditions because there is minimal research in that area. While a number of researches have ventured into operational risk in Nigeria banking, majority have focused on efficiency and performance, analysing secondary data and measuring ratios (Section 2.7). Furthermore, empirical evidence revealed that most researches conducted on Operational Risk and Basel in financial institutions specifically from 1998 to 2016, have focused on risk measurement, estimation, testing of adequacy, loss data and applications, all of which are quantities requiring quantitative methods. A survey of published articles on Operational risk revealed that

96% of work done on Operational risk focused on risk measurement and estimation, for Basel I, 90% on the same for Basel II and 78% on Basel III, highlighting at Basel III that from the pillar of disclosures, there is Zero research from theoretical perspective or within the framework of economic theories. (Pakhchanyan, 2016). In this evidence lies the uniqueness of this study which takes a trail blast approach by exploring the theoretical underpinnings and relating how the theories and Basel principles work in the Nigeria context. This further deepens the justification for the use of Qualitative methods which is a contrast to most other previous research work. Additionally, the use of qualitative methods implies direct interaction with the participants, and this engendered opportunities for probing, and allowed participants to freely respond to issues and questions. It is participant-focused, reflecting the points of view of the participants rather than the researcher as in Quantitative research. Qualitative research also gave room for the follow-on questions that were obtained unrecorded, also unanticipated information and data on the realities, which otherwise, respondents would have self-consciously withheld. This important attribute which was observed in the field intensifies both the construct and internal validity of this work. The strength of the qualitative data analysis reflects in it being a process that leads to contextual understanding of values, beliefs, processes, behaviour and generating rich and deep data (Bryman and Bell, 2009).

4.2.4 Case Study Research Strategy:

This research adopted a case study approach. The case for this study is Nigeria banking system and the choice is based on the need to examine their application of Basel principles and framework, and the impacts. There are various strategies that can be applied in conducting research. They include experiment, survey, archival analysis, history and case study (Yin, 2003). Each has its own advantages and limitations and it is a misconception to try to arrange them hierarchically. Yin, (2003:5) suggests that three other conditions distinguish these five strategies, and they are:

“The type of research question posed;

The extent of control an investigator has over actual behavioural events and;

The degree of focus on contemporary as opposed to historical events.”

Experiments are used in studies requiring specific answers, require control of the behavioural events such as in laboratory and focus on contemporary events. Surveys

use populations or representative samples and focus on answering questions on contemporary events, usually generating numeric data. Archival analysis investigates document recordings of mostly past occurrences. They require no control of behavioural events. History form of questions are how and why, require no control of behaviour and are not contemporary events. Case studies answer how and why questions, do not require control of behavioural events and focus on contemporary events. Although the strategies have some specific characteristics, they also overlap, so it is pertinent that sometimes, strategies are mixed while ensuring avoidance of misfit. It is therefore important to consider alignment in the strategy and methods by identifying if the work will be exploratory, explanatory or descriptive. The methodology chosen for this work enables a combination of exploratory, explanatory, and descriptive approaches. Based on the above, Case Study strategy was found suitable.

A case study has been defined as an empirical enquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident (Yin, 2003). The above two contexts are highly evident in this research. Also, according to Yin, conducting a case study has been a popular research strategy in psychology, sociology, business, and in economics where it is used to examine structure of an industry, economy of a city and such matters. The distinctive need for its use stems from an aspiration to understand complex social phenomena (Yin, 2003), and it allows researchers to acquire a holistic and meaningful view of real-life issues. Gillham (2000) suggests that a case can be an individual, a group, a community and can be multiple cases and it usually seeks to answer loose research questions to begin with, which require the actual field work to determine the eventual theories that make the most sense. All these scenarios exist in the exploration and application of Basel principles in ORM in the banking sector of a developing economy. Therefore, making the use of a case study strategy is potentially the best approach in comparison to survey, experiment, archival analysis, and history. The Nigeria Banking system which is the case has been explained in detail in Chapter 5. Like any other strategy, case study has its own weaknesses. The major one being the researcher's bias especially on inferences and interpretation of information. Already, the philosophy adopted is constructivism which provides for the perspective of researcher. This philosophical foundation circumvents the bias weakness. Furthermore, the detailed theoretical inquest undertaken in

Chapters 2 and 3, provides a foundation to articulate information in a more objective and detached manner. Furthermore, from a technical perspective, the four tests summarized in Kidder and Judd, (1986:26-29), namely, tests of construct validity, internal validity, external validity and reliability were performed throughout the process of the research and their specific applications are as presented in Table 4.1 above (Section 4.2.2).

4.3 Method of Data Collection

Research method refers to the various techniques used in collecting, extracting and analysing data. Yin (2003) discusses six sources of evidence for case studies. They include but are not limited to documents, archived records, interviews, direct observation, participant-observation, and physical artefacts. Some of these sources of data are primary while some are secondary. The qualitative research employed here, involved both primary (personal interviews) and secondary (collection and reviews of resources, files, data, reports from regulatory and supervisory body, procedural documents and financial statements) sources of data. While primary sources are usually considered more original, the added use of secondary sources towards determining the extent to which the consolidated Nigerian banking system fits to the ORM practices implied by the Basel Rules, aids in addressing research question No 3. Also, employing various sources meets the research principle of multiple sources of evidence thereby increasing research quality and construct validity. Data and its analysis methods can be quantitative or qualitative or both. This study utilized mostly qualitative methods as it provided the best opportunity to address the research problems (Creswell, 2014).

4.3.1. Sampling and Data Collection - Primary Data

The proposal for this research was made on a scaled primary survey involving as many of the 21 post consolidated banks as possible, with a minimum of ten banks as benchmark due to the challenges highlighted in the limitations section. The minimum was to cover both public and private banks as purposive samples. The decision was orchestrated using information technology to determine banks whose financial statements and information are publicly available i.e. publicly quoted banks. Efforts were also made to contact privately owned banks in the field, to determine if there were basis for non-comparison that could be established and to ensure that the

research is inclusive of both privately owned and publicly owned banks in the country. To ensure a broad coverage, respondents targeted were drawn from local banks, internationally active banks and banks with foreign parent companies. Additionally, a West African regional bank was also interviewed as well as a UK bank. Fifteen operational risk personnel from 11 commercial banks and seven supervisors and examiners from two regulatory institutions were eventually interviewed. By the fifteenth banker and the seventh regulator, data was saturated, because additional findings became redundant having been previously covered. Saturation is an important principle in qualitative research. According to Hennink & Kaiser (2019:1), "*saturation is used to determine when there is adequate data from a study to develop a robust and valid understanding of the study phenomenon and it is applied to purposive (nonprobability) samples, which are commonly used in qualitative research*". Saturation indicates that based on data so far collected or analysed, further data collection is no more required (Saunders et al. 2018). The researcher established saturation, using base size, run length and new information threshold as described by (Guest et al, 2020). Although the interviews ranged from 45 minutes to 75 minutes, the minimum average length of time for each interview was fifty-three minutes. By the eleventh banker interview, information became repetitive but the researcher continued interviewing bankers till the fifteenth interview, by which time no new information was being obtained. Secondly, the minimum time was continued as no interview was stopped before the pre-allocated time, even when it appeared tedious and both parties felt exhausted. All the scheduled time were utilized, ensuring that adequate probe and recall opportunity was provided. This enhanced reliability by asking the same question in different forms to confirm understanding and consistent answers. The researcher also provided each interviewee with contact information and a follow-up call to thank interviewees and to enquire about any additional information that may have come to mind after the interview. In respect of regulators, only the regulators directly involved in the research phenomenon were relevant. This was a purposive sample. Any other question or request the researcher had, was referred back to those already interviewed.

Some of the staff of commercial banks brought experiences and knowledge from their previous bank employers, enhancing the primary data to cover both their current and past locations and experiences. Most of the heads of Operational risk have moved

from one bank to another in operational risk unit as they took on higher positions and emoluments. Participants met all the required purposive criteria as follows: they were governed under the same oversight and regulatory requirements ensuring that both private and public banks faced the same regulations, rules and market discipline. They were all involved in risk management and so held some expert experience required to obtain valid and relevant information and data. The initial participants were drawn from the researcher's personal contact with various banks, and thereafter, through their fellow bank practitioners, in line with Bryman and Bell (2007). To guard against sample frame bias, participants included both past and present operational risk practitioners and included both operators and regulators to ensure that discrepant views have equal place. Participants were directly involved in operational risk management, corporate governance, internal control and audit, compliance and supervision, in Nigeria banking system. This was in line with being a purposive selection and ensured the integrity of data obtained. Creswell (1998:118) states that a "purposeful selection of participants represents a key decision point in qualitative study" because they are key informants with knowledge and insights into the phenomenon under review. In this case, the sampling was purposive as its essential value was in obtaining data from those who are knowledgeable in the phenomenon of ORM and Basel, in Nigeria banking sector, otherwise the result will be meaningless. That made purposive sampling apt. It is essential to highlight that the researcher's background and positionality from her several years of experience in the Nigeria banking sector, was useful for the entry point to recruit participants. In addition, the researcher's prior knowledge and experience in the Nigeria banking industry ensured that she was conversant with the population and made relevant decisions in recruiting participants to obtain appropriate coverage and saturation. Besides this fact, the researcher had no direct impact on the topic of discussion having left the industry and the country prior to the onset of risk-based supervision in 2008 and adoption of Basel in 2009. Operational Risk units were non-existent at the time the researcher left the industry. The researcher's experience and positionality were limited to the happenings of the banking consolidation of 2005 to 2006. Operational risk management was new knowledge from the practice perspective.

It is essential to highlight that the importance of governance as derived from literature was not lost in the research sample process, rather it was drilled down. The initial

contacts for the study were board members- three directors from B11 and B9 and B2 in that order. At the brief meetings to introduce and pilot the research, each director referred the researcher to either the CRO or Head of Operational Risk (HOR) in their bank. Directors were all of the view that the HORs are in the best position to provide accurate and detailed information on the study topic, being the specialists driving the process in the bank. In addition, the regulators provided in-depth content and perspective on the status of governance in the banks as reflected in the findings on bank boards. Monitoring and evaluating boards is a high level requirement in their regulatory reviews and supervision. As a result, the regulators' records and inputs on bank boards, provided information on board activities and performance for all the banks. While the importance of governance is emphasized in the management of operational risk, Basel provides a separate framework for corporate governance in banks drawn from OECD, as well as corporate governance principles (BCBSd328, 2015) which are distinct from operational risk management principles (BCBSd515, 2021). Operational risk management principles and framework are the focus of this study. Although there are overlapping requirements in respect of the responsibility of the board, this study recognises the distinctions as various emphases as established by Basel. The research found that Risk governance which concerns all risks- credit risk, market risk, operational risk, liquidity risk reputational risk, etc, is only one integral part of a banks' corporate governance. This scope of this study is limited to only operational risk.

Seven of the participants were from the two major regulatory bodies in Nigeria- the Central Bank of Nigeria (CBN) and from the Nigeria Deposit Insurance Corporation (NDIC). The seven people were from the relevant Units/Departments in charge of bank supervision and examination, research, as well as policy and regulation, all covering Operational Risk in Nigeria Banking System. They were identified by officially requesting for meetings with the relevant Directors in the institutions and therefrom, solicited to interview them so as to ensure that the right personnel were interviewed. In addition, all ethical protocols were observed as Form EC6 (Appendix 9) was given and read while copies of Form EC3 (Appendix 8) were duly filled and obtained. The rest were from deposit money banks. Only deposit money banks that were part of the consolidation exercise were interviewed. The two newly licensed banks were not included in the process. Although gender was not a consideration in the process, only

two female participants were observed in the process. A list of the twenty-two Nigerian banks from which interviewees were drawn is presented below in Table 4.2.

Table 4.2. Post Consolidated Nigeria banks

No	Name	Old Name	Date Registered	Ownership Type	Consolidating Banks	Date Licensed
1	Access Bank Plc	Access Bank Plc	1/17/1990	Domestic	Access Bank, Capital Bank Int., Marina Bank,	1/17/1990
2	Citibank Nigeria Limited	Nigerian Internat'l Bank Ltd	10/11/2004	Foreign	Nigerian International Bank Ltd	10/8/2004
3	Diamond Bank Plc	(Now Access Bank)	12/31/1990	Domestic	Diamond Bank, Lion Bank	12/31/1990
4	Ecobank Nigeria Plc		4/24/1989	Regional	Ecobank Ltd	4/24/1989
5	Enterprise Bank		1/3/2006	Domestic	Guardian Express, Citizens, Fountain Trust, Omega,	1/3/2006
6	Fidelity Bank Plc		1/2/2006	Domestic	Fidelity Bank, FSB, Manny Bank	1/2/2006
7	First Bank Nigeria Limited					
8	First City Monument Bank Plc	First City Monument Bank	11/11/1983	Domestic	FCMB, Co-operative Dev, NAMBL, Midas	11/11/1983
9	Guaranty Trust Bank Plc		1/17/1990	Domestic	Guaranty Trust Bank Plc	1/17/1990
10	Heritage Banking Com Ltd			Domestic	Societe General, Enterprise(2015)	12/27/2012
11	Key Stone Bank		5/2/2001	Domestic	Platinum Bank, Habib Nigeria Bank	5/2/2001
12	MainStreet Bank	Afribank Plc	1/3/2006	Domestic	Afribank Nigeria Plc, AfriMerchant Bank	1/3/2006
13	Skye Bank Plc (Polaris)		1/3/2006	Domestic	Prudent, Bond, Coop, Reliance and EIB Banks	1/3/2006
14	Stanbic IBTC Bank Ltd.	IBTC – Chartered Bank Plc	1/2/2006	Foreign	IBTC, Regent, Chartered (2005), Stanbic (2007)	1/2/2006
15	Standard Chartered Bank Ltd		12/1/2004	Foreign	Standard Chartered Bank	6/9/1999
16	Sterling Bank Plc	NAL Merchant Bank Ltd	1/25/1999	Domestic	Magnum Trust Bank Ltd, NBM Bank Ltd, NAL Bank Plc,	11/25/1960
17	SunTrust Bank Nigeria Ltd	Suntrust Savings & Loans Lt	9/16/2015	Domestic		3/12/2009
18	Union Bank of Nigeria Plc	Union Bank Plc	1/2/2006	Domestic	Union, Union Merchant, Universal Trust Bk	1/2/2006
19	United Bank For Africa Plc		1/2/2006	Domestic	Standard Trust, UBA, CTB	1/2/2006
20	Unity Bank Plc		1/2/2006	Domestic	New Africa, TCB, Centre-Point, BON, NNB, Intercity,	1/2/2006
21	Wema Bank Plc	Agbomagbe Bank Limited	1/18/1965	Domestic	Wema Bank Plc, National Bank Plc	1/17/1945
22	Zenith Bank Plc	Zenith International Bank Ltd	9/13/2004	Domestic	Zenith Bank Plc	6/20/1990

The table shows all Nigeria commercial banks as at July 31, 2016. It includes the dates on which they were registered, previous names, as well as consolidating components. The column titled Consolidating Banks shows mergers and acquisitions of banks during the period of Consolidation. Bank no 3- Diamond bank highlighted in colour, has recently been acquired by Access Bank (No 1 in the table) in 2019.

4.3.1.1 Demographic Data and Distribution

The twenty-two semi structured interviews were conducted between June 2016 and July 2018 providing the primary data. The primary examination was for the ten years period from 2006 to 2016 and included only consolidated commercial banks in existence up to 2016 as well as the regulators. The four newly licenced banks which are post consolidation (2016-2019- 2 Islamic and 2 commercial banks) were not examined. The period 2006 is relevant because of the first major regulatory driven consolidation of the Nigeria banking sector, and 2018 was up to date data as provided by regulators. Updates have been made to information as necessary especially in respect of evolving Basel framework. Thus, more than a decade of relevant banking reforms and activities are captured in the research. Participants were assigned codes to ensure anonymity. Participant ages ranged from 41 to 60 years with only one participant within the 31 to 40 age range, indicating that most interviewees were experienced and mature and that mostly experienced people head ORM units in Nigeria banks. Banker participants were assigned Codes B1 to B15 and regulators R1 to R7 to ensure anonymity.

Table 4.3 Coded Interviewees Demographics

The table below is a summary of the demographics of the participants who have been coded. Pie graphs of these demographics have been provided in Appendix 1

Participant Code	Gender	Age range	Position	No of years in Risk	No of Years in Banking	Public/Private Banks
REGULATORS						
R1	M	51-60	Risk Management	13	18	
R2	M	41-50	Regulatory Support and Policy/ORM	7	11	

R3	M	51-60	Supervision	12	18	
R4	M	51-60	Corporate Governance	13	19	
R5	M	41-50	Bank Supervision	12	18	
R6	M	51-60	Insurance and Surveillance	9	14	
R7	M		Bank Examination	17	23	
BANKS						
B1	M	41-50	Op Risk	7	11	Public
B2	F	31-40	Op Risk	1	8	Public
B3	M	41-50	Op Risk	1	16	Public
B4	M	41-50	Op Risk	3	16	Public
B5	F	51-60	Compliance	16	18	Public
B6	M	51-60	Internal Control	7	20	Public
B7	M	41-50	Op Risk	6	13	Public
B8	M	41-50	Op Risk	9	17	Public
B9	M	41-50	Op Risk	8	16	Private
B10	M	41-50	Op Risk	9	16	Public
B11	M	41-50	Op Risk	8	15	Public
B12	M	51-60	Op Risk	13	15	Public
B13	M	51-60	Op Risk	10	19	Private
B14	M	41-50	Op Risk	9	15	Public
B15	M	41-50	Op Risk	11	13	Public

Participants directly involved in operational risk management, corporate governance, internal control and audit, compliance and supervision, in Nigeria banking system were interviewed. This is in line with being a purposive selection and ensures the integrity of data obtained. As previously stated, participants were from deposit money banks (commercial banks) and regulatory bodies. Other financial institutions such as micro finance banks, bureau de changes and primary mortgage institutions were not included because they are regulated quite differently from DMBs. Also the Basel provisions do not apply to them. Apart from regulators, only deposit money banks that were part of the consolidation exercise were interviewed, both public and private.

4.3.1.2. Years of Experience in Risk Management:

Considering that the unit of analysis is the bankers, it was important to identify experience of both the bankers and the regulators in managing ORM and in implementing the supervisory review pillar of Basel. We sought to find out if the operators and regulators were sufficiently experienced in operational risk management to handle the ORM framework of their banks in the face of Basel II and III implementation. Interviewees' years of experience in managing ORM were obtained. See Appendix 1. According to the data as at 2016: 73% of the bankers have more than six years of experience in risk management and specifically, operational risk management, 7% have experience of between 4 to 6 years and 20% has 1-3 years experience. Risk based supervision started in Nigeria after consolidation implying from about 2008, and Basel implementation from about 2009. It is useful to know that majority of the people in charge of ORM in banks have acquired experiences and competencies right from the onset of operational risk management in Nigeria. Also, all the regulators with oversight responsibility in the banking system have experiences in risk management from 7 years and above. This is a positive insight on a situation which positions them well for their supervisory responsibility, enabling them to be a step ahead of the banks they are expected to monitor and regulate.

Table 4.4, Panel B also holds this data.

Table 4.4. Demographic Data: Interviewees' Years of Experience

PANEL A		PANEL B				PANEL C		
Distribution of Interviewees		Years of Experience in ORM and Risk Management				Years of Experience in Banking		
Bank Types		Years	Banks (ORM)	Regulator (RM)		Years	Banks	Regulator
Private Banks	9%	1-3	20%	0%		1-5	0%	0%
Regional	4%	4-6	7%	0%		6-10	8%	0%
Regulator	31%	7-9	47%	28%		11-15	38%	29%
UK Banks	4%	10-12	13%	29%		>15	54%	71%
Public Bank	52%	>12	13%	43%				

4.3.1.3. Interviewees' Years of Experience in Banking:

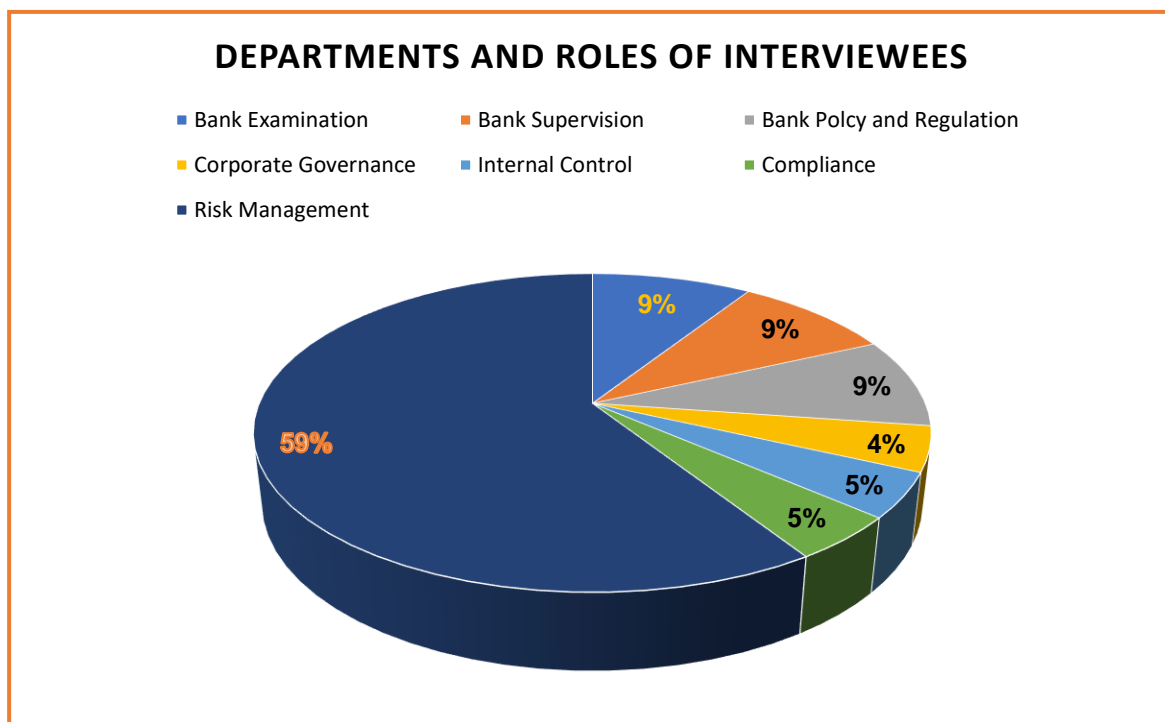
It was important to identify the years of banking experience of both regulators and bankers. Table 4.4 Panel C holds this data. This information is relevant to eliciting pre and post consolidation experiences of banks in respect of ORM and application of Basel principles. Furthermore, it enabled the researcher to confirm that the persons managing this important aspect of bank's survival have acquired sufficient experiences and background in the system to enable them hold the responsibilities. It was found out that majority of the persons responsible for ORM in banks were highly experienced and long serving members in the industry. Operational risk management is considered a very important area and also requiring expert knowledge, skills and competencies. Thus only those who have been in the system long enough to have acquired sound knowledge of the various functional areas of the bank, as well as understand the impacts of risks and control lapses, were appointed to oversee operational risk. This is similar to the UK banking system and aligns with Basel's Pillar 2- supervision. Furthermore, the data revealed that in most of the banks, people with similar long term experiences are usually let off by the banks for younger and cheaper personnel in a bid to save cost, while such people are required for ORM purposes. 92% of the staff have over ten years banking experience, 8 % have six to ten years while zero has five years and below. It is safe to suggest that only senior personnel manage Operational risk, a point not lost on the Basel Implications.

Similarly, 100% of the regulators have banking experiences of ten years and above. Only very experienced and senior personnel are employed to handle operational risk. These data are quite remarkable in addressing Basel Pillar II and ORM in Nigeria. (Table 4.4 Panel C above)

4.3.1.4. Responsible Departments for ORM in Nigeria Banking System

Figure 4.2 consists of the breakdown of the different departments of the interviewees that were involved in the study, across regulators and the banks

Figure 4.2 Responsible Departments for ORM in Nigeria Banking System



Respondents were sampled for their involvement in risk management. 59% of the respondents were Heads of Operational Risk Management in the money deposit banks in which they functioned, which is more than half of the respondents but inline with the purposive sampling. There were ten heads of ORM out of 21 surviving post-consolidation banks. Other respondents were 5% from internal control and 5% from compliance. From the regulatory side, 5% of regulators directly involved with ORM in banks are from bank supervision, 5% from bank examination and 5% from corporate governance. This presents a well rounded coverage of the responsible and relevant officials in the banking system. Specific attention was paid to identifying those who have direct functions in respect of Basel implementation in Nigeria. All these were to ensure the reliability and validity of data obtained from the interviews, assuring that only those with knowledge, responsibility and impact were involved. The study was able to identify that majority of Nigeria banks have established ORM unit specifically for ORM in these banks. This is an evidence of the implementation of Basel II by the Nigeria Banking industry. Next, this study will discuss the staff strength, skill sets and maturity of the ORM units in the banks.

4.3.1.5 The Semi-Structured Interview:

Bryman and Bell (2007) suggest that provided a researcher observes the ethical guidelines, it is pertinent to make use of personal contacts and all practical resources that are available to get access to samples and data. The primary research tool employed in gathering data was semi-structured interviews. After due considerations of the importance of producing a good quality, high standard research output on the one hand, along with the limitations of time, cost and availability of respondents, it was decided that a sample of consolidated publicly owned banks and private banks would be examined and the Heads of Operational Risk (HOR) will be interviewed for this study. This qualitative method was considered the most appropriate method because it would provide a better understanding of the perceptions of Operational Risk managers on the issue of ORM and Basel applications in the banks. The interviews were semi-structured because, some set questions were asked across all respondents while the rest of the conversation was encouraged to flow. The use of these loosely standardised questions was not expected to constrain the in-depth probing and the variation of the order of the questions depending on the flow of conversation. Furthermore, an informal approach whereby the interviewees spoke freely about their experiences and perceptions was applied. In designing the questions, efforts have been made to cover the necessary ethical aspects to ensure adequate integrity management and adhere to the school's ethical considerations by guaranteeing anonymity, ensuring informed consent and adhering to age rules in its administration. The design involved an analytical review of the various aspects of the research objectives and to ensure that responses can capture them without vagueness. Questions were initially drafted, followed by a step-back in order to reflect and grasp the underlying idea, after which they were reviewed by supervisory team and corrections made with filtrations for suitability. These were actions in line with (Preece, 1994; Bryman and Bell, 2007; Collis and Hussey, 2003). Initial participants were solicited through personal contacts from researcher's previous industry experience and with official letters from the university presented to the organisations. Furthermore, official requests were made to relevant Directors in the regulatory institutions and therefrom, interviews were solicited from them and from their relevant staffs. Approvals were obtained more easily from one regulator than the other. All interviews were conducted at the business premises of the participants. Confidentiality and anonymity were discussed, and data aggregation explained. Interviewee informed consent was

obtained with form EC3 which participants signed and form EC6 which was read out. The interviews were very flexible and iterative. They were conducted in English being the official Nigeria language.

Each interview recording lasted between 45 minutes and 75 minutes, with an average minimum of 53 minutes. Interviews commenced with the introduction of the aims of the research. Most of the interviews were tape-recorded with consent. Prior to interviews, recorder was fully charged and pre-tested to avoid equipment failure which is considered a major cause of qualitative research failure (Easton, McComish, and Greenberg, 2000). However, the tape recording did not commence from the beginning for most of the interviews. The initial attempt to record was met with discomfort by the participants. So, a strategy was devised whereby, tape recording commenced from a critical point during the discussion and not from the beginning. This strategy was devised and adopted because, it was discovered that due to the precarious nature of the Nigeria political environment, participants were usually uncomfortable when you bring out a recorder to record them. Thus, each interview session would usually start with scribing and without recording until a point where the participants relaxed and felt safe, knowing that they are not being investigated and would not be in trouble. That is why this research highlights this point as critical because it is the point at which participants who initially demonstrated inhibitions towards voice recording became at ease with the interviewing and recording. The researcher named this critical point "Ease Point" as a novel terminology in research where respondents may not be at ease to disclose information. This research suggests that Ease Point is an important point to achieve in research involving human participants, who ordinarily will not feel at ease to express their experiences, opinions and the positions in their companies if they are being recorded. They will only do this when they are totally assured of anonymity, safety, and that they will not land in any trouble for revealing the facts. At this point, they can trust the researcher. This situation may be more prevalent in developing economies, but can also be tested anywhere in researches where the participants commence with inhibitions and need to be sufficiently reassured during the process, until their Ease Point is arrived at, and they are comfortable to provide information freely. This new strategy was developed for recorded interviews during this primary research and it worked in 95% of the cases. This is in line with Creswell

(2013) who said that establishing of adequate rapport and trust is vital in enabling the participants to freely express their views concerning the phenomenon of interest.

To ensure that no important information is lost, the initial discussions were mainly on familiarisation and general demographic information. Furthermore, field notes were taken to augment the recorded interviews. Another significant observation from the interviews was the reconstruction of events demonstrated by the participants. The researcher consistently observed that most of the participants found a flow in their discussions as they went back memory lane to unfold their experiences with the institution and implementation of ORM in their banks. Some of the reconstructions included illustrations, diagrammatic demonstration of processes and trajectory of their growth, development and maturity in ORM from inception to date. These documents and images were kept and some photographed engendering validity of data. After interviewing 15 participants and reviewing the emerging data, we observed that themes were recurring, and information became repetitive. It was therefore unlikely that any further data collection will reveal new themes or insights. However, seven additional interviews were undertaken in order to ensure reliability and that no important theme would be missed out. The demographic information of the sample is presented in Data Analysis in Table 4.3 and 4.4 and in chapter 6. The findings supported the themes observed from the previous fifteen interviews. An additional head of Operational risk from a UK consolidated banking group was also interviewed and majority of the concepts matched the Nigeria banks' themes. Thus, the exercise achieved what Glaser and Strauss (1967) referred to as theoretical saturation.

4.3.1.6. Pilot test:

The pilot involved a clear and comprehensive way of introducing the research. It commenced with making contacts with industry players who were still working in the banks using personal contact and person to person introduction. Several of the bankers' contact information were obtained and they were communicated to, using emails, and Whatsapp, to introduce the research and to give the bankers an advance notice before the summertime when the direct field work was undertaken. Through this personal contact, the pilot access was made, and feedback received from mostly former colleagues. To pilot the test, the interview questions were shared with few directors and some of the managers giving them opportunities to make suggestions and add more points and questions. The directors referred most things to the

Operational risk heads. Most of the managers affirmed that the questions sufficiently cover what they know as operational risk management issues in Nigeria. They also declared that some of the questions overlap. This was a positive feedback because some of the questions were structured to overlap to ensure reliability and validity. Asking one question in different ways ensure that if the answers received are consistent, then the finding is more reliable. Two sets of questions were prepared, one for banks and the other for regulators. Interview questions were also structured to elicit responses towards answering the research questions. They were organized in sections. Very little modifications were made in the pilot and they mostly relate to pre-consolidation era. Majority of the current bank officers were not involved pre-consolidation and do not have information that can delve into pre-consolidation era. One significant addition made from the pilot is in highlighting the current impact of new risks from Fintech exposures. Fintech risks are classified under third-party operational risk exposures. This highlight provided the impetus for Fintech risks to be sufficiently discussed in the interviews with several live examples obtained and presented in the data analysis chapter. Another significant highlight was the issue of conduct risk- a high rising aspect of operational risk. Although previously in existence, the dimension was changing, and the naming was becoming globally institutionalized.

4.3.1.7 Reliability and Validity:

Reliability in research implies the ability to replicate the work (Collis, and Hussey, 2003) whereas validity implies that the work presents a picture of reality (Bryman, and Bell, 2007; Collis, and Hussey, 2003). The interview questions were structured to measure the consistent views of respondents. However, because of the semi-structured and in-depth nature of the interviews, the following biases may arise in the data quality: interviewee bias, interviewer bias and misinterpretations due to cultural differences. In order to mitigate such, deliberate measures were taken to reduce such limitations to the barest minimum. Measures such as the use of computerised data analytical tool, contra thematic extraction effort by both researcher and non-specialist for test of convergence were applied and are explained in research methods section. In furtherance of reliability and validity, while Case study was the main method, as suggested by (Gillham, 2000), different sub-methods were applied within it in the process of data accumulation implying a multi-method approach. This is because, such strategy provided the scope needed to explore the “what” question (No. 3) which

is exploratory as well as the “how” question (No. 4) which is explanatory. Furthermore, the questions asked are about a contemporary set of events, and since the researcher has little or no control over them, it provides a sound basis for a case study. In addition, it enabled a broad data collection process with an open mind.

4.3.1.8 Ethics in Research

Ethical considerations for this research include observance of strict confidentiality of participants and intellectual proprietary rights for both the institution and the researcher. UH Ethics protocol was observed, and primary research was only conducted within the Ethics approval protocol. None of the participants has been named in this research, rather, contributors were coded. Except where specific approval was obtained, quotes were anonymized. All data have also been submitted to turnitin prior to access to ensure that all future usage will link a match.

4.3.2 Secondary Sources

The secondary examination included resources and data up to 2020 with updates for January 2021. Very minimal archival data was available for the pre-consolidation years 2000 to 2006 which was to be used for constructive theories. Furthermore, changes in the banking system impacted on the turnover of older and longer serving staffs who had more knowledge and access to information on the pre-consolidation era. Descriptive and inferential statistics have been utilised in the analysis of the data. As earlier mentioned, the six sources of evidence include documents and archival records. Documentary information is very relevant in case studies. Such information take various forms like memos, circulars, directives, framework, written reports, newspapers, admin documents, articles, and books, conference presentations/proceedings, published working papers and journals etc. The importance of documents is to corroborate evidence derived from primary research. This Secondary data analysis was applied as part of the methodology in this work. Various literature on the subject area have been reviewed and analysed in order to determine a theoretical and conceptual framework for the study as already stated in the research design/architecture. A detailed theoretical review is orchestrated in Chapters 2 and 3, covering both risk concept/theories and Operational Risk Management in banks. Other secondary sources used in this work are reports and data from regulatory bodies and internal records of banks. Appendix 5 outlines the

process of secondary sources review in literature including databases and individual resources. The major secondary sources include:

- Several journal articles determined by the use of the Association of Business Schools Academic Journal Quality Guide. E.g. International Journal of Economics, The Economics Journal, Risk Journal, Organisation Science, Journal of Operational Risk, SSRN, to name a few.
- Live access to Basel reports and framework documentations via BIS online (1988 to date)
- Banks' Financial Statements
- Central Bank of Nigeria Annual reports and Other Publications
- Nigeria Deposit Insurance Corporation Annual reports and Other Publications
- Review of data/records from banks and regulatory bodies such as the Central Bank of Nigeria data base and archives, SEC and Nigeria Stock Exchange records, etc.
- Case studies – Analysis of individual cases where sources of data would also include the Individual Bank Records, Financial Statements and Annual Reports.
- Central Bank of Nigeria, The Nigeria Deposit Insurance Corporation; and Risk Management Bureau; interviews from persons directly involved in the process.
- Institutional reports: BBA, Reports, OECD reports,
- Conference proceedings and presentations from OpRisk North America
- Conference recordings from Governance, Risk and Compliance (GRC).
- Information and data from professional Bodies, e.g. RMA, KPMG.
- Information/data from both government and private sector databases / resources
- Practice and Practitioner Websites: Incisive media, metric stream, ORX database.
- News Pages: BBC News, Daily Newspapers and subject magazines.
- Texts: Wiley Guide and several others listed in Reference list.

It was expected that if archival data is available, the pre-consolidation data from year 2000 to 2006 will be obtained for comparative analysis. However, only a few of such archival information and data were available as huge changes in the sector impacted on the turnover of older staffs who had more knowledge and access to the pre-

consolidation era. Descriptive and inferential statistics were utilized in the analysis of the data.

4.3.2.1 Data Content Analysis for Secondary Sources:

A good number of data and information were obtained from the published official reports of the regulatory bodies which were authenticated in the institutions' research and library records as well as web sites. Several contents were also discussed and confirmed from the heads of units as official reliable resources. A content analysis was carried out on the web pages of practice organisations and institutions in order to ensure good quality for non-peer reviewed resources. Resources from Nigeria newspapers may contain information that could be biased. However, all data and information obtained from such newspapers were verified with the regulatory bodies during empirical research to ensure validity. In some cases, the regulators referred us to the newspaper publications for more details of the information especially in insider fraud cases.

4.4 Data Analysis

Data was analysed using several rigorous processes including some aspects of grounded theory like open systematic inductive interaction with data. First step was transcription of interviews into word documents. The transcribed data revealed that the interviews were very detailed and provided adequate room for free expression. Thus, large volumes of data providing sufficient evidence for alternative interpretations were amassed for both regulators' and bankers' perspectives. Some of the responses involved illustrations and demonstrations which were captured both manually on paper and by photographs.

4.4.1 Coding Process

The coding was done both manually and with the aid of QSR Nvivo 11 Pro computer software. Transcription was followed by rigorous manual extraction of coding themes. The interviewees are numbered R1, R2, R3, R4, R5, R6, R7, and B1, B2, B3, B4, B5, B6, B7, B8, B9, B10, B11, B12, B13, B14, B15. The manual extraction involved, firstly, using Basel ORM variables in conjunction with the previously identified theoretical propositions to isolate words, phrases and themes. Thereafter, the frequency patterns were derived. This process reflected the research questions, literature, Basel and

conceptual framework. It also reflected the peculiarities and language of the Nigeria banking system. The manually extracted themes were matched using simple percentage agreement on two transcribed data each, by two non-specialists and the threshold of 87% was matched. This showed consistency and reliability as against researcher bias. Further to the manual process, Nvivo 11 Pro software was also utilised to analyse the data for further consistency and to ensure accuracy in the labelling of the themes. Nvivo has become a foremost computerised tool in analysing qualitative data. It is important to observe that Nvivo like other qualitative software and quite unlike quantitative software, does not analyse data, rather, it is a tool for systematically organizing, coding, annotating and visualizing, data while the analysis is personally done by the researcher who knows and understands the data content. The process involved the following steps:

1. The initial coding scheme was developed based on the theoretical/conceptual framework and the research questions.
2. Each transcribed document was uploaded to Nvivo 11 Pro
3. Using Nvivo 11 Pro, open coding was conducted to describe the phenomenon – coding scheme was revised during this process which included:
 - a. Reading through each transcript without applying codes to understand the data
 - b. Re-read and begin applying codes based on the preliminary coding scheme
 - c. Continue coding text using open coding, where codes are derived from identification and extraction of similar and recurrent contents
 - d. Identification of unique elements in data and exploration of their meanings
 - e. Generation of Nodes using explored meanings and common data elements
 - f. Making comparisons especially, to highlight discrepant cases
 - g. As new codes emerge, re-code already coded text as appropriate
 - h. Searching for patterns or themes in the data and applying codes accordingly
 - i. Development of the final coding scheme. The final coding scheme includes approximately 123 codes that are fully defined which efforts have been made to collapse into the main themes discussed in findings in chapter 6 below and aligning with the research questions

The Codes and Field Nodes that were generated from both manual transcription and categorisation and Nvivo coding processes (Appendix 2) were batched in order to produce themes in relation to the research questions. The table below (Table 4.5)

encapsulates a good number of the themes that were generated based on common views expressed by the interviewees in response to the research questions.

It covers extracts that showcase the theoretical underpinnings, as well as practical applications of Basel.

Table 4.5 Thematic extractions (Nvivo and Manual)

Thematic Extractions on theoretical underpinnings of ORM	Frequency
Bank Risk	1071
Controls	229
Fraud Management	139
Audit (internal audit 35)	100
Internal Control	84
Policy	82
System	75
Compliance	59
Operational Risk Management Framework	49
Governance	31
People Behaviours	29
Conduct risk	27
Control Self Assessment	26
Risk Indicators	21
Risk factors	15
Self-interest – Opportunism	14
Planning	14
Third party and Outsourcing	13
Integrated Risk Management	12
Accountability	12
3 lines of defence	11
Strategy	11
Competency	11
Asymmetry	7
Information/Communication	6

Thematic Extractions on theoretical underpinnings of ORM	Frequency
Ethics	6
ERM	6
Ethics	6
Regulatory reporting	6
Risk Appetite	5
Market discipline/disclosure	5
Uncertainty	4
Advanced Measurement Approach	4
Historical Context	4
Systems Risk	3
Regional Lines	2

The components are discussed in the subsequent analysis in Findings. Each of the above nodes has a frequency of occurrence in the discussions ranging from 2 to 1079 where the highest action code excluding bank risk is Controls at 229, followed by fraud management at 139, Internal control is 84 and the lowest is Regional lines being 2. As already explained, the themes have all been incorporated under the research questions they relate to, for more detailed discussions in the Chapters 6 , 7 and 8 which contain the findings and discussions. Nvivo was also applied in the form of descriptive statistics, graphical analysis, in-depth thematic coding and to provide clear summaries. An expert in the use of the software was utilised to provide training and support, ensure full exploration and in-depth application of the software and its statistical prowess. These are presented in Appendix 2.

4.4.2 Limitations:

The most significant limitation to the research was a substantial dearth of good quality or well ranked published academic information on ORM practices in Nigeria banks. Also, there is no central source of loss data on operational risk. This resulted in travelling from across states to banks' headquarters and offices and having to beg people to respond to the research. Secondly, information dearth affected the period before and during consolidation as most of the participants during consolidation have left the banking system, and individual bank archives were mostly inaccessible.

Although these appeared to create some setback, they were circumvented using patient laborious and reticent search and excavation of information from different sources, as well as personal contact and person to person introduction to people in and out of the financial system. Also, the information obtained from the regulatory bodies substantially cover the era of consolidation in support of the elicitations from interviews. Although some bank staffs felt insecure at first, the strategy of Ease Point arrival worked in almost all the cases. It was anticipated that there may not be sufficient time because working hours of bankers in Nigeria are rather long and tedious. Also, they may not wish to spend work hours responding to research questions as they are always facing deadlines or targets. A flexible time schedule was adopted, such as meeting bankers at lunch time, and after office hours, all within the bank premises, which circumvented this. A Risk Assessment was undertaken on the research in Nigeria and there was a possibility that some risks such as terrorist activities and political unrest could delay or change the course of the research process. The primary research was successfully undertaken without any such risk crystalizing. Thus, access to participants and relevant data was not hindered.

While the review of literature highlighted the importance of governance in managing operational risk and in implementing Basel, most of the bank interviewees were non-directors of the bank. However, majority were senior positions. Interviews with the regulators helped with obtaining an objective third party perspective on the banks' boards. The regulatory bodies commence their risk-based supervision by examining the bank board records. Also, Basel has a specific governance framework for banks. While this work focused on risk management, examination of banks governance will be a good topic for the future.

4.5 Summary

This section has set out the methods and processes that were adopted in this research. It articulated the research questions as well as set out the philosophical assumptions of the researcher. The research design and strategy was also presented including the methods of collecting data. This research is based on case study strategy, utilising mainly qualitative primary data as well as secondary data to examine the phenomenon of ORM and Basel principles in the Nigeria banking context. Semi structured interview was used to elicit data and information from both regulators and

banks. Both manual and technology based thematic extraction were applied in analysing the data. The inclusion of a UK bank added some comparative outlook benchmark for generalisability to the findings of the study. Methods and methodology have been justified and the computerized process of analysis was channelled to follow the theoretical propositions that led to the research, while the manual thematic analysis focused on the practical applications of ORM which relate to Basel. The rigorous and meticulous application of tested methods in the conduct of the research has engendered validity, dependability, credibility, confirmability and transferability of the research. With the audit trail kept on this work, anyone dealing with identical population in the same Nigeria context will obtain similar results. It is therefore safe to suggest that the convergence and divergence of the analytical activities utilized in this work provide the empirically derived answers to the research questions and therein lie the research contributions. The convergence of the themes extracted both by manual and computerized processes, which give a match of 85% go to accentuate the reliability and consistency of the results, a positive value for the research. Below are the starter interview questions used to introduce discussions with regulators and bankers. Next, we discuss the Nigerian banking sector and ORM followed by other key findings of the research.

4.6 Methodology Appendixes

4.6.1: The interview questions Regulator side

As previously stated, the interview questions were in two sets, one for regulators and one for bankers. From the regulators' perspective, indicative questions to address the research questions are as follows:

They were classified into sections and structured to focus on research questions 2 and 3. Question 1 has already been previously addressed in Chapters 2 and 3- review of literature and Basel Accords. Starting with the regulators' questions, Section A addressed basic participant information like demographics, how long they have been on the job, their status and positions. Indicative questions include:

Section 1: Risk Management Oversight Structure:

What is the structure of RM Supervision in the bank, including ORM?

1. Any specific unit for OR, unit head, reporting lines, staff strength for Operational Risk?
2. What is the basis of this structure? (Why this structure? E.g. regulatory compliance, internal drive/experience? How does the board perform on this? How is their buy-in?)
3. For how long has this structure been in place?
4. Specifically, discuss system/changes for pre and post consolidation periods

Next section tried to explore the reasons for the adoption of Basel

The CBN mandated banks to adopt the Basel framework,

1. Why was this decision made considering that Basel was clearly indicated for internationally active banks?
2. What was your level of preparedness for the Basel adoption/implementation and what further preparations were made?
3. Do you consider the adoption driven by a need to project a better image for Nigeria banking system?
4. Do you consider the adoption a desire to comply with global practices that are not mandatory?
5. Did the CBN have a framework on ground before Basel?
6. Which framework do you consider more tailored to Nigeria, Basel or the prior?
7. What are the expected impacts of adopting Basel framework at this time?

8. In your judgement, do you think banks would have preferred to continue with whatever frameworks they had e.g. ERM, instead of changing to the Basel?
9. Why do you think so?
10. Do you think the CBN is adopting Basel because of reasons such as:
 - a. To reposition Nigeria banks in the global financial system
 - b. It will improve the image of Nigeria banks
 - c. Nigeria will be seen as conforming to international standards
 - d. It is better than CBN's existing internal framework/principles
 - e. Any other reason.....

Section 3 of the interview questions looked Operational risk categories, events and recording/reporting.

Whatever the exact definition, a clear understanding by banks of what is meant by operational risk is critical to the effective management and control of this risk category. It is also important that the definition considers the full range of material operational risks facing the bank and captures the most significant causes of severe operational losses.

1. Can you identify the categories of OR event/losses that the CBN has identified from its supervision and examination of banks a) Pre Consolidation and b) During consolidation and c) Post Consolidation?
2. What are the major differences as regards to people, systems, processes and external factors?
3. Which categories were the most prominent prior to 2006 (Pre Consolidation)?
4. Which categories are the most prominent since 2006 (Post consolidation)?
5. What do you think were the major causes of the OR events? E.g.
6. What about high profile OR events, e.g. management issues, corporate governance
7. What about the categories that the banks actually report? Are there gaps or do they sometimes tally with what you see from examinations.
8. Have banks been mandated to specifically report OR events?
9. Do you have an internal data base that contains the records of events/losses from OR events?

10. Can we get access to the records, (Please note that we are ethically bound to keep private details anonymous)?
11. What about banks' internal control systems? How has the new system of CBN direct access impacted on OR events, monitoring and reporting?
12. What about corporate governance structures, how are they performing?
13. Have they impacted on OR events over time, can you categorize?
14. Is there a central record or reports database in the Industry to which banks report OR events?
15. Is there a particular threshold (like minimum loss amount) that CBN expects banks to report?

Section 5 questions explored sources and causes of major risk events including the various risk factors. It also addressed the research question on uncertainty, behavioural and institutional underpinnings of risk.

Considering High level OR which have taken place over time, some of which lead to changes in Banks boards, what can you say have been the major sources, and the major causes.

People Factor: Let us look at the banks that had their boards changed one by one

- a) Oceanic
- b) A
- c) F
- d) U
- e) I
- f)

People Factor: Let us look at other staffs and employees:

Let us look at Information technology and System Issues

Let us consider Processes:

Let us consider External factors.

From the bankers' perspective, indicative questions to address the research questions are as follows:

Section 1: Bank Risk Management set-up/Structure:

1. Please give me an idea of the structure of RM in the bank, including ORM.
2. Any specific unit for OR, unit head, reporting lines, staff strength.
3. What is the basis of this structure? (Why this structure? E.g. regulatory compliance, internal drive/experience?)
4. For how long has this structure been in place?
5. Specifically, discuss system/changes for pre and post consolidation periods

Section 2: Individual Banks and how they define and apply ORM principles

The Basel Committee recognizes that operational risk is a term that has a variety of meanings within the banking industry, and therefore for internal purposes (including in the

application of the Sound Practices paper), banks may choose to adopt their own definitions of operational risk and adapt to their environment.

1. How does your bank define operational Risk? (or identify operational risk)
2. Are there specific risk factors you have identified either via bank's own experience or from others that have helped to determine your bank's approach to ORM?
3. How do you capture the content of this definition in your application of ORM?
4. What ORM framework, policies, processes, procedures have you adopted in order to manage the risk and its factors?
5. Is it tailor made for the bank based on experiences, or adopted from elsewhere or regulatory based?

Section 3: Basel Application

1. To what extent are your operational risk management practices implied by the Basel Rules:
 - a. Pillar 1: Minimum Capital Requirements
 - i. What minimum capital requirement do you maintain?
 - ii. The CBN categorises this as 10 and 15 for national and internationally active banks. Do you consider the ratios apt or do you feel otherwise?
 - iii. What approach do you use for your calculations?
 - iv. CBN recommends the BIA for OR and SA for credit and liquidity risk, do you find this fit for purpose

- v. Have you found these requirements beneficial to the bank in terms of its a) resilience and b) reputation?
- vi. How does maintaining the required capital affect your economic output?
- vii. What stress testing practices do you have in place?
- b. Pillar 2: Supervisory Review
 - i. Who/what management level is responsible for determining the ORM policies for the bank
 - ii. Who has supervisory responsibility?
 - iii. What are your protocols for measuring, monitoring, and reporting OR?
 - iv. How does your internal control system impact your ORM?
- c. Market Discipline
 - i. How much securitisation exposure do you have in your books?
 - ii. What are the components of your off-balance sheet vehicles?
 - iii. Are there aspects that could be re-categorized in the BS?
- d. Considering the application of the Basel rules, is it the bank's choice to apply them?
- e. What are the challenges faced? What lessons have you learned from the process
- f. Would the bank apply them if the CBN had not mandated the application?
- g. Did the bank have other frameworks on OR prior to the Basel?
- h. Which framework would you rather prefer?
- i. What difficulties do you face in applying the Basel framework?
- j. What weaknesses do you find in the Basel framework?
- k. What could improve the framework?
- l. In applying the framework, are you driven by the need to comply to rules?
- m. Would you adopt the framework if the CBN chooses not to?
- n. Has it impacted on your relationships with other international banks? If so how?

Section 4: Operational risk categories, events and recording/reporting

Whatever the exact definition, a clear understanding by banks of what is meant by operational risk is critical to the effective management and control of this risk category. It is also important that the definition considers the full range of material operational risks facing the bank and captures the most significant causes of severe operational losses.

1. Can you identify the categories of OR event/losses the bank has experienced in its history?
2. Which categories were the most prominent prior to 2006 (before Consolidation)?
3. Which categories are the most prominent since 2006 (after consolidation)?
4. What do you think were the major causes of the OR events? Give examples
5. What about high profile OR events, e.g. management issues, corporate governance?
6. Do you have an internal data base that contains the records of losses from OR events?
7. Can we get access to the history records (we don't need names of people involved, just the type of loss event, year, amount, and level of staff involved, e.g. managerial junior etc)?
8. Is there a central record or reports database in the Industry to which banks (including your bank report such events)?
9. Is there a particular threshold (like minimum loss amount) that you report?
10. Do you know about ORX? What about bbaGOLD?
11. What do you think about ORX? Is your bank registered or not registered?

Section 5: Response to OR Risk events:

1. For events that have been as a result of internal control weaknesses, how have they been treated?
2. For events that have been as a result of people actions or inactions, how have they been handled? Specifically, we have fraud, errors, lack of knowledge,
 - a) If Senior or managerial level staff
 - b) If from junior staff
 - c) Others
3. For events that have been as a result of system issues such as errors, manipulations, lack of knowledge and or training?

4. What about events that arose from external factors?
5. What about events from your internal processes?
6. What challenges do you face in managing OR events?
7. Does the regulator provide support for your adapting to the frameworks?

Section 6: The Role of Regulatory bodies

- i. How do you see the CBN's policies on OR supervision and examination?
- ii. How have the policies and actions impacted on your bank? If so how?
- iii. Would you rather use a different framework if not for the CBN?
- iv. What difficulties do you face in applying the regulatory framework?
- v. What other issues do you think can impact on ORM in Nigeria banks?

Updates on what is happening in the Industry

Each of the questions branched out into several other areas of discussion depending on the issue in focus.

4.6.2: The interview questions Banks side

Please note that this is not an individual bank enquiry. Therefore, all information and data will be aggregated with those from other banks. We are ethically bound to anonymise any information that you think would reveal or lead to revealing specific bank identity.

Position in Bank:

Bank:

Number of years in bank:

Number of years in Risk Management

Section 1: Bank Risk Management set-up/Structure:

1. Please give me an idea of the structure of RM in the bank, including ORM.
2. Any specific unit for OR, unit head, reporting lines, staff strength.
3. What is the basis of this structure? (Why this structure? E.g. regulatory compliance, internal drive/experience?)

4. For how long has this structure been in place?
5. What was it like pre consolidation?
6. Specifically, can you tell me about your risk management system/changes pre and post consolidation periods

Section 2: Individual Banks and how they define OR

The Basel Committee recognizes that operational risk is a term that has a variety of meanings within the banking industry, and therefore for internal purposes (including in the application of the Sound Practices paper), banks may choose to adopt their own definitions of operational risk.

1. How does your bank define operational Risk? (or identify operational risk)
2. Are there specific risk factors your bank has identified either via bank's own experience or from others that have helped to determine the bank's approach to ORM?
3. How does the bank capture the content of this definition in their application of ORM?
4. What ORM framework, policies, processes, procedures have been adopted in order to manage the risk and its factors?
5. Is it tailor made for the bank based on experiences, or adopted from elsewhere or regulatory based?
6. Tell me what it has been like managing operational risk in the bank
7. what have you found challenging, interesting,

Section 3: Basel Application

1. How do you see the Basel rules and the Nigeria adoption of them?
2. To what extent are your bank's operational risk management practices implied by the Basel Rules:

Pillar 1: Minimum Capital Requirements

- a. What minimum capital requirement do you maintain?
- b. The CBN categorises this as 10 and 15 for national and internationally active banks. Do you consider the ratios apt or do you feel otherwise
- c. What approach do you use for your calculations?

- d. CBN recommends the BIA for OR and SA for credit and liquidity risk, do you find this fit for purpose
- e. Have you find these requirements beneficial to the bank in terms of it's
a)resilience and b)reputation
- f. How does maintaining the required capital affect your economic output?
- g. What stress testing practices do you have in place?

Pillar 2: Supervisory Review

- h. Who/what management level is responsible for determining the ORM policies for the bank
- i. Who has supervisory responsibility
- j. What are your protocols for measuring, monitoring and reporting OR
- k. How does your internal control system impact your ORM

2. Market Discipline

- l. How much securitisation exposure do you have in your books
 - m. What are the components of your off balance sheet vehicles
 - n. Are there aspects that could be re-categorized in the BS
3. Considering the application of the Basel rules, is it the bank's choice to apply them?
 4. Would the bank apply them if the CBN had not mandated the application?
 5. Did the bank have other frameworks on OR prior to the Basel?
 6. Which framework would you rather prefer?
 7. What difficulties do you face in applying the Basel framework?
 8. What weaknesses do you find in the Basel framework
 9. What could improve the framework
 10. In applying the framework, are you driven by the need to comply to rules?
 11. Would you adopt the framework if the CBN chooses not to?
 12. Has it impacted on your relationships with other international banks? If so how?
 13. What can you see as the benefits the Basel adoption has brought to the industry?
 14. What about the difficulties?

Section 4: Operational risk categories, events and recording/reporting

Whatever the exact definition, a clear understanding by banks of what is meant by operational risk is critical to the effective management and control of this risk category. It is also important that the definition considers the full range of material operational

risks facing the bank and captures the most significant causes of severe operational losses.

1. Can you identify the categories of OR event/losses the bank has experienced in its history?
2. Which categories were the most prominent prior to 2006 (before Consolidation)
3. Which categories are the most prominent since 2006 (after consolidation)
4. What do you think were the major causes of the OR events? E.g.
5. What about high profile OR events, eg management issues, corporate governance
6. Do you have an internal data base that contains the records of losses from OR events?
7. Can we get access to the history records (we don't need names of people involved, just the type of loss event, year, amount and level of staff involved, e.g. managerial junior etc.
8. Is there a central record or reports database in the Industry to which banks (including your bank report such events)?
9. Is there a particular threshold (like minimum loss amount) that you report?
10. Do you know about ORX? What about bbaGOLD?
11. What do you think about ORX? Is your bank registered or not registered?

Section 5: Response to OR Risk events:

1. For events that have been as a result of internal control weaknesses, how have they been treated?
2. For events that have been as a result of people actions or inactions, how have they been handled? Specifically we have fraud, errors, lack of knowledge,
 - d) If Senior or managerial level staff
 - e) If from junior staff
 - f) Others
3. For events that have been as a result of system issues such as errors, manipulations, lack of knowledge and or training?
4. For events that arose from external factors
5. For events from your internal processes

Section 6: The Role of CBN/Other regulatory bodies

1. How do you see the CBN's policies on OR supervision and examination
2. How have the policies and actions impacted on your bank? If so how?
3. Would you rather use a different framework if not for the CBN?
4. What difficulties do you face in applying the regulatory framework?
5. What other issues do you think can impact on ORM in Nigeria banks?

When	What (Description)	Amount	How	Why (Person's perspective)	Why(Control Issue)	Impact (Finance. Reputational)	Initial, Recovd, Final

Adapted from BBAGold(Global Operational Loss Data)

Chapter 5 The Nigeria Banking System

This chapter presents the case in view – the Nigeria Banking System. It starts with the evolution of the system pre-consolidation in Section 5.1. Section 5.2 highlights relevant aspects of the consolidation exercise, its purpose, reform agenda, implementation, challenges and some outcomes. Section 5.3 introduces risk-based supervision, highlighting the change from compliance to risk-based supervision, its agenda and processes which provided the foundation for Nigeria’s implementation of Basel.

5.1 Nigeria Banking System Pre-Consolidation

5.1.1 The Central Bank and Nigeria Deposit Insurance Corporation

Banking in Nigeria commenced conventionally with the enactment of the Banking Ordinance of 1952 by the British colonial government based on the G. D. Paton Report which investigated banking practices in Nigeria from 1892 – 1952. “The ordinance was designed to ensure orderly commercial banking and to prevent the establishment of unviable banks” (CBN, 2008) www.cenbank.org/AboutCBN/history.asp. The Central Bank of Nigeria (CBN) was then established by an Act in 1958, as the regulatory body for banking in the country. Over a period of thirty-three years and across different government regimes (both military and civilian), a plethora of decrees and amendments ensued both for the CBN and commercial banks. They eventually culminated in the Banking and Other Financial Institutions Act (BOFIA) 1991 and the CBN Act (Amended)1991 both of which provided the legal framework for the functioning of banks in Nigeria. Prior to then, there was a free banking era as described by anecdotal writings. The CBN nurtured the money and capital markets, introducing Treasury Bills in 1960, Treasury Certificates in 1968, facilitated the setup of the Lagos Stock Exchange in 1961 and what we now know as the Securities & Exchange Committee in the early 1970s (CBN, The History of the CBN, 2016).

In 1997, an amendment was made to the CBN Act, bringing the CBN under the Ministry of Finance; an amendment which subjugated the bank to the authority of an appointed government official which is the Finance Minister. This happened during a military regime. After further amendments during transition to civilian rule, a new CBN act was enacted in 2007, an act which repealed the previous acts and provided a regulatory framework for the CBN. This act “*provides that the CBN shall be a fully autonomous body in the discharge of its functions under the Act and the Banks and*

Other Financial Institutions Act with the objective of promoting stability and continuity in economic management. In line with this, the Act widened the objects of the CBN to include ensuring monetary and price stability as well as rendering economic advice to the Federal Government” (CBN, The History of the CBN, 2016).

Amendments to the BOFI decree 1998 (Decree No 38) empowered the CBN to vary or revoke any condition subject to which a license was granted and or to impose fresh or additional conditions to the granting of a license to transact banking business in the country. Also, CBN's powers over banks, specifically those relating to withdrawal of licenses of distressed banks and appointment of liquidators of these banks, including the Nigeria Deposit Insurance Corporation (NDIC) was restored. The 1999 amendment (Decree No. 40 of 1999) extended the provisions relating to failing banks and other financial institutions and further empowered the Governor of the CBN to remove any manager or officer of a failing bank or other financial institution. The importance of discussing this CBN's background information is that it provides the reader with the facts that underpin the compliance regulatory regime preceding Risk Based Supervision. The CBN had the ultimate power in determining whether a bank can exist or not and in setting fines. Even the courts cannot impose a decision because CBN's powers enabled the CBN governor to determine what happens to a bank. As a result, Nigeria banks had only one option on CBN rules and that is to comply. This study found that the relationship between the banks and regulators was similar to a dictator and subjects. Unlike the dual regulatory financial system such as United Kingdom where the regulatory architecture shows a division of authority between the Bank of England's Prudential Regulation Authority and a different body called Financial Conduct Authority, all the powers are vested on the CBN in Nigeria. This is not necessarily a bad thing considering the level of political maturity of Nigeria and considering that most government appointments are politically motivated.

In addition to the CBN, the Nigeria Deposit Insurance Corporation (NDIC) was also established as part of the supervisory regime. Its initial mandate was for deposit protection. It was established by the promulgation of Decree No. 22 of June 15, 1988 in response to the recommendations of a committee set up by the Board of CBN, to provide a protection for depositors' funds. It was part of the reforms initiated to provide safety net, after the liberalisation policy in Nigeria (NDIC, NDIC History, 2016). Like the CBN, the NDIC act has also metamorphosed over the years, experiencing

amendments in 1997/1998. Presently, Act No 16 of 2006 provides the legal framework for the functionality of the NDIC as a deposit insurer in Nigeria. Its expanded mandate includes deposit guarantee, banking supervision which focuses on risk management, failure resolution and liquidation of deposit money banks. From our reviews, the NDIC has over time explored its powers and potential to include a more positive impact on risk management in the banking sector. They play a major role in bank liquidation and resolution and therefore, have garnered much experience and ideas about risks that cause banks to fail. They are major champions of Risk Based Supervision and now work in an integrated manner with the CBN for bank examination and supervision.

5.1.2 Deposit and Other Banking Institutions

Deposit taking banking in Nigeria commenced at about 1927 during a period referred to as rather *liaise-faire* due to eruption of several indigenous banks, poorly capitalized and unsupervised, most of which failed in their infancy. Between 1927 and 1951, 22 out of 25 banks went burst (Imala, 2005). Starting with the three remaining banks in 1952, the number of banks in the country rose, and from 15 in 1970, peaked at 120 in 1992. The outstanding growth in number of banks from 41 in 1986 to 120 in 1992 is attributed to the era of IMF induced Structural Adjustment Program (SAP) which was characterised by economic liberalisation, deregulation, credits, interest rate and foreign exchange reforms. The deregulation created an ease of entry into the banking industry (Ezeoha, 2007, Balogun, 2007). Before this period, the industry was classified mainly into commercial and merchant banks, segregating the functionalities by demand deposit. The SAP era also brought about the introduction of other financial services and banking activities like Community Banks, Mortgage Firms, Finance Houses, Bureau de Change and People's Bank -a government bank for rural development. The finance houses modes of operation consisted mainly of very high interest rate regime and very short-term deposits/facilities which did not match the economic growth trend in the country. This led to a practical collapse of the finance industry around the mid-nineties. The era also witnessed a collapse of several banks which were entangled in massive loss of funds through various problems like mismatch, improper gapping of funds, misappropriation, poor management, bad loans and lack of adequate capital base in addition to the political economy of the nation (Lewis and Howard 1997). About twenty-six banks went into distress and were liquidated by the CBN and the NDIC during this period. Most of the finance firms and

some of the mortgage houses which were involved in the quick funds turnover and high interest rates demised, but several of the community banks survived. In retrospect, the onslaught of the collapse of the finance firms can be directly related to what we consider the essential elements of Basel's contemporary risk management, regulation and supervision. The three pillars of Capital Adequacy, Supervisory Review and Market discipline are thus the most salient development in banking stability, albeit, ex-post financial crises.

The Table 5.1 below shows the detailed listing of Nigerian banks over the period from 1970 to 2005. According to the CBN, the listing was stopped in 2005 due to consolidation.

Table 5.1 Listing of Banks, Categories and Numbers of Branches 1970-2005

YEAR	NUMBER OF BANKS IN OPERATION			GROWTH OF FINANCIAL BANKING INSTITUTIONS					
	TOT AL	COMM ERCIA L	MERC HANT	NUMBER OF BRANCHES					
				COMM ERCIA L	MER CHA NT	PEO PLE' S BAN K	COMM UNITY BANK	FINA NCE FIRM S	PRIMAR Y MORTGA GE INSTS
1970	15	14	1						
1971	17	16	1						
1972	17	16	1						
1973	18	16	2						
1974	21	17	4						
1975	23	17	6						
1976	23	18	5						
1977	24	19	5						
1978	24	19	5						
1979	26	20	6						
1980	26	20	6	740	1 2	-	-	-	-
1981	26	20	6	869	1 5	-	-	-	-
1982	30	22	8	991	1 9	-	-	-	-
1983	35	25	10	1 ,108	2 4	-	-	-	-

YEAR	NUMBER OF BANKS IN OPERATION			GROWTH OF FINANCIAL BANKING INSTITUTIONS						
	TOT AL	COMM ERCIA L	MERC HANT	NUMBER OF BRANCHES						
				COMM ERCIA L	MER CHA NT	PEO PLE' S BAN K	COMM UNITY BANK	FINA NCE FIRM S	PRIMAR Y MORTGA GE INSTS	
1984	38	27	11	1,249	25	-	-	-	-	
1985	40	28	12	1,297	26	-	-	-	-	
1986	41	29	12	1,367	27	-	-	-	-	
1987	50	34	16	1,483	33	-	-	-	-	
1988	66	42	24	1,665	46	-	-	-	-	
1989	81	47	34	1,855	54	20	-	-	-	
1990	106	58	48	1,937	74	169	1	-	-	
1991	119	65	54	2,023	84	221	66	-	23	
1992	120	66	54	2,275	116	228	618	618	145	
1993	120	66	54	2,258	124	271	310	310	252	
1994	116	65	51	2,403	144	275	290	290	279	
1995	115	64	51	2,368	144	278	368	368	280	
1996	115	64	51	2,407	147	278	1,368	125	186	
1997	155	64	51	2,330	147	278	1,015	75	115	
1998	89	51	38	2,107	113	278	1,015	279	197	
1999	90	57	33	2,234	110	278	1,018	279	197	
2000	90	56	34	2,234	194	-	769	-	194	
2001	90	90	-	3,247	--	-	769	--	-	
2002	90	90	-	3,247	--	-	769	--	-	
2003	89	89	-	3,010	--	-	-	-	-	
2004	89	89	-	3492	-	-	-	-	-	
2005	25	25	-	-	-	-	-	-	-	
2006	22	22	-	-	-	-	-	-	-	
2019	27	20	5	Including 2 Non-Interest (Islamic banks)				-	-	-

Sources: Adapted from CBN Statistics Bulletin (1970 to 1979, 1980 to 2003), Ezeoha (2007) and CBN 2019

The country adopted the Universal Banking Practice (UBP) On January 1st, 2001, and the commercial and merchant (investment) banks got re-licensed to offer the entire range of financial services. Although, evidence has it that UBP has several models adopted by different countries tailored to suit their specific environment and purposes (Benston, 1994), in Nigeria, the UBP practically resulted in cessation of operation for most merchant banks, not because they closed shops, but because they all obtained commercial banking licenses, either by mergers or by fresh application. The merchant banks which were subsidiaries of commercial banks, were absorbed by their parent banks forming holding companies. Since all banks went commercial, they handled demand deposits and had to meet the Cash Reserve Requirements which merchant banks were initially exempted from. The remaining non-holding banks increased up their minimum capital to 2billion Naira as required by the amended law as at 2001. Subsequently, there were 89 banks with 3382 branches predominantly in the urban sectors before the consolidation exercise began in July 2004 (Soludo, 2006). The uniform minimum capital base for commercial banks was N2billion, equivalent to roughly fourteen million US dollars (\$14million) based on about N145/\$ exchange rate as at then.

5.2. The Banking Consolidation: Landmark Reform

In July 2004, the Central Bank of Nigeria (CBN) commenced a plan to reform the Nigeria banking industry. The reform was aimed at repositioning the banks to provide a platform for economic growth in the country, meet the global economic challenges and to address the issue of bank collapse and distress. A major part of the reforms was the “Consolidation Exercise” which specifically focused on addressing the issue of capital inadequacy of banks as a major foundation for bank stability, sustainability and portfolios sizes, all of which determine the strength and competitive position of the banks. Consolidation is considered a very important phenomenon due to its impacts both perceived and actual on any economy. Much global interest is generated specifically by consolidation in banking industry because it is contended that the economy of any society depends on the financial structure and platform, and banking being the pivot of transmitting monetary policy is the base and platform of finance (Carletti et al, 2002). Empirical and literary evidence revealed that there had been

rapid consolidation trend in banking both in developed economies like USA, UK, and emerging/developing nations in Europe, Asia and Africa (Hughes, 1999; Amel et al, 2004; Avery et al, 1999; Calomiris, 1999; Chong et al, 2006; Boyd and Graham, 2008; Hasan, 2008; Dymski, 1999, Jayadev and Sensarma 2007). For a developing nation like Nigeria, banking structure is of tremendous importance because economic development and growth plans/strategies are hinged on the banking sector. The Nigeria banking sector has in line with literature, been the major driving force for transactions, technology, process integration, liquidity, enterprise, payments, settlements, intermediation, monetary policy and transmission (Carletti et al, 2002; Soludo, 2004; Bonin and Levin, 1996; Hesse, 2007). Hence the CBN initiated the Nigerian banking consolidation to strengthen the banks and reposition them for global challenges. The first phase of the exercise was completed on December 31st, 2005.

5.2.1 Economic Causes for the Consolidation.

According to the CBN governor, the sector was characterised with banks that could not effectively support the real sector of the economy. The Banking sector credit to the domestic economy was 24% of GDP, compared to African average of 87% and 272% for developed countries (Soludo, 2006). The total capitalisation for all 89 Nigerian banks was N293million and no Nigerian bank was among the Top 1000 banks in the world. There was low banking to population density of 1:30,432 plus low aggregate credit. The banks had structural and operational weaknesses of low capital base, illiquidity and insolvency, poor asset quality, weak corporate governance, over-dependence on public sector deposits and foreign exchange trading plus domination by a few banks. Although anecdotal reports do indicate that some of the few dominant banks were heavily dependent on public sector deposits, some research evidence suggest that contrary to this position, there was no overdependence on public sector (Ezeoha, 2007) .

The table below shows the public and private sector deposits pre-consolidation (from 1992 to 2003.)

Table 5.2: Public and Private Sector Deposits in DMBs in Nigeria (percentages)

Year	Governments*	Private Sector**	Total deposits
1992	7.4	92.6	100.0
1993	4.0	96.0	100.0

1994	3.0	97.0	100.0
1995	4.7	95.3	100.0
1996	4.4	95.6	100.0
1997	6.2	93.8	100.0
1998	8.0	92.0	100.0
1999	11.7	88.3	100.0
2000	15.4	84.6	100.0
2001	5.7	94.3	100.0
2002	8.3	91.7	100.0
2003	8.7	91.3	100.0
Average	7.3	92.7	100.0

Sources: (Ezeoha, 2007) Stated as Computed from CBN Statistical Bulletins (various issues).

Notes: *Governments include Federal, States and Local Governments.

**Private sector deposits are inclusive of domiciliary accounts and other deposits.

With the present regime, commercial banks no longer hold federal government funds. The government operates a single treasury account leading to less amount of deposits (private sector) being shared by the various commercial banks.

However, other challenges highlighted by the CBN governor remain essential in the reform and consolidation decision. A few banks dominated the industry, but this was not a disadvantage since consolidation itself results in concentration, implying fewer but larger banks. Also, some developed economies have allowed banks to consolidate into what is termed “too big to fail”. The governor further stressed that the weak banking system created low depositor confidence (Soludo, 2006). This was of great importance in reforming a cash-based society into an electronic based and cashless environment. Such can only be engendered if the depositors have confidence in keeping their money in banks and not in cash. A good portion of money in circulation was kept outside the banks because of fear of distress and illiquidity. In the northern part of the country, it is said that majority of the traders kept their monies in cash. Although there was increasing awareness about the value of banking due to wider networking and provision of some electronic products which help traders to move funds, a good percentage of money was still outside the banking sector before the consolidation. Table 5.3 shows the volume of currency in the economy highlighting

portions held by banks and outside the bank from 1980 to 2003, and then from 2005 to 2020 in five year blocks.

Table 5. 3

Growth of Currency Held in & Outside banks (Narrow Money M1) 1980 to 2003, 2005 to 2020

YEAR	CURRENCY OUTSIDE THE BANKS (COB)	PRIVATE SECTOR DEMAND DEPOSITS (PDD)	NARROW MONEY (M1)	% OF COB TO M1	% OF PDD TO M1	COB GROWTH	PDD GROWTH	M1 GROWTH
1980	3,186	6,041	9,227	34.53	65.47	46.10	39.30	59.10
1981	3,862	5,883	9,745	39.63	60.37	21.20	-2.60	5.60
1982	4,222	5,826	10,049	42.02	57.98	9.30	-1.00	3.10
1983	4,843	6,440	11,282	42.92	57.08	14.70	10.50	12.30
1984	4,884	7,321	12,204	40.02	59.98	0.80	13.70	8.20
1985	4,910	8,358	13,268	37.01	62.99	0.50	14.20	8.70
1986	5,178	7,550	12,728	40.68	59.32	5.50	-9.70	-4.10
1987	6,299	8,428	14,726	42.77	57.23	21.60	11.60	15.70
1988	9,412	11,736	21,149	44.51	55.49	49.40	36.40	41.90
1989	11,688	14,009	25,698	45.48	54.52	24.20	19.40	21.50
1990	14,941	22,293	37,234	40.13	59.87	27.80	59.10	44.90
1991	23,108	26,256	49,365	46.81	53.19	54.70	17.80	32.60
1992	36,756	39,215	75,970	48.38	51.62	59.10	49.40	53.90
1993	57,845	60,908	118,753	48.71	51.29	57.40	55.30	56.30
1994	90,601	94,571	185,172	48.93	51.07	17.90	20.00	18.90
1995	106,843	94,571	201,414	53.05	46.95	17.90	20.00	18.90
1996	116,121	111,343	227,464	51.05	48.95	8.70	17.70	12.90

YEAR	CURRENCY OUTSIDE THE BANKS (COB)	PRIVATE SECTOR DEMAND DEPOSITS (PDD)	NARROW MONEY (M1)	% OF COB TO M1	% OF PDD TO M1	COB GROWTH	PDD GROWTH	M1 GROWTH
1997	130,668	137,954	268,623	48.64	51.36	12.50	23.90	18.10
1998	156,717	176,458	333,176	47.04	52.96	19.90	27.90	24.00
1999	186,456	206,623	393,079	47.43	52.57	19.00	17.10	18.00
2000	274,011	63,721	37,731	42.97	57.03	47.00	76.00	62.24
2001	338,671	78,037	16,708	41.47	58.53	23.60	31.40	28.10
2002	386,942	59,311	46,253	40.89	59.11	14.30	17.00	15.90
2003	412,155	813,404	1,225,559.	33.63	66.37	6.50	6.50	29.52
2005	563,232	1,162,164	1,725,396	32.64	67.36	36.66	42.88	40.78
2010	1,082,295	4,488,975	5,571,270	19.43	80.57	92.16	286.26	222.89
2015	1,456,097	7,115,604	8,571,701	16.99	83.01	34.54	58.51	53.86
2020	2,495,269	13,428,673	15,923,942	15.67	84.33	71.37	88.72	85.77

Sources: Generated from Central Bank Statistical Bulletins, Sept 2004 to 2020, (CBN-M1, 2021)

Money market indicators showed that currency outside banks was quite high compared to monies deposited in the banks, an indication of cash-based society and low depositor confidence which also had greater implications for operational risks and security in a developing economy like Nigeria. This directly relates to uncertainty and risk as discussed in the literature in chapter 2. Haynes' belief that the existence of uncertainty in the performance of an act is an instant assumption of risk manifests in the behaviour of the people in keeping their money in cash, outside the banks. People held their cash because of fear of the unknown. It aligns with the theory that risk is caused by the uncertainty in the outcome of an action as the existence of uncertainty in the performance of an act is an instant assumption of risk (Haynes, 1895). So, the people's solution was to avoid the risk by keeping back from the uncertainty. While the people may not know this, they were also demonstrating transaction cost economies (Williamson, 1999) by assuming that the cost of keeping money in banks is higher than the cost of keeping their money at home. This was particularly so in Northern Nigeria where the level of education is relatively low compared to the south. Their choice of option in managing the risk and uncertainty they faced with their cash, is bounded by their rationality (Simon, 2000) and perhaps, information. How safe was it to keep cash at home or in the store instead of bank? Such people's understanding of the financial system was limited but not unfounded. Previous bank failures and the need for instant transaction execution propelled their actions. Also, perhaps those whose cash were not higher than N250,000 were unaware of deposit insurance and their ability to recover that insured amount if anything happened. This currency situation lends credence to the use of the devised theoretical framework (Figure 2.2) in studying or explaining the context of Nigeria banking sector pre-consolidation. The issues raised above go beyond banking, to highlight the socio-economic situation of the country under review. The country is made up of diverse people and is the most populous African nation according to the UN population data estimates from 1950 to 2020 (United Nations, 2019) See Appendix 11.

However, a lot has happened since after the consolidation. Electronic banking has grown with ATMs and online banking. Several factors contributed to further changes post consolidation. Year 2010 heralded some drastic changes in bank governance including removal of CEOs by CBN as well as the change in bank minimum capital. Efforts to reduce cash outside the banking system and create a cashless society which were not initially unsuccessful because of lack of confidence in the system, began to yield more fruits, due to more confidence and also a regime of high charges for large cash handling. Additionally, a good chunk of the cash held outside the banking system are with politicians and remain hidden because of socio political issues such as witch hunting and corruption,

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raids by the financial crimes and anti-money laundry groups. Although it was usually projected that the lack of public confidence in the banks were because of fear of bank distress due to liquidity risk, several examinations of bank failures as published by NDIC, reveal that majority of the causes were massive frauds and breakdown/lack of adequate internal control systems which if classified properly, will be mostly operational risks (NDIC, 2016). These two causes map directly to people risk and process risk factors in ORM. Several non-performing loans were director-related, and others issued with outright bypass of established control systems. Vested interest of board members and management staffs were fundamental causes of the bad loans implicating operational risk. In more recent times, such activities have been grouped under conduct risk which is an aspect of Operational risk that has become globally prominent. Also, other causes of bank failures were inefficient and unreliable management information systems both of which relate to process and system risk factors, and to poor staff quality which is still a people risk factor.

5.2.2 Capitalisation and Ownership Structure of Banks Pre-Consolidation

Capital adequacy is a fundamental feature of a sound bank and is a major pillar in Risk management. Key financial indicators pre-consolidation depicted commercial banks' capital as inadequate to support the economy. With a total capitalisation of US\$3b and total asset base of US\$18.06b, banks were not capable of financing large scale projects and attracting sufficient foreign facilities (Options, 2007). Over the years, the statutory requirements for banks capital had been focused on the banks' minimum paid up capital and had been increased in proportions which in the latter years (from 2000) were no longer proportionate to global economic trends. As at 2004 July 5th, the statutory requirement was N1billion expected to rise to N2billion by the end of 2005. Table 5.4 shows the growth of bank minimum capital requirements from the beginning of banking in Nigeria in 1952.

Table 5.4 Statutory Minimum Paid up Capital for Banks from 1952 to 2004

Enabling law	Commercial banks	\$ Equiv.* for DM banks	Pounds**	Merchant Banks
1952 Ordinance	25,000 pounds		25,000 pounds	
1958 Ordinance	12,500 pounds		200,000 pounds	
1962 Amendment	250,000 pounds		250,000 pounds	
1969 Act	300,000 pounds		750,000 pounds	

1979 Amendment	N 600,000	\$1,007,218	1,187,648 pounds	N 2,000,000
1988 Amendment	N 10,000,000	\$ 2,204,245		N 6,000,000
1989 Amendment	N 20,000,000	\$ 2,705,774		N 12,000,000
1991 BOFID	N 50,000,000	\$ 5,045,663		N 40,000,000
1997 Amendment	N 500,000,000	\$ 12,342631		N 500,000,000
1999 Amendment	N 1,billion	\$ 11,235,955		N 1,billion
2001 Amendment	N 2 billion	\$ 17,937219		N 2,billion
2004 Amendment (Consolidation)	N 25,billion	\$ 201,692,903		N 25,billion
Post Consolidation As at 01/2021	N50 billion – International banks N25billion – National Banks N10billion – Regional Banks			

Source: Adapted from CBN 2008 and Ezeoha 2007

*The US Dollar values relate to minimum paid-up capital for commercial banks; and were arrived at by taking into consideration the prevailing annual average exchange rate for the relevant periods.

**The discrimination between the minimum paid-up capital base for commercial banks and that of merchant banks started with the promulgation of the 1952 Ordinance; but was discontinued by the Banks and Other Financial Institutions (BOFI) Act of 1991.

The consolidation exercise applied 1,150% increase in bank capital from N2billion to N25billion. This was decried and resisted by many and opposed by others. Despite the opposition and their attempt to pass a bill through the National Assembly, to categorize banks into three based on capital levels namely: Small (N5billion), Medium (N10billion) and Mega (N25billion), the CBN, empowered by the existing enabling law, implemented the 1,150% increase in banks' capitalisation. Nigerian banks were said to have a total capitalisation of N293million and none of the banks was among the Top 1000 banks in the world (Soludo, 2008). This situation limited their performance and capacity in funding development and the real sector. Also, the credit worthiness of the local businesses were jeopardized by political instability, poor structural and infrastructural bases and lack of credit bureau or credit history data base. The credit portfolios focused on short term facilities which could not drive the economy. Aggregate banking credit to the domestic economy was a mere 18.4% of GDP(Soludo, 2008). The need for a higher capital adequacy was therefore tremendous and it was a determining factor for attracting foreign direct investments (FDI), as well as operating in the global financial markets. Capital

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adequacy is also emphasized with the new era of ORM by Basel. To operate in the 21st century global banking system, banks also have to provide for capital adequacy in respect of operational risk events. Major evidence from NDIC reports show that OR events such as fraud and forgeries, inadequate Internal control, inefficiencies, are major causes of capital erosion. In addition to inadequate capital, Nigeria banks were predominantly privately owned and several of them were family businesses. The federal government then set up an Economic Advisory Council (EAC), made up of economists including the former CBN governor, Economics professor; Charles Soludo, who introduced and implemented the 2006 banking consolidation. The EAC mandates included to advise the President on economic policy, fiscal analysis, economic growth, and various internal and global economic issues, including monetary and policy issues and economic stabilization. It was only with consolidation in 2006 that most of the banks went public engendering broader accountability and public access to their reports. Post consolidation, in 2010, the minimum capital for DMBs was further restructured after it was found out that some of the banks lied about their capital. The No 1 guideline issued in 2010 (CBN, 2010) stratified the minimum capital to N10billion for regional banks, N25billion to national banks and N50billion for international banks as shown in Table 5.4 above. Table 5.5 below shows the detailed ownership structures from 2000 to 2006 when the consolidation took place and the current position as at January 2021. The ownership structure of the banks has also shifted as more private people have purchased or obtained licenses for commercial banks in Nigeria. The overall health of the banks are impacted by their capital.

Table 5.5 Banks Ownership Structure Pre and Post Consolidation

Status	2000	2001	2002	2003	2004	2005	Jan. 2006	Jan 2021	
Private	76	76	78	77	77	77	3	9	
Public							22	13	
Government	1	1	1	1	1	1	0	0	
Foreign	10	11	11	11	11	11	4	3	
Total	89	89	90	89	89	89	25	22	
	Percentage Ownership (%)								
Private	87	87	87	87	87	87	84	41	
Government	1	1	1	1	1	1	0	0	
Foreign	11	12	12	12	12	12	16	14	
Total	100	100	100	100	100	100	100		
Publicly Quoted Banks:									

Number	17	17	17	17	17	18	21	13
Percentage	19%	19%	19%	19%	19%	19%	84%	59%

Source: From CBN and Nigeria Stock Exchange websites

5.2.3 Bank Risk Ratings and the Reform Agenda:

Prior to consolidation and the advent of risk-based supervision, banks were assessed on CAMELS parameters namely; Capital Adequacy, Asset Quality, Management, Earnings, Liquidity and Sensitivity to Market. To determine a bank's CAMELS rating, the examiner does not review every detail. The examiner will evaluate the overall health of the bank and the ability of the bank to manage risk. Risk was equated to a bank's ability to recover loans and pay depositors. Thus, successful risk management required a bank to write clear and concise policies and have a robust internal control system such as separation of credit packaging duties. The focus remained on loans or credit risk. Although 10 out of 89 banks were rated sound in 2004 by CBN, at global level, Nigeria banks did not feature among the Top 1000 banks in Tier 1 of world banks. As a result, most of them were not rated by the international rating agencies. Apparently, they were too domestic and systemically unimportant. Lack of a proper sovereign rating was inhibiting foreign investments. Investors would rather deal with countries with adequate data and ratings from the top rating agencies like Fitch, Standard and Poors, etc. Part of the consolidation agenda was to raise Nigeria banks' capitalisation such that they can feature among Top 1000 in Tier 1, improve the economic standing of the nation and build Africa's Financial Centre. The long term CBN agenda was to position Nigerian banks in Top 100 banks within ten years from 2005. The Internal rating of banks from the CBN annual reports using the Camel Parameters showed the status of banks as presented in the table 5.6 below. It is worthy of note that these parameters focused more on the financial risks of the banks and their impacts on profitability and liquidity. Loans and their performance were the major factors and little or no attention was paid to operational risk, which as at then, had not become as profound and institutionalised as it became post consolidation. Yet retrospectively, evidence from NDIC publications reveal that majority of challenges in the banking system were directly related to OR which hitherto, was not yet institutionalized and so the problems were not properly named or dealt with.

Table 5.6 CBN Rating of Banks Using "CAMEL" Parameters

Category	2002	2003	2004	2005 Sept
Sound	13	11	10	5

Satisfactory	54	53	51	47
Marginal	13	14	16	16
Unsound	10	9	10	18
Total	90	89	87	86

Source: Adapted from CBN Annual Reports 2006

The above clearly shows that the health status of the banks prior to consolidation was inadequate for the set objectives. The drastic change in number of sound banks is as a result of the consolidation exercise which was ongoing in 2005. The banking system was fragile and marginal. In response to the above issues facing the financial sector of the Nigerian economy, the CBN instituted a Reform Agenda which was an evolutionary strategy to turn around the banking sector. Excerpts from the 13-point reform agenda which was presented in the Bankers' Committee Meeting on July 6, 2004 are as follows:

- I. Minimum capitalisation of banks to be raised from N2 billion to N25 billion on or before end of December 2005
- II. Phased withdrawal of public sector funds from banks
- III. Consolidation of banks through mergers and acquisition
- IV. Adoption of a risk-focused and rule-based regulatory Framework
- V. Adoption of zero-tolerance in the regulatory framework, especially in the area of data/information rendition and reporting
- VI. The automation of the process of rendering returns by banks and other financial institutions through the e-FASS
- VII. Establishment of a hotline, confidential internet address (Governor@cenbank.org) for all Nigerians wishing to share any confidential information with the Governor.
- VIII. Strict enforcement of the contingency planning framework for systemic banking distress;
- IX. Work towards the establishment of an Assets Management Company as an important element of distress resolution;
- X. Promotion of the enforcement of dormant laws, especially those relating to the issuance of dud cheques, and the law relating to the vicarious liabilities of the 67 Board members of banks in cases of failings by the bank.
- XI. Revision and updating of relevant laws, and drafting of new ones relating to the effective operations of the banking system.
- XII. Closer collaboration with the Economic and Financial Crimes Commission (EFCC) in the establishment of the Financial Intelligence Unit (FIU), and the enforcement of the anti-money laundering and other economic crime measures.

XIII. Rehabilitation and effective management of the Mint to meet the security printing needs of Nigeria, including the banking system which constitutes over 90 percent of the Mint's business.

(Source : <http://cenbank.org/OUT/SPEECHES/2004/Govadd-6Jul.pdf>)

Consolidation mandates were for mergers, outright acquisitions/takeover and public offers of shares (CBN, 2004). Also, private placements pre public offers were allowed. Several challenges were faced by both the regulatory authorities and the banks in the consolidation process. Lack of country experience and technical expertise on such largescale consolidation exercise, huge costs requirements, government ownership in some banks, verification of sources of funds to avoid laundered and illegally obtained funds, corporate governance issues, falsified reporting issues, conflicting management interests, operational issues and possible litigations as well as interferences from the political class were some of the difficulties faced in the process. Several banks made initial attempts at merging but failed. Eventually, 76 out of 89 banks were able to achieve the minimum capital base by December 31st, 2005 through mergers, acquisitions and public offers, all making 25 banks. Below is the detailed listing.

Table 5.7 List of 25 Recapitalised Banks that emerged from 76 at Dec 31, 2005

S/N	Group/Bank Name	Members of the Group
1	Oceanic Bank	<input type="checkbox"/> <input type="checkbox"/> Oceanic Bank Plc <input type="checkbox"/> <input type="checkbox"/> International Trust Bank
2	Zenith Bank Plc	<input type="checkbox"/> <input type="checkbox"/> Zenith Bank Plc
3	Guaranty Trust	<input type="checkbox"/> . Guaranty Trust Bank Plc
4	Sterling Group	<input type="checkbox"/> <input type="checkbox"/> Magnum Trust Bank Ltd <input type="checkbox"/> <input type="checkbox"/> NBM Bank Ltd <input type="checkbox"/> <input type="checkbox"/> NAL Bank Plc <input type="checkbox"/> . INMB Bank Ltd <input type="checkbox"/> <input type="checkbox"/> Trust Bank of African Ltd
5	First Bank Plc Group	<input type="checkbox"/> <input type="checkbox"/> First Bank of Nigeria Plc <input type="checkbox"/> <input type="checkbox"/> FBN Merchant Bankers <input type="checkbox"/> <input type="checkbox"/> MBC International Bank Ltd
6	Intercontinental Bank	<input type="checkbox"/> <input type="checkbox"/> Global Bank Plc <input type="checkbox"/> <input type="checkbox"/> Equity Bank of Nigeria Ltd <input type="checkbox"/> <input type="checkbox"/> Gateway Bank <input type="checkbox"/> . Intercontinental Bank Plc
7	Wema Bank Group	<input type="checkbox"/> <input type="checkbox"/> Wema Bank Plc

S/N	Group/Bank Name	Members of the Group
		<input type="checkbox"/> <input type="checkbox"/> National Bank Plc
8	ETB/Devcom Group	<input type="checkbox"/> <input type="checkbox"/> Equitorial Trust Bank Ltd <input type="checkbox"/> <input type="checkbox"/> Devcom Bank Ltd
9	STB/UBA	<input type="checkbox"/> <input type="checkbox"/> Standard Trust Bank <input type="checkbox"/> <input type="checkbox"/> United Bank for Africa Plc <input type="checkbox"/> <input type="checkbox"/> Continental Trust Bank
10	IBTC/Chartered Bank Group	<input type="checkbox"/> <input type="checkbox"/> Regent Bank Ltd <input type="checkbox"/> <input type="checkbox"/> Chartered Bank Plc <input type="checkbox"/> IBTC Ltd
11	Unity Bank Group <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> Bank of the North <input type="checkbox"/> <input type="checkbox"/> New Africa Bank Plc <input type="checkbox"/> <input type="checkbox"/> Tropical Commercial Bank <input type="checkbox"/> <input type="checkbox"/> Centre Point Bank Plc <input type="checkbox"/> <input type="checkbox"/> New Nigerian Bank Plc <input type="checkbox"/> <input type="checkbox"/> First Interstate Bank Ltd <input type="checkbox"/> <input type="checkbox"/> Intercity Bank <input type="checkbox"/> <input type="checkbox"/> Societe Bancaire Ltd <input type="checkbox"/> <input type="checkbox"/> Pacific Bank Ltd
12	Union Group	<input type="checkbox"/> <input type="checkbox"/> Union Bank of Nigeria Plc <input type="checkbox"/> <input type="checkbox"/> Union Merchant Bank <input type="checkbox"/> <input type="checkbox"/> Universal Trust Bank <input type="checkbox"/> <input type="checkbox"/> Broad Bank Ltd
13	Afribank Group	<input type="checkbox"/> <input type="checkbox"/> Afribank Nigeria Plc <input type="checkbox"/> <input type="checkbox"/> Afribank Int'l Ltd (Merchant Bankers)
14	FCMB Group <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> FCMB Bank Plc <input type="checkbox"/> <input type="checkbox"/> Cooperative Devt. Bank Plc <input type="checkbox"/> <input type="checkbox"/> Nig-American Bank Ltd <input type="checkbox"/> <input type="checkbox"/> Midas Bank Ltd
15	Access Group	<input type="checkbox"/> <input type="checkbox"/> Access Bank of Nigeria Plc <input type="checkbox"/> <input type="checkbox"/> Marina International Bank Ltd <input type="checkbox"/> <input type="checkbox"/> Capital Bank International Ltd
16	Skye Group <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> Prudent Bank Plc <input type="checkbox"/> <input type="checkbox"/> Bond Bank Ltd <input type="checkbox"/> <input type="checkbox"/> Cooperative Bank Plc <input type="checkbox"/> <input type="checkbox"/> Reliance Bank Ltd

S/N	Group/Bank Name	Members of the Group
		<input type="checkbox"/> <input type="checkbox"/> EIB Bank Ltd
17	Platinum/Habib Group	<input type="checkbox"/> <input type="checkbox"/> Platinum Bank Ltd <input type="checkbox"/> <input type="checkbox"/> Habib Nigeria Bank Ltd
18	Diamond Bank	<input type="checkbox"/> <input type="checkbox"/> Diamond Bank Ltd <input type="checkbox"/> <input type="checkbox"/> Lion Bank Plc <input type="checkbox"/> <input type="checkbox"/> African International Bank Ltd
19	First Inland Group	<input type="checkbox"/> <input type="checkbox"/> IMB Bank Plc <input type="checkbox"/> <input type="checkbox"/> Inland Bank Plc <input type="checkbox"/> <input type="checkbox"/> First Atlantic Bank Ltd <input type="checkbox"/> <input type="checkbox"/> NUB Bank Ltd
20	Fidelity Group	<input type="checkbox"/> <input type="checkbox"/> Fidelity Bank Plc <input type="checkbox"/> <input type="checkbox"/> FSB International Bank Plc <input type="checkbox"/> <input type="checkbox"/> Manny Bank Ltd
21	Spring Bank Group	<input type="checkbox"/> <input type="checkbox"/> Guardian Express Bank Ltd <input type="checkbox"/> <input type="checkbox"/> Citizens International Bank Ltd <input type="checkbox"/> <input type="checkbox"/> Fountain Trust Bank Ltd <input type="checkbox"/> <input type="checkbox"/> Omega Bank Plc <input type="checkbox"/> <input type="checkbox"/> Trans International Bank Ltd <input type="checkbox"/> <input type="checkbox"/> ACB International Bank Plc
22	Ecobank	<input type="checkbox"/> <input type="checkbox"/> Ecobank Bank Nigeria Plc
23	NIB	<input type="checkbox"/> <input type="checkbox"/> Nigeria International Bank Ltd
24	Stanbic	<input type="checkbox"/> <input type="checkbox"/> Stanbic Bank Ltd
25	Standard Chartered	<input type="checkbox"/> <input type="checkbox"/> Standard Chartered Bank Ltd

Source: Banking Supervision Annual Report 2015

[http://www.cenbank.org/OUT/PUBLICATIONS/REPORTS/BSR/2007/BSR%20ANNUAL%20REPORT%20\(FINAL\).PDF](http://www.cenbank.org/OUT/PUBLICATIONS/REPORTS/BSR/2007/BSR%20ANNUAL%20REPORT%20(FINAL).PDF)

The consolidation exercise was acclaimed to be hugely successful because it resulted in some Nigerian banks being listed in Top 100 Banks in the World for the first time. Also, Nigeria got a good sovereign rating. The acclaims were rather short lived as a change in the political equilibrium within the Central Bank saw the resultant consolidated banks passing through another era of reconsolidation and recapitalisation, reason being that some of the figures presented by some banks to the world were at best, fraudulently manoeuvred (Sanusi, 2010). Since then, the Nigerian banking system has continued to be in a state of flux, re-consolidating, re-structuring and recapitalising, with boards dissolved and reappointed, over the past decade, with sometimes nebulous results, compared with the consolidation processes of some of the developed economies.

Although there are some convergence on the expected motives for consolidation from both developed and developing economy perspectives. Further attempts have been made to identify firm specific factors like size, structure, strategy, and systemic factors like deregulation, globalisation etc, that impact on the success or failure of consolidation in delivering the expected motives. An ex-post review of the challenges show that Nigeria specific factors are related to operational risk management and corporate governance lapses.

5.3 Risk-Based Supervision:

The No. 2 item on the thirteen reform consolidation agenda was the adoption of a risk-based supervision for banks. This was to enable the banking system progress into the future of global banking. Risk-based supervision is defined as “an effective process to assess the safety and soundness of banks and other financial institutions by evaluating their risk profile, financial condition, risk management practices and compliance with the laws” (RBSFramework, 2008). The CBN also defined risk as the “potential that the occurrence of an event would have adverse impacts on set goals and objectives and said that it is the danger that a certain unpredictable contingency can occur” (CBN, Risk Based Supervision, 2011) . This definition appears to contain some contradictory ambiguity such as “certain” yet “unpredictable” and might go to reflect the point some banks made about sometimes being punished before things are clearly defined. Albeit, RBS is defined as an approach that identifies major risk areas, and redefine the rules of supervision to place emphasis on the need for banks to maintain effective risk-management systems and structures, and also define the roles and responsibilities of bank management. RBS placed a premium on risk mitigation rather than risk avoidance, and focused on banks developing and continuously updating their internal risk management systems. It also sought that banks ensure that their internal control systems match the scope and complexity of their risks. The adoption of a risk-based supervision was to enable the banking system progress into the future of global banking.

Prior to RBS, the banking sector operated on the basis of what was called Compliance Examination. This involved review of banks’ periodic returns, spot checks, monitoring and special investigations. Regulators monitored compliance with banks’ code of corporate governance by appraising monthly reports/returns and onsite verifications (CBN, 2008). Prudential examinations checked banks’ capital adequacy ratio (CAR), and assessed banks’ health using the CAMEL parameters previously discussed in 5.2.3. In 2008 when RBS was being introduced, banks embarked on a hybrid of compliance examination and

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RBS, as a gradual system of easing into RBS. In pursuant of this, a Risk-based and Consolidated Supervision Framework was developed jointly by the CBN/NDIC (NDIC, 2009) in 2009 and was adopted. It established statutory and supervisory objectives and identified individual banks' risks that could threaten the objectives, then outlined supervisory tools to mitigate them (NDIC, 2009). The supervisory objectives included, banking system stability and soundness, consumer protection, reduction in financial crimes such as money laundering. Adopting a risk based approach created room for adequate focus on risk identification and assessment, in the management of risks by banks. By this paradigm, risk assumed a more central place. It was expected that the approach will provide appropriate platform for responding to the post consolidation expansion of the banking sector, both within and outside Nigeria. The framework had seven stages although CBN categorised them into six steps as shown in Table 5.8:

Table 5.8 Risk-Based Supervision Steps and Outputs

S/No	Steps	Risk Based tools and Report
1	Understanding the institution	☐☐ Institutional profile
2	Assessing the institution's risk	☐☐ Preliminary Risk Matrix
		☐☐ Risk Assessment Summary(RAS)
3	Planning and Scheduling Supervisory Activities	☐☐ Supervisory plan
4	Defining Examination Activities	☐☐ Scope memorandum
5	Performing Examination Practices	☐☐ CAMEL's Rating, Risk Matrix
6	Reporting findings and recommendations and follow-ups	☐☐ Supervision Reports
		☐☐ Updated Institutional Profile

Source: CBN Understanding Policies Series, 2011

The application of the RBS included the following among other things:

- *a robust, proactive and sophisticated supervisory process, essentially based on the risk profiling of a bank;*
- *enables a better evaluation of risks through the separate assessment of inherent risks and risk management processes;*
- *is a dynamic, forward looking process, placing greater emphasis on the early identification of emerging risks and system-wide issues;*

- *is applied on a consolidated basis, using information from other regulators as appropriate. It includes an assessment of all material entities (subsidiaries, branches, or joint ventures) both in Nigeria and internationally;*
- *allows the supervisor to prioritize efforts and focus on significant risks by channeling resources to banks that have higher risk profiles. Work performed will be focused on clearly identified risks or areas of concern. Institutions that are well managed relative to their risks will generally require less supervision;*
- *includes the review of major risk management control functions such as Board and Senior management Oversight, Internal Audit, Risk Management, Compliance and Financial Analysis. The Framework contemplates the use, where appropriate, of the institution's internal management and control functions; and*
- *contemplates reliance on external auditors for the fairness of the financial statements and their work will be used to modify the scope of reviews to minimize duplication of effort.*

According to CBN, under RBS, a supervisor will try to:

- Identify those banks in which risks are greatest;
- Identify within each bank those areas in which risks are greatest; and
- Apply scarce supervisory resources so as to minimise the overall regulatory risk (CBN, Risk Based Supervision, 2011).

It would appear as if the major benefit was for managing supervisory resources, and not necessarily effective risk management in banks. In applying RBS, regulators determine the composite risk rating (CRR) of banks using seven risk elements and six control management parameters. The CRR then determines the resources that will be allocated to the bank in question in terms of supervision. When significant risks are identified, the level and resources for supervision are higher for such bank and vice versa. The assessment of bank management starts from the Board down to compliance level. Review of control and corporate governance function remained a critical aspect of determining the CRR. The issue of corporate governance had raised concerns as stated by the CBN governor (Soludo, 2004). The regulators go into details in determining the CRR. All board activities will be reviewed starting with minutes of board meetings. Number of meetings and decisions, including implementation feedback and updates are reviewed in determining that board's oversight performance.

With the implementation of RBS, banks began to restructure their risk management units. Prior to consolidation and onset of RBS, most Nigeria banks had no risk management framework but had risk management unit that focused only on credit risk. Other units such

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as internal control unit, internal audit and even compliance also existed in most of the branches. The internal control unit was mostly charged with identifying items that would be considered operational risk items in today's context, but they were mostly limited to call-over of transactions posted by the various operations units like customer service, cahsiers, funds transfer. As a result, there was no structure that covered operational risks specifically as is applicable today with Basel implementation. Internal control was used to manage OR pre and post consolidation till Basel implementation. The implication of using Internal control to manage operation risk is that it may leave loopholes for insider fraud whereby bank staffs can connive to perpetuate fraud and forgeries or operational risk events. With RBS, an era of Enterprise Risk Management commenced whereby most banks began to implement ERM as an integrated risk management system. Many of the banks did not have a framework but the ERM structure involved having a strong credit risk unit, internal control and/or internal audit units. Thus, banks began to develop frameworks for their risk management and OR in particular. This research revealed that the ERM embarked on by banks looked at risk more holistically and expected different units to work in tandem with each other and with the co-ordinating Internal Control units (ICU). Although there were good efforts to implement ERM in banks and at different stages, there were gaps in knowledge and competency required to manage ERM suceessfully. This meant that some banks were still struggling with their frameworks up till when the CBN ushered in Basel II implementation.

5.4 Summary of Chapter and Recap of Objectives

In summary, this chapter has provided an indepth exploration of the Nigeria banking System which is the case study. It explained the system from inception, through different phases both colonial and post-colonial periods. It also highlighted the policy and legal changes up to the regulatory regime that led to consolidation. It discussed the consolidation exercise, and concludes with the risk-based supervision framework, which laid the foundation for Basel implementation in Nigeria. Nigeria holds a significantly dominant position in both the economic and political stability of Africa despite its internal political and economic challenges. Thus Nigeria remains a relevant case for the evaluation of Basel frameworks and its adoption in a developing economy. Nigeria's position in the West African banking system is highly significant. Nigeria banks provide African locations with banking facilities. Several Nigeria banks have subsidiaries all over Africa, including China, UK, USA, France. The detailed listing of the branches was not easily obtained but from the individual annual reports reviewed in this study, just five Nigerian banks, out of the twenty one banks own at least 377 branches in other Africa

Ojadi, Vivien (2022): Operational Risk Management and Basel Implementation in Banking: A Developing Economy Perspective countries as shown in the table below. This list is by no means exhaustive but have been manually extracted from some of the annual reports and bank websites.

Table 5.9 Selected Nigerian Bank Branches in African Countries

Bank name	No of Branches	No of Countries
UBA	186	18 countries
GT bank	93	9
Access bank	29	5
FBN	12	12
Zenith	57	6

Source: extracted from annual reports/websites

UBA has at least 186 branches in 18 countries in Africa in addition to UK, France and USA, GT bank has at least 93 branches in 9 African countries in addition to UK, Zenith Bank has at least 57 branches in 6 African countries, First Bank of Nigeria Limited has branches in at least 12 African countries in addition to including USA, France, China, UAE and UK. Without Nigerian banks some African regions may not have had access to banking facilities. Nigerian banks constitute significant level of FDI into other African countries. Therefore, this empirical study into Nigeria’s adoption and implementation of Basel will add meaningful value to both records, literature and data for global reviews and perhaps, provide benchmarks and knowledge base as well as information for other developing economies. It can also chart an insightful course for global committees and Basel committee in particular, when making policy considerations. The table below shows some extracts of the Nigeria FDI into other countries through banking services over the past eight years: (Details in Appendix 12).

Table 5.10 FDI outflows through Nigeria banks (detailed document in Appendix 12)

NIGERIA’S FOREIGN DIRECT INVESTMENT VIA BANKS IN MILLIONS OF NAIRA							
2011	2012	2013	2014	2015	2016	2017	2018
1,789,199	2,089,486	2,189,691	2,223,227	1,696,473	2,234,264	2,800,928	3,178,718

The trajectory indicates that majority of outward direct investments were made through banks and they increased over time. Most of the banks were established in African countries as could be seen from table 5.9 above. The detailed document is in Appendix 12.

To recap, the purpose of the study is to explore operational risk management in the Nigeria banking system with a focus on the adoption and implementation of the Basel principles post consolidation. It sought to explore the theoretical underpinnings of ORM, and to discover how these theories relate to the Basel Principles. It was guided by the following questions:

1. What are the theoretical underpinnings of Operational Risk Management and how do these theories inform the Basel principles of ORM?
2. What is the extent to which the Nigerian banking system after its consolidation, implemented the ORM framework of the Basel Rules? What opportunities and challenges have been experienced as a result of its adoption?
3. What are the lessons from the Nigerian context and the experience of its banks for ORM theory and practice in general and Basel principles specifically?

The next three chapters present the findings from this study in response to the research questions.

Chapter 6 Findings- Research Question 1

6.1: Introduction:

This chapter discusses the findings on the first research question:

What are the theoretical underpinnings of Operational Risk Management and how do these theories inform the Basel principles of ORM?

This question sought to identify and establish foundational theories to inform the concept of OR and the practice of its management in banking. ORM has been consistently referred to as a practice-based discipline. As a result, most literature on ORM have focused on such practical aspects as risk measurement, modelling, calculations of quantities such as value at risk, data analytics, risk weightings and risk capital, and from processes, performance and systems. However, theoretical and conceptual frameworks are likened to the blueprint of a construction work, and thus, remain one of the most important aspects of research (Grant and Osanloo, 2015). While it is easier to identify existing theoretical writings in some fields, the limitation of such writings on ORM is well known. This work adopted a broad exploration of multidisciplinary repertoire of theories and schools of thought on risk and uncertainty. This work first attempted to identify what is risk, risk in banking, forms of bank risk, and fundamental causes of risk. This exploration included literary survey of content from Economics, Finance, Accounting, Insurance, Psychology and Philosophical writings. Practice and Trade publications included Banking, Accounting, Politics and Government, Engineering, Health Care and Financial Management, Supply Chain and Industries. This work identifies that a major reason why it is difficult to theorize operational risk is because it is a bucket of different things and not just a singular event or item. The outcome of the broad literary excursion done in this research, is a projection of two dominant perspectives which have enabled the derivation of a cohesive and appropriate theoretical foundation to inform operational risk management in banking. These two perspectives are Uncertainty and Behavioural factors on one hand which help to inform the concept of risk towards the conceptualization of operational risk, and Governance on the other which help to manage the risk factors as articulated by Basel. This work then proceeded to map the perspectives to the Basel principles of Operational Risk Management and the capital framework which the Nigeria Banking System has adapted, adopted, and is implementing. The rest of the chapter is structured as follows - Section 6.2 is a discussion and summary of the abstracted propositions based on theoretical underpinnings. Section 6.3 show the results that indicated how the theories inform the Basel ORM principles and Section 6.4 is the summary and conclusion of the chapter.

6.2 What are the theoretical underpinnings of Operational Risk Management?

This research finds that studies of uncertainty and behavioral factors as root causes of risk provide substantive theoretical underpinnings for the phenomenon of operational risk in banking. Furthermore, there are significant underlying linkages between governance literature and that of behavioral theories and uncertainty. These linkages provide underpinning structure for the operational risk management. Governance provides an overarching pivot for the management of operational risk factors with special emphasis on behavioural risk factors and risk governance is a component of a bank's Corporate Governance.

One of the early relevant uncertainty theories, came from Haynes(1895) who defined risk as “chance of danger or loss”. Haynes (1895) suggested that uncertainty is the root cause of risk whereby the distinguishing characteristic of risk is its fortuitous element. According to him, risk derives from the uncertainty surrounding the outcome of an action. Haynes put aside the previously held perspective that risk is not an economic factor. In informing operational risk in banking, Haynes suggested that the existence of uncertainty in the performance of an act is an instant assumption of risk. He tended to synonymise risk with uncertainty and projected an inclusive description of risk as either effective or ineffective risk. He further categorised risk into Static risks such as earthquake, storm, diseases, ignorance, moral character, dishonesty etc, the loss amounts of which are incapable of calculation; and Dynamic risks which mostly occur with changes, and their costs calculable. Haynes expounded his theoretical hold on risks and uncertainty, to conclude that *static risks will diminish with progress over time, but the subjective estimate of risks in general, the number and magnitude of dynamic risks will tend to increase, so that the importance of risks in economic life will increase rather than diminish.* (Haynes 1895:449). Our construct is that Haynes' assertions that owners of wealth, if rational, will invest it (or consume it) and such investment will face the risks of loss by dishonesty of other, risk of deterioration in value or change in the value of money; underpin the contemporary definitions of operational risk factors in banking. Haynes' position that risk is an economic factor is in sync with the financial adage that the higher the risk the higher the expected returns.

Another economic theorist is Knight (1921) who differentiates between risk and uncertainty where risk is a known chance, a measurable uncertainty, while uncertainty is unmeasurable probability. Knight's argument suggests that this known chance, which can be measured, is a downside outcome – a loss, and that is why it is a risk, whereas uncertainty being an unmeasurable probability is inclined to both a positive outcome (a gain) and a negative outcome. Knight postulates that “there is a fundamental distinction

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between the reward for taking a known risk and that for assuming a risk whose value is not known” Knight’s distinction has helped to analyse the behaviour of financial firms in contemporary banking, who regarded their own risk assessments as trustworthy, thinking that they were operating under Knightian risks, but discovered with the occurrence of risk events, that such assessments were inadequate (Dizikes, Explained: Knightian uncertainty, 2010). The 2008 financial crisis and several other loss events banks have faced as a result of inability to effectively judge the riskiness of their investments (examples include Barrings, Societe, UBS, Morgan Stanley etc), which amount to failures in their calculations and measurement of “measurable uncertainty”(risk), has cast a new attention on the idea of Knightian uncertainty. This has led to suggestions that the Knightian assumption of differences between uncertainty and risk may be overblown. These recent events and arguments present a new dimension based on which this study now suggests that Knightian risk appears to be converging towards Haynesian uncertainty. Keynes(1931, 1937) also contributed to the uncertainty and risk theory, through the probability axiom. He argued like Knight, that irreducible uncertainty was distinct from risk which was measurable probability. Risks are matters that we can calculate their probability whereas matters for which there is no scientific basis to form any calculable probability are Uncertainties. Yet, wealth owners and those seeking wealth creation must make decisions under uncertainty. Others such as Lawson(1985) agree with Keynes in arguing that “Uncertainty as opposed to mathematical risk is a pervasive fact of life”.

Essentially, Knight (1921) and Keynes (1937) separate risk from uncertainty through the injection of numbers called measures (Knight) or probability (Keynes). In analysing the measurability of uncertainty which transforms uncertainty to risk as held by Knight, or as calculable probability or mathematical risk as held by Keynes, evidence from contemporary banking experiences such as 2008 financial crisis and various risk events have demonstrated that while Knight and Keynes risk provide solid ways of explaining risk in banking, the said distinctions between uncertainty and risk have narrowed from time to time, aligning with Haynes (1895). Dizikes (2010) emphasized this situation when he expressed that with risk events, banks have recognized that their assessments of uncertainty as risk were inadequate and also, realized that their assumptions about risk are no longer valid since such events have proven that conditions of Knightian uncertainty apply, in contrast to mathematical risk which they had assessed and measured. This means that what was previously judged as risk with the use of numbers, is now uncertainty as a result of real life failures and loss events, and according to Dizikes,

“events are so complex that forecasting is always a matter of grappling with “true uncertainty,” not risk” (Dizikes, 2010: 1).

Other conceptual foundations that were profoundly identified include the behavioural theories which aptly underpin and explain the people risk factor. They include the human attributable characters such as ignorance, competence, opportunism, hubris, private knowledge, and other propositions such as bounded rationality, information asymmetry, information opacity and lemon problems that informed the basis for people risk behaviour. Some of the factors explain deliberate actions of people in banking, leading to manifestations such as fraud, opportunism, hubris, and all such indicators of conflict of interest, while the others explain the non-deliberate actions or inactions so to say, such as ignorance, incompetence, weak cognitive and similar. These behavioural factors justify that aspect of the proposition of this study, which explain the root causes of risk. Post Keynesian writers theorise on the dimension of human abilities and characteristic which leads to the behavioural theories. Prominent along the behavioural discourse include Hoffman (1998), Simon(2000) and O’Donnell(2013) who raise the issue of bounded rationality and cognition as well as intentional and opportunistic behaviours, all considered as root causes of risk. Others include Foss (1996), Stiglitz(2000) and Akerlof (1970) among others, who add opportunism, asymmetric information and lemon problems as causes of the behaviours that raise risk and uncertainty. Williamson (1975, 1984 and 1999) maxes the discussion by bringing in the dimensions of managing risk through governance considering transaction costs. Governance is projected as the umbrella which guides risk and uncertainty as well as behavioural foundations of the risk factors. Concluding, Operational risk can be explained by theories of uncertainty and behavioural factors while its management principles can be informed by governance theories. The ultimate proposition is that ORM is about governing risks associated with uncertainty and behavioural causes. This research finds that the Operational risks derive from fortuitous elements arising from uncertainty as well as intended/fortuitous elements arising from the behaviours of performers, who in this case are both bankers and external sources. Therein lies the need for governance, as the umbrella theory for managing the risks. Thus, this empirical work proposes a novel contribution to ORM literature by excavating and developing some sound economic theoretical perspectives on Risk and Uncertainty as well as behavioural theories, to inform ORM in financial institutions.

6.3 How do these theories inform the Basel principles of ORM?

The second aspect of this research question 1 examined how the theories presented in Section 6.2, inform the Basel principles of operational risk management and projected a

Ojadi, Vivien (2022): Operational Risk Management and Basel Implementation in Banking: A Developing Economy Perspective mapping of the relatedness of these principles to the theories. Basel has defined OR as the risk of a loss resulting from inadequate or failed internal control processes, people and system or from external events. In defining OR, Basel identified four risk factors, namely people, processes, system and external events. The literary excursion into the theoretical discourse on risk and uncertainty already summarized in Section 6.2, provided for identification of the underpinning theories for risks in general and operational risk and its management principles. The pivotal position is that uncertainty is the underlying factor of risk and all risks fall within the scope of economics as analyzed from the perspective of a wealth owner, rational investor, or seeker of wealth. Considering that wealth owner will either invest or consume it, and when invested, such investment will face the risks of loss by dishonesty of other, risk of deterioration in value and change in the value of money (Haynes, 1895), and that such losses can be assessed, measurable, or probabilities assigned (Knights and Keynes), considering also, that these risks can arise from behaviors and attributes of people, processes and systems and events, therein lies the handshake between the Basel principles and the theories. Basel's four risk factors discussed in Section 3.3 align with the theoretical foundations.

People risk factor is underpinned by the behavioural theories (See Sections 6.2, 2.5.2). Behaviours of people which can be deliberate or due to cognitive constraints lead to risk exposures. Such deliberate actions manifest in fraud and forgeries such as cheque cloning, stolen cheques, transaction syndication, signature forgery, stolen and forged identity, cheque kiting, wrong withdrawals and transfers, duplication of postings, cash suppression, debit and credit of wrong accounts, use of dormant accounts. These are explained by opportunism lemon problems, information asymmetry, etc (Table 6.1) Other behaviours are based on limited cognitive level many of which have been described in the review of literature in Section 2.5.2 and 6.2. Bounded Rationality and HAC inform the behaviours. **Processes** are driven by people which implies that despite how well they are set up, they are also determined by the behaviours and conducts of people. When people are positive, they protect the processes and work within them but when they are not, they exploit the processes and their loopholes. The same is applicable to **Systems risks**. The most predominant system risks are cyber security and IT disruptions. Studies show that cyber risk is clearly one of the leading systems risks today. According to McKinsey and Risk.Net study, "almost two-thirds of CROs cited it as a key risk driver – followed by conduct, compliance and outsourcing" (McKinsey, 2017:1). According to their study, cyber risk has become a nightmare for CROs, even those comfortable with their overall risk profile. *"In general, I feel we have good control over major operational risks, but with IT and cyber risk... we are scared,"*. **External events** apply to issues not directly under

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the control of management. Some external events are cyber risks, some from outsourcing and third-party interconnections. Others include things like natural disasters. The man-made system risks are mostly manifestation of opportunism and others are of cognitive weakness or bounded rationality.

In respect of the principles for management of OR, in 2003, the Basel Committee on Banking Supervision established a framework of principles for both the industry and supervisors, through the document “Sound Practices for the Management and Supervision of Operational. Based on the 2003 principles, the revised framework - Basel II (International Convergence of Capital Measurement and Capital Standards) was issued and the Committee expected that the sound practices would continue to evolve. Since then, knowledge and experience in implementing ORM frameworks have expanded, contributing to the emergence of further sound industry practices which have been used to enhance and update the principles twice (2011 and 2021). and published as “Revisions to the Principles for the Sound Management of Operational Risk. The current version of these principles is BCBSd515 published in March 2021, remains the substantive guiding principles for operational risk management under consolidated Basel Framework (2021). Table 6.1 below have been generated from the work done on Question 2, in order to visually illustrate a mapping of how the theories inform the Basel principles. It is important to highlight that as this work has progressed, Basel principles have also evolved as reviews are done and changes are made. As a result, the table below has been updated twice in this process and the most reviewed principles (2021) have been used to update the previously mapped table 6.1.

Table 6.1 Mapping of Theories to Basel Principles and Pillars.

Core Categories	Fundamental Principles Enhanced Sound Practices	Responsibility	Mapping to Basel Pillars	Theoretical linkages
Principles	1) The board of directors should take the lead in establishing a strong risk management culture implemented by senior management. The board of directors and senior management should establish a corporate culture guided by strong risk management, set standards and incentives for professional and responsible behaviour, and ensure that staff receives appropriate risk management and ethics training	Board of Directors Board of Directors and Senior Management Senior Management	Pillar 1 Capital & Risk Coverage Pillar 2 Risk Management Supervisions	Governance & TCE (Williamson 1998) Agency, (Friedman, 1970; Jensen, & Meckling, 1976) Strategy (Williams 1996) Stakeholder Information Asymmetry (Stiglitz, 2000)
	2) Banks should develop, implement and maintain a Framework that is fully integrated into the bank's overall risk management processes. <i>The ORMF adopted by an individual bank will depend on a range of factors, including the bank's nature, size, complexity and risk profile.</i>	Senior Management		
Governance	3) The board of directors should, approve and periodically review the operational risk management framework. And ensure that senior management implements the policies, processes and systems of the operational risk management framework effectively at all decision levels. 4) The board of directors should approve and periodically review a risk appetite and tolerance statement for operational risk that articulates the nature, types and levels of operational risk the bank is willing to assume.	Board of Directors Board of Directors	Pillar I Capital adequacy & Pillar 2-Risk Management & Supervision	Uncertainty and Risk (Haynes 1895) (Knight 1925) (Keynes 1937) (Lawson, 1985) Behavioural theories (Simon 2000) (Foss, 1996) (Akerlof, 1976)
	Senior Management 5) Senior management should develop for approval by the board of directors a clear, effective and robust governance structure with	Senior Management	Pillar 2-Risk Management	Information Asymmetry, (Stiglitz 2000)

Core Categories	Fundamental Principles Enhanced Sound Practices	Responsibility	Mapping to Basel Pillars	Theoretical linkages
	well-defined, transparent and consistent lines of responsibility. Senior management is responsible for consistently implementing and maintaining throughout the organisation policies, processes and systems for managing operational risk in all of the bank's material products, activities, processes and systems consistent with the bank's risk appetite and tolerance statement.		& Supervision And	HAC (O'Donnell 2013) TCE(Williamson 1998)
<i>Risk Management Environment</i>	<p><i>Identification and Assessment</i></p> <p>6) Senior management should ensure the comprehensive identification and assessment of the operational risk inherent in all material products, activities, processes and systems to make sure the inherent risks and incentives are well understood.</p> <p>7) Senior management should ensure that the bank's change management process is comprehensive, appropriately resourced and adequately articulated between the relevant lines of defence.</p>	Senior Management	Pillar 2-Risk Management & Supervision	Governance (Mallin 2007) Agency/ Moral Hazard Cognitive Human Attributable Characters Uncertainty
<i>Risk Management Environment</i>	<p><i>Monitoring & Reporting</i></p> <p>8) Senior management should implement a process to regularly monitor operational risk profiles and material operational exposures. Appropriate reporting mechanisms should be in place at the board of directors, senior management, and business unit line levels to support proactive management of operational risk.</p>	Senior Management	Pillar 2 – Risk Management and Supervision Pillar 3- Market Discipline	Governance (Williamson 1998, Mallin, 2007) Efficiency HAC (O'Donnell 2013)
	<p><i>Control and Mitigation</i></p> <p>9) Banks should have a strong control environment that utilises policies, processes and systems; appropriate internal controls; and appropriate risk mitigation and/or transfer strategies.</p>	Senior Management	Pillar 2 – Supervisory review	

Core Categories	Fundamental Principles Enhanced Sound Practices		Responsibility	Mapping to Basel Pillars	Theoretical linkages
<i>Information and communication technology</i>	10) Banks should implement a robust ICT risk management programme in alignment with their operational risk management framework.	Senior Management	Pillar 2 – Risk Management and Supervision	Information Asymmetry, (Stiglitz 2000) Interconnectedness (Bell, 1987) Rausand (2011) TCE (Williamson, 1998)	
<i>Business Continuity Planning</i>	11) Banks should have business continuity plans in place to ensure their ability to operate on an ongoing basis and limit losses in the event of a severe business disruption. 26 Business continuity plans should be linked to the bank’s operational risk management framework..	Senior Management	Risk Management and Supervision		
<i>Role of Disclosure</i>	12) A bank’s public disclosures should allow stakeholders to assess its approach to operational risk management		Board	Pillar 3- Market Discipline	Information Asymmetry and Opacity (Stiglitz, 2000) Agency (Jensen and Meckling 1976) Stewardship (Donaldson and Davis 1991)

The table above shows the five (was three from 2003 to 2021) major categories of the enhanced principles in Column 1, while column 2 summarized the twelve (was eleven from 2003 to 2021) principles. The 3rd column lists the responsible bank officials, while Column 4 is used to map the principles to the Basel pillars (See Fig 3.7 b3_bank_sup_reforms.pdf). Column 5, maps the principles to the related theories identified through the work in Section 2.5.2 and 6.2 respectively. Basel Pillar I includes capital, risk coverage, Pillar II is Risk management and supervision while pillar III is market discipline which is disclosure. The principles are further related to the theories of uncertainty and risk, behavioural and governance theories identified from literature. It is safe to suggest that proper matching of these principles with theories will lead to a better understanding of relationships between Basel principles and the theories propositioned in these findings. It also shows the direct linkages of how the theories inform the Basel principles, thereby providing a landmark contribution to ORM literature. The governance principles (1-5) detail how the ORM framework of a bank should be set up, including the risk appetite, tolerance, risk culture, policies and processes. The tone of ORM should be set by the Board of Directors followed by Senior management. The implication is that risk management culture will flow from the top down, implying that board and senior management buy-in will ensure that ORM framework is followed by all. Basel Framework Pillars implicated are Pillar 1 - the determination of Capital adequacy based on the identification and assessment of risks and the responsibility rests on top management. Pillar II details how risk should be managed and supervised through regular independent monitoring and evaluations by the supervisors, in Nigeria, the regulators. The associated theories include Governance which hammers on strategic direction and performance of organisations. Williamson's TCE viewed the firm as a governance structure, and bears operationalized governance principles (Williamson,1998). Mallin (2007) highlights Agency theory (Friedman, 1970; Jensen, & Meckling, 1976) which is also implied considering board and management responsibility to shareholders in ensuring that operational risks do not materialise into losses that will impair or erode their capital (Williams, 1996). The top-down responsibility and buy-in of management should mitigate self-seeking opportunistic situations where potential conflicts could threaten opportunities for mutual gains (Williamson, 1999) especially with information asymmetry (Stiglitz, 2000).

The Supervision principle aligns with stakeholder governance perspective (Donaldson, and Davis, 1991), because both bankers, supervisors(regulators) and the society are stakeholders, and supervisors ought to ensure consistent monitoring and evaluation which suggests that applied principles of risk ownership cuts across units and boards, and resonate with the idea of a wider group of constituents requiring best practices for mutual benefits as previously discussed in Section 2.4. Risk assessment and identification and other principles from 6-9 are mostly focused on the internal operations. Senior management and ORM units are mostly involved. This aspect relates to the nitty gritty which involves the rest of staff. Human attributable characters such as cognition, moral hazards, uncertainty and risk, agency is implicated by these principles and can explain the risks banks face. A new Principle 10 which focused on Information and communication technology was added in the 2021 revisions. The importance position that ICT now holds in the banking environment necessitates the need for its own principle. Cyber security and IT disruption has become one of the top ten risks in Operational risk and practitioners require principles for guiding ICT. Principle 11 is now business continuity as resiliency has been taken out as a complete framework of its own, after the 2008 financial crises. Principle 12 concerns Pillar III – Disclosure, banks are required to publish information useful to enable stakeholders assess the bank’s ORM and make informed decisions. Boards are responsible for this market discipline. Evidence shows that several bank top executives have displayed misconducts arising from opportunism and have failed to disclose sufficiently or even properly to stakeholders (Appendix 6, NDIC, 2017). The agency theory, and information asymmetry explain these behavioural issues in the context of economic theories. Although this situation is a global challenge for operational risk, Nigeria banking system has not been spared the problem. Nigeria witnessed several of this both pre and post consolidation just like the rest of finance world. As a result of these manifestations, Conduct risk has become a hugely important and emphasized aspect of ORM globally. Other related theories on disclosure are Opacity and stewardship. Asymmetry explains the fact that banks may not publish all the information required for outside stakeholders to make informed decisions and this is the crux of supervision. Bank management hold the information. This research found from interviews that bankers share information more among themselves than with regulators, and this situation concurs with the findings from implementation reviews done by Basel

supervisory, where it was found that there is opacity with regulators, but more transparency with each other

In addition to the above findings which are mostly explained from secondary research, there are further extraction from this empirical research, of how the theories inform operational risk management principles. This empirical study established from the review of relevant literature (Section 2.5.), that uncertainty and bankers' behaviours are root causes of risk in banking and there are underlying linkages between governance, behavioural courses and uncertainty, such that with a tailored integrated risk and governance framework, operational risk can be better managed. Results from the interview data present a number of practical themes that relate directly to theories identified as underpinning operational risk management as presented in Table 6.2 below. Although these points will be further discussed as each theme is unpacked within the content of practical applications of ORM which is research Question 2, it is pertinent to highlight them as recurring nodes in the data, so as to portray how relevant they are to the themes from the literature and the banking system, as well as their frequency of occurrence from the research.

Table 6.2 Themes and Frequency of Occurrence

Thematic extractions on application of Basel by Nigeria banks (from interview) related to theoretical underpinnings of ORM	Frequency
Bank Risk	1071
Controls	229
Fraud Management	139
Audit (internal audit 35)	100
Internal Control	84
Policy	82
System	75
Compliance	59
Operational Risk Management Framework	49
Governance	31
People Behaviours	29
Conduct risk	27
Control Self Assessment	26
Risk Indicators	21
Risk factors	15
Self-interest – Opportunism	14
Planning	14

Third party and Outsourcing	13
Integrated Risk Management	12
Accountability	12
3 lines of defence	11
Strategy	11
Competency	11
Asymmetry	7
Information/Communication	6
Ethics	6
Enterprise Risk Management	6
Ethics	6
Regulatory reporting	6
Risk Appetite	5
Market discipline/disclosure	5
Uncertainty	4
Advanced Measurement Approach	4
Historical Context	4
Systems Risk	3
Regional Lines	2

Extracted by Researcher from Interview

Some of the themes presented above can be directly related to some of the theories previously discussed in Chapter two and expressed in Section 6.2. Further to practical applications of ORM in Nigeria, it is worthy to comment on a few of the highlighted themes that link to theory in the above table. One of such is Uncertainty. Both the regulators and several bankers highlighted the presence of uncertainty in day to day banking and in managing operational risk. Majority considered uncertainty as an ever-present phenomenon in managing risk because it is difficult to determine when a risk event can occur. It goes to buttress the theoretical foundation of risk, which as suggested by Haynes, (1895), remains the fortuitous element. Respondent B14 expressed this succinctly, when he enthused that as much as Operational risk management entails putting measures in place to mitigate risk, it is uncertain if the measures are actually effective. When risks events manifest, you know the measures failed, but when risk events do not happen, how do you even know whether it is actually due to the measures or because the underlying causative factor did not arise?(B14, 2016). Therein lies Uncertainty and as argued by Haynes (1895), the existence of uncertainty in the performance of an act, in this case, banking operations, is an instant assumption of risk.

Another theoretical theme manifesting from the primary research is people behaviours. Several things are entailed in people behaviour, but the focus is on risky behaviours and misconducts such as errors, wrong transactions, lack of knowledge and understanding of processes and procedure, miscalculations, hubris, unethical practices, selfish actions, corrupt practices, circumvention of processes and procedures etc. People behaviour highlights behavioural theories such as weaknesses in cognitive prowess, bounded rationality (Simon, 2000), prospective actions due to isolation and certainty effects (Tversky and Kahneman (1979), knowledge gaps (Foss 1996) and all such which are not deliberate actions but rather human weaknesses. These are congruent with Human abilities and capabilities (HAC) of the Keynesian era as analysed by O'Donnell (2013). Conversely, people behaviour also exists as deliberate actions for interests other than the organisation's, implying opportunism among other misdemeanours (Foss,1996, Donahue,1999;)

Competency is also emphasised as an aspect of the whole process of implementation of the risk frameworks, that affected both regulators and banks, but more so with regulators. Due to insufficient number of personnel to device and roll out risk based supervision(RBS) and to apply the frameworks, there was a tendency to copy frameworks from other economies with different political and environmental factors, and to try and implement them in Nigeria. That had its own limitations but through the process, training and personnel development became an integral part of the process of implementation of RBS and Basel. As a result of the competency limitation, the individual banks (B14 and B12) that had tried to build their risk systems, and have developed some knowledge and competencies, became benchmarks. Benchmarks bear advantages, both competitive and otherwise (Prahalad and Hamel) and Williamson, 1999). However, in the Nigeria banking systems, the practice of ORM by banks transcends the primordial focus of competition which Prahalad and Hamel focused on. Rather, banks co-operate with each other in their ORM practices, both because it is something evolving and banks are still trying to learn, banks are also interconnected and a huge OR loss will affect everyone. The rest of the discussions on how theories inform the practice of ORM and Basel application are embedded in the remaining analysis of findings.

6.4 Summary and Conclusion:

The first research question attempted to identify the theories that underpin ORM and how they inform the Basel principles. It is safe to suggest that over the years, Operational Risk has been difficult to theorise. The broad, and indepth theoretical exploits into this work has enabled us to gain an understanding of the major reasons why previous literatures have not dealt into theory for ORM. One of the reasons suggested is that OR is a practice- based discipline. However, this work leads us to suggest further, that apart from its practice-base, theorizing has been difficult because Operational risk is not just one item or one simple concept, rather it is a “bucket of things and risks”. This work holds that this is the same reason why it was difficult to define OR all these decades, with writers using phrases like “any other risk that is not market or credit risk’, a risk that has no definition, etc. Therefore, this work has enabled a granular extraction of some of the various relevant theoretical basis that underpin Operational Risk Management in banking by isolating and studying the components of OR as defined by Basel. This study has also articulated them and devised a diagrammatic illustration of the framework in Figure 2.2. On that premise, the proposition from this study is that theories of uncertainty and behavioural factors as root causes of risk, provide substantive underpinnings for the phenomenon of operational risk in banking. Furthermore, there are significant underlying linkages between governance on the one hand, and these theories (behavioural and uncertainty) on the other. These theories can explain the operational risks faced by banks as a result of people behaviours, processes, systems and external events. The ultimate proposition is that an integrated governance and risk framework can substantively manage operational risks in banking under the principles promulgated by Basel. These findings were validated through the use of extensive and multiple sources of literature and postulations on both Basel and Economic theories, as well as reference to the empirical work done. From this empirical work, a number of themes presented high frequencies of occurrence and throw light to the relevance of the theories and principles in the application of ORM in banking. These themes include people behaviour, Uncertainty, risk, risk culture and appetite, strategy, corporate governance, oversight, lines of defence, competency, compliance, risk and control assessments, internal handshakes, risk ownership, accountability and regulatory reporting. Their reality command a magisteral basis for implicating governance in ORM, especially as no single theory can capture all the aspects of governance as a

whole; and operational risk manifests in at least, the four risk factor categories, namely: of people, process, system and external events (BCBS 2002). These multiple recurrence from both literature and primary sources validate the findings.

Most of existing literature on operational risk focused on the technical aspects of operational risk, dealing with approaches and models for risk measurement, quantification, modelling, assessment and such practical applications. It is rare to find literature that approached Operational risk management in banking from the perspective of identifying theoretical underpinnings for ORM, or that attempted to identify the underlying theories that inform ORM. While some studies reviewed previous related empirical work as was done in Section 2.7 of this work, none charted a theoretical pathway or established a theoretical foundation to inform ORM and Basel in banking. In contrast to that status quo, this study approached operational risk from the perspective of identifying underlying economic or financial theories, that underpin Operational risks in banking. It undertook an excavation of various relevant literature on operational risk in banking, by exploring over a thousand publications, on risk in banking, spanning across theorists from 1895 -2020, and covering operational risk and linking to Basel. A cursory browsing of “Operational Risk” titles by order of relevance from UH Online resources revealed 260,130 publications. After a brief review of more than a hundred publications, none of the publications approached ORM from this theoretical perspective. A further browsing of “Operational Risk Management” literature revealed that out of 3406 writings on ORM, none dwelt on the theoretical foundation. This study in its articulation, provides a sound theoretical basis for the explanation of Operational risk management, on the frame of economic theory, thereby projecting the theories that inform OR and ORM in banks. It therefore makes a novel contribution especially for academic incursion, in contrast to most other writings on ORM, which focus on methods, approaches and models for measurement, performance, modelling, quantification, assessment, data, efficiency and calculating operational risk capital which are technical aspects.

Furthermore, prior to this study, a survey of 279 academic papers written on Operational Risk Management following Basel II and Basel III and covering from 1998 to 2014, showed that it was not possible to specify articles that discuss operational risk disclosure from a theoretical perspective or within the frame of economic theories

(Pakhchanyan, 2016). Although the study had highlighted Pillar III (disclosure) in its position, this researcher's extraction of dominant themes from all the examined academic literature, did not provide any exception across pillars I and II either. As at April 2022, Pakhchanyan's claim has not been conflicted. Thus, the proposition from this study, that Operational risk can be explained by theories of uncertainty and behavioural factors, while its management principles can be informed by governance theories is novel. This research constructed an advancement of several relevant theories and literatures in concluding with the position. The value of theories in academic research, is what distinguishes the philosophical doctor's work from other doctors. While theories entail a lot of things, beauty, fine art, curiosity, and truth, to this researcher, the most satisfying part of theories is that "Theories explain". In the words of Eaton, (1921: 683) *"A theory goes behind a given fact, to build a scheme in which the given fact will fit, and by the aid of which it will be understood"*. So it is, with the theoretical framework developed from this study to underpin and explain operational risk management. Operational risk cannot be explained by just one theory, being consisted of a bucket of different things that make up the risk factors. So also do the explanations that lend credence to its understanding span across a bucket of theories, as depicted by the researcher in Figure 2.2. Therein lies one of the major contributions of this work.

Basel in 2021 prescribed twelve fundamental principles for sound operational risk management, which cover five main areas. Previously, there were eleven principles that cover three main areas but with various events that impact the finance world, issues like information and communication technology, resiliency and change management have risen to the fore. The five areas covered by the principles are (i) governance; (ii) risk management environment (iii) Information and communication technology (iv) business continuity (previously included resiliency) and (v) disclosure. (BCBSd515, 2021, BCBS195, 2011). These principles are developed from a collage of ideas between supervisors and industry and have been reviewed over time from 2003 to 2021. The essence of these principles is to establish structures, framework and people positions, to manage and govern operational risks. Specifically, the governance principles (3, 4 and 5) focus on the role of board of directors and senior management in establishing risk management framework, the risk appetite and tolerance, and governance structure for the bank respectively. These principles have

been mapped directly to the theories identified and discussed in this work and based on the linkages, the theoretical propositions have been established.

Chapter 7 Findings – Research Question 2

7.1 Introduction

What is the extent to which the Nigerian banking system after its consolidation, implemented the ORM framework of the Basel Rules? What opportunities and challenges have been experienced as a result of its adoption?

This chapter addresses the second research question and also sets out the implications of adoption of Basel to banking in a developing economy context, providing an organized explanation of the various operational risk issues discovered and addressed from the research. The chapter further analyzes the implications for operational risk management in Nigeria banking system and projects explanations of the themes including their linkages to the theories and other academic literatures identified on the pivot of uncertainty, risk, behavioral theories and governance.

As previously shown in Section 4.3.1, this work took a purposive sampling approach for primary research, in addition to examination of secondary reports and data on implementation of Basel in Nigeria. Although purposive sampling is sometimes considered a non-probability method and suggested to limit the extent of generalization in research, that limitation will not apply in this study since the study focused on an area that only specialists and practitioners have the expert knowledge to address. Thus, purposive sampling was the best approach and using any other sample will render the result inadequate if not invalid. The chapter is presented as follows: Section 7.2 classifies the findings on the bases of the three phases of implementation timelines. Section 7.3 presents the structure, staff strength and maturity of ORM in Nigeria, Section 7.4 discusses regulators' perspective on extent of implementation, 7.5 is bankers' perspective on implementation level, 7.6 explains the ORM structure, processes and framework while 7.7 discusses the process of risk definition, identification and assessment and 7.8 presents a comparative discussion pre and since Basel commencement

7.2 Phases of Implementation Timelines.

This work found that the extent of implementation can be classified into three phases in line with implementation timelines as follows:

- Phase 1- Risk based supervision
- Phase 2- Basel I and II
- Phase 3- Basel II and III current phase

7.2.1 Phase 1- Risk- Based Supervision (2008 – 2010)

As discussed in Section 5.3, with the consolidation of Nigeria banking system came the risk-based supervision (RBS). The RBS which commenced in 2008 involved a joint development of a Risk-based and Consolidated Supervision Framework by the regulators - CBN/NDIC (NDIC, 2009) and this framework was adopted in 2009. RBS became fully entrenched in 2009 after a post financial crisis review of the banking system revealed tremendous weaknesses in corporate governance and effective risk management in the banking system (CBN, Risk Based Supervision, 2011). The combined framework created room for adequate focus on risk identification and assessment by Nigeria banks. Every Nigeria bank commenced their risk identification, registering and assessing risks and then cataloguing risks. By this paradigm, risk assumed a more central place. It was this strong foundation of risk identification and assessment that gave some Nigeria banks the edge in their Basel implementation status, in comparison with some SIB in USA which were expected to be more advanced than an emerging economy like Nigeria. Risk Identification and Assessment (Principle 6) are the strongest principles of Risk Management Environment as postulated by Basel in their fundamental principles. Without a proper risk identification and assessment, the whole operational risk management framework becomes a failure. This was highlighted during the OpRisk North America conference in 2019, when the Federal Reserve bank exposed that some globally systemically important banks in USA were back to the basics of redoing their Risk identification and assessment, after realising that this was not thoroughly done ab-initio, and after several years of implementing Basel as developed economy banks. For instance, as at December, 2020, Citibank was fined \$400million for failures in what the Nigeria banks would consider basic risk actions such as establishing independent risk management, risk governance framework, policies, standards, and frameworks to adequately identify, measure, monitor, and control risks, despite being a globally SIB. RBS set an appropriate foundation for the post consolidated system to commence the journey of implementing the Basel operational risk management principles and accords. It also ushered in a consolidated supervisory framework whereby regulatory agencies supervised universal banks or consolidated institutions as one entity, rather than independent individual entities. Outputs of the RBS implementation included Risk Assessment Summary(RAS), Risk Matrix, Supervisory Guides, Discussion Series, and Interventions Reports. Preliminary risk profiling of DMBs also commenced with

two banks as pilot. The prudential examinations showed that 11 banks failed to meet the CAR of 10% at end of 2009 compared to 2 at year 2008. The increased number was as a result of the banks becoming more knowledgeable and experienced in identifying the risks and reporting them. Also, the mining of oprisk events data was getting better developed, so banks could not easily manouvre the figures. An examination of risk management practices and control prior to RBS, showed that the supervisors or regulators were the driving force for the practices. With RBS, an era of Enterprise Risk Management commenced whereby most banks began to implement an integrated risk management system as ERM. Many of the banks did not initially have a framework but the ERM structure involved having a strong credit risk unit, internal control and/or internal audit units. According to one of the regulator crespondents, (R1)

“in most banks, Internal control Unit was used to manage operational risk because there were no designated ORM units. However, banks began to look at risk holistically and expected different units to collaborate with the Internal Control Unit co-ordinating” (R1).

This contrasted the previous supervisory approaches that focused on rules and compliance – the practice of taking actions purely to comply with legal and regulatory requirement and to avoid fines and punishment. RBS became the “*regulators’ game changer*” (R2 and R4), allowing regulators to take more proactive approach to examining and supervising banks. On this backdrop, the adoption of Basel II became easy. Basel II framework was thus driven by banks as they began to find positive value in their new ORM practices. This research found that most banks began to discover ways to add value to their businesses through the implementation of Basel ORM principles(B1, B8, B11, B9, B12), and not just to comply with regulator or supervisor requirement as some developed SIB have been found to do (OpRiskNA, 2019).

7.2.2 Phase II – Basel I and Basel II (2010 – 2016)

With RBS fully entrenched in the banking system by 2009, the transition to Basel appeared preempted. Basel I commenced in 2010 with major emphasis on capital adequacy ratios (CAR). In January 2014, Basel II was introduced to run concurrently with Basel I. As obtained from our respondents interviews, the process included devising a more integrated platform for combined efforts of banks and regulators (R1, R2, R4). The resultant response was the adoption deeper risk-based supervision by

the regulators, imbibing more global best practices and reforms, which then gravitated towards implementation of Basel II principles (CBN, Risk Based Supervision, 2011). Basel I and Basel II Pillar I (CAR) were to run concurrently between January 2014 and June 2014, when Basel II was to become fully effective. However, “*the initial challenges observed in the parallel run necessitated an extension of the parallel run particularly with regards to the requirements of reporting capital charge for credit, market and operational risks*”(R2). Thus, Basel II continued to run parallel with Basel I until October 2014. During this process, it was observed that an integrated platform for collaboration between banks and regulators was required (CBN and NDIC). A technical committee was set-up by CBN/NDIC to strategise on Basel II implementation. The technical committee’s initial challenge was inadequate skilled personnel to manage the process. Thus training and personnel development became an integral part of the Basel II implementation agenda. Trainings were inclusive of both banks and regulators as they endeavoured to train their ORM personnel, and to recruit others who already had knowledge and experience of ORM and regulations. Several other measures were taken, such as establishment of a Risk Management Department in the apex bank. A Chief Risk Officer’s forum was formed consisting of banks’ heads of risk and regulators in order to promote a cohesive strong risk expertise and develop a robust corporate governance practice across the banking sector. In respect of the fundamental principles, Nigerian banks imbibed the operational risk principles with more intensity and result-oriented focus, enabling them to build more formidable foundations for the Basel pillars. It suffices to say that having a combined regulator and banker training in order to learn and collectively find ways to properly implement Basel, is a big positive in the history of regulator versus regulated relationship.

7.2.3 Phase III - Basel II and Basel III (June 2014 to present)

Basel II commenced in January 2014 after a few technical delays in respect of its Pillar I. It was initially introduced to run concurrently with Basel I until June 2014 when Basel I was to be completely phased out. As in all other countries of the world, implementation of the Basel accords run concurrently between the preceding and subsequent frameworks. However, apart from the pillars, there were the fundamental principles which were essential foundations for the implementation. The Basel II capital framework was implemented as part of broad sector reforms and purposed to help in enhancing the stability of the financial system through more quality banks,

and to strengthen supervision. It also aimed to help build a robust financial sector to support the real sector. Implementing Basel II was considered necessary for the level of sophistication and cross-border participation of Nigeria banks, as well as influx of foreign banks post consolidation. Nigeria banks had diligently commenced Basel II by focusing at meeting the Basel sound practices and principles which somewhat aligned with their RBS. As a result, this work found that as at June 2019, some Nigerian banks were ahead of some of the bigger SIBs in the developed economies. This is probably due to two reasons: 1) while Nigeria banks had taken a bottom-up approach, by first implementing the Basel principles as fundamental pivot for the frameworks, some of the big banks had taken short cuts in their initial compliance with Basel, focusing mostly on the capital requirements which is

Pillar I, without diligently implementing the principles and 2) the Nigeria bankers due to indepth and painstaking exploration and experiences consistent with their risk environment, diligently developed and established steps and principles that work well for risk identification and risk assessment, which some developed banks were still revisiting as at June 2019, and some fined for the failures as at October 2020 (OpRisk Na conference 2019, Volkov, 2020, Flitter, 2020). As at December 2020, most Nigeria banks use the Basel II Basic indicator approach for their Operational Risk Capital while working towards standardized as prescribed by Basel. This was applicable to commercial banks, investment banks and non-interest bearing banks. Adoption of the standardised approach for OpRisk Capital requires prior approval from CBN, which will entail confirmation of the model of calculation, especially since all corporate exposures are considered unrated and assigned a risk weight of 100%. Meanwhile, the banks are implementing Basel III (now called basel framework) for Credit and Market risks, using standardised methods for capital calculation. The CBN holds that while the two accords have merit, some aspects of the Basel III rules are not in line with the realities of the Nigerian economy. The CBN therefore exercises discretion regarding which aspects of the accords will be implemented (Oxford, 2018). This discretionary implementation is common among African countries except South Africa which belongs to the G20, and Tunisia. This is in line with Basel's contention that developing economies may not have the sophisticated infrastructure, systems and database to implement some fo the Basel requirement. However, discretionary implementation is not perculiar to Africa or developing economies because some

developed economies also apply discretion in some aspects. It is being suggested that the new capital requirements may trigger a round of consolidations among smaller banks in Africa.

Details of the implementation actions, impacts and results as well as the levels are documented in the sections 7.3 to 7.7.

7.3 Organisation, Staff Strength & Maturity of ORM in Nigeria banks

The first evidence of implementation manifests in the structures adopted by the banks in order to manage Operational Risk. There were 89 banks before consolidation. After consolidation, Nigeria banks shrank from 89 to 21. As earlier presented in [Section 5.3](#), Nigeria banks adopted risk-based supervision after consolidation. This means that prior to the implementation of Basel, most Nigeria banks had Risk Management, Internal Control and Compliance units through which most control activities were executed. Banks implemented Enterprise risk management, putting together integrated risk management

starting from the Central bank and NDIC which are the regulators. However, all but three banks did not have a dedicated ORM unit apart from other units such as credit risk. Their implementation of Basel ushered in the establishment of dedicated ORM unit in all the banks. The structure and maturity of each bank's ORM unit was directly related to their level of implementation of the Basel framework. Banks that were more advanced in their implementation of ORM had more agile and stable structures while those with more recent implementation were still testing the structures in order to achieve the best suited for their business.

The number of staffs allocated to Operational Risk management varied from bank to bank. A predominant factor for this variance was the fact that most of the banks have adopted a control system called the three lines of defence model which dispersed and diffused the application of Basel ORM principles in line with the Basel principles. The three lines of defence are:

Line 1_ Marketers, frontlines, operations staff - risk owners

Line 2 – Operational Risk Management staff

Line 3 _ Internal Audit, external audit, regulatory compliance.

The model implied that most branches and business units took ownership and responsibility for their operational risk events. Thus, the headquarters would have a

centralised ORM Unit which feeds off bank Internal Control Staffs in making operational risk decisions. Furthermore, the model implies that centralized operational risk unit is manned by few staffs, since the branches and functional business units will be the first line of defence. 3 banks out of 12 had ORM unit established pre consolidation, while 9 established the ORM unit post consolidation.

Table 7.1 Years of ORM unit in Banks

<i>Years of ORM unit in bank</i>	No of banks	ORM started Pre or Post Consolidation	No of Years of ORM as at June 2020
1-8	9	Post Consolidation	4-12years
9 and above	3	Pre-Consolidation	13 yrs and above

58% (7) of the banks interviewed had five or less Operational Risk Management staff centralized at head office, 33% had between 6 and ten staffs and 8% had a broad base, using a different model whereby branch internal control staffs fed into the Ops Risk Management Unit. Bank B12 had ORM staff across several branches whereby, the number of ORM staffs was 152 bank-wide.

Figure 7.1 Maturity of ORM Units in Nigeria banks

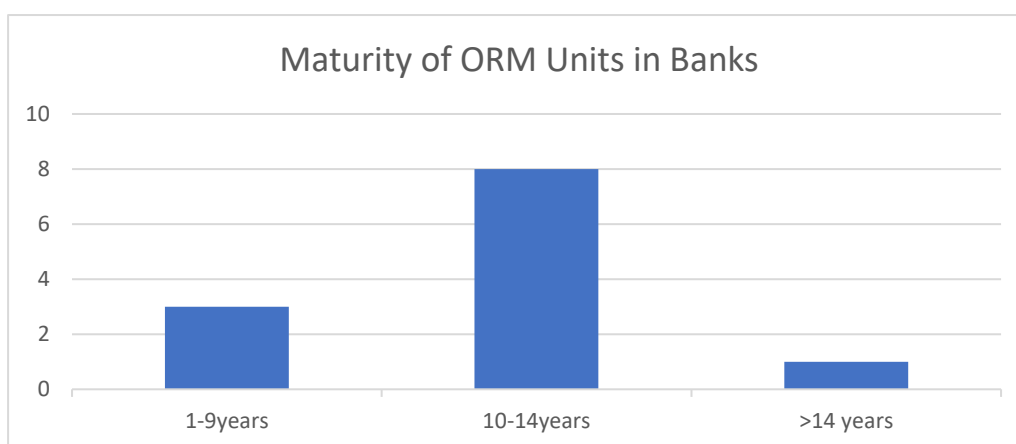


Table 7.2 Number/Diffusion of ORM staffs in Nigeria Banks

(The numbers have been aggregated to ensure proper anonymity)

The effect of this model is that for 92% of the banks, ORM and application of its frameworks became a well diffused function in the banks. This aligns with Pillar II of Basel II - Strong Supervisory Review; which requires adoption of ORM from top to bottom of the institution, enabling everyone to take ownership starting from the board down. It is also in congruence with the governance principle discussed in Section 6 which holds that for ORM implementation to be effective in banks, the board and senior management have to be actively involved to demonstrate their commitment. The top-down approach stipulated by the Basel principles is in Operation in Nigeria.

In addition to the structure and staff strength, the data also revealed that three out of twelve banks had begun ORM units before the regulatory regime that ushered in risk-based supervision and mandatory imposition of Basel II. Two of the three banks (67%)

commenced ORM in the process of re-engineering their operations, while the third commenced in line with parent company abroad.

The importance of the above analysis is that it gives a clear picture of the background

Range of No of Ops Risk staff	No of Ops Risk staff	No of Banks	
1-3	6	2	
4-6	27	6	
7-9	23	3	
10-12	0	0	
>12	152	1	

to the implementation of ORM practices in the Nigeria banking Industry, enabling us to identify a clear path to the institutionalisation of OR in the system. The evidence of some proactivity on the path of some banks shows that although Basel and regulators' implementation of Basel was a driving force for many of the banks, the quest for value adding, business re-engineering and strong repositioning was also a driving force prior to Basel's ORM. One major reason identified was to develop a proactive approach to handling peculiar operational risk issues that relate only to the Nigeria environment. According to B11,

“through OR, we moved away from compliance into value-adding. It became opportunities for identifying missed incomes and leakages and blocking them. We got

into the mainstream, into credit and banking operations. We devised products to take out costs or spend on existing products. I guess the regulators when they started, did not understand that this is where we should get to. If they did, they would have set higher barriers and banks would have met up quicker. Its only now that they are seeing it”.

Further discussion on level of implementation suggest that bankers see themselves as instruments of protection for their institutions due to the speed of change. ORM has led to establishment of OR champions in branches which is an integrating effort between the branch units. According to another respondent B12,

“Risk has moved to cloud computing, outsourcing and other outside support risks. Risk moved because threat vectors have changed from inside to outside and banks have to be proactive in their management of these risks. Thus banks are working towards effective position against such external risks including fintech risks.(B12)

Bankers are confident in their implementation of Basel, reiterating that Nigeria banks took the challenge of Basel beyond rule and compliance to re-engineering of activities and processing order to achieve the best. Also, several themes of original findings have emerged from the analysis of the interviews held with the banks and regulators, in respect of ORM and Basel application in Nigeria banking system. Following the research questions, these are presented in Table 6.2.

7.4 Regulators’ Perspective of level of Implementation of Basel

Our empirical evidence showed that the Central Bank of Nigeria rolled out a Risk-Based Framework for the supervision of banks in 2008 in line with its post consolidation agenda, first, to assess and manage risks towards safe and sound banking system and second, to create enabling environment for the eventual implementation of the Basel II Capital Accord. Implementation of Basel II requirements eventually commenced in January 2014 after Basel I in 2010. The Basel II framework was adapted to Nigeria environment in areas of capital adequacy while the BCBS Principles of sound practices (2003) were mandatory as prescribed by BCBS for the banks. Specifically, Basel I and II ran parallel in capital adequacy requirement until June 2014. As at July 2016, the regulators confirmed that “Basel II

adoption in Nigeria Banks is at 75%/25% ratio whereby 75% of banks have fully adopted the Basel framework as prescribed by the regulator while 25% of banks were trying to catch up".(R2, R6). The three pillars of Basel II, namely, Pillar I-Capital Adequacy, Pillar II- Supervisory Review and Pillar III – Market Discipline were addressed in the process, in addition to the principles of sound practice. Pillar I operational risk capital adequacy ratios were to be fully implemented by June 2014 using Basic Indicator Approach(BIA) even though Credit and Market risks were on The standardised Approach(TSA). In respect of operational risk, according to the Basel's implementation monitoring records published on December 17, 2017, Nigeria banks have completely implemented Pillar I ratio using BIA which corroborated the findings obtained in this study.

As at June 2020, Nigeria financial system was still operating on the Basel II framework but applying Basel III in credit and market risk pillar 1 capital. The adopted versions apply to commercial banks, merchant or investment banks, and non-interest or Islamic banks in Nigeria. There were plans to implement a further version of Basel III by April 2020, but this was delayed due to the pandemic and effects of covid-19 and lock down. On September 2, 2021, the CBN published its guidelines for Basel III implementation, which focused mainly on liquidity, leverage indicating the adaptations. CBN adapted the Basel framework as relevant to the Nigeria context by recognising the presence of peculiar risks not addressed by Basel in Pillar I. These risks pertain to the Nigerian banking system such as impacts of political incursions and mass fintech exposures from infrastructural deficiencies. Others include migrating from cash-based to cashless society and lack of integrated information database for users all of which are in process. Central Bank of Nigeria addressed such risks by setting a higher minimum capital requirement for banks operating in Nigeria. Banks with international authorization and or systemically important were required to have minimum regulatory CAR of 15% while other banks were required to maintain 10% CAR.

The BIA that is used for operational risk CAR requires 15% of the average positive annual gross income for the previous three years to be maintained as capital charge, as cushion for Operational risk event losses materialising and eroding the equity. This capital charge is denoted as follows:

$$KBIA = \sum [Gl_{t...n} * \alpha] / n$$

where:

KBIA = the capital charge under the Basic Indicator Approach

GI = annual gross income, where positive, over the previous three years

N = number of the previous three years for which gross income is positive

A = 15%, which is set by the Committee, relating the industry wide level of required capital to the industry wide level of the indicator. (BCBS128, 2006)

The average CAR of Nigeria banks at December 31, 2018 was 15.26%, an increase from 10.23% of December 31, 2017. These ratios remain higher than the regulatory minimum of 10% for national and 15% for international banks.

A couple of the banks however, were already using TSA approach but only with approval from the regulator. Such approvals require more stringent operational risk management processes in areas of Board and management, processes and procedures and other operational risk principles indicated first in “Sound Practices for the Management and Supervision of Operational Risk” and updated as “Principles for the Sound Management of Operational Risk” which has been subsequently reviewed in 2021. (BCBS, February 2003, BcbS195, 2011). The approval process involves a demonstration of “adequate internal control procedures and an effective operational risk management system in addition to adequate corporate governance mechanisms” (CBN, Guidance on Operational Risk BIA and TSA, 2012). The major component of the required adequate internal control is the self-assessment process which aims to ensure quality, compliance, and appropriateness of controls in addition to an effective internal audit process. Also, banks are to ensure operational risk data collection and storage system and a board responsibility reporting. The Standardised Approach which is the ultimate global mandate also required that banks’ activities be mapped according to the regulatory business lines in a “mutually exclusive and jointly exhaustive manner”. The CBN has prepared an index for the application of this approach for banks in Nigeria. The Figure 7.2 below presents the sample calculation using sample categories of gross income data for three years from 2016 – 2018.

Figure 7.2 CBN Capital Adequacy Ratio Template



FORM OR2: Operational Risk - The Standardised Approach

The Standardised Approach (TSA)

Lines of Business (LOBs)- Gross Income	Beta	2016 (N'000)	2017 (N'000)	2018 (N'000)
Corporate Finance		170	200	350
Trading and sales		280	350	550
Retail banking		880	1400	1500
Commercial banking		1300	2400	2500
Payment and settlement		70	100	120
Agency services		100	100	150
Asset management		500	300	690
Retail Brokerage		70	80	60
TOTAL		3370	4930	5920

Lines of Business (LOBs)	Beta	2016 (N'000)	2017 (N'000)	2018 (N'000)
Corporate Finance	0.18	30.6	36	63
Trading and sales	0.18	50.4	63	99
Retail banking	0.12	105.6	168	180
Commercial banking	0.15	195	360	375
Payment and settlement	0.18	12.6	18	21.6
Agency services	0.15	15	15	22.5
Asset management	0.12	60	36	82.8
Retail Brokerage	0.12	8.4	9.6	7.2
TOTAL		477.6	705.6	851.1

Capital Charge for Operational Risk (X / 3)	Z	678.10
------------------------------------------------	---	--------

Operational Risk (Z x 12.5*)	12.5	8,476.25
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Columns 1 shows the various lines of business and the remaining three columns show sample gross incomes. Below those five columns are the lines of business, the Beta or capital charges for each line for the three years worked out, and then the aggregation which is Z below, thereafter, Z is multiplied with 12.5% for the charge. A simplified version of the calculation is given below:

Table 7.3 Capital Charge Ratios

Business line	Percentage (β)
Corporate finance	18%
Trading and sales	18%
Retail banking	12%
Commercial banking	15%
Payment and settlement	18%
Agency services	15%
Asset management	12%
Retail brokerage	12%

The total capital charge under TSA may be expressed as follows:

$$KTSA = \{\sum_{years\ 1-3} \max [\sum(Gl_{1-8} * \beta_{1-8}), 0]\} / 3$$

As at 2020, the TSA has recently been streamlined by Basel into the revised Standardised Approach (SA) and the gross income has been replaced with Business Indicator:

Business Indicator = Interest component + Services Component + Financial component

where,

Interest component = Absolute value (Interest Income – Interest Expense)

Services component = Fee Income + Fee Expense + Other Operating Income + Other Operating Expense

Financial component = Absolute value (Net P&L on Trading Book) + Absolute Value (Net P&L on Banking Book).

Technically, this is represented as follows:

$$KSA = [\sum_{years\ 1-3} \sum (Bl_j \times \alpha_j)] / 3$$

Where

KSA = the capital charge under the revised SA

Bl_j = annual value of the BI apportioned to bucket “j” (1...n) in a given year

α_j = coefficient for bucket “j”

The unravelling thing about all these efforts at establishing minimum capital requirement is that it resonates with uncertainty theories, despite the lack of reference to theory and general insistence that operational risk is all about practice. The

researcher established in Chapter 2 that uncertainty is the root cause of risk. As (Knight, 1921) argued, uncertainty problem and management problem are inseparable. Maintaining a minimum capital requirement is a management decision about controlling or mitigating uncertainty. The idea of maintaining a capital charge stems from the uncertainty surrounding the occurrence and impact of operational risk events, which can create losses and erode bank capital. The capital ratios in themselves do not predict with any certainty the quantum value of losses that can arise from operational risk events if and when they occur, neither do they confirm that operational risk events will occur within the period in question. They are simply administrative estimates that are derived in order to provide some comfort, by way of a charge on the fundamental as already defined by (Raghavan, 2003). But keeping this capital goes to affirm Lawson's (1985) position that uncertainty as opposed to mathematical risk is a pervasive fact of life. The implication therefore is in congruence with (Haynes, 1895) who suggests that the existence of uncertainty in the performance of an act is an instant assumption of risk and asserts that the distinguishing characteristic of risk is its fortuitous element. Also, as (Knight, 1921)'s proposition is also implicated in the sense that there is no omniscience in economic decisions as all people have imperfect knowledge of the future and the chances of occurrence of risk events remain immeasurable. Thus, uncertainty as root cause of risk informs the idea of maintaining capital charge which is Basel's Pillar I. Considering Lawson's assertion and (Knight, 1921)'s suggestion, it becomes clear why the discussions on finding the best methods of managing uncertainty and its attendant risk is naturally occurring. Knight refers to these methods as "rational conducts" that affect socioeconomic structure of an enterprise system. Rational conducts are therefore attempts at better management.

In the case of Nigeria banking system, attempt at better management led to adaptation of Basel. While Basel directed its accords to "Systemically Important Banks"(SIB) which initially excluded emerging economies, Nigeria regulators adapted Basel to – "Domestic - Systemically Important Banks"(D-SIBs), thereby localizing Basel to its environment in the first instance. Currently, all banks in Nigeria have set up ORM framework applying Basel principles. Regulatory compliance is crucial in the banking sector which is the most regulated sector in the Nigeria economy. According to the regulators (R1, R3, R6), two or three of the banks are more advanced in ORM and

Basel implementation than some of the international subsidiaries referred to by Basel. Regulators have found these banks immensely useful through the process, using them as benchmarks and often trying to gain insights into their tested practices and knowledge through their experiences and advancement. This empirical evidence further supports Knight (1921) who held that the most thorough going method of dealing with uncertainty is to secure better knowledge and control, a point that will lead to the importance of knowledge theories (Foss, 1996) and competency theories (Prahalad and Hamel, 1990) both highlighted in Chapter 2, as underpinning the management of operational risks. Continuing with the importance of knowledge, some of the explanations used by regulators in explaining the fact that some of the banks have gained substantial knowledge through their implementation of Basel are:

“Banks understand it. Basel II implementation is ongoing. Several banks have been on top of ORM before Basel. For some, it is part of a structure to improve profitability and for some, it’s to comply with Basel.” (R1)

All the regulators interviewed held the same view about ORM in banks, affirming that

“banks were compliant to the Basel principles and all have established ORM framework”.

In respect of the pre and post consolidation era, a respondent (R6) further enthused that:

“some of the banks have capable structure and up-to-date systems comparable to the best in the world- staffs are experienced, skilled, trained, competent, reporting ratios as desired”. (R6)

The above several statements from different respondents provide basis to suggest that some banks are more advanced in the diffusion of the sound practices than others and provide knowledge and insightful guidance to the others. Specifically, three domestic banks out of the eleven banks interviewed demonstrated very advanced level of ORM practices as a component of Basel. Evidence from their supervision indicate that those banks have established OR management frameworks that comply with Basel, and others are in the process trying to capture and report OR as detailed in Basel II, now Basel framework. One interviewee (R5) asserted that

“these advanced banks are adequately staffed, and have no competency gaps and are domestic banks- not subsidiaries of foreign banks.” (R5)

Supporting this view, another regulator (R2) further emphasized that some Nigerian banks commenced ORM by themselves before Basel was introduced. Two of the banks commenced through their bank's internal re-engineering program as they came through from consolidation and were repositioning for their global banking objectives. 80% of the regulators hold this view, which was independently corroborated by the banks (B10 and B12) during interviews. (Also see Table 7.1 table for breakdown). Further on the extent to which the Nigerian banking system after its consolidation, fits to the ORM practices implied by the Basel rules, a major regulator (R2) stated that Nigeria banking system adapted Basel and not adopt it.

“What I think we have done, we did not adopt BASEL, we actually adapted it. It would have been a different ballgame if we adopted word for word what they're doing even when we don't even have some instruments like they do. We adapted, but with common sense”. (R2)

Again, the situation from June 2018 is that Nigeria has rolled out implementation of some aspects of Basel III simultaneously with Basel II. According to the CBN, while the two accords have merit, some aspects of the recommendations are out of step with the realities of the Nigerian economy. The CBN will therefore exercise discretion regarding which aspects of the accords will be implemented (Oxford, 2018; CBN T2 Country case, 2019). In their T2 report, the CBN already indicated the aspects they applied national discretion and material changes such as calculation of RWA for credit risk. Specifically, some of the actions taken are to identify the 6 DSIBs and apply higher capital charges. The CBN also limited dividend payments based on composite risk ratings and NPLs. Also, capital buffers and restricted RWA in order to build resiliency and reduce procyclicality.

The CBN approach relates the Basel adaptation process directly to theories on strategy and competency highlighting the use of strategy to achieve purpose. The point of adaptation rests on the issue of environmental differences in risk management application. Operational risks manifest in different forms. As the proverbial adage suggests that “the African cuckoo bird sings in the language of the people where it is domiciled”, so do operational risks manifest in the peculiarities of the environment despite the common risk factors such as people, process, systems and external events.

Table 7.4 below, is a tabular presentation of some excerpts from Basel implementation status document presented by the Central Bank of Nigeria to the African Basel implementation meeting, detailing the status of implementations in response to standardized Basel review questions. The complete document is attached as Appendix 13. According to the report, Nigerian banks have implemented Basel II. The banks were using BIA in their calculation of operational risk capital but were commencing using Basel III for credit and market risk capital. It would be interesting to find out how the Islamic banks which are expected to follow the same rules will apply their credit risk capital since they are non-interest bearing and may require a different approach. Also, while the CBN categorises some banks as DSIBs in Nigeria, CBN avoids mentioning the names of the banks so as to prevent the people from pulling their monies away from the other banks by assuming that only the SIBs are healthy and safe.

Table 7.4 CBN Implementation Status Report

BASEL II AND III IMPLEMENTATION AND CHALLENGES		
	QUESTIONS	NIGERIA CENTRAL BANK
1	What version of the Basel standards have you implemented?	Basel II and some aspects of Basel III. The adopted versions are applicable to commercial banks, merchant (investment) banks, and non-interest (Islamic) banks operating in Nigeria.
2	Do you intend to implement a further version, in which case by what date?	We intend to implement a further version of Basel III by end of Q3, 2020. Further details on these are contained in some aspects of this response
3	For Q1 (and separately for Q2 where applicable) please describe the version of the Basel standards in more detail, including any national variants on the core standards. This should include (but need not be limited to): a) Definitions of capital – Basel II, or the stricter Basel III standards?	a) Basel II standards with a cap to Tier 2 capital elements up to one-third of Tier 1 capital, subject to deductions like deferred tax assets, good will and intangibles. Tier 3 capital is not recognized. All capital needs are met by Tier 1 and Tier 2 capital only.
	b) Minimum capital requirements	b) Minimum regulatory capital adequacy ratio (CAR) of 15% is applicable to banks with international authorisation while a CAR of

		10% is applicable to other banks. This is higher than the 8% required by BCBS.
	c) Capital conservation buffer	c) NA- Guidelines being developed.
	d) Designation of D-SIBs (with implications for capital buffer, supervision and recovery and resolution planning)	d) We currently have 6 D-SIBs that are required to maintain additional capital surcharge. They are also subject to more intense supervision and recovery and resolution planning requirements.

From the report, Nigeria has 6 D- SIBs that are required to maintain additional capital. Anecdotal evidence suggests that the 6 D-SIBs are First Bank Limited, Guaranty Trust Bank Plc, Zenith Bank Plc, UBA Plc, Access Bank Plc and Eco bank . The major points are that the country adopted Basel and is implementing Basel II and Basel III concurrently for now, using Basel II for Operational Risk Capital Adequacy and Basel III for Credit and Market risk CAR. In 2020, BCBS consolidated the framework into the Basel framework with a transition timeline up to 2027. In September 2021, the CBN released the guidelines for Basel III implementation. These guidelines however, affect only credit and market risk. Operational risk is unaffected by the changes. Appendix 13 contains the current document.

7.5: Bankers' Perspective on level of Basel Application.

By the start of Basel in 2014, there were twenty-one commercial banks. The current list of commercial banks in Nigeria are presented below in Table 7.5.

Table 7.5 List of Commercial Banks in Nigeria as at January 2021

No	Name	Old Name	Ownership Type	Comments	Date Licensed
1	Access Bank Plc	Access Bank Plc	Domestic	Access Bank, Capital Bank Int., Marina Bank,	1/17/1990
	Diamond Bank Plc (Acquired by Access Bank 31/12/19)		Domestic	Diamond Bank, Lion Bank	12/31/1990
2	Citibank Nigeria Limited	Nigerian International Bank Ltd	Foreign	Nigerian International Bank Ltd	10/8/2004
3	Ecobank Nigeria Plc		Domestic	Ecobank Ltd	4/24/1989
4	Fidelity Bank Plc		Domestic	Fidelity Bank, FSB, Manny Bank	1/2/2006
5	First City Monument Bank Plc	First City Monument Bank Plc	Domestic	FCMB, Co-operative Dev, NAMBL, Midas	11/11/1983
6	Guaranty Trust Bank Plc		Domestic	Guaranty Trust Bank Plc	1/17/1990
7	Key Stone Bank		Domestic	Platinum Bank, Habib Nigeria Bank	5/2/2001
8	Polaris Bank		Domestic	Prudent, Bond, Coop, Reliance and EIB Banks	1/3/2006
9	Stanbic IBTC Bank Ltd.	IBTC - Chartered Bank Plc	Foreign	IBTC, Regent, Chartered (2005), Stanbic (2007)	1/2/2006
10	Standard Chartered Bank Nigeria Ltd.		Foreign	Standard Chartered Bank	6/9/1999
11	Sterling Bank Plc	NAL Merchant Bank Ltd	Domestic	Magnum Trust Bank Ltd, NBM Bank Ltd, NAL Bank Plc,	11/25/1960
12	SunTrust Bank Nigeria Limited	SUNTRUST SAVINGS & LOANS LIMIT	Domestic		3/12/2009
13	Union Bank of Nigeria Plc	Union Bank Plc	Domestic	Union, Union Merchant, Universal Trust Banks	1/2/2006
14	United Bank For Africa Plc		Domestic	Standard Trust, UBA, CTB	1/2/2006
15	Unity Bank Plc		Domestic	New Africa, TCB, Centre-Point, BON, NNB, Intercity, Pa	1/2/2006
16	Wema Bank Plc	Agbomagbe Bank Limited	Domestic	Wema Bank Plc, National Bank Plc	1/17/1945
17	Zenith Bank Plc	Zenith International Bank Ltd	Domestic	Zenith Bank Plc	6/20/1990
18	Heritage Banking Company Ltd.		Domestic		12/27/2012
19	FIRST BANK NIGERIA LIMITED	First Bank Nigeria Plc	Domestic		2/20/2014
20	Providus Bank		Domestic		2016
21	Titan Trust Bank Ltd		Domestic		12/12/2018
22	Globus Bank Limited		Domestic		7/10/2019

As at July 2016, 100% of the relevant banks were already implementing the Basel Principles and sound practices at different levels. In addition, the code of corporate governance was also in force. Nigeria banks demonstrated some level of preparedness for operational risk adoption in contrast to beliefs that Basel was not meant for developing economies. The main reason for their level of preparedness was because they focused on implementing the Basel fundamental principles and considered embedding the principles as sound foundation for implementing the capital measures which underlie the Basel frameworks. Most of the banks applied the bottom-up approach, starting with risk identification. This is particularly so for the three banks that were more advanced in their operational risk management and became benchmarks for others. Henceforth, this work will refer to them as benchmark banks where they are collectively referred to. Although the levels of Basel implementation varied, majority of the Ops risk personnel agreed that they were progressively implementing Basel. From the data obtained from this study, a diffusion of 100% was observed with thirty two coding references (See table 7.2- Themes and Frequency) for Basel implementation in the banking system. It may be possible to challenge this 100% implementation as emanating from the regulatory requirement and therefore,

based on the need for compliance, due to the pressures and cost of non compliance. However, the response of domestic banks, and insights from the benefits they reported that they were deriving from Basel implementation reinforces the argument that Nigerian domestic banks are finding value in their implementation of Basel. This is further augmented by the differences in the implementation drive between these local banks and some of their subsidiaries counterparts. Two subsidiaries interviewed, in addition to a regional bank appeared to be slower, almost coasting, in their Basel and OR implementation process. This fact aligns with the evidence obtained from OpRisk NA conference 2019, where it was explained that there is disparity in the preparedness for Operational Risk adoption by banks in developed economies. The subsidiaries appeared to show much reliance on their parent companies, unlike majority of the domestic banks that appeared to be aggressively forging their ways through. It may be safe to suggest that having a parent company appeared to have a slowing effect on subsidiaries in the basel implementation, perhaps because of dual reporting requirements. Presently, all banks in Nigeria report their Pillar I Operational risk capital using Basic Indicator Approach as required by the Nigeria regulator while in addition, most subsidiaries reported with TSA, now progressing to SA, externally to their parent companies, due to their holding company consolidation purposes. Subsidiary banks appear to be more lax than the domestic banks in their implementation approach. This research however, does not establish by how much dual reporting requirements has affected their adaptation of Basel in their host country Nigeria.

In addition to the level of implementation discussed above, it is recognized that about three banks commenced ORM prior to regulatory rule, because they sought better knowledge of, and control over their operational risk issues. These benchmark banks integrate the various knowledge brought in by individuals, towards meeting the firm's objectives. Their embarking on this direction can be explained by knowledge-based theories (Grant, 1996) and (Foss (1996). Banks' knowledge seeking actions constitute in their quest as institutions, seeking to discover ways of managing risks and uncertainties. Further underpinning this perspective is Prahalad and Hamel, (1990) who held that collective learning in an organisation is used to co-ordinate and integrate diverse resources and skills, elicit co-operation, communication and break organisational boundaries. It forges a strong strategic position leading to a distinguished market dominance and advantage for a firm. These benchmark banks

have, in line with Knight (1921: 260) become more like “highly specialized structures performing the functions of furnishing knowledge and guidance” to both regulators and others, all in their quest to manage the risks emanating from uncertainties of operations. Knowledge and information is central to the successful management and profitability of a firm and also for successful regulatory management. Regulators therefore, who utilise the knowledge and experiences of the benchmark banks, seek to integrate the knowledge into the whole sector, impacting their organisational ability and innovation. The paramount feature of this process manifests in the best practices developed and benefits discovered from the implementation of the Basel principles which bankers expressed in various aspects. Secondly, this study finds that majority of Nigeria banks have come to view Basel both as a value adding process and as an innovative tool, which engenders interest in acquiring knowledge and improving status-quo. This value-adding contributes to the strengths obtained by the banks in implementing ORM principles. This is further discussed in the Strengths and Weaknesses presented in Chapter 8.

A number of divergent issues were highlighted in respect of the Basel implementation. While the regulators focused on highlighting evidence of implementing the capital requirement and driving the sound practices process, some bankers believe that the major interest is the internal control, suggesting that if internal control is got right, the rest will fit in.

Quoting one respondent (B10) ,

“ the Capital adequacy side of the Basel Approach is obviously very important, but it’s not the drive of the OR activity. The OR activity is the key in making sure that there’s a robust control framework in place and that, in turn, delivers what Basel is looking for... that’s the crucial gear, and it drives Basel and help enhance your controls to get closer to the Basel Requirement”.

Buttressing the above positions, a number of significant themes emerged from the data relating to how the Nigeria banking system fits to the ORM practices implied by Basel rules and how they perform. These themes have been collated into two broad categories: Structure of ORM and ORM Applications . The categories have been further broken down as presented in the table below.

Table 7.6 Mapping of ORM and Basel Structure

Extent Nigerian banking system fits to the ORM practices implied by the Basel Rules	
Structure of ORM under Basel	ORM Applications post consolidation
ORM structures	Policy and Governance: implementation and Impact
ORM Process and Framework: Definition, Identification and Assessment and control standards	Internal Controls
Pre and Post Basel commencement	Risk and Control Self Assessment (RCSA)
Risk Assessment Matrix	Risk Management ability as core competence
Risk Monitoring Database	Accountability and Market Discipline
Loss database	OR Champions, Personnel and Training
Corporate Governance	Risk and Environ Control factors
Canadian Model	Key risk indicators
Biz continuity management	Banks' influence on CBN
Risk Exposure	Realized Risks
Risk factors	Site Visits
	Key Risk Factors

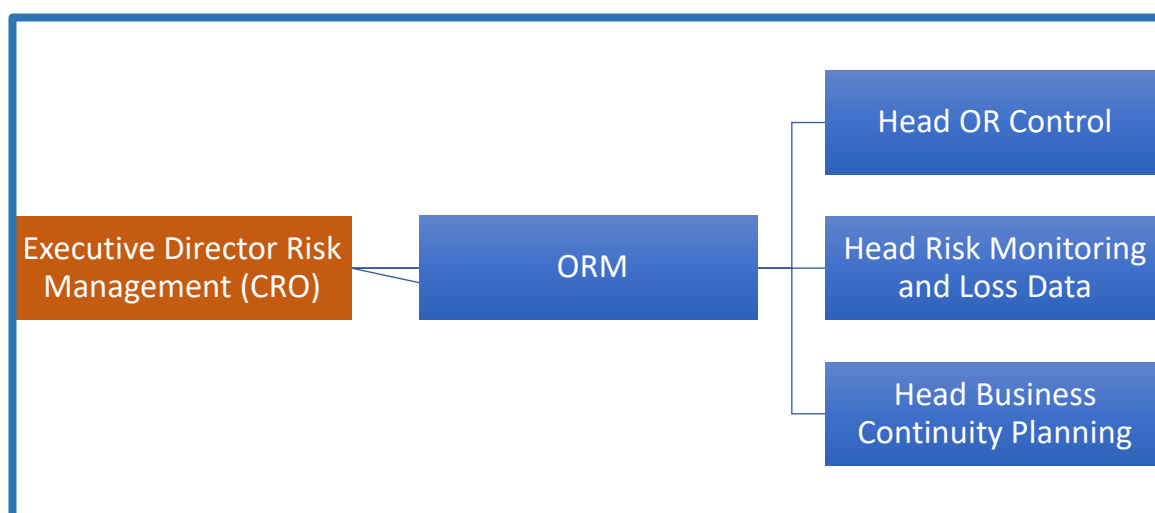
The column on the left shows the practices of ORM by the Nigeria banking system since the implementation of Basel. With Basel there are now set structures for ORM. Definition, identification, assessment and control standards have been set up in line with Basel framework. There are specific structures and processes now in place for Basel such as creating a RAM, RMD, Loss Database, set up of CG structures. The regulator applies a Canadian model in Risk identification and classification using the buckets of risk. Business continuity management is set up, simulated and actual risk exposures and factors are identified. All these are in addition to other risk processes and framework like credit and market risks. In addition, the right column specifically identifies the practices that only commenced post consolidation. Such things as RCSA, etc. All these items listed on the table indicate the extent of application of the Basel framework by the Nigeria system.

More about the structures of ORM in banks is presented in Section 7.6 below.

7.6 Operational Risk Management Structure

The predominant structure of ORM in most of the banks examined, is that of where executive management potentially provides good risk management environment from the top. Then, a centralized ORM unit, usually headquartered in Head office, that uses structure of internal control staffs in branches and other operations staff to saturate ORM policies and practices. The commonest approach observed was to have Risk Champions in branches or in business units, who support each branch or unit to take ownership of their own risk. This structure enables the creation and practice of first line of defence in the branches/business units. The centralized ORM team then feeds off the handshake from these people as well as internal control officers in branches to identify and focus on tracking the key risk indicators by units/branches. This simple structure was particularly found in banks that commenced ORM with the CBN's risk based supervision post consolidation. The banks that commenced ORM earlier, have a more complicated structure developed, perhaps due to knowledge and experience from evolving over a longer period and building a functional structure for their banks. A visual illustration of the simplified predominant risk structure is below:

Figure 7.3 ORM Structure in Nigeria Banks



A number of variations of this structure exist in terms of the names of the three components or units of the ORM but the most important features is that ORM reports directly to a Director, a board member who is the chief risk officer. It also underscores the importance of an independent operational risk management line, which is both essential and connotes an appropriate risk management environment for the ORM team as prescribed by Basel. In relating the Banks' actual ORM structure to Basel, the

relevant Basel Principles, are 1, 2 & 3- Developing an Appropriate Risk Management Environment. Under these principles, the board of Directors should approve and periodically review the bank's operational risk management framework, ensure that its effectively audited by operationally independent and competent staff and that senior management have responsibility for implementing the operational risk management framework approved by the board. The empirical data showed that all the banks boards are aware of their responsibility for ORM framework. However, the head of the OR may not always be in a position of independence, despite seemingly appearing so. For instance, if the Head of ORM is in a relatively junior position, his or her independence may be undermined. All the banks examined confirmed positive board oversight over the ORM unit. 8 out of 11 (73%) confirmed Senior Management responsibility and 9 (82%) held unto independent audit staffs, while two had gaps in respect of the operationally independent audit staff. Of the three that had zero senior management responsibility, the main thrust was that the Head of OR unit was not yet positioned as Senior Management and thus independence and authority were hampered. Below is the table showing how the banks tallied to Basel PSMOR 1, 2 and 3 as at December 2020.

Table 7.7 How Banks Implement Principles 1 to 3

	Board Oversight?	Senior Management responsibility?	Independent & Effective OR audit?	Board Approved framework?
B1	Y	Y	Y	Y
B2-4	Y	N	Y	Y
B5	Y	Y	Y	Y
B7	Y	Y	Y	Y
B8	Y	Y	Y	Y
B9	Y	Y	Y	Y
B10	Y	Y	Y	Y
B11	Y	N	N	Y
B12	Y	Y	Y	Y
B13	Y	Y	Y	Y

	Board Oversight?	Senior Management responsibility?	Independent & Effective OR audit?	Board Approved framework?
B14	Y	N	N	Y
	100%	73%	82%	100

The above evidence suggests that the Basel principles perform positively, in the Nigeria banking system in terms of oversight level and structure, although not 100% due to Heads of Operational risk not being of senior management cadre. Operational Risk differs from other banking risks because it is not taken for a direct return or benefit. For instance, Credit risk is taken for interest benefit. Thus, it is sound practice for OR to be under direct supervision of Board member. (BCBS96, 2003). Also as can be seen, Internal Audit is not responsible for ORM and senior management is involved. This feature aligns with Principles 1 to 3 of the Basel's sound practices for Operational Risk Management and can be considered a direct practical implementation of the Basel requirement on the Pillar II- Supervision.

The data and evidence presented above highlights the case for strategy, competence and governance (Foss, 1999, Williamson, 1999) in the sense that the board structure is a mechanism of control and governance, and a means by which order is infused in a place, engendering collective learning and knowledge with consideration for economizing cost. Senior management of all the banks buy into the ORM strategy while allowing the ORM staff the liberty to grow. Williamson (1998) presented risk and strategy as similar, and implicated governance and competence as lenses for the study of strategy and by projection, risk management through governance. Williamson presents governance and competence as separate identities challenging each other which contrasts with the structural dimension of strategy in use in the Basel implementation above. However, the ultimate result of governance as applied in the Nigeria system, still impacts transaction costs since some of those costs are operational losses. Regulators in charge of governance in the Nigeria banking industry hold that appropriate structure breeds competence through knowledge development and sharing. This connotes a strong linkage between and governance, knowledge and competence. One regulator (R6) exemplified this in his discussion when he said :

“some of the banks have capable structures and up-to-date systems comparable to the best in the world. Thus, Staffs are experienced, skilled, trained, competent, reporting ratios as desired”, (R6)

While Williamson asserts that governance, being rooted in Economics, is more operationalised and Organisations' governance structures serve to economize on transaction cost(Y) which is the above position focuses more on governance breeding competence through collective learning that builds knowledge. This eventually impacts transaction cost which is Williamson's focal point, as well as operational losses. The banks which started ORM pre-consolidation appear to have a more advanced structure of ORM. However, they all have the common factor of independent ORM structure reporting directly to a Director, which suggests appropriate independence and environment. One of the positive outputs of the new Basel structure is the three lines of defence which is explained further in the practical applications. The importance of these structure also lies on Independence.

7.7. ORM Process/Framework: Definition, Identification & Assessment

Basel Principle 1 require that an ORM framework be based on appropriate definition of Operational risk in the Bank (BCBS96, 2003: No 13). During the interviews, bankers were asked to define what operational risk meant to them. This exercise was aimed at determining what exactly each institution sees as operational risk, as a foundation for the analysis of whatever data eventually obtained and in direct corelation to research question No 2 which examines how the consolidated banks fit *to the ORM practices implied by the Basel Rules* . All the banks defined OR using the Basel definition, with the exception of one regulator who added the COSO definition to the Enterprise Risk Management framework in defining OR and its planning. Furthermore, all the banks mentioned a number of other risks in banking in order to show the distinctiveness of Operational Risk. These are:- market risk, credit risk, reputational risk, compliance risk, liquidity risk, interest rate risk, strategic risk, political risk and environmental risk. Nigerian bankers saw these risks as important risks to be well managed. 100% of the people interviewed asserted that operational risk has become quite central in its importance, cutting across all other risks in banking. In addition to Operational risk, Credit Risk, Market risk, Compliance/Regulatory risk and Liquidity risk remain primary from the bankers' perspective while Strategic risk was highlighted from regulators as

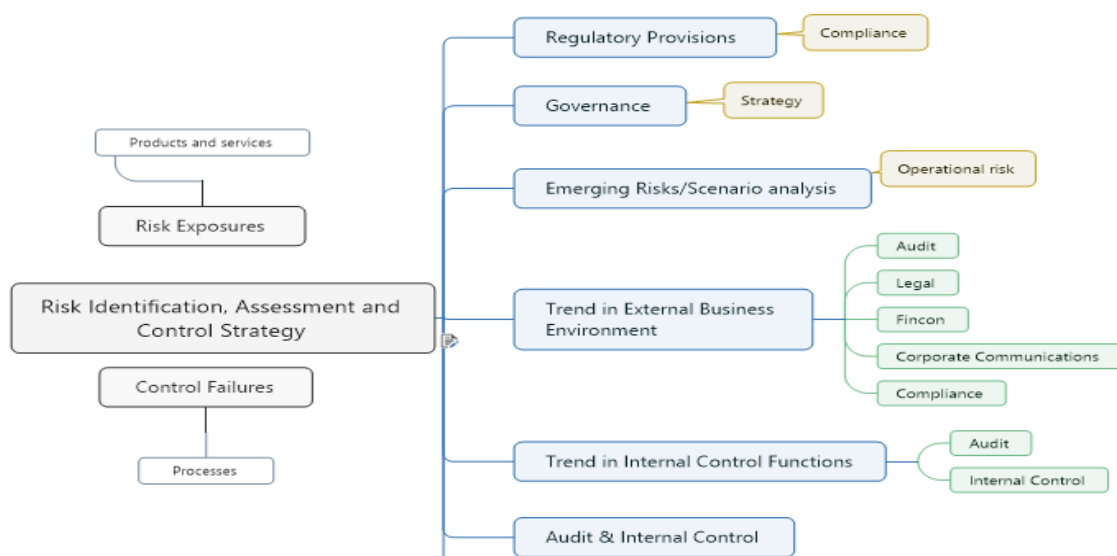
a critical primary risk, particularly crucial for the Nigeria environment with its political situations and challenges. Compliance, Regulatory Risk and Strategic Risks emerged as three high rising risk types, that have gained importance within the period of institutionalisation of OR and have become of primary interest to bankers and regulators in Nigeria. These risks have been defined in the context of Nigeria banking system since there are several perspectives of defining these risks globally.

In addition to defining operational risk and identifying the emergent risks, ORM process was also a major impactful aspect of the performance of Basel in the Nigeria context.

The processes include: risk identification, risk assessment, risk measurement and risk monitoring and control/mitigating called risk management process. These formal steps were highlighted by both bankers and regulators in identifying these risks. One of the benchmark banks helped make a way for other banks in the Nigeria banking system as they elucidated a very intense, rich and comprehensive process that they used for the development of their risk management process. They set up a Risk identification Strategy, Product and Services Identification Strategy, Process Documentation Strategy. Their Risk Identification involved a triangulation of bottom-top and top-bottom approaches. Bottom-top approach involved process mapping whereby they started by identifying regulatory provisions for compliance, their governance for strategy, then bank structure, bank activities, a catalogue of all the processes and sub processes that exist in the bank's activities, catalogue of all systems and products, emergin risk scenario analysis, external trndas, etc. They mapped and documented all the processes and identified the risk inherent in the processes, listed the controls for the risks. They derived their controls from 3 elements: internal policies, internal procedures and best practices. They developed a compedium of "process-risk-control" as well as product risk ctrol and drew up templates and manual. This indepth, granular and thorough process resuled in the bank producing a compedium of the following libraries:

Control Library, product library, policy and framework library, mapped process library, relevant external events library, emerging risks, key risks library. From their process, they were able to establish stress reporting policies, bucssness continuity plan poliy, principal risk policy, OPC manual, Key Risk scenario policy, error log, loss event reporting process, etc. The diagram below captures a section of Risk Identifcation and Mapping process:

Figure 7.4 Section of Risk Identification and Mapping Process



According to the records, their risk mapping and identification process was completed by 2005/6. The same applies to the second advanced bank. Although a few banks are still struggling, majority of the other banks have benchmarked with the best practices from the benchmark banks, and have also executed some robust risk identification, assessment and control processes. This research interviews indicate that the internal control strengths of the different banks vary and thus impact on their risk ratings.

Assessment for the regulators is a question of analysing banks' health, based on risk management. Regulators rate banks' risks in their process of supervision and examination using an internally developed risk matrix. That is the core of risk-based supervision- whereby regulators assess the strength and robustness of both the internal governance structure, internal controls and risk management framework of banks, determine their risk rating vis a vis their significant lines of business and then allocate supervisory and examination resources based on these risk profiles. The intertwining of the process from both banker and regulator perspectives can be informed by the complexity and system network theories in their performance. The point of networks theories is the interconnectedness of systems, both technological and human. The process of risk identification, assessment, monitoring and control on the banks' side which involves analysis of processes, procedures, activities, products and related controls and on the other hand, the complex articulation of the risk profiles of

individual banks through KYB (know your bank), the risk assessment summary and composite risk indicators on the health of the banks by the regulators, lead to the conglomerate modelling of the risk based supervision and regulatory compliance testing. According to the regulator (R5), the impact of this is that:

“Competencies of staffs have grown and expertise in the industry has taken shape, enabling the determination of risk management processes. Banks started this on their own. In all the banks, risks are the same, severity is the same, control functions make the difference and controls functions are now determined by competencies. All these have seen risk based supervision as the enabler. Prior to RBD which is proactive and more positive result-driven, we had compliance which was rather reactive. Due to the enabling capacity of risk based supervision, control, and not just copying other banks”. (R5)

People theories of competency are implicated in this aspect of ORM. The suggestion is that collective learning and knowledge in an organisation build up positive results. Sound knowledge of policies, processes and operational procedures will result in fewer risk events/losses impacting on a better risk rating (Prahalad, and Hamel, 1990). This further implicates human errors and inadequacies which would be dealt with under risk factors. Also, theories of network and interconnectedness are manifest in the aspect of fitting the Nigeria banking system with the Basel ORM. The result of the network of relationships and inter-related bank activities however, has led more to harmony as against chaos, contrary to network theory. Banks copying each other and learning from each other, including use of benchmarks have improved performance and effectively reduce transaction cost of both banks and regulators- a rather positive development on networks.

On ORM, banks have not found in the system, any need or benefit in competition, which has been the bane of banking in Nigeria, in areas of customer, credit, capital and opportunity but not in Operational risk management. 100% of interviewees say that they are working together, sharing more information thereby positively impacting the information sharing (principle 3) and coordinated risk assessment (Principle 5) of Basel 3- Supervisory college (BCBSd430, 2017). This situation mirrors the global results on Basel effective supervisory College, whereby banks share more information

among themselves than with supervisors, resulting in challenges for supervisors' coordinated risk assessment (BCBSd430, 2017). This information sharing can be informed by the Opacity of information and explained by information asymmetry (Stiglitz, 2000). The aspect of Information asymmetry informing this, is that which suggests that there are important information asymmetries, the extent of which are determined by both individual and firm actions. In this context Bankers work together to support each other while excluding the regulator. Banks will try to reveal only the best possible information to regulators even when they can share among each other their challenges to find solutions. In this place, they are not competing parties but partnering parties. The collaborative efforts result in cheaper transaction costs since information is shared and not purchased.

In the words of some of the bankers e.g. B12,

“So, we learn from others. If we hear that something has happened to another bank, we don't wait for it to happen to us. We take learning points from it, we make phone calls, how did it happen, try to get to know from them how it happened”. (B12)

Q: And do they tell You? In details?

Oh No! No! (body language emphasis), Auditors share information with auditors, Operational risk will share with Operational Risk, Compliance will share with compliance. So, we share information so much”.(B12)

This was corroborated by other Operational Risk heads who among each other, confirmed 100% that they share information with one other. But sharing with non OR persons is a different call, which leads to information opacity issue. This is further supported by the collaborative manner in which these heads of Operational risks introduced the researcher from one to the other for the interviews. Unfortunately, on the other hand, this sharing of information is not exactly the case when dealing with the regulators and is further discussed under limitations.

Another structural entrenchment that reflects the extent of application by Nigeria banking system is the establishment of Business Continuity Management (BCM) plans. Every bank in Nigeria has a BCM plan framework, although some are more robust than others. On average, banks have a BCP policy which guides their actions . The policy includes crisis management plans, and includes working with IT units to

develop a disaster recovery plan. These plans are tested, reviewed at least once a year for most banks and updates are rolled into the BCPlanning framework. All the deposit money banks have off site locations from which they can function and continue to service customers if there is a disaster. One Head of Operations commented: (B8)

“We have a business and corporate site which is located off site and can work from an alternate location. Then we have this separate location again which provides for back-up for critical functions in addition to our alternate location. Critical functions are in head office and replicated in this corporate site”.

The complexity of this process of having multiple sites replicating different things and having extra sites for control of critical functions reflects an aspect of the structure of ORM that can create chaos. The question asked was – how many people can automate these sites and their functions if there is a disaster? On that premise, lay the weakness in the system:

“We have hands that can run the system but could do with a few more competent and skilled personnel replications.... but we are getting there” (R2).

As indicated earlier, insufficient number of competent and knowledgeable personnel is a limiting factor. In addition, misalignment of roles also create a limiting factor.

Not all the banks have such level of complexity in their ORM structure. For another bank, it was a simpler plan, however, there were rooms for failures:

“It would be foolhardy to have business continuity centre in the same location. We have something in the branch where we are, but they also have in another place. But what some; they have in the branch, in the head office but they also have in another place data ... for business continuity.B11.

And for another respondent – B12, their BCP and framework are running autopilot. They have achieved a level of sophistication unparalleled in the whole African continent and even among developed economies. According to them, “What we have done best in this bank is our BCP.

“We run scenario, like election scenario, what will happen assuming there is violence, last election in Nigeria was very interesting. They said there will not be any country called Nigeria after the election of 2015. if some people did not win.

We had a scenario, very interesting scenario, BCP planning scenario, assuming there is crisis for one week, for two weeks, three weeks, one month, six weeks, what will we do? We stocked everything, diesel, staffs, those staffs were all picked up, identified, lodged in the hotel before the election. Election was Saturday, then by Friday, all the skilled staff had been moved to VI and Ikoyi, plus this building, had enough food stuffs that was supposed to last for at least three weeks in this building. But thank God, Nigeria is a great country. How opportunity has come back to reward us as a Nigerian. (B12)

So, we do that, for every African country, we plan. This terrorist attack in Cote D’Ivoire, sometime this year, we have a branch in that hotel, we have 13 staffs in that location, nobody was hurt. In Kenya, the bombed shopping complex, we share the same fence with that building. The things started happening on Saturday, On Monday, it was business as usual in our bank. We have relocated to all our alternate sites. Everybody roamed, even Head office didn’t know. It was a month after when I reported how this was being worked on, that my boss was saying - you mean this happened? Because we have been tested, we have been testing, we tested, and everything is ok. So that is the system I know well. If there is premises failure here, no issue. If we come in the morning and cannot enter this building, no issue. All the risk staff know what to do. So, we tried there. So, everything end to end we know what to do. We are going for certification this year, ISO certification for BCM this year” B12ax

Firstly, the above position portrays a critical success factor in the management of OR. It shows a very well-articulated and tested ORM structure in respect of BCP management. It goes to suggest that it is indeed possible for a bank in a less developed economy to set itself higher in standard and practice than even some global SIB. This position can very well be used for benchmarking because the articulations are not based on textbook efforts but application of high cognitive and intellectual capacity to real life situations. It suggests that the argument in favour of limited human ability and capacity can be dwarfed when there is open application of knowledge. Knowledge and competency theories can be informing on this.

What emerges from the above three discussions on the structure of BCM is that there are various levels of maturity in the application of the ORM principles and frameworks in the Nigeria banking system. Granted that all cannot be the same, the disparity in the levels of operation could imply a significant difference in the levels of risk exposures that banks hold. It may very well be that the bank with the simpler structure has few branches, but the capital requirement for all banks are the same and the environment remains the same for their operation. Although this may be something already considered by regulators in their risk mapping and CRR determination, it is worthy of consideration, to see how some of the gaps can be bridged in stabilizing the industry. In relating this to theory, Foss's knowledge base and strategy come to the fore. Foss had stated that a firm should be seen as an efficient contractual entity in its conceptualization and argues that a firm is a repository of productive knowledge which can learn and grow based on the knowledge. As a result, the firm bears capabilities, competences, and various knowledge-based conceptualizations. Bank B12 has demonstrated efficient knowledge and competencies in their strategic plan for BC. It also tells on their board. Considering the relevant theories discussed, the bank in question demonstrates a knowledge base and competency strata. However, Knowledge levels differ, competency levels differ and impacts and strategy will also differ. By and large, this aspect exposes some weakness in the ORM implementation because some banks are more advanced and comfortable in their implementation than others.

In summary, it is clear that there is substantial evidence to show that Basel implementation in Nigeria banking sector has progressed to reasonable levels. The consolidation of the banking sector forged the way for the impementation of the risk-based supervision which ushered in an era of opportunities for both regulators and banks to utilize competencies in structuring their ORM framework. Not only that some banks commenced operational risk management in line with Basel content prior to regulatory interventions, majority of the banks embraced the regulatory inducement with substantial vigor. There appears to be more drive from the domestic banks than from subsidiaries of foreign banks, perhaps due to their dual reporting requirements. In addition, Basel was adapted to suit the environment which is in line with Basel recommendations, but also augurs well for the political and economic terrain. Operational risk information sharing and dissemination is highly favoured from bank to

bank but there are some opacity from bank to regulator. There were substantial collaboration among heads of operational risk in banks but not the same way with regulators. This implies that Nigeria banks have in some subtle agile iterative form, evolved into a similar information opacity/asymmetry like what was revealed for the supervisory colleges Basel established (BCBSd430, 2017). In addition to some of the earlier discussion in Chapter 2, which holds that there is information asymmetry and opacity, Spence, (1973)'s market signalling theory is implicated by this research. The regulators obtain signals from disclosed banks' internal governance, internal control and loss data. These signals convey information which the regulators use for determining the risk profile (RP) and composite risk rating (CRR) of the banks. These two matrixes are essential for the inspection and supervisory rolls of the bank examiners and supervisors. Thus, in the face of opacity between banks and supervisors, just as Spence argues that visible activities of some individuals in the market provide signals which convey information in a market, so also do internal governance, control and loss data disclosures, convey signals for conveying information. However, (Stiglitz, 2000) argues that signal screening does not resolve the conflict of information transmission and risk re-distribution. Next, we discuss how these Basel principles perform.

7.8 Comparative discussion -Pre and Post Basel Commencement

Except for two banks that had begun their development of operational risk management prior to Nigeria adoption of Basel, all other banks in Nigeria focused on ORM as a result of the regulatory drive for Basel. This includes subsidiaries of foreign bank and domestic banks. As discussed previously, before risk-based supervision, compliance-based supervision drove the market until consolidation agenda which introduced risk-based supervision. Beyond consolidation, Basel principles came. The RBS laid a good foundation for implementation of Basel principles. However, due to the environmental challenges already faced by banks, and the regulatory and supervisory authority that operates big stick approach, banks found value in implementing Basel accords. These values were no longer just for regulator, but for the benefits accruing to banks in areas of fraud, forgery, processes, systems and external exposures. An illustration of some of the differences and similarities between the two periods is presented below:

Table 7.8 Comparing Pre-Basel and Basel

Pre- Basel	Basel
Compliance Based	Risk Based
Reactive risk management	Proactive risk management
Risk Based	10 Principles for Sound Practice
CAMEL parameters	Three Pillars
Risk Management – Credit Risk & others	Credit, OR and others
No ORM Unit & head of Operational Risk	Specific ORM Unit & Head of OR
Compliance Reporting	Integrated Reporting
Internal Control Reviews	Risk and Control Self-Assessment
New Product Initiation based on benefit	New Product Initiation involved risk Assessment
No diffused ownership of risk	Diffused ownership of risk
Operations and Control checks/callover	Three lines of defence emphasized
Risk was not core, but specific to loss	Risk Environment Entrenched
Blame culture	Blame-free risk culture
Poor knowledge of IT for examination	T & D. Now IT examination unit entrenched.

The above table represents several areas of differences and similarities for the two periods. Other structures or framework identified from the research include the Canadian Model used by some regulators in examining banks for risk management. It involves categorisation of risks into 6 buckets, namely: 1) market risk 2) liquidity risk 3) operational risk 4) credit risk 5) legal and regulatory risk and 6) strategy. This model enables the regulators to capture over 300 risks identified in the banking system in one of the six buckets, and to prepare for supervision by segregation of activities. The model was commenced in 2009 with risk-based supervision. This proactive structure of bank supervision, which is still currently in use as at 2020, enables the regulator to categorise and allocate resources prior to commencement of site visits. According to respondent R6

“If I am going with 10 people, and I know from this segregation of activity, I would say three people should handle the corporate because retail is 70% of the assets”. (R6)

Prior to this proactive method, 'it was compliance system, a rather reactive approach, which mean that banks just complied with whatever was required'.

Qn: So, would you have actually charted the risk profiles of the banks before you take off?

Answer: Yes, you have to, before you go. We call it, we do what we call KYB- know your bank. Then from there we do what we call RAS - risk assessments summary. We do a risk profiling of the bank before we go to the field. It is based on this RAS and this KYB that we allocate our resources. Both human and material who would handle this, who would handle that. Then we give them materiality. If it's retail now, we can say in retail, OR is high, and we can say its low in corporate...."

In addition, the use of this structure in bank supervision also enabled the regulators to establish a Risk Assessment Matrix in the process of supervision and examination of banks. The process ensured that no risk fell through in the process. The structure considered IT as an activity, an enabler, not a system with risk. The risk inherent in IT is Operational Risk and not the system itself. Other structures that were identified in the Basel implementation is the setup of Loss database which at the moment, is still being run individually by banks apart from the F & F reports. Loss data bases are generated from the loss event reports and error logs which are controlled by the Risk Champions established in the banks. They capture incidents, their dates, loss exposures in monetary values and cause including if insider related or not. Over time, these would become the data for future calculations.

Corporate Governance structures form part of the Principles 1-3 that must be imbibed as sound practices for ORM. As stated earlier, this remains the responsibility of the board in order to establish an enabling environment for risk management. Such environment and the buy-in of senior management, provides guiding example for the rest of the bank to follow. Banks also set up Business continuity and disaster recovery structures in order to continue in operations if something happened or a risk manifested itself. All these structures, together with other details provided, compliment the practical applications that are presented in the next section, form the details of the application of ORM in Nigeria banking system.

7.9. Other Opportunities and Challenges from the Implementation

In addition to above details of the extent of implementations of Basel principles, further findings in relation to the opportunities and challenges of implementation include the following:

7.9.1 Opportunities:

- 1) Implementation of Basel Operational risk Management principles by Nigeria banks has positively impacted the system, beyond the primary objectives of loss reduction and resiliency. Through implementations, banks have found:
 - a. Innovative ways of applying their new product initiation and implementation
 - b. New ways of owning risk through integration across units including human resources units and performance appraisal
 - c. Direct positive impact on hitherto unhealthy internal competitions, whereby the “watch dog and nail them” mentality have given room to cohesive joint team ownership of risks.
 - d. Transfer of best practices from banks to the domestic environment including educating international counterparts, like the case of ebola containment.
 - e. Disparity in Preparedness for Operational Risk Adoption by different countries.
- a. Extent of Implementation of Principles in contrast to capital measurement indicates that Nigeria, a developing economy. by focusing on embedding principles, has delivered well on Pillar 1, through the establishment of higher CAR than established for SIB by Basel. They also set up their corporate governance bodies guided by the CG codes.

7.9.2 Challenges:

Calculation of RWA- Appropriate Capturing of Loss data and events

Nigeria faces a weakness in the ability to calculate RWA, due to lack of reliable data and limited experience in building and validating rating systems and other internal models for estimation of capital requirements, Nigerian banks were only allowed to implement the standardized approaches for credit and market risk, and the Basic Indicator Approach (BIA) for operational risk. While Nigeria continues to produce fraud and forgeries reports, See Tables 8.1, 8.2 and 8.3, they have not been able to

categorise their loss events in line with the international standards that will enable them apply to business lines and Event numbering. A general listing of loss events as f & f does not provide the details and streamlining needed to use the more sophisticated advanced measurement or standardized approaches for ORM capital or credit risk capital.

For instance, the ORX database for loss events produces the loss events data in the following format which enables the collection of tail loss data along Business Lines and Event type for RWA calculations. Nigeria is yet to capture risk events in this format.

Table 7.9 Top 5 Operational Risk Loss Events for January 2021

Top 5 operational risk loss events from ORX News: January 2021				
Loss Amount (USD millions)	Summary	Location	Business Line	Event Type
122.9	Deutsche Bank pays USD 123 million in settlements over alleged bribery and corruption	United States	BL0401 – Commercial Banking	EL0402 – Improper Business or Market Practices
	Wells Fargo to settle USD 40 million for overcharging payment processing fees	United States	BL0301 – Retail Banking	40. EL0401 – Suitability, Disclosure &
36.2	Nasdaq Clearing fined SEK 300 million over deficiencies in operations and margin requirements	Sweden	BL0502 – Securities Clearing	EL0402 – Improper Business or Market Practices
\$32.4m	MT Global fined GBP 23.8 million by HMRC for AML and record-keeping failures.	United kingdom	BL0501 Cash Clearing	EL0402 Improper Business or Market Practices
\$13.0m	Capital One to settle USD 13 million class action over unfair ATM balance inquiry fees.	United States	BL0302 Card Services	EL0401 Suitability, Disclosure & Fiduciary

Source: Extracted from ORX News

7.10 Summary and Conclusion:

The second research question aimed to identify the extent to which the Nigerian banking system after its consolidation, implemented the ORM framework of the Basel Rules, and to explore the opportunities and challenges that have been experienced

as a result. Nigeria, a developing economy, embraced Basel in 2010 after its consolidation exercise. The consolidation exercise ushered in risk-based supervision which ultimately became a strong foundation for Basel implementation. While BCBS had indicated that the Basel frameworks were not recommended for developing economies, Nigeria had implemented Basel irrespective of the caveat. Basel implementation in Nigeria banking system is reflected under three phases by timelines, namely risk-based supervision from 2008 to 2010, Basel I and Basel II from 2010 to 2016, and Basel II and Basel III from 2014 which is the current phase. Basel II was the relevant framework for ORM. Nigeria banks commenced Basel II implementation by imbibing the principles for sound management of OR which focus on five major areas, namely; (i) governance; (ii) risk management environment; and (iii) Information and communication Technology management, the role of disclosure. As a result of this focus on the sound principles, prior to the capital ratios, the maturity of their ORM have grown steadily as their practices have evolved and they have set the appropriate foundation. This has resulted in some of the Nigeria banks being ahead of some developed counterparts. The banks have worked together benchmarking on the knowledge and competencies of the stronger banks rather than the two stronger banks using it for competitive advantage. Even regulators zeroed in on this benchmarking system. Nigeria adapted the Basel framework to their environment and provided for CAR to be higher than recommended by Basel as a cushion. Every bank now has a dedicated ORM unit. Most of the banks have senior management in charge while a few still has middle managers as head. This study finds that banks have implemented/struggling to implement Basel 2 by 75%/25% ratio respectively, as at 2018. For Pillar I OR capital, Nigeria banks use BIA while they use SA for Credit and Market risk. Nigerian banks implemented Basel with a zeal and expectations of opportunities for value adding to their businesses, and not as some rule to be complied with. As a result, they have found opportunities to add to the business structures, bottom line, internal relationships and joint risk ownership. All these plus the board and senior management buy-in, have led to more formidable ORM systems in most of the Nigerian banks. The depth of implementation of Basel principles is best reflected by the fact that while risk types and attempts are increasing globally especially fintech risk events, Nigerian banks are not only identifying and capturing them in more granularity, but also mitigating and managing them more successfully as shown in the F & F reports. The speed and dexterity of identifying risks is evidence of their maturity

in the knowledge of risk identification and assessment processes. Basel implementation has also led to innovations in risk ownership, transfer of best practices and has bridged the previous gaps between Internal control and other operational units.

Chapter 8 Findings – Research Question 3

8.1 Introduction

This chapter attempts to answer the third research question:

What are the lessons from the Nigeria context, and the experience of its banks for ORM theory and practice in general, and Basel principles specifically?

Firstly, the word Lesson defines experiences that teach one how to get better. The whole process of implementing Basel ORM consists of lessons for Nigeria banks and the regulators. The most impactful and encompassing lesson in the process is that Nigeria domestic banks transcended the level of viewing ORM as a compliance or regulatory program which requires checking boxes and such superficial actions that imply normative conformance (Asch, 1951). The banks delved into the programs with deeper internalisations, implying affirmative and informational conformity that suggest a quest for value adding and profitability. As a result, Basel implementation, its ORM principles and outcomes, became tools of strategic repositioning, including decisions that impact on bottom line. In the same vein, regulators began to see ORM as means for better examination and supervision.

While some of the individually identified lessons will be listed as direct evidence of lessons learnt by both banks and regulators, details of most lessons will be subsumed in the processes and activities the banks undertook, all obtained from this empirical study. In addition, certain primary themes emerged from the axial coding of research evidence (Table 4.5). Each of the themes contain items of experiences and lessons learned by the banks and regulators in the Nigeria context. These lessons have been linked to the theories previously identified for ORM. The lessons and relevant theories provide learning points that can be beneficial to other developing economies, Africa and the universal banking world. This chapter presents some of those lessons, their processes, and the experiences of Nigeria banks and regulators:

8.2 Bankers: Lessons and Experiences from Nigerian context:

The following are some of the direct positive lessons learnt:

- 1) One of the most significant things that this study has made apparent is that Nigeria banks had a relatively high level of operational risk consciousness and

preparedness prior to the adoption and implementation of Basel's ORM principles and framework. Considering that developing economies were originally considered unprepared for the process, this is a big lesson for global decision makers. While weaknesses in infrastructure, socio-political standing and economic instability may be considered challenges to developing economies, those challenges are also the pivots of their strengths because banks (and people) forge through the challenges by devising and customising self-support systems, processes, rules, and technical infrastructure to enable them survive, thrive and remain resilient. This study finds that while some globally SIBs in developed economies were yet to establish effective risk management systems and undertake proper risk identification and assessment (Volkov, 2020, Flitter, 2020, BCBS292, 2014), some Nigerian banks have not only completed those stages but have advanced enough to become benchmarks for both banks and regulator. These Nigerian benchmark banks are also international and so render reports to some developed economies. It is therefore pertinent that global decision making should include all stakeholders, even when some stakes are considered smaller than others.

- 2) External co-operation has heightened among OR staffs across banks, strengthening inter-bank information sharing, communications, including mingling of ideas that are beneficial to all. This cooperation is in conflict with the theory of competency and competitive advantage. Through ORM units, banks are connecting through commonalities of experience, holding trainings to enhance knowledge development, providing referrals to each other and developing competencies in contrast to competing to takeover or drown the weaker ones,.
- 3) Another lesson is that bankers share information more among each other but less to supervisor implying information opacity towards supervisors/regulators. This is not peculiar to Nigeria or developing economies. It is a global phenomenon which was also identified by Basel's Supervisory Colleges, during implementation review on the Basel principles.

- 4) Acceptance and recognition of knowledge advancement has increased, whereby the regulators could acknowledge and benchmark on the knowledge and competences of banks that have become more advanced in good practices. This has led to development of best practices for the industry. Both banks and regulators have become learning institutions.
- 5) The process has engendered more opportunities to develop skills among regulators through interactions with banks' operational risk teams.
- 6) In Nigeria, there is a significant positive impact from the sequence of implementing the ORM sound principles, prior to applying the capital measurement framework. Embedding the principles have resulted in more value added to the ORM process.

On the other hand, there were some negative lessons some of which are listed below:

- 1) Lack of maintenance of risk events register along the Basel business lines made the application of the capital frameworks slow. At first, no bank could apply the advanced measurement and presently, the application of the standardized measurement approach is slow for operational risk, but taking off for credit and market risks. Although there have been fraud and forgeries records, the OR events were not recorded along those business lines identified by Basel, in order to extract the proper tail losses. It is not clear why Nigeria regulators have not enforced this method of recording risk events.
- Some other lessons stem mostly from the weaknesses in the system and are also relevant for theory. These have been catalogued with the Table 8.1 below which provides a concise and visual articulation of the weaknesses in the system pre-Basel, their impacts, implementation, and the relevant Basel principles that address the weakness including how they map to theory. The lessons include: Weaknesses in bank policies which allowed for unethical practices and misconducts, weaknesses in banking operations such as processes, information systems and technology, audit, etc. Others include bank management issues such as third party and fintech challenges. Each of these areas of experiences provided lessons that relate to the theories on ORM, such

as opportunism, information asymmetry, moral hazards etc . The NDIC categorised these banking sector weaknesses which also led to bank failures and can be traced to Basel risk factors as endogenous and exogenous factors. Both endogenous and exogenous factors can be mapped directly to operational risk factors and are presented below:

Table 8.1 Bank Failures and Risk Factor Causes

Pre-Basel Weaknesses in the System		Basel Operational Risk Factors and Principles
Endogenous Factors (Internal to the bank)		
Bank Policies: Weak and Inadequate. There were written and unwritten policies. Unwritten policies were the norms, culture and patterns of behaviour	1)Weak Risk Management. Most policies were on credit risk and later enterprise risk. Lack of adequately tested risk management frameworks in majority of the banks. 2)Connected Lending and Insider Loans (a most acidic factor) These are unethical and corrupt practices.	1) Principles 1-3. Board and Senior management responsibility in developing an appropriate risk management environment. People and process risk factors 2) Principles 1-6. People risk factor, process risk factor.
Bank Operations:	1)Processes: Weak and nonadherence to established credit processes 2)Information Technology: Manipulation of data, compromising of equipment and systems 3)Audit: Circumventing of internal controls, hiding information	1) Process Risk factor. Principles 4-6 2) Principles 4-7. System Risk factor 3)Principles 5-6. People and process risk factors
Bank Management:	1)Unethical practices leading to cosmetic management, self interest, “ever greening of risk assets” (NDIC, 2017)	1)Principles 1-3. People risk factor. Conduct risk
Exogenous Factors (External to the bank)		Basel’s external events
Third party: Banks suffer the liability and responsibility of third party relationships such as telecom, mobile phone companies and other contractors whose operations are not strongly regulated.		Third party or outsourcing risks
Fin Tech Risks/Losses: Banks are also made to bear the losses that arise from Fintech matters such as when		Technology risks

Pre-Baseel Weaknesses in the System	Baseel Operational Risk Factors and Principles
transactions experience delays from technology, internet and online transactions.	Cyber securities and Resiliency status risks.
Infrastructure: Weak infrastructure provisions such as poor energy and electricity affect bank systems including delays in transaction confirmation and verification as well as increased downtime.	Environmental, Economic and political causes of risk.

The essence of the above mapping is to articulate how the weaknesses in the banking system link to operational risk factors as instituted by Basel, and relate directly to the principles of sound management of operational risk. Apparently, even though there were structures such as branch and bank operations unit, internal control unit, internal audit as well as risk management unit which focused purely on credit risk, a good number of bank weaknesses were due to operational risk factors and indicators which as at then, had not been properly identified because OR was not a known risk name. That is why RBS and the introduction of Basel's operational risk management principles have been adding good value to the banks because it has led to proper identification of risks and their root causes, which has enabled the plugging of some of the weaknesses in the system.

8.3 Operational Risk Events: lessons from Fraud and Forgeries for RWA Calculation

According to the CBN annual returns, the most predominant record of OR events were the Fraud and Forgeries reports mandatorily rendered by banks to CBN and NDIC. This report catalogues the fraud and forgery events or incidents in the banks on a monthly basis. The lesson here is that the report has been inadequate in providing the tail loss records required for calculating RWA despite that it captures most events. This is as a result of the format and is something that can be innovatively re-engineered. Yet it remains in its old format. Examples of the events include cheque cloning, stolen cheques, transaction syndication, signature forgery, stolen and forged identity, cheque kiting, wrong withdrawals and transfers, duplication of postings, cash suppression, debit and credit of wrong accounts, use of dormant accounts, ATM frauds, Phishing emails and web sites, cyber frauds, etc. Majority of risks in the fraud and forgeries report can be broken down along business lines. Perhaps banks can maintain their own records along the business lines in addition to the regulators' F & F report. In addition, a good number of the forgeries were insider related, involving

staffs of different level, ranging from senior management to junior workers. Table 8.2 below shows the trends pre-Base and RBS.

Table 8.2 Fraud and Forgeries Pre RBS and Pre Basel

Year	No of Events	Amounts involved		No of Successful Events		Amounts Actual Losses
2009	1764	NGN	41.265 billion		NGN	7.549.23 billion
		Dollars	0			
		GBP	0			
		Euro	0			
2008	1974	NGN	24.5 billion	746	NGN	6.4 billion
		Dollars	1.4 million		Dollars	175,594
		GBP	2,635		GBP	2,585
		Euro	451,075		Euro	0
2007	1553	NGN	8.8 billion	825	NGN	2.7 billion
		Dollars	591,488		Dollars	238,622
		GBP	12,410		GBP	12,410
		Euro	35,391		Euro	390
2006	1193	NGN	4.832billion		NGN	2.769billion
2005	1229	NGN	10.606billion		NGN	5.602billion
2004	1175	NGN	11,750million		NGN	11.754billion
2003	850	NGN	9,383.67million		NGN	857.46million
2002	796	NGN	12,919.5 million		NGN	1,299.69million

Extracted and prepared from NDIC annual report

The table above shows that prior to the period of consolidation in 2004, the number of fraud and forgeries incidents were below 1000. From 2004, there was a leap in the number of F&F reported by banks. Our reviews suggest a number of causes for these leaps, namely, massive deployment of ATM and its implications, lack of commensurate telecom infrastructure for users, risk data mining and identification, more robust reporting. Prior to the mass installation and use of ATMs cards in the banking system, customers had to go into the banking halls, use cheques, withdrawal

slips and tellers to withdraw money, to make deposit and issue transfers from their bank accounts. The internal control systems in the banking hall provided for both signature and identity verification. However, with mass deployment of ATMs and debit cards, people did not have to go into the bank for each transaction. The implication was that all the controls in place for direct customer-cashier interaction lapsed as the ATMs took over. Thus, more fraudulent and forged transactions could pass through the system as people cloned ATM cards, and deployed other fraudulent tools to steal from the machines in addition to theft of cards and people with cards.

Secondly, there was no commensurate mass availability of internet and telecom infrastructure for people to go online and check their accounts frequently. Controls such as sms and email alerts were not yet available. Thus, transactions had time lag before discovery. It can also be seen that the jump in incidents, has a commensurate jump in the number of staff involved in the F&F (See Table 8. 3 below). This might indicate that staffs of banks took advantage of the time lag and other weaknesses in the system, to perpetuate F&F because a number of the F &F were found to be staff related.

Thirdly, with the risk-based supervision and consolidated reporting, and institutionalisation of OR by Basel, risk identification became more profuse, risk data became more mined from new technology and reporting of risk became more robust, in addition to technological improvements that enabled regulators access to bank systems. The important lesson highlighted by bankers during our study was summed up in the following sentence:

“it is also very crucial to look inwards for risks when introducing new products. More attention was always given to plug outside chances for losses while some fraudulent insiders had a field day. (B8)

More recent F & F figures from 2012 to 2020 are presented in Table 8.3 below, while Table 8.4 shows the Nature and Frequency of F & F from 2017 to 2020.

Table 8.3 – Fraud and Forgeries 2012 to 2020

Fraud and Forgeries for the eight years 2012-2020					
Year End	No of Cases	Amount in (Billions)	Actual Loss (billions)	% loss to amount	No of Staff Involved
31 Dec 20	146,183	120.79	5.33	4.41	474
31 Dec 19	52,754	204.65	5.46	2.67	835
31-Dec-18	37,817	38.93	15.15	38.92	899
31-Dec-17	26,182	12.01	2.37	19.73	320
31-Dec-16	16,751	8.68	2.40	27.65	231
31-Dec-15	12,279	18.02	3.17	17.61	425
31-Dec-14	10,612	25.61	6.19	24.18	
31-Dec-13	3,786	21.80	5.76	26.41	
31-Dec-12	3,380	18.05	4.52	25.14	531

According to the data presented in the table above, the number of operational risk events have increased from year to year. Number of banks staffs involved has also increased over time, until 2020 when the number of staff involved declined tremendously from 835 to 474 making 43% decline from 2019. However, the number of events almost tripled from 52,754 in 2019 to 146,183 in 2020 which was the highest number of events. Most of the increases are as a result of IT driven events such as internet banking, mobile banking, POS etc. Efforts and tactics of fraudsters have increased and diversified over time. Cyber activities have multiplied as both technology and social media accessibility have become more widespread. While these factors have increased, banks have also acquired more sophisticated systems infrastructure, as well as software applications, which enable risk identification and mitigation of the fraudulent efforts. This is further enhanced by the fact that banks have become more mature and experienced in tracking and identifying risk events. As a result, more events are identified by name and listed. Table 8.4 shows the nature and frequency of the events and actual loss percentage. One can also see that the category of events have increase from 13 to 19 in 2020. Prior to 2020, internet banking, mobile banking, POS, E-commerce, over the counter, non-electronic were not specifically identified. These events were added in the 2020 categorization and they have a total frequency of 74073 out of 146183 attempts in 2020, which is 51% frequency or half of all the attempts. It is also interesting to observe that banks also

successfully matched up to the increased frequency because while the number of events and frequency of attacks had increased, actual losses have declined from N5.46billion in 2019 to N5.33billion. Table 8.4 below shows these details.

Table 8.4 Nature, Frequency and Actual Loss from 2017 to 2020

	Nature of Fraud and Forgery	Frequency	Actual Loss (%)	Frequency	Actual Loss (%)	Frequency	Actual Loss	Frequency	Actual Loss
1	ATM/Card related Fraud	16397	0.798	10063	2.64	26263	1.03	58193	1.11
2	Web Based/Internet bank fraud)	7869	0.709	12343	3.85	11089	1.37	11660	0.294
3	Fraudulent transfers/withdrawal of	963	0.318	6980	1.93	6893	0.96	-	-
4	Suppression of Customer Deposit	279	0.116	3918	0.96	3978	0.41	-	-
5	Fraudulent cheque conversion	101	0.021	501	1.08	407	0.08	918	0.165
6	Stolen cheque presentation	18	0.011	112	0.324	129	0.094	-	-
7	Forged Cheques Presentation	41	0.049	183	0.642	133	0.142	-	-
8	Outright Cash Theft	129	0.089	1509	0.11	1904	0.11	1339	0.611
9	Unauthorized Credits	106	0.055	1282	1.14	1082	0.589	-	-
10	Outright theft by outsiders	142	0.069	461	0.835	641	0.141	-	-
11	Foreign Currency theft	36	0.037	180	0.639	197	0.339	-	-
12	Diversions of bank charges	88	0.073	274	0.82	241	0.22	-	-
13	Lodgement of Stolen warrants	12	0.028	7	0.018	1	0.018	-	-
14	Across the counter							1293	0.261
15	Internet Banking							18144	0.985
16	Mobile banking							25357	1.237
17	POS							14914	0.363
18	E-Commerce							5574	0.177
19	Non-Electronic							8791	0.133
	Total	26182	2.373	37817	15.15	52754	5.46	146183	5334

(Extracted from NDIC annual report 2019.)

In addition to the F & F reports, NDIC investigated bank failures and recorded material operational risk conditions that caused bank failures. The main issues were corporate governance failures, arising from senior management misconducts such as directors granting loans to themselves, ignoring set policies, processes and ethical expectations, etc (NDIC, 2017). Other operational risk events identified pre Basel

were bank vs bank issues, and customer vs bank. These included excessive charges, manipulation and fraudulent practices on customer accounts, conversion of invested funds, irregular clearing of customer cheques, stealing and pilfering, non-refund of wrong debits, diversion of customer deposits unauthorised credits, fraudulent transfers/withdrawals, cash suppression, fraudulent conversion of cheques, forged cheques, stolen-cheques, and diversion of bank charges. High level risks were also in existence and fall into present day Conduct risks. As at then, they were management governance weaknesses and lack of accountability. NDIC examination of these fraud and forgeries implicate operational risk category. Therefore, defining and institutionalising operational risk led to proper identification and naming of these risks and to implementation of the proper and better ways of managing them. It is safe to suggest that banks have also become more mature and competent in risk identification and assessment as a result of Basel implementation. There has also been a decline in the number of staff events which if sustained, will be a positive impact in the long run because a culture of accountability and theical practices will be established.

The F & F report encapsulates most of the operational risk records in the Nigeria banking system. The report however, does not itemize the events along business lines. The idea of joining ORX was introduced to the bankers who showed interest in joining. However, as at December 2021, actions have not been taken perhaps due to costs. There were efforts by Nigeria banks to establish a special database for capturing OR loss data towards standardized approaches but that has not yet become substantive.

According to a regulator:

“.....so, while they go out to access data, they are careful in reporting.

“A database can be there but not every bank will have the confidence to report all that went wrong. You know our market. People will panic and go and collect all their money”. (R3)

The two benchmark banks and the foreign banks however, had commenced keeping such risk event records in order to generate the tail loss records needed for Standardized approach to CAR. Ecobank, which is a regional bank has already featured on the ORX data.

For Regulators, this empirical research listed codes that represent risk lessons. Bank regulation or governance was the most recurring coding theme, while for banks,

internal control was the most important factor of the performance of Basel. Starting with regulators, the major lessons are presented in Section 8.3 following.

8.4 Regulators' Strategies – Lessons on Governance:

The core attribute of bank regulation is found in the requirement for regulators to ensure a stable and resilient financial system. Deposit money banks are essential in this process. Basel addresses regulators in The Principles on the role of supervisors which aligns with the second Pillar called Supervisory Review. Basel expects supervisors to regularly assess banks' ORM by evaluating banks' policies, processes and systems related to operational risk (BCBSd515, 2021). Supervisors should ensure that there are appropriate mechanisms in place allowing them to remain apprised of banks' operational risk developments. Regulators are required by Basel to conduct, directly or indirectly, regular independent evaluations of a bank's policies, processes and systems related to operational risk as part of the assessment of the Framework (BCBS195, 2011). Supervisors are expected to ensure that there are appropriate apparatus in place to enable them to be constantly aware of what is going on at each bank. In Nigeria, the regulatory bodies charged with this function are the Central Bank and the Nigeria Deposit Insurance Corporation. These two supervisory institutions embark on bank supervision and bank examination, sometimes collaboratively. The research revealed that regulators utilize both off-site and on-site approaches whereby on-site is directly within the bank's premises while off-site is done from the regulators' office by reviewing banking reports/records. Typically, the off-site precedes the on-site. Although they have included this as part of their Basel reforms, these structures and processes have been in existence in Nigeria before the Basel principles. Regulators prepare for these responsibilities by creating the risk profile of the banks, through the Know Your Bank (KYB) and Risk Assessment Summary (RAS). In addition, regulators believe that their biggest strategy is through regulation. The results of their supervision and examination impact on regulations, and their response to global issues is through implementation of regulation. Regulation includes issuing of policies, circulars, guidelines, framework, rules and duties which are usually timed for execution and compliance. The essential theoretical underpinning to these regulatory practices is Governance. As acknowledged by Basel, sound governance is a foundation for an effective ORM framework and Nigeria regulators agree that effective governance is the backbone of successful banks in managing OR. Such governance

spans across both internal governance structures erected and complied with by the banks starting from the board to the least staff in the hierarchy, as well as the governance structures of policy makers i.e. regulators. The essence of control is thus derived from Governance.

According to a regulator:

“Actually, all banks are mandated to have operational risk frameworks which when we go for examination, we review to be sure that there are no loopholes and there are no gaps. And the things we look at are basically- how you are measuring your operational risk, while the OR office is in the position of measurement, how are you creating awareness within the bank with the operation staff, the marketing staff, to tell them, you know each and every task you do, there is an element of operational risk. How aware are they, and do they understand impacts of operational risk on the business? Do they understand that operational risk can transcribe to reputational risk? All those things are the questions we ask the bank” (R3)

Furthermore, another regulator enthuses:

“We govern the banks by looking at their significant activities, and we categorise the risk into six buckets. We use a model that started from the 2009 risk-based supervision which is proactive because before then, it was compliance and reactive”. (R6)

In respect of regulatory reviews, regulators visit banks quarterly to undertake reviews. Their reviews and supervision which commence off site, would start by going granular into the Board status, actions, performance and plans, According to R6;

“We examine at least on quarterly bases – We go through the board records, minutes and browse information on events. From their minutes, you will know whether it’s a serious board concerning risk or not. We examine every responsible unit, the board, senior management, if there is a default, what action did they take? What actions do they take, do they reprimand the staff, or is he/she just free?, no queries being issued?. The board is a part of every area of the business. How often do they get regular report from the IT department and they must give support with resources and everything to all the units underneath the management i.e. this Systems? For instance, if you go to

IT, Look at the Board. When they acquired IT in the house, was the board a part of it? Was there any report by Steering committee on IT? (R6)

From the above, one can see that these quarterly regulatory reviews cover everything a bank is doing starting from the board activities to the least. As previously mentioned, the regulator would have mapped the composite risk rating (CRR) and prepared risk assessment summary (RAS) for the bank off-site, before site visit. At the site, the reviews and questions raised above are then applied. However, because the supervision is risk-based, the extent and focus of the reviews depend on the risk assessment that had previously been done before the site visit. *Outcome* reviews form part of the data.

All those questions engender a robust supervisory review.

One of the underlying theories that relate to regulation as a strategic performance in the Nigerian banking sector is that of strategy, from governance and competence perspective (Williamson, 1999). Williamson combines economic reasoning with organisation theory in examining strategy whereby governance is considered more operationalized, focusing on the economic costs of activity, while competence focuses on processes. Williamson argues that issues such as economic rationale for regulation are contractual issues and the foundation for his discourse are human actors. The operationalised economic costs may apply to the extent of channelling resources to areas of risk because of RAS and KYB. In consideration of the regulatory approach to governance of banks, Williamson's transaction cost approach is problematic in explaining the case because as much as the process integrity risk approach is important, the regulatory upper hand in the management and supervision of OR in the banking system remains non-contractual. In line with the arguments presented by Dagdeviren and Robertson (2016), historical and contemporary governance in the banking sector does not directly or completely validate transaction cost, and this is not peculiar to Nigeria or developing economies, considering the global banking regulatory apparatus in which regulatory supervision is non-contractible. The regulators' approach is also defined by the theory of information asymmetry. Being aware that bankers may not disclose everything, regulators approach their examination and supervision with caution, perhaps suspicion (as interviewees suspect), because there may be information opacity. Supervision is therefore done as a collaborative thing

between on-site and off-site units. However, they also need to manage confidence in the industry. On the other hand, the data from regulators align with (Hodgson, 1988) on competency perspectives whereby he cites dynamic efficiency described as learning and innovation. Learning and innovation has been highlighted by regulators in describing the foremost banks used as benchmarks as follows:

“... when we did the tsunami, they were not affected because they have a very strong risk management system. So, we have not seen any default. I said we cannot see default, because there is no chance of default. That is the strength of risk management, and that is the strength of the Board. The competences of the staff matters a lot, in determining the kind of activity a bank will grow. They have advanced their risk management comparable to the best in the world” (R6)

First, the tsunami above refers to a time and an exercise in which the regulators retired directors of banks, sacked some and investigated some, as they discovered the true position of banks. They also identified the banks that were performing well. Several banks' boards were sacked and reconstituted by the regulators. Their evidence and expositions indicated that the competency view is more applicable to banks developing competency and dynamic efficiency through learning and innovations in the field of operational risk management. Regulators leverage on this dynamism to allocate resources in RBS. However, the regulators are neither informed by contractual nor competency because their major tool is the imposition of regulation which speaks of power and control. Perhaps borrowing from the field of political science could explain the place of power in regulatory governance, but that lies outside the scope of this work.

Another regulatory performance hinges on the capital requirements that are imposed on the Nigerian banks. Having the liberty to use discretion, regulators establish the capital requirement. For instance, Basel II required 8% but the Nigeria banks were maintaining 15% for international banks and 10% for national banks. Both CARs are more stringent than the Basel requirements and of course impact on the available funds for economic activity. However, the regulators argue that for as long as Nigeria banks remain connected to global banking system, they remain exposed to shocks from the global system. Therefore, being aware of this, they prefer to take the same precautions recommended for the SIB.

8.5 Benchmarking as a Core Competence tool of ORM:

Another element that has manifested severally in the course of this analysis is the use of Benchmarking as a regulatory tool. Regulators have learnt that due to the high-level competences of some bank staffs and units, expertise has grown in the industry. Some banks are able to determine sound risk management processes, control framework and various applications needed to forge ahead successfully in the era of Basel implementation. Such banks are establishing best practices that can be of global relevance. In 2008, Beuhlar et al, (2008) in discussing risk management in financial institutions, suggested that innovations in risk management originated from banks and securities industries. He further found that many of the more sophisticated institutions considered their ability to manage risks as core competencies. Their findings inform the position held by both the regulators and benchmark banks in Nigeria banking sector.

The regulators consider the two banks' ORM practice as benchmarks due to the strenght and maturity of the banks. Their expertise and maturity are considered as core competences. These benchmark banks have built up their ORM practices, such that they provide platforms for training other bankers. Core competence theories were projected by Prahalad and Hamel(1990), under strategy. They suggested that firms ought to identify the aspects that they are best at, focus on those competences and draw their strengths from them when they want to get ahead of their competition. Their theory suggests that it is difficult to imitate such competencies by other organisations. The strategic objective in core competence theory is to create a new competitive space. These two banks have been able to develop strong competence through their early start and exploration.

Although Prahalad and Hamel focused on competitive advantage as the strategic objective for building core competences, this work discovered differently. Contrary to the objective of competition which one finds among Marketing units in banks, the issue at stake for ORM units of Nigeria banks is not winning the competition but the ultimate end of "survival" under risk. That is why the ORM units of banks are not building competences in ORM to oust each other, but to develop a unified formidable fort that all of them can tap into and benefit from, in preventing operational risks events. In this

respect, network and interconnectivity becomes paramount in contrast to competition. Thus the proposition for competency and best practice this case, contrasts with existing theory - Prahalad and Hamel. Perhaps because with banks, the death of one bank, is the beginning of sickness for another, unlike in other markets, where the survivor simply absorbs new customers.

In the words of a regulator,

“Competencies of staffs have grown and expertise in the industry has taken shape, enabling the determination of risk management processes and banks started this on their own. In all the banks, risks are the same, severity is the same, control functions make the difference and controls functions are now determined by competencies” (R6)

Furthermore, the ORM units of the banks feed each other with personnel. Most of the Heads of ORM in the various banks visited by this researcher, were from ORM unit of one bank or another. Working together enhances the mobility of the staff and creates positive atmosphere of common interest, which is not found in competitive units like marketing and bank account officers. In addition, they have participated in establishing and running Operational Risk Management Association in Nigeria (ORMAN) and Risk Management Association of Nigeira (RIMAN).

Another lesson regulators learned from the experience is that irrespective of the power they hold, they still face challenges due to information opacity and asymmetry. This research finds that co-operation among regulators have become a major source of overcoming these challenges. The interview data revealed a co-operative regulatory supervision whereby the regulators work in collaboration to ensure effective supervision, both bank examiners and supervisors as well as on-site and off-site staffs. This streamlined operation enables a well-rounded approach which allows the regulators to derive cohesive and collective solutions such as joint establishment of policies. The ultimate impact includes cost reduction.

As narrated by an off-site staff in their story example:

“There is a particular policy called dormant account policy that arose from such collaboration. They (on-site) went online at banks premises and found out that almost all banks have millions of dormant accounts that probably the owners are dead, they do not know and they’re just sitting there, and some banks were converting them to income. Deposit to income; that grows accounting shenanigans. They went there, they saw that, we didn’t see, we don’t visit banks

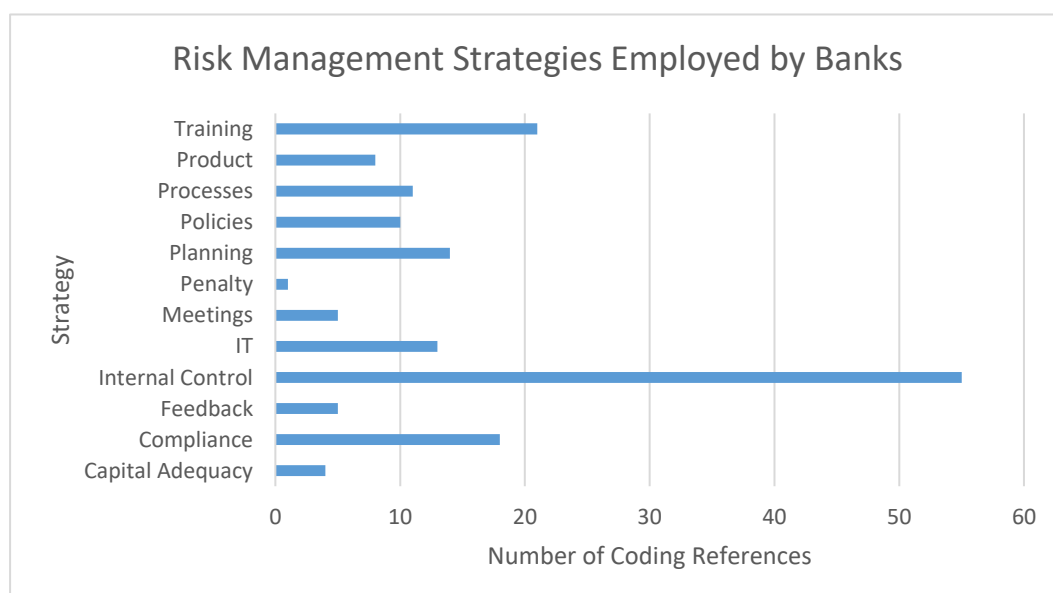
(off site person). They came to us and said we need to get a policy in place that would ensure banks have a standardized way of managing dormant accounts, which we did” (R2)

Bankers however, feel that the dominant use of regulations and policies have impacted them negatively, because they are the most regulated industry in the country. They must contend with challenges that belong to other parties such as suppliers or contractors who are outsourced for things like technology, USSD, mobile network operators etc.

8.6. Bankers’ Risk Management Strategies- lessons from Internal Controls:

For the bankers, the interview showed that internal control theme had the highest frequency of occurrence of 55 with its integral effectiveness measurement called risk control self-assessment (RCSA) at 53, portraying the importance of Internal control and its effectiveness in risk management in banks. Essentially banks rely on internal controls to manage risk. Below is the data chart on risk management strategies of banks obtained from the Nvivo coding. The chart shows the frequency of reference to internal control by the respondents.

Figure 8.1 Bankers’ Risk management Strategies



Of a fact, internal controls are the number one step towards assurance that things are going in the right direction in banking operations. Internal controls are activities designed to mitigate the operational risks that a bank has identified and most banks

had Internal Control Unit (ICU) prior to Basel. It is made up of the processes, procedures, policies, actions including documentations and close monitoring and reporting, all established to mitigate and control the risks identified. When risks are identified by RM, through the analysis, cataloguing and mapping of processes, products, and activities in the bank, both existing and new risks, they are profiled, and controls set up to mitigate them. They are then delivered to ICU to manage, all towards achieving the business objectives. Sometimes controls are also written by ORM and sometimes jointly devised by ORM and other relevant units.

Several of the interviewees commented that fellow bankers acquiesce that they have learned from the Basel experience, that controls are the singular tools to keep the business safe from the identified risks occurring, because controls are established to plug the gaps and loopholes by which any identified risk can occur and banks ought to have a system to ensure compliance with these controls (B2, B3, B4, B5, B8, B11, B12 and B14). Prior to Basel, banks' internal control staffs were treated as the mean guys who call out others, the clogs in the speed of executing customer transactions, the watchdogs, the kill joys etc. However, those who experienced risk events and had to attend the Economic and Financial Crimes Commission (EFCC) usually came to appreciate Internal Controls staffs and their jobs.

“On one occasion, a bank branch manager, after being arrested by EFCC where she spent two days undergoing interrogation, returned directly to the internal control unit (ICU) and pleaded with them to please find her exceptions and give her exception notices because she would rather get them from ICU and resolve them in the bank, than go to EFCC. She had realized the value of the ICU after experiencing the EFCC detention. However, many Operations and Marketing staffs, did not have such experience and still avoided ICU and their efforts at enforcing controls. (Researcher's personal experience)

With the Basel experience, the attitude to controls have changed tremendously because bankers have imbibed collaborative and holistic approaches in owning risks. Basel emphasized the three lines of defence which spreads risk ownership. These controls are usually documented as policies, processes and procedures in the bank system. According to Basel, “Internal controls are typically embedded in a bank's day-to-day business and are designed to ensure, to the extent possible, that bank activities

are efficient and effective, information is reliable, timely and complete and the bank is compliant with applicable laws and regulation” (BCBS195, 2011). Board of directors and senior management are responsible for establishing and maintaining a strong control culture. Basel states that a robust internal governance will provide the foundation for an effective ORM framework and deliver bank objectives. Basel Principle 6- focuses on Internal control and lists several elements of control to include:

- Top-level reviews of the bank’s progress towards the stated objectives;
- Checking for compliance with management controls;
- Policies, processes and procedures concerning the review, treatment and resolution of non-compliance issues; and
- A system of documented approvals and authorizations to ensure accountability to an appropriate level of management.”

Basel also emphasizes that Banks need to develop strong control culture in addition to documented policies. Control function is an essential aspect of existence of a banking institution and controls have made it possible for banks to survive, thrive and meet objectives. From this research, all banks confirmed that IC is the backbone of ORM.

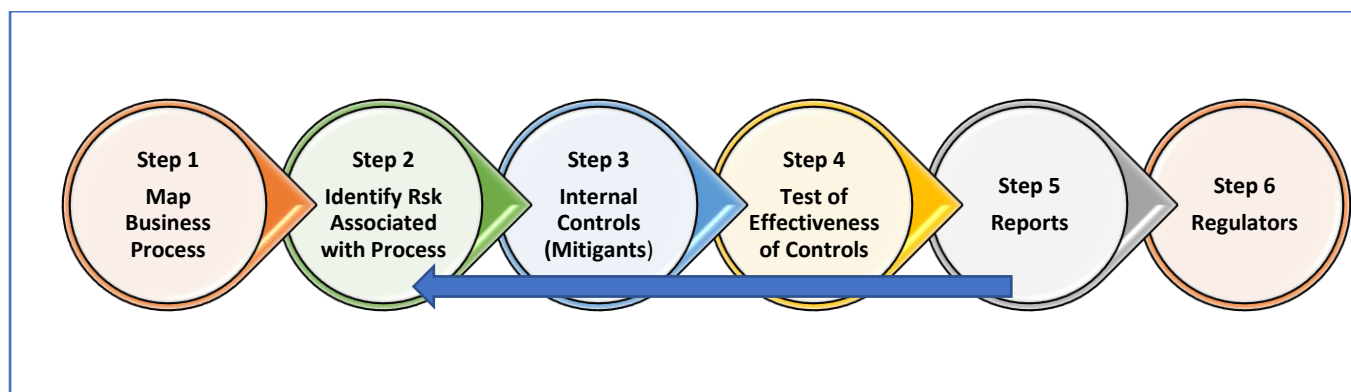
Regulators affirmed this position and confirmed that the risk profile and composite risk rating of banks are determined by examining the effectiveness of their internal controls. Regulators assess banks’ internal control by doing a KYB (know your bank) analysis and preparing a RAS (Risk Assessment Summary) with which they allocate resources for bank examination and supervision. Starting with the board to senior management down to the front liners, regulators classify banks and determine level of supervision and supervisory resources based on Internal control records of banks. According to a regulator:

“Risk is the same, severity is the same, control functions determine individual bank risk status and control functions are determined by the competency of the bank” (R6)

The above statement brings to fore, the importance of competency and governance in informing risk management strategies.

From bankers' perspective, as already mentioned, internal controls are deployed to mitigate the risks identified from business processes, products and activities. In the typical bank set-up, the risk and control process can be depicted in a matrix as follows:

Figure 8.2 Risk and Control Process



SOURCE: PREPARED BY RESEARCHER FROM THIS EMPIRICAL STUDY

The risk process and control matrix is as follows: the business processes are analysed, inherent risks are identified, controls are mapped out and implemented, such controls are tested for effectiveness and reports provided to management. For Nigeria banks, this process started at different times for different banks. The benchmark banks commenced this process pre-consolidation, and the others joined a little later with Basel. One of the benchmark banks explained it as follows: (B12)

“We started by identifying, lets even get the bank structure first. What do they do? Get the activities of each of the departments in the banks. Get the catalogue of all the processes, major processes and sub processes in the bank. Get a catalogue of all the systems in the bank. Catalogue all the products in the bank. That’s how we started, mapping the process, documenting the process, and identifying the risks inherent in each of these processes. Now just at that level, then, what are the controls? We derive our controls from three elements: 1) Internal policies, 2) Internal procedures 3) Best practice”.

For this bank this evidence was already completed as at 2004 and a process-risk-control template or manual established, such that as at 2005 when consolidation commenced, they were in a good place with controls. A similar thing existed for the second benchmark bank which started restructuring its internal systems with the

purpose of plugging losses and re-arranging products initiation. Although this was just for 15% of the banks and remaining 85% were not up to this stage, it still speaks for the fact that while Basel Accord was being considered only for the G-10 in the developed economies, there were domestic banks in Nigeria that were already ahead in developing their ORM. Presuming that developing economy banks were not ripe for the Basel requirement, is therefore faulted.

It is argued that Nigeria banks are ahead of several of their counterparts in banking operations, risk management and technology even though the country lacked stability of some basic infrastructure such as steady electricity due to political self-interests. The advancements stem from the peculiarities of the people, their drives, generally high skills, intellect and smartness, both for positive and negative actions. Such attributes which help fraudsters to succeed also sensitize the banks to develop that practices quicker in order to handle the peculiarities of their business environment. Some Nigerian banks such as Diamond Bank were pace-setters in technology like Online real time banking. The banking sector had to prepare themselves to be ahead of the risk exposures and the innumerable number of risk attacks from various fraudulent people. That heightened the need for developing controls, procedures and processes that will forestall and mitigate risks in banking activities. Nigeria's banking sector is highly sophisticated and so, Basel committee's generalization about developing economies may not hold.

In addition to internal controls, another sound operational risk governance practice which Basel emphasized, and which swept through the Nigerian banking system like wildfire is the implementation of three lines of defence. As at 2016, 100% of the banks apply three lines of defence in their management of operational risk. According to Basel, the three lines of defence are:

- (i) business line management,
- (ii) an independent corporate operational risk management function and
- (iii) an independent review or assurance (BCBS195, 2011, BCBSd515, 2021).

In Nigeria, the domestic banks have taken a collective approach to the three lines of defence mechanism. All the banks have three lines of defence but the formality of the three lines of defence has been adapted to suit banks' operational business

settings and the cultural environment. The simplest form of the three lines as found mostly in the domestic banks are Operations, Controls and Audit/Compliance.

- 1) Operators: The first line of defence are the front liners, the first points of contact for a business process or product. They hold the first level of responsibility to the risks in their operations. In some banks, they are the first risk owners and managers because they are dedicated staffs of the relevant business unit e.g., corporate banking, oil and gas, private banking, etc. In some others, such as retail and commercial banking units, they are general operations staff. They are expected to effectively manage the risks which have been identified through the mapping of their process by following the set procedures and policies in their business activities.
- 2) Controls: This is the second line of defence whose role is to plug any gaps found in the activities of the front liners. They check that the front liners are adhering to the procedures and policies. For instance, in a process where the front liners are inputters, these second liners will be authorizers, in line with the segregation of duties as part of internal control best practice.
- 3) Audit/Compliance: This is the third line of defence and their responsibility is to review at regular intervals, the activities of the first two lines and identify errors or non-compliance. Their report goes to the top management or board.

From this empirical work, we discovered that in the foreign bank subsidiaries examined, the first liners are mostly dedicated ORM staffs, while for most of the domestic banks, the first liners are operations staff with a Risk Champion in each branch. This disparity could be as a result of foreign banks following their parent companies, or because most of the local banks businesses are retail. There are also OR staffs in the head offices, who assume risk and control responsibilities. Several banks have developed different levels of competencies in their management of the risk and control processes. From our discussions, 85% of the banks interviewed have developed internal maturity levels of handling their risk and control processes. For instance, one narrates below:

“There’s a forum that we have that brings the entire risk and control functions – first, second and third lines of defence together to look at issues broadly from a group-wide perspective. That forum allows you to have internal audit, compliance, internal control, IT risk, IT security, operational risk, credit risk, all the risk functions to sit in the same room to look at risk exposures that are

emerging or risk exposures that are found to be prevailing across the entire business and that will be coming from audit, from the different assessments that have been done from the second line defence. That on its own has given us insight into the kind of recommendation or should give us insight into the kind of recommendation that we make to management, in terms of immediate actions that are required, ok. That forum is a forum that you see, nobody is pointing fingers at anybody, we are just saying, these things are prevalent and immediate actions must be taken to address them, you know, very fantastic place to sit and rub minds, so that's one. Then issues that we pick by virtue of our assessments, talking about the existential risk exposures that we look out across those four platforms that we mentioned to you- people, processes, systems and external events, depending on their nature, such that we track and monitor them. The engagement first of all is supposed to be between you, the operational risk manager and the business owners". (B12)

And from another bank:

"What we've done first of all is to apply the 80/20 principle to look at where we have material exposure. So, it's not in all the branches that we have issues. Basic controls have been put in place in those branches to say, "this is the procedure, this is what you must follow to do things that you do and our expectations". Internal control is there, we have resident control officers. We have clustered the internal control and compliance people so as to make sure that at any point in time somebody from compliance and somebody from internal control is visiting the branch, and this is the third line of defence". But in terms of continuous business monitoring and engagement, it's internal control that does that in the network. So, interface between us and internal control is very strong".(B10)

The levels of maturity seen at the banks' control practices compare reasonably well with Basel's sound practices and in several cases, even more. Comparing with the foreign banks, it was also observed that the control practices in the domestic banks were more diffused and consisted of more people taking responsibility at their points. Most domestic banks have Internal control separate from Internal audit, but the few subsidiaries interviewed had Internal audit and dedicated Operational risk staffs.

Again, Williamson (1999)'s transaction cost economics comes into focus. Thrust of discussion is between two conflicting positions on governance and competence. From the governance perspective, which is transaction cost economics, he had looked at transactions under the assumption that actors have the capacity of foresight to recognize and mitigate risks and uncertainty. The essence of internal controls is to mitigate identified risks and therefore tallies with Williamson's viewpoint. Although he favours bounded rationality to hyper rationality, and recognizes the tendency for self-interest and opportunism, Williamson argues that TCE suggests human actors as having foresight and not near sight in dealing transactions. The whole essence of control depicts the foresight to recognize that things can go wrong, identify them, set up processes to forestall or mitigate them, and implement the processes. His central approach considers transaction as the basic unit of analysis. This ranks in direct paripasu with the operationalization of controls, ranging from checks and authorisations, to call over of transactions for correctness, accuracy and procedural compliance and to recording of aberrations.

Internal control uses dimensions such as frequency, uncertainty and degree of specifics. It focuses on a pure organised system of doing things rather than technical. It involves replications and selects specific interventions. This is exactly in sync with the discussion from B12 posted above and this perspective displays remarkable congruence with the whole essence of internal control. Therefore, this perspective of governance can be ascribed to being a sound theoretical underpinning for internal control. It is important to note here that so far, such analogous argument synchronizing Internal control and governance is not depicted anywhere else in literature, and is therefore novel as a literary contribution. Internal control is always treated as a practice-based concept. On the conflicting side of TCE theory, lies the competence angle, in which Williamson discusses that human actors are seen as myopic, opportunists, rationally bounded and the unit of analysis is routine. This approach argues that, the idiosyncratic competence of the organization is inherent in its ability to make better use of its resources (Penrose 1959). This leads to dynamic efficiency. Although a measure of judging efficiency has not been established, pitching governance against competence by holding TC as static as against dynamic, gives room for the opinion that governance does not address issues of management. By and large we do not acquiesce that governance and competence are in conflict, rather,

both work hand in hand to achieve the complementarity in strategy. Therein should lie the benefits of internal control as the biggest tool of operational risk management – a strategic tool.

Further to the strategy of establishing, diffusing and complying with controls, the next most prominent strategy is the test of effectiveness of the controls called the Risk and Control Self-Assessment. Although it is a part of controls, its importance in the system is so critical that its being isolated and discussed specifically

8.7 Risk and Control Self-Assessment (RCSA):

The most important thing about controls is their ability to meet the business objectives for which they have been set up, in this case, to mitigate risk. To ensure that controls are meeting their purpose, the Basel framework requires that controls are monitored and evaluated for effectiveness. RCSA is defined as the process whereby individuals involved in the process of risk management assess their own effectiveness in implementing the laid down control procedures and processes and analyse if they have been able to mitigate risks. This is considered a sound operational risk governance practice. For all the banks, this test or evaluation is typically done by each individual or team involved in any business activity that has been identified to involve any risk. The supervisory and oversight functions starting from the Board cannot be overemphasized.

According to (Tarantino, 2008) who discussed COSO's internal control best practices, controls must be tested for two effectiveness- design effectiveness and operational effectiveness. Design effectiveness focuses on whether the control is appropriately designed to mitigate the risk it is set up for and operational effectiveness deals with whether the control operates as designed, if its consistently performed and if the person performing it has adequate competence and authority. Again, the point of competency is highlighted in the evaluation of controls. Using our Figure 8.2 in Section 8.4 above, from Step 4- the test of control, the results are then reported and if there are deficiencies, they are inputted back at the Step 2 which is Identify risks. As discovered from the empirical study, when a risk event occurs, it throws up two questions. Was the risk identified during the mapping process and a control in place for it? If it was not, it becomes an ORM challenge and perhaps failure. If it was, then

the risk owners are held responsible for the failure. As highlighted by one of the bankers interviewed,

“a proper mapping of the process enables segregation of duty and avoidance of double compliance cost”. (B4).

All risk owners, risk managers, risk controllers do this assessment. The advancement of the RCSA process has led to a few learning and innovative applications in the banks. This aligns with dynamic efficiency as projected by Hodgson (1988) and is underpinned by competency and people theories. The RCSA process has also been found to be highly mature in most Nigeria banks. From the study, only the regional bank was found to still be in the process of implementing the process, while the rest of the banks have fully implemented their RCSA already. The level of adaptation of the processes can mirror the level of maturity of banks in the performance of the Basel sound practices. For instance, one of the benchmark banks bifurcated RCSA into RSA and CSA whereby the CSA is done first before the RSA. Also, RSA is done by experts while CSA is done by frontliners and participants in the risk management process. Below are the narratives from the bank:

“There are two other things we do - Risk and Control Self-Assessment- (RCSA). We decided to break it into two, let's do - Risk Self-Assessment and Control Self-Assessment. Because Risk self-assessment is done by experts, it's few people. It's supposed to be done by risk managers, risk owners, not just everybody and it has a frequency of once in a year. But control assessment is testing the effectiveness of the established controls, and that effectiveness, the frequency depends on the rating of the risk, Is it high, medium or low? If the risk is rated high, the frequency for control self-assessment is higher, and if the risk is rated low, the frequency of testing of the controls is lower. ...In our risk self-assessment, we have what we call RAM- risk assessment matrix. That document starts with total risk identification process, identify the key risks for that process or that product, document principal controls. We have controls and we have principal controls, that's the major controls that must work.....”

B12

The above discussions are in no way exhaustive of the volumes of data obtained from the empirical study. What remains paramount is that the structure put in place to

manage risk, controls and OR may differ from bank to bank but they all definitely point to the evolving development of skills and competencies in managing operational risk at different levels of banks activities. It also goes to show how far Nigerian banks adopted Basel. While some of the activities require and involve some professionalism or specific expert skills to lead the rest of the people in their development, the inward-looking self-assessments engender personal development as well as collective and cohesive team development which enhances competence. This is re-enforced by the attitude with which the governance groups and committees handle the assessment, by focusing on generating positive risk control and ORM results, and not for fault finding or witch-hunting individuals. From the foregoing, the indicative theory that has consistently been brought to fore in the discussion is Competency which was examined in literature (section 2.5.2).

The above practice of the control strategy aligns with literature suggesting that the underlying theory for banks controls is that of competence. Prahalad and Hamel (1990) define core competencies as collective learning in an organisation and involves how to coordinate diverse skills and integrate technological streams. It involves communication, and a deep commitment and does not diminish with time as far as it is being applied. Although competency is discussed in strategy for a firm's competitive purpose, operational risk departments of Nigeria banks have learnt to utilise collective learning and core competencies to build a support system, in contrast to competitive advantage. The interconnectedness and network of banks are such that when one bank goes down, the rest are affected. Therefore, it is better for the banks to leverage competences and stand than to compete and fail. So, the novel contribution to the Prahalad and Hamel Competence theory is that while they posture on the application of competences towards competitive advantage, Nigeria banks are applying and sharing competences for collective benefit in the face of managing operational risk and uncertainty. One can therefore suggest that implications of collective learning and knowledge-building can apply to the two opposites, the result of which directly underpins the performance of Basel risk control principles in Nigeria banks. The central idea is that management should strategically identify, develop and integrate the core competencies which basically reside in people, in the system. The use of control committees, team meetings for brainstorming and progressing control self-

assessment, process mapping, risk cataloguing and control identification provide the platform of application of the competence theories.

Competence- based discussions have also been applied to Economics relating to the theory of the firm. Directly related to banks' risk management is Hodgson (1988) who suggests that a firm is a means of coping with uncertainty about future events and current opportunities. He further asserts that in an uncertain world, the analysis of human behaviour should focus on the "development of capabilities needed to deal with complexity and change, and on the modes of generation and transmission of knowledge" (Hodgson 1998:10). The importance of generating and transmitting knowledge becomes not only a strength for positive ORM applications, but also a foundation for the next strategic lesson which is Training.

8.8. Training and Development

Another lesson from the process is that Training and Development is a major strategy identified as crucial and popular for ORM in banks. ORM is a relatively new area, even though controls have been in Nigerian banks for ages. Application of Basel and the regulatory framework issued by the regulators emphasized the need to train staff and develop appropriate competencies and knowledge required to run the banks. According to Kingsley et al (1998), an organization's most valuable resource is its people but unfortunately, some organisations do not invest sufficiently in training the people. For instance, we hear as follows:

"Oh! We are training and training can be better. Apart from time, you know, it can be better. The truth of the matter is: the gain of training may not be immediate. It is different from an account officer who goes out to bring ₦2billion and you can see it, or book a loan of ₦10billion and we're making money. Typically what you will find out is that people want to cut cost on training, but it is a major risk because one of the major causes of operational risk is ignorance, insufficient training, weak supervision, you know....."(B10)

The importance of training cannot be overemphasized but it is not valued as much as direct income activities. Some of the neglect comes from gaps in modelling and measuring people risk. Alexander (2005) argues that measuring and managing risk of human error is the most difficult aspect of operational risk measurement and

modelling. For instance, how does one model human error associated with lack of integrity, or dishonesty? Is it possible to measure lack of focus and professionalism or lack of respect and teamwork? Other areas include lack of knowledge, insufficient and imbalanced training and skills-set as well as intellectual or cognitive abilities. This practical aspect can be related to Simon's bounded rationality theory which postulates that cognitive constraints can be the cause of wrong or satisficing decisions. This resonates with knowledge-based approaches to managing risks. Literature that informs training in ORM include Grant (1996) who views knowledge as residing within the individual and therefore suggests that firms should integrate the specialist knowledge of their members by applying such knowledge instead of trying to create knowledge. His implication is that training processes should be a collective application, similar to what has already been indicated by the study on benchmarking. This theoretical base has implications for co-operative organizational capability which conflicts with opportunism (Foss, 1996). In other words, staffs co-operate rather than compete. Other strategies applied by banks in their learning process include meeting and reporting which have varying frequencies. (Fig 8.1)

8.9 Accountability & Market Discipline – Emergence of new levels of classifying ORM

Other strategic themes from the interview data include accountability which aligns with the process and application of corporate governance, and market discipline. Market discipline is about open reporting of loss events to the market. Both accountability and reporting go hand in hand. Banks' reporting processes are important to regulators who utilise the reports for risk assessment and to monitor management responses to the reports. Responses should cascade downwards from the board to senior managers, to junior managers, to direct supervisors as part of accountability in the system. One of the issues emanating from the interview was about how much influence banks have over regulators. This question was essential because of the peculiarities of the political economy of Nigeria. Corrupt practices form part of this influence. Some of the discussions held on this matter revealed that indeed, there are people who go to the field and ensure that they do the work irrespective of personal relationships, and there are others who may also be mild in their work because of the personal relationships, not necessarily because of bribe. It is an issue about people relationship vs accountability and ethics. Majority of banks staffs interviewed suggested that they had very little if any influence, because *"the system is made up of two sets of participants*

who do not trust each other” (B8). But there were also incidents where unethical practices were identified, and these have impacted on the credibility of the system.

Consequently, the regulators have set a Code of Ethics and Business Conduct for examiners and supervisors. The policy is clear and granular, including such details as how a regulator pays for lunch at bank premises during on-site visits. Because Nigeria is a country usually discussed for people’s corrupt practices, it has become a predominant backlash, whereby all Nigerians are condemned as corrupt people. However, the main issue is that human behaviour and people’s integrity will always eventually determine the outcome of a process and will affect the level of accountability in the system.

Accountability works hand in hand with market discipline. Market discipline shows the quality, completeness and accuracy of reports published or disclosed to users. Market discipline aligns with Basel’s Pillar III. When banks and their regulators are highly accountable, a higher level of market discipline will be expected. Responses from regulators on market discipline as a pillar of Basel indicate that much has not been done from the perspective of Basel. However, a very important external vehicle has been driving market discipline. This is the International Financial Reporting Standards(IFRS). The IFRS has inadvertently, ensured that market discipline is adhered to by banks. According to a regulator interviewee (R2);

“In fact, no external auditor will append a signature on your statement of account if you have not met the IFRS 9 requirement which talks about disclosure of financial instruments and the rest”

Furthermore;

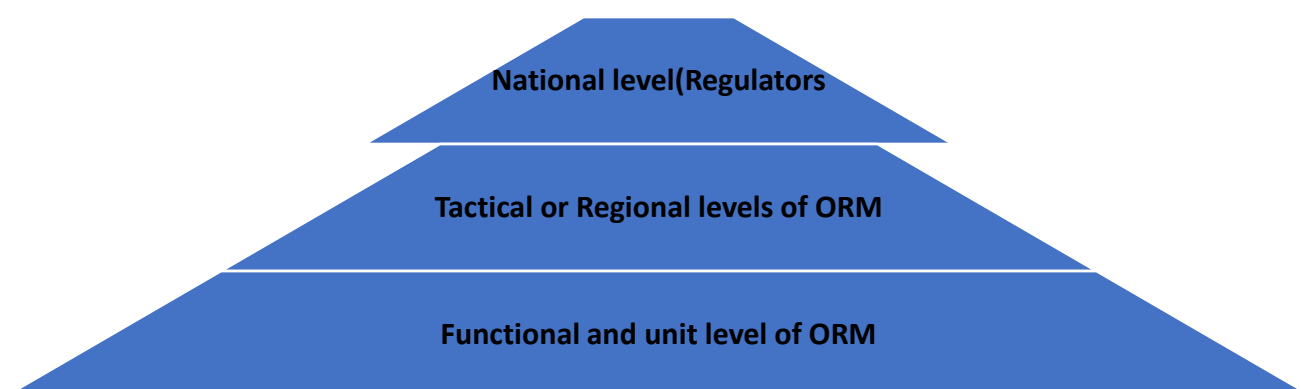
“Prior to now, some bankers took advantage of loopholes or gaps in the system and were not delivering returns as at when due but in the present dispensation the regulators have forged ways of checking the IT systems of banks remotely via technology, and applying penalties when bankers do not deliver” (R5).

Corroborating this, R3 stated that

“Bankers will always find a way to skip or skirt around policies, but we keep enforcing” (R3)

An emergent concept from this study as it relates to accountability and market discipline is that “Management of OR has escalated to country level”, which was not there in the past. In other words, ORM has gone from being internally with individual banks at an operational level to being a national level activity, involving first functional levels and units, then to tactical level, and then to national level. Figure 8.3 below illustrates this.

Figure 8.3 Levels of Operational Risk



The traditional risk management is at best, at the operational level (functional units, departments), but in Nigeria, Basel concept has taken OpRisk to strategic level. Therefore, can we say that OR now has 3 levels – strategic (country level), tactical (branch and regional), operational (functional and departmental) levels. This manner of institutionalization is novel. This new output from the research do not as yet, have a direct theoretical underpinning. It is possible that such can be found with further exploration.

The issue of how the Basel principles and theories perform in Nigeria Banks cascades in two levels -one is the strategies listed and discussed above and the second relate to the risks factors indicated from Basel and OR literature, namely people, process, system and external events. Next are the findings on the risk factors:

8.10 Key Risk Factors

The primary risk factors of operational risks as indicated by the literature and listed by Basel showed congruency with themes that emerged from the data – people, process, systems and external events. This solidifies the recognition given to the operational risk factors in the literature. 100% of the participants, both regulators and banks consider the impact of these risk factors critical and therefore fundamental to any risk

management framework and practice. These factors are mapped directly to Basel II (presently the Basel Framework)

The interviews further attempted to identify the risk indicators that manifest in the risk factors and asked question such as:

How do you identify when any of the various risks categories are present, and categorise them? Do you use the ORX data base?

“..... we monitor the changes in our risk profile. Risk will always be there. Where are they swinging to? So, we adopt a phrase called Key Risk Indicators. We have key risk indicator library as far back as 2004 and keep on populating it. So, we administer key risk indicator questionnaire to the stake holders to actually confirm the position of things, we analyse, then we do risk categorization and map them to risk factors”....B12

Another banker states as follows:

“Four broad sources of operational risk – people, process, systems and external events, now when I begin to unpack each of those areas, I now begin to look at my methodologies and how I’m managing them across the entire business. If I focus on people, I do that jointly with Human Resources. If I focus on processes I do quite a fair bit of that with my operations, my IT, my Credit, I do practically with all the supporting units called Enablers. And then if I’m beginning to look at the things that will impact me that I do not have control over, then I am looking at my external events, which is where some policies that will come through that are not in my favour that BM may just ask me to implement and I will implement” (B8)

The last portion of the above statement(underlined) highlights the need for independence of the HOR. HOR should be a senior management position risk with adequate independence in determining what can be done and what cannot be done in the interest of the bank and stakeholders. It is essential that the HOR risk cannot be told to implement things without following the appropriate risk management procedures. This is an overlapping risk and can lead to misconducts and unethical practices.

The table below shows the risk factors and indicative themes or phrases

Table 8.5 Risk factors and indicative themes or phrases

Theme: Risk identification	Examples of Indicative Phrases relating to the theme	Frequency of Occurrence
People Risk:	Recruitment, training and, retaining correct mix of staff, skills and competency, Internal fraud and forgeries, errors and omissions, Inadequate knowledge, ignorance, e.g. wrong classification, attitudes, use of contract staff to do sensitive functions, % of contractor staffs, Manage & discipline unethical behaviours, staff turnover	Most predominant risks until recent times when Cyber ATM and internet frauds have taken over. Cyber, ATM and Internet risks are still people
Processes:	Poorly defined, poor documentation, Failed, inadequate internal processes, unclear procedures, circumvented procedures, disregarded line of checks, waived authorization, increased process steps and control with less staff- stressed processors, undocumented steps, Repeatable processes, reliable minimal chance of failure	Next to people risk. These are more common with credit risk. Yet most are by people.
Systems:	Cyber security, internet scams, Infrastructure failures, inadequate systems, ATM downtime, system failure, outsourced vendor support, technology misfits or copying, Electronic fraud Robust, Reliable, confidentiality, integrity and availability	Chasing people risk in recent times. But are people risks too.
External:	Customers defraud themselves and want to claim from bank. Dimension external events, establish business continuity program to avoid disruptions	

(Prepared by researcher from interview data)

8.10.1 People Risk:

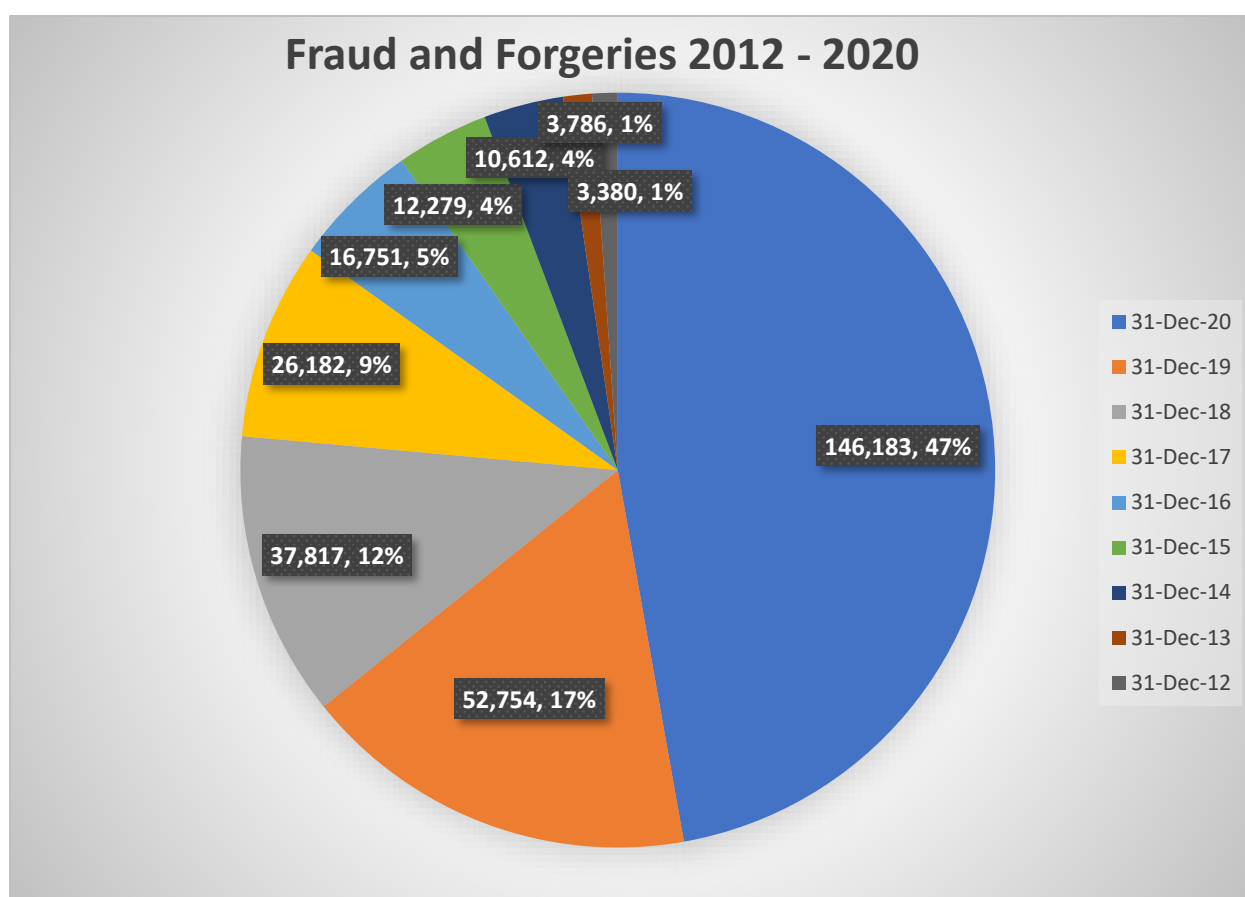
The most significant recurring risk factor is people risk. Challenges of people risk range from recruitment, training and retaining the correct mix of personnel, appropriate skills and competencies, inadequate knowledge, attitude and culture, fraud and forgeries,

staff turnover. On the issue of recruitment, the people risk manifests in the predominance of “man know man “ and quota, which occupy a large place in the Nigeria environment. Man know man recruitment is based on vested interest and not merit and effectiveness. While quota is found more in the regulatory bodies than the banks. This results in misfits and irresponsible behaviour that can affect both morale and output of right minded people. Recruitment should always be based on the job specification and requirement, rather than on political influence. The theoretical implication of this is that banks could recruit people whose cognitive strength may not match the level of work and responsibility expected from them and thus fret the system with errors. Errors and mistakes can cripple a bank. This sort of risk can be explained with bounded rationality (Simon, 2000) whereby people are not able to make the appropriate risk management and control decisions because of their level of ignorance, inability to think beyond their limit. Bounded rationality explains limits of people’s ability to make the rational decisions and to design and implement adequate processes for managing risk (Simon, 2000). Cognitive capacity impacts on decision making. It is not as a result of complexity of the work requirement, but stems from inappropriate recruitment. However, the risks mentioned above are risks that arise out of indeliberate actions as described by Donahue(1998). The biggest source of people risk data are from deliberate bad behaviors of people captured in fraud and forgeries report. In addition to the F&F report, other sources of reports for people risk are dismissal records, termination records, advices, redundancy records, no job description, cautions, warnings, displeasure, suspension, credit queries etc.

8.9.1.1 Fraud and forgeries: This is a very big aspect of people risk requiring continuous attention. Although both banks and regulators have employed a number of initiatives to curb and reduce incidence and losses from fraud and forgeries, it remains an intricate and substantial aspect of operational losses in the Nigerian banking system and the numbers continue to rise. Fraud and forgeries are not as a result of errors which can be explained with bounded rationality, rather, as (Haynes, 1895) stated “*the risks of loss by dishonesty of other*”. The existence of dishonest people in banking institutions is a major cause for frauds, hubris, and has led to collapse of banks as shown in the literature. In Nigeria, all insured DMBs are required to render monthly fraud and forgeries report, detailing frauds, forgeries, outright theft and other financial malpractices. Their renditions are expected to include staff involvement and

disciplinary actions. A good number of the fraud and forgeries reported in Nigeria are insider related meaning that staffs are involved. Table 8.3 (Section 8.2) above represents fraud and forgeries recorded in the industry over the period from 2012-2020 which is Basel period. This has been charted in Figure 8.4 below. For the years 2004 to 2009 which are pre-consolidation and pre-Basel periods, the data was presented in Section 8.2.

Figure 8. 4 No of fraud and forgeries from 2012 to 2020.



Prepared by Researcher from NDIC reports 2012-2018

As can be seen from the above, the incidence of fraud and forgeries have continued to increase from year to year from 2012 to 2017 after which there was a sudden spike in 2018 and 2019. 2020 showed almost a tripling of the fraud attempts. However, actual losses continued to decline year on year. Although in 2018, both the number of events and actual losses rose exponentially, the numbers returned to the normal declined in 2019 and 2020. The reduction in actual losses from 2012 to 2017 was

attributed to improved oversight and increased vigilance by banks in addition to better risk management and security architecture. Also, worthy of note is the change in the sources of fraud between 2017 and 2018. The number of ATM/Card-related fraud cases declined from 16,397 in 2017 to 11,063 in 2018 but spiked in 2019. However, actual loss in 2020 was lowest in the eight year period. The suggested reason is improved security features of the card and increased users' awareness. Internet based loss events however, increased from 7,869 in 2017 to 12,343 in 2018. It declined again in 2019 as bankers became more aware and successful at blocking the risk events. As internet banking became more popular, so also fraud cases associated with that technology channel, Cases of fraudulent transfers and withdrawal of deposits also increased sharply to 6,980 in 2018 from 963 in 2017, implying the third highest fraud and forgeries. In 2020, five categories were added breaking down fin tech related frauds into categories like mobile banking, e commerce, pos, internet banking, etc. Majority of the attempts in 2020 were through those IT channels including ATM cards. ATM/Card-related fraud-types and Internet/Online-banking constituted 24,266 or 92.68% of all the reported cases in 2017, This resulted in ₦1.51 billion or 63.66% of losses in the Industry in 2017 (Ibrahim, 2018). The report submitted to NDIC also documented other miscellaneous crimes such as fraudulent transfers/withdrawals, cash suppression, unauthorized credits, fraudulent conversion of cheques, diversion of customer deposits, diversion of bank charges, presentation of forged or stolen cheques among others. Insider related fraud increased from 231 in 2016 to 320 in 2017, all of whom have been dismissed. It then spiked from 2018 to 2019. However, in 2020, insider fraud declined by almost half. NDIC mandated banks to buy fidelity bond insurance for insider related frauds.

Insider related fraud and forgeries as indicated by the data below, show that the People risk factor is a critical aspect of the operational losses in the Nigeria banking system. The percentage of Supervisors and Managers goes to buttress the fact that the environment matters in applying the Basel principles of best practice. With the first two categories constituting such high percentage of culprits, how are the same people expected to implement the operational risk best practices? However, insider related fraud declined in 2020. Senior and management level fraud declined from 61 to 3 and others too. Only temporary staffs were involved in this risk.

Table 8.6 Categories of Staff involved in Fraud and Forgeries

Year End	2012	2013	2014	2015	2016	2017	2018	2019	2020
Supervisors & Manager	78	97	58	62	31	68	119	61	3
Officers, Accts Executive Assistants	89	234	176	119	98	83	206	102	96
Clerks and Cashiers	117	128	78	69	18	7	65	144	4
Secretaries and Technicians	5	12	0	0					
Messengers, Driver, Cleaners, Guards, Steward	16	34	2	11	1	13	83	23	0
Full Staff	-	33	0	0	0	-	0		
Temporary Staff	78	144	126	164	59	132	394	343	357
Others	0		25		24	17	32	162	14
	531	682	465	425		320	899	835	474

Source: Numbers compiled by researcher from NDIC reports

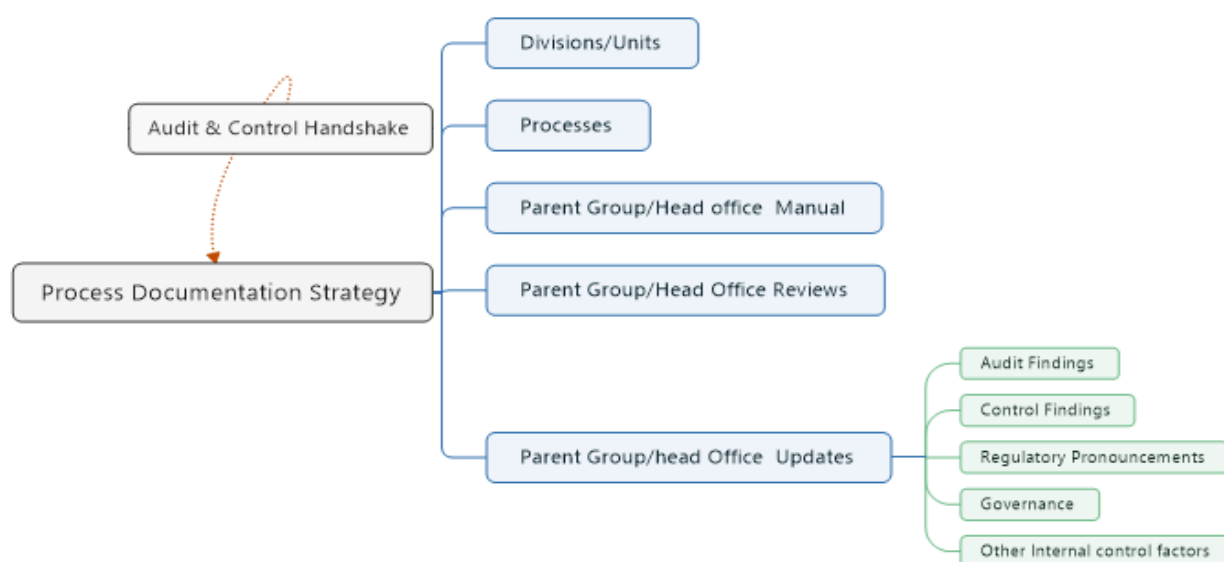
Recovery policies for fraud are pure Cash Only, and it can come from anywhere. Frauds that occur in the year and are recovered within the year are called near-miss. Other areas of people risk include things like successions planning, communication, and some human resource issues for capacity. In summary, we echo the words of a respondent (B7) that *“people are everything”*

“But the truth is this: it is about “people”. Even people define process, you know, people implement system, people also manage systems and even if someone will say for external events, even things like what you can say, natural disasters and all that. If it does happen somebody must have the responsibility of minimizing the effect – it’s still about people which is why the culture of any organization is an integral part of operational risk management”. (B7)

8.10.2 Process Risk Factor:

Processes were identified by both bankers and regulators as primary operational risk factor in the banking system in Nigeria. They defined process risks in terms of poorly defined, poor documentation, failed and inadequate internal processes, unclear procedures, circumvented procedures, disregarded line of checks, waived authorization, increased process steps and control with less staff, stressed processors, undocumented steps and tampers. Others include redefining control, new policies, new framework, training and awareness. Evidence from our research reveal that a good number of the banks developed and documented their processes. Some have process and procedure manuals while about 50% adopted a benchmark to develop a Process documentation strategy. The essence of such strategy is to ensure that processes in the bank are documented and updated such that when risk incidents occur, they can be evaluated for effectiveness. That way, they also become tools for enrichment and enhancement of the ORM framework. A process documentation strategy obtained from a benchmark bank is presented below:

Figure 8.5 Process Documentation Strategy

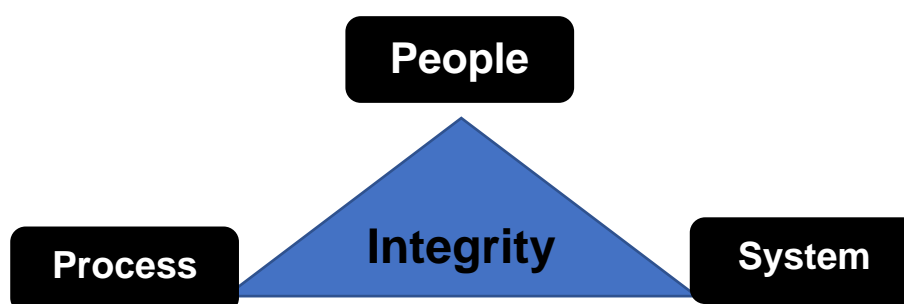


Source: prepared by researcher based on interview discussions

The process documentation strategy involves identifying the various units and divisions, cataloguing all the processes of their transactions, extracting all other

processes in the existing head office or parent group manuals, and from head office reviews and Updates. Typical information from updates will be obtained from Audit reports/findings, internal control findings, documents from regulators, governance policies of the bank and from other internal control factors . However, cataloguing and putting all these together does not mean that they are now without problem. In reality, processes cannot drive or implement themselves. Humans implement processes. Discussions highlight the overlaps between process factor, the people risk factor and systems factors. The arguments made are that people risks result in process risks while process risks, affect the system risks. To buttress this position, a particular articulation was made by one respondent, which he called Triangle of Control. He emphasized that the whole effort to manage risk will collapse if the people cannot be trusted or relied upon because people are the pivot of any organised infrastructure of control. An illustration of the triangle of control which depicts the relationship between the three risk factors and emphasizes the importance of the integrity of the people, if risk management is to succeed.

Figure 8.6 Triangle of Control



Source: prepared by researcher based on interview discussion

In the word of one interviewee and echoed by several others,

“those at the top of banks are major problems. People do not practice what they say and documented policy is not being followed. Right ownership, responsibility and accountability of ORM is sometimes lacking”

A classic scenario below showcases the issue of lack of process discipline by senior management and subordinates:

“.....a CEO identifies a nice product on his way to UK in a first class cabin, he sees one other CEO using his Bluetooth to withdraw money and he thinks wow! we should have this and makes a call to the head of operations, how come I cannot transfer money via Bluetooth? He says Yes Sir, ok when do you want it done, and the man says, I want it done Tuesday morning, am arriving on Monday, and Tuesday I want to launch it. Now, there is this aspect of process discipline such that instead of Mr head of Operations to go and find out who is in charge of OR in the bank, and say, let’s look at how we can get it done, let’s make a commitment to the CEO that we are able to do this or we cannot support this, Mr Head of Operations simply gets few guys together, talk to the vendors, we put projects on hands, guys get it to work on Tuesday morning, so the rest is history. Now, I am going to abandon what I was doing to chase this and am not gonna test this sufficiently because I need to lunch it on Tuesday, whereas somebody who is in charge of product development who knows to inform operational risk for instance, now on the day of sign off, has only discovered that operational risk have not signed and this product will not go live. Operation risk please sign, CEO wants it tomorrow. Operational risk says wow, there is this risk you need to consider, he will say -please we didn’t find this out. But we can’t remedy it, we cannot manage it now, we need to go live tomorrow because we gave our word and our customers are already aware that we are going live tomorrow. What do we do? We go live and we go back to manage the risk. So, we have opened up a small window of exposure. At the beginning it looks like a small window, now that small window that is very small, the effect, will depend on the impact that crystallises. It may be possible that only two will crystallise before we mitigate, but if that impact is high enough it can actually negate all what we planned to get from that speed-to-market”. B10, B8.

The major lesson is that the above scenario is a process risk factor that was common and damaging to banks, and similar things were happening due to competition. However, the Basel requirement for implementation of new product has given OpRisk Management the capacity to put speed bumps on some process indiscipline such as the above, and it is working well for banks. There are other process lapses which internal control is made to mitigate. It is important to note that by and large, it is people that drive processes and banker are learning from these experiences.

8.10.3 Systems Risk Factor

System risk has become increasingly important in the discussion of operational risks due to technological development and modern day banking platforms. Just as more innovative banking options have been generated, more loops for system risks have also developed alongside. Multifaceted interest in the use of system for both legitimate and illegitimate transactions have grown. According to the data, Cyber fraud has become almost the largest proportion of risk events in the banking system. Others include attempts at ATM, credit card, internet and online banking, telephone banking, etc. The cost of curtailing these cyber attacks has grown tremendously, impacting on the bottomline of businesses. Other system risks exposures include system downtime, system failures, complex systems or ill fitting systems not tailored to suit the business segments, etc. E-channels risk have become menacingly on the increase due to availability of e-products. The gaps in infrastructure specifically in the Nigeria environment such as provision of steady and stable electricity supply, have made things worse for banks. Regulators hold banks responsible for almost everything, even when exposures clearly come from third party lapses, because banks are visible and under the control of the regulators. Some banks have set up Security Operating Centre to monitor on continuous bases, anything that can come up in the internet, that bears any similarity to the Bank's name and they have the center operating globally (B12). Some actions taken to circumvent system risk include notification of branch when travelling abroad with your card, notifications against phishing emails, careful use of apps and generally to reject online offers or be slow in acting.

One of the Chief Operational risk officers stated as follows:

We are continuously closing down sites, blocking cyber attacks and hackers who are constantly trying to hack into our system.

Q: Where do these hackers usually emanate from? Are you able to identify the sources?

A: Majority of them are trying to hack from China. (B14)

However, Nigeria banks have some of the strongest resiliency because right from the onset, they established systems to guard against fraudsters due to the 419 syndrome (technology frauders) that has been around since the nineties. Phishing emails to customers have also worked in some places. Banks keep notifying customers not to

reveal their private information to any one. According to NDIC report 2019, “internet and technology-based frauds, accounted for 59.24% and 70.77% of fraud cases in 2018 and 2019 respectively; and 42.83% and 43.96% of the actual total loss suffered by Nigeria banks in 2018 and 2019 respectively.

A positive offshoot of the cyber attacks is the new level of co-operation among the banks in the quest to prevent and curtail cyber fraud. Banks co-operate with each other in discussing events and share knowledge among OpRisk Managers, Internal Control to Internal Control, and Compliance to Compliance etc. Second factor authentication is also being used by some banks and should be adopted by all banks. Second factor authentication requires the use of an extra thing like phone, email, token, to authenticate a person before he/she can gain access to their account. The use of alerts and tokens are wide spread in Nigeria. As cumbersome as they might appear, they have saved many a day for bankers and customers who are always in danger of being defrauded. Fraudsters are continuously innovating new methods to try and defraud customers and banks are usually made to pay for fraudulently withdrawn money. Presently, banks are still in discussion about a combined loss/event database while 100% maintain their individual loss data bases. Such a database can provide useful shared information about trends and how activities are perpetuated.

Other indicators of system risk are: Hacking, telecommunication, sub contractors, new cloud banking facilities like finger print and facial, which have become predominantly, the modern way of banking. Banks have also become more sensitized to the various attempts and are continuously bridging gaps and sensitizing customers to mitigate these risks. The three lines of defence are all involved in this important OPRisk function. Banks have learnt that inclusive buy-in by all staffs and collaboration by banks is the best way to fight the war of cyber risks.

8.10.4 External Risk Factor:

External factors are usually the factors from outside the banking system that affect banks. Bankers identified external as events such as natural disaster, economic and political incursions, use of third party contractors and outsourcing, money laundering, criminal activities, arson and fire. The use of external interbank exchange platform is also a source of external risk. Some fraud and forgeries are reported from the settlement systems of the exchange. A peculiar external event was the outbreak of

ebola virus in West Africa. Banks had to use sanitisers, water and soap for their customer and monitor people before they enter the banking hall. In the recent outbreak of corona virus, banks have also adopted similar options including multiplication of internet and online banking facilities, ATMS and Pos cash withdrawals, instead of opening banking halls. Fewer bank branches are opened on rotational basis. Evidence from the research provides that banks use business continuity plans to address incidents of external events.

Banks with operational risk maturity have more advanced and complex systems. Eg, one has automated their business continuity plans which now runs on auto pilot for all branches globally.

“ We run scenarios of crisis. When an event or incident occurs anywhere else, we simulate it within 48 hours. Can it happen in our bank, what and how can it happen,how do we manage it? Eg for ebola, we set a target, no one shall die in any of our banks premises, and we succeeded. No staff or relation of staff contacted ebola” Once an infected person came to the branch but our processes enabled dictate before he came close to entering the building.

On another occasion, we run the scenario of crisis after election. Our Business continuity was on auto roll, ready for the bank to continue in operation for at least three weeks even if there was war, and all key personnel were properly delegated.

All critical staff know what to do if there is a failure” (B12)

Two other banks had sound business continuity plans but only dicussed them briefly.

Fintech Risk

Another external factor has to do with third party financial technology exposures. In more recent years, there has been tremendous growth in technology-related threats. Nigeria banks are not left out in the quagmire of cyber threats, phishig risks, especially as it affects transactions that interface with third parties. Being the most regulated sector in the Nigeria Economy, banks tend to bear the brunt of everything that happens

with banking financial technology. The following questions were presented by B10 to expatiate what the banks were experiencing. The first is from a court case against a bank:

How can a bank's customer be expected to successfully prove that the ATM of a bank didn't pay her cash when she attempted a cash withdrawal transaction, but her account was nevertheless debited and the debit was recorded in her statement of account? On whom should the burden of proof lie in such a case?(Tion, 2018)

This is even worse when the withdrawal attempt is made on a third party ATM. Who has superior access, control and custody of evidence of a successful ATM withdrawal transaction; the customer or the bank? (B10).

Another scenario obtained from the empirical research highlights the impact of a weak infrastructure base on banks in Nigeria. Banks often bear the responsibilities associated with infrastructural deficiencies.

As B12 indicated,

“when a customer uses their finger print to run an account, it is within the domain of the third party technology company, not within the bank. Yet if anything goes wrong in the process, the regulators insist that the bank must pay the customer and within specific time. Sometimes, the CBN deducts as source. As a result, banks have losses that would ordinarily not be their responsibility”.

The question from two of the interviewees about such cases raise the issue of boundary cases - *Are these losses or costs?*

Basel has in recent times, started looking more deeply into technology related threats. They have initiated a consultative document to further improve the principles of operational risk to deal with ICT matters, and to also set up Operational Resiliency principles in addition to operational risk. Basel recognises that the Covid-19 pandemic has made it even more pressing that technology-related threats be addressed. In a most recent release by Basel, the BCBS stated as follows; *“given the critical role played by banks in the global financial system, increasing banks' resilience to absorb shocks from operational risks, such as those arising from pandemics, cyber incidents,*

technology failures or natural disasters, will provide additional safeguards to the financial system as a whole". (BCBS, 2020). As a result, Basel is proposing a *Principles for operational resilience*. The committee believes that operational resilience is a consequence of effective operational risk management and activities such as risk identification and assessment, risk mitigation, controls, monitoring etc all collectively help to curtail disruptions and their impacts. As a result of the link between operational resilience and operational risk, the Committee also proposed more updates to *Principles for the sound management of operational risk* (PSMOR). These updates are in the areas of (i) align the PSMOR with the recently finalised Basel III operational risk framework; (ii) change management and ICT; and (iii) enhance the overall clarity of the principles document all of which are captured in the Review document. Although all these efforts and updates work together for good purpose especially in building resiliency, the most critical concern for Nigeria banks is to find a way out of being made to pay the price for most fintech risks that materialise. Banks devised to charge fees from customers for the USSD transactions. However, in a recent 2021 harmonisation between NCC, CBN, MNO and all stakeholders, the fees have been reduced to only one for the MNO starting March 16, 2021. All these inform lessons learned in the Basel implementation process.

8.11 Strengths of Basel Operational Risk Implementation:

The new era of Basel implementation has impacted positively on Nigeria banks in a number of ways. Some of the strengths identified and listed in the coding summary are new products initiation process, proactive approach, supervision/regulation, triangle of control, what worked well, loss event reporting, fraud report, financial Analysis, digital banking, blame-free risk culture, benchmarking by regulators, and After Action Review. In addition, the following specific items are worthy of mentioning:

8.11.1 Basel Application as Innovative Tool of OR and Other Areas:

The implementation of Basel ORM principles has enabled banks to forge a pathway of innovation in their risk management. The essence is no longer to meet a regulatory requirement but also to add value to their system and even improve their bottom line.

In the words of some of our interviewees:

“The institutionalizing of Ops Risk has induced more value-adding instinct. We have moved away from compliance to value-adding awareness through ORM. For instance, Introduction of new products. Previously, reward system induced new products without proper review of impact on existing products. Our Rose flower (pseudo name) cannibalized small loans. When it was offered, people stopped taking small loans which was a major source of income. Now through ORM, the banks run every new product through Ops Risk to identify probability of loss of income, leakages and how it will affect old products, cost-benefit, etc, all to ensure that we do it right” (B10)

From another,

“When a new product is being developed, the processes, systems etc. must pass through ORM. If ORM says No to a product, it cannot be overridden. IF ORM is brought in from the beginning, we work with the product development unit to ensure that the roll-out of the product has no exposures than can have a negative impact on any other business area” Thus we now have a product development framework which includes templates and checklists, and must pass through our Risk Inventory, Assessment and Control standard” (B11)

This has made us a one branch bank, a one policy bank, a one systems bank. Previously, different units will do their thing. Now, amendments and circulars are embedded, approved, and published and not lost as single circulars from individual departments. (B12)

The usefulness of Basel as innovative tool is that it impacts both people, process and system risk factors. So, both practical (risk identification, assessment, monitoring and control) and theoretical (uncertainty, Network, competency, adverse selection and moral hazard) themes identified in Sections 2 and Section 3 are implied in the Basel application of ORM. This is just one example among numerous uses of Basel as innovative tool.

8.11.2 Value Adding:

Basel implementation has also enabled banks to make direct impact on the bottom line through ORM. In examining business processes for risk identification and assessment

which is Principle 6, banks are able to reduce loopholes and gaps that could lead to operational losses. In doing this, banks cut costs and block losses.

One banker says:

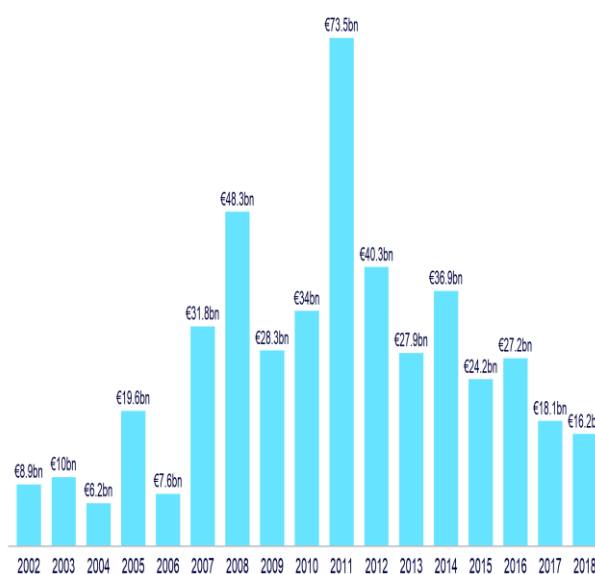
“We now identify the opportunities that there are to miss incomes, have leakages and plug it from the beginning. That’s how we got into mainstream- moved away from compliance to value add” (B8)

Relating this to global operational loss data, the ORX presents OR loss data as declining from 2011 as banks losses peaked with grow in implementation of OR frameworks. Below is the record of how losses have declined as banks implemented ORM principles and frameworks orchestrating the values ORM has added to banks.

Figure 8.7 Operational loss Data from ORX

Event summary from 2002 to 2018			
The table below shows the number of banks submitting data, the total event frequency and the total gross loss from 2002-2018			
Year	Number	Event frequen	Total gross loss
2002	18	9,931	€ 8,946,245,222
2003	21	15,297	€ 10,011,258,276
2004	33	18,095	€ 6,226,583,969
2005	37	19,853	€ 19,585,185,600
2006	43	24,485	€ 7,594,058,736
2007	51	28,926	€ 31,781,481,142
2008	56	35,725	€ 48,322,424,431
2009	58	35,431	€ 28,275,651,800
2010	59	38,159	€ 34,031,301,540
2011	61	50,166	€ 73,473,631,487
2012	63	54,655	€ 40,335,238,088
2013	69	59,175	€ 27,933,481,842
2014	71	63,115	€ 36,920,679,730
2015	73	66,880	€ 24,154,744,589
2016	78	63,827	€ 27,176,625,920
2017	78	61,743	€ 18,094,131,290
2018	80	57,420	€ 16,233,499,659
TOTAL		702,883	€ 459,096,223,327
Source			

file:///E:/Interviews/ORX_Loss_Data_Event_frequency_a



Also, Basel has led to spreading out of pressures of risk ownership across the bank. *“the establishment and use of Operational risk champions helps push risks identified to them in branches to monitor and manage for internalisation. This has led to buy-in by most staffs. Mostly CSM, fire wardens, cluster Internal control managers in branches- all help to diffuse the pressures”.*(B8)

Another value adding impact of basel relates to cost cutting changes due to structure. Because banks had to restructure their staffing situations due to ORM, control staffs

are better utilised and the risk management structures have improved through integrated systems. One respondent (B6) explained direct positive impact on their cost and bottom line as follows:

“We reduced cost of control because now we don’t have control staff in our branch. What we now have is a cluster of branches with lesser control officers. So, you may have like 15 branches in a city, then you have like 6 to 7 Control officers. In fact, where we are tending towards now is to have an optimal number of three branches to a control staff. Because the number of control staff we have on ground are less, we must structure the work such that those who are actually responsible for any function, take responsibility for risk, we now come intermittently to do reviews”(B6).

By and large, bankers have found the implementation of ORM framework and principles to be adding value to their bottom lines through cost cuts and loss cuts.

8.11.3 ORM and Human Resource Management- A new interactional evolution:

Application of ORM principles have led to a new evolution of interaction between ORM and Human Resources Management in Banks. This is leading to integration of ORM in HRM practices. Devolution and diffusion of ORM to front line staff in the implementation of three lines of defence (BCBC292:34) initially led to resistance in some places (B12, B11, B14), implicating the behavioural issues of change management. The process of three lines of defence means frontline staff must take ownership of some risks. They now do the Risk and Control Self-Assessment in most banks.

“These staffs initially resisted and rejected the functions when Basels ORM was being introduced. They had felt then that it made them vulnerable since they had to report themselves, it also created additional work and responsibility. In trying to forge a harmonious way of doing things, some banks have incorporated the system into HRM.”

From one participant (B12):

“Risks and losses are now matched to responsible persons. Everyone has a risk and its now part of our appraisal system. Every half year, we validate data

and losses are assigned including to us. Mine includes not diagnosing a risk – that is the problem of ORM”. (B12)

From another respondent (B11):

“In order to get through the resistance because the operations staff did not see these as their normal roles. We had to advent a new approach. We had to identify some people as OR champions. We got HRM to give them a proper notification of additional roles”(B9).

Through this process, no one is left out of ORM in the bank and new line of relationship between ORM and HRM is formed which also supports HRM in change management, staff posting and reassignments, training schedules and programs etc. Several other banks are initiating and adopting similar ways of linking ORM to HRM especially performance appraisal. This application of ORM can be mapped to competency and governance theories as well as network and interconnectedness.

8.11.4 Breakdown of Silos:

Basel implementation has resulted in a very good turning point in the risk management in banks – using an integrated approach rather than silo approach. Such integration leads to knowledge streaming and dynamic efficiency. There is no internal competition, rather team progression. The implementation of Basel II added positive values to banks' operations by enabling the creation of integrated systems of managing operational risk via multi-unit handshakes and multi-person risk ownership while exposing the challenges faced by banks due to peculiarities of the environment.

Relevant quote (B13):

“let me put it this way, because credit and marketing are the traditional risks at hand, those people who manage operational risk in the units, initially they were just part of business, so, basically this was more like crossing a full-time role. That is the way it started but eventually, a case was made to make them have full-time roles. So, ultimately that eventually happened. Again, it's also a function of what works for each organization and depending on the premium or the value you place on risk management. So, basically, most people now, all you know, have full time operational risk officers- it's massive. Those days it

wasn't all that massive. So, it just possibly may be a few of us who were doing it full time, most of the other people within their regular roles". (B13)

8.11.5 External Events Risk Factor and Basel Application

Application of Basel's ORM has also impacted on the environment or economy as a whole. An example is how the country managed the Ebola virus outbreak in West Africa such that USA had to enquire from Nigeria, how they did it.

"We run scenarios of crisis. When an event or incident occurs anywhere else, we simulate it within 48 hours. Every responsible person is involved, IT, CRO, COO, ED, IT risk, HICU, all pool together, run the scenario, can it happen here, If Yes, what can we do? If No, Why? We obtain information from those it happened to and run it"

Another example was managing Ebola in West Africa

E.g. for Ebola virus outbreak in West Africa, we set a target, "no one shall die in any of our bank's premises, and we succeeded. No staff or relation of staff contacted Ebola" Once, an infected person came to the branch, but our processes enabled us dictate it before he came close to entering the building".

Nigerian banks are more proactive towards managing OR than the framework they are expected to follow. This research found that a few of the banks had proactively been developing and applying ORM principles before Basel was rolled out in Nigeria. These few banks are advanced in their management of OR, have developed and automated their business continuity plans, are adequately staffed, trained and prepared to handle any exposure to OR to prevent losses. For instance,

"when we look at retail risks, the kind of retail risks in our environment are not the same as retail risks in USA where the basic infrastructure is there. When ATM cards get captured at a remote location due to sudden loss of power to an area, what happens next? Although Basel has been adapted as a tool by which the banks identify risks, applying it has enabled us to look beyond its basic usefulness and explore other values that could improve our business and our bottom line. That way, we identify new risk categories that Basel does not have".(B12)

The above points can be related to both process risk factors, people risk factors, as well as theories on Uncertainty and competences.

8.11.6 Should we redefine Credit Risk?

Theoretically credit risk is defined as risk of default by counterparty. Several in-depth studies of bank failures have been undertaken and published by the NDIC. Other publicly known events in banks have also been examined in this study. This study finds majority of the losses attributed to credit risk stem fundamentally from operational risk events. A good number of loans that become NPL are because something was not done correctly ab-initio. They range from non-compliance to policy, outright granting of loans to directors and bank management without the necessary requirements, and also delay in implementation (NDIC, 2022). Several examples and sources have been provided in Appendix 7 showing the various published case studies by the Nigeria Deposit Insurance Corporation. Each volume of published case studies consists of five banks.

Yet in the context of Nigeria, data shows that many of the defaults are because of lapses that are clearly Ops Risk failures. Also, a number of banks whose MDs were sacked and some others taken over by AMCON had a common problem of loans being granted and taken by management without fulfilling the requirements or doing any needful. As a matter of fact, they took the monies with no intention of paying back.

One of the stories that we have relates to how banks' frameworks are tested and rated and is below:

“And under retail, how do you determine they are working? The number of non-performing loans will tell you. If the non-performing loans ratio is increasing, it means they are not working. The lower the NPL, the stronger the management. So, board and Senior Management we can give them a good grade if NPL is low, and they are getting their income, and its contributing higher to their bottom line. That is how we rate them”. (R6)

8.12. Challenges and Lessons:

Bankers narrate that they have faced several challenges in their implementation of the Basel rules and principles. Some of the challenges are not directly from their banking activities but relate to the economic, social and political environment in which they function. Regulators also face similar and multifaceted challenges. Some of the

challenges as listed in the Coding Summary in Section 4 are: Cost of Compliance, Negative publicity, Outsourcing, Information Asymmetry, Staff Turnover, Curtailing cybercrime & Digital banking, Operational losses, Electronic fraud, External Risk factors, Disaster Recovery, Cybercrime, Overload of banks' responsibility, Compliance risk and strategic risks. For avoidance of duplicity, some of these issues that overlap and have been discussed in previous sections are cross referenced in the current section.

8.12.1 Cost of compliance:

One of the findings from this research is that regulators have not taken time to assess the cost of the policies they dish out to banks. The costs of the policies are two faceted- cost to banks and cost to regulators. For regulators, it can be a policy impact assessment. For the banks, it is much more because the cost of compliance has become the most singular biggest cost in the global sector. Some compliance require dismantling previously erected barriers which are important to operations. This impacts both policy and strategy. If the cost of compliance weighs more than the risk itself, which one is better?

An example given by regulator who has been on both sides of the coin is as follows:

“You make this policy to enable you to move from Point A to Point B, good you have been able to move from A to B, you have achieved success, but in that process, how many cars did you crush, how many barriers did you break, how many people did you injure, and those become part of the costs of compliance. This is an area that everyone talks about, but it is difficult to determine how regulators deal with this cost while bringing out policies or new frameworks”(R2)

In a similar vein, a banker narrated as follows:

“So, my problem why they are high risk for us, as those circulars are coming there are some of them that require major changes to your processes and systems, you understand, and as we are doing those things, it's human beings that we are using to do those changes, chances are very high that some of those changes may not be effected as they should and then you face the risk of sanctions because you haven't done what you are expected to do. Some of them, some timelines are very tight that it makes it very difficult for you to

comply within those timelines, and your excuse cannot be that... because they gave you the same timelines as they gave to other Institutions. (B8)

Another perspective on compliance cost was mentioned by another banker:

And on the other side also – on your credit side- government is releasing circulars every day, and as they are releasing those circulars some organizations that are having stress with surviving these hard times are laying off people, and as you lay off people, it increases the chances of fraud; your loan that you've given to people will go bad, people will become fraudsters overnight or some of them become members, syndicates may recruit them, they begin to tap into the knowledge that they already had of the Bank to use it to defraud the Bank. So, there are so many things that could just go wrong from operational risk perspective. These are all external events that you don't have control over. All you can just do is try to make sure that when they happen you respond promptly”.

The above discussions which revolve around uncertainty, centres on cost of regulation and compliance, and require serious consideration for the sector. There is need for an environment that can foster trust between bankers and regulators and also harmonize the cost of compliance.

8.12.2 Overload of Banks' Responsibility/Outsourcing

Lack of equal regulation of other units that work within the financial system affects the banks negatively. For instance, mobile telecommunication networks are used for ALERTS, another vendor provides fingerprint apps and another provides cloud computing. More fintech providers such as bio character recognition, USSD transfer platforms, POS providers, are all part of the bank services providers. However, all these contractors and service providers are not regulated, but they impact on banks transactions. When risks events occur from them, the bank is adversely affected even with extensive insurance. Banks bear most of the costs.

Also, environmental and political challenges such as polarization of issues to tribal marks instead of responding to issues e.g. National Communications Commission (NCC) and bank.

8.12.3 Information Opacity/Asymmetry

Information opacity and asymmetry exist in the relationships between regulators and bankers. The issue of opacity and asymmetry is a global one and implies a lack of trust. Because regulators impose rules and appear to act as watchdogs and not enablers or support, bankers prefer to share information among themselves and exclude regulators except when it's a requirement. Due to the "they and us" syndrome or perceptions that existed over time between regulators and banks, perhaps due to the erstwhile compliance system of supervision, banks prefer to share information among each other, but maintain some information opacity towards regulators. As much as possible, they will hide the facts from CBN and NDIC but share with each other. In a recent publication on fraud and forgeries by NDIC, several banks did not submit their reports. Specifically, NDIC promised to investigate them (Ibrahim, 2018). In another interview with a regulator, when asked about the assurance they have that the reports they receive is complete or correct, he responded as follows:

"You see here, it is a game of cat and mouse. They don't trust you, and you don't trust them and its like that everywhere. So, what we do is just go all out and say ok; lets verify. And you also check trends; that is very important. Like I said, when you're managing figures, you can go as far as you can, at some point your legs will go backwards. So, trend analysis becomes an essential tool in identifying when figures and data in reports are not consistent. Changes in trends lead to on site verifications." (R1)

From the foregoing, one can see that there is little trust between regulators and banks in information discipline and reporting and this is not peculiar to Nigeria. The existence of this opacity and asymmetry is the reason why some global SIBs who previously were checking boxes to regulators, were fined for failures in proper set-up of risk management framework in 2020. The skirting around or normative conformance is the root of the financial crises of 2008, making it imperative for BCBS to issue Basel III, and thereafter, consolidate the Basel frameworks.

In addition, one of the challenges found from the study is the fact that banks sometimes do not submit complete reports. Most of the reports expected from banks have standard formats. However, sometimes, not all events are recorded and other times, they miss the deadlines. In a recent development published by NDIC, the regulator

was to investigate the banks that did not render the fraud and forgeries report. (Ibrahim, 2018). This fact relates to the information opacity.

8.12.4: Negative Publicity and Collective risk:

Another challenge that faces the banks in their implementation of the Basel pillars, especially the market discipline is that of negative publicity. Negative publicity affects reputation directly and affects regulators in their Pillar II execution. It encompasses both Reputation and Conduct risk; which has become a hot area in OR today. Both institutions face a difficult situation especially with the Nigeria environment where there is little confidence in any system due to political history. When any bank has a situation that may not necessarily lead to bank closure, if the situation filters out to the public, that's the end of the bank. Its reputation becomes practically dissipated, at least for a while and as suggested by Fiordelisi et al, (2011), reputational losses occur following announcements of pure operational losses, causing more damage. The resultant effect is that something that could easily have been resolved quietly, leads to bank run. As a result, it becomes a big burden to the bank, when do we let regulators know, and to the regulators, when should we let the public know? In addition, banks face collective risk of a bank run when something happens to one bank. An example was expatiated on by a regulator as follows:

“Each time it happens to one bank, it takes a toll on all others. When the Economic and Financial Crime commission arrested the FD of CBN, Fidelity, and announced it all over, it started becoming viral. Before you knew it, all operational heads were being arrested everywhere and people started thinking that bankers are fraud stars. That's a wrong message to send. So operational risk if it is practiced at that level of maturity, industry level, these things will not happen. CBN cannot give that kind of permission for that kind of negative publicity of its own industry especially when it is unfounded” (R1).

This issue was about the banks collecting dollar cash deposits from the then Minister of Petroleum. In all fairness, banks are deposit money banks, it is their duty to receive deposits from customers, whether cash or other instruments. That does not automatically make them fraudsters. They knew the depositor and met KYC rule. The evidence of deposit is open and available, so why arrest the bank for collecting deposit.

Why not go to the bank and quietly investigate and gather all the documentations for the money. Besides, this was a PEP and holding public office making the deposit.

And from another banker:

I don't think our regulators are doing enough to protect banks from generalized negative publicity and it affects our business. E.g., A CBN official went to Bloomberg to grant an interview and told them that they are looking at three more banks, (there was a problem with one bank's CEO that went public) and even named the banks. Before we knew it, customers and depositors were making a run for their money.(B7)

The regulators on the other hand, struggle with deciding when a matter can be brought to the public attention. They argue that they try to hold back such information until when it becomes necessary for the public to know because they know the market and people will immediately do a bank run at the mention of any little problem. That is why *we are not just looking at how their risks affect them; we look at how their risks affects the stability of the whole financial system (R3)*. We host the Chief Risk Officers' forum and we obtain aggregate banks' risks and build into our own profile”

They further explain that only risks that are already public knowledge are shared by regulators. Sometimes, while they are trying to manage negative publicity, they see the matter in question published by the newspapers. Examples include two events related to fraud involving staffs of the banks within currency management process that was already in the paper before the regulator could then share it to public. By this, one can decipher that there are some thin line issues the Nigeria regulators have to manage in order to balance the requirements of meeting Pillar II and Pillar III of the Basel accord while protecting the stability of the Nigeria financial system.

8.12.5 Corporate Governance and Environmental Adjustments for Confident banking System.

The interviews reveal several original challenges on corporate governance, particularly Risk Governance as an integral part of Corporate Governance. A regulator noted that Nigeria uses a Canadian Model to classify risk into six buckets. These are credit risk, operational risk, legal and regulatory risk, market risk, liquidity risk and strategy. Operational risk is worse because one incident can trigger the rest and erode

all capital. Operational risk is considered most dangerous because it is a swifter destroyer. In the words of one of our respondents, it compares only with liquidity.

“Credit goes bad gradually, liquidity kills like a heart attack” (R6)

And so, risk-based supervision was proactively introduced in 2009 with an RBS matrix that highlighted the significant activities of the banks. Another issue is that Bank Health is more important in determining risk level, than bank capital. Capital is embedded in the health assessment. Thirdly, the Board is a major component of a bank's health. The Board is the starting point in determining bank health. Boards may be classified as Strong, Acceptable or Needs Improvement or Weak. The focus on corporate governance framework implies that Composite Risk Ratings (CRR) of banks are based on Bank Health, not bank Capital, because capital is embedded in the overall health. The board determines the tone of the risk management. From the interviews, R6 said:

“In all banks and businesses, risk is the same, severity is the same. Control functions determine the difference and control functions are determined by competency. So, copying other banks is not good enough. Each bank's strategy will determine its control direction.and that direction is set by the Board. Strategy could be Retail, Oil and Gas, Corporate.” (R6)

In the Nigeria banking environment, the thrust of the discussions is that corporate governance is an issue that encompasses both banks and regulators. The political economy and uniqueness of the environment implies that adaptation of frameworks is necessary. However, all parties are subject to control and risk assessment by the regulators to ensure the health of the banks. Basel corporate governance framework gives guidance, emphasises the critical importance of effective corporate governance for the safe and sound functioning of banks. It stresses the importance of risk governance as part of a bank's overall corporate governance framework and promotes the value of strong boards and board committees together with effective control function. The CBN maintains a code of corporate governance for banks and discount houses since 2014. It contains expectations on several things including board requirements. Banks are expected to make quarterly returns on their level of compliance with the code. Banks send in the reports which are analysed as an off-site report. During on-site, regulators interact with the board and verify the status. Prior to

the code in 2014, there was a post consolidation document from 2006, but the major lapse observed from it was weakness in corporate governance.

8.12.6 External Risk factors and Regulatory Overload

External factors are usually the factors from outside the banking system that affect banks as already defined in Section 8.9.5. There are several of such, like government actions, natural disasters, etc. Nigeria banks find that most of their external factors emanate from two major sources, namely regulators and third-party companies. Banks are experiencing difficulties because the industry is the most regulated and they obey the rules. As a result, they are made the scape goats of other industry failures. Banks are the source of resolution of every issue. If for instance the telecom industry fails to provide the service needed to complete a transaction, the bank bears the loss. If bank delays dealing the transaction, bank is fined by CBN. The cost of failures from their industries are borne by banks and banks' regulations do not allow them to transfer these costs or even share them. This leads to overload of bank responsibilities. Three very irking examples of different scenarios but similar constraints are presented below:

- 1) *So, we were talking about external risk, some other sectors that our services depend on are part of it. What we now see in our management and loss data base, what would have been a loss is categorized as a spend. You probably heard that my generator has been running since. Yet anytime government decides to increase the price of diesel, I cannot translate that same increase into a cost of my services to the customer..... because I have been regulated not to charge one extra naira. So, when the external factors force me down, I can't transmit or translate that to cost of service in due time, so it becomes a very serious risk factor.*
- 2) *Instances in recoveries from fraud insurance where my covenant with you as my customer is between me and you, whereas my service to you depends on MTN, depends on GLO, depends on other guys. (MTN and GLO are telecom companies). So, if I send you an SMS that there is a debit on your account, please confirm as account owner, if you are the issuer of this instruction and your message get delayed on MTN platform, then you are defrauded. You come back to make a claim. I got the message around 11am. I was defrauded by 10 o'clock. Who owns this risk? It's the bank, who makes the claim? It is the customer. Can I send some of the claim to MTN? no. If I do, nobody enforces*

it from the regulation part on their own side or on National Communications Commission part. But the Central bank forces us to pay.

- 3) *So, where a customer makes a phone call to another customer, defraud that customer and I ask the MTN or Telco, please give me the name and address of the owner of this line and they cannot provide it. Customer knows only the bank, so, they get indemnity from the bank. To those losses, category of losses, they are external to our operations, we did not generate them, our processes did not fail, our people did not fail, our system did not fail but externalities just make them to happen on our side. So, we have to go ahead and pay the customers, that is where we are. Industry level, they (regulators) don't give the bank the support, they simply tell you, if the customer complaints, refund. So, when customers go above you to request refund to the regulators, they simply credit customers and debit you directly from source, because they give you a window, if you don't respond in two weeks, in three weeks, in 72 hours, depending on the product I will answer this customer, I will refund the customer."*

The above three real life situations present the dilemma faced by banks due to regulations. That is why some bankers now consider regulations as a major source of their external risk. These are not compliance issues because they do not directly relate to the banking system. They are from third party sources, but banks are forced to bear the losses or costs due to overregulation of the banks and almost no regulation on the third parties. It would appear as if banking regulators were insensitive to the impacts these issues have on the banks and their performances and are doing nothing to get the rest of the economy to also take responsibility for their own failures. It even affects categorisation of risks and of losses and expenditures by banks. Although there are other external factors like when there are unrests and fears of attacks, banks consider those one-off, and make adequate preparations to handle the risks but these risks from third party problems are affecting banks' bottom lines much more.

Other challenges worthy of note include Compliance Risk (CR) and Regulatory Risk. Compliance risk is the risk that a bank may fail to comply with the regulatory requirement and therefore expose itself to punishments such as fine, withdrawal of trading rights, blockage from participating in other financial benefits of the government such as holding government reserves, as well as suspension of license. The risk also

implies that the cost of complying to the regulations may be more than the expected benefit. Nigeria banks are expected to comply with guidelines, rules, provisions and mandates published by the regulators. Each non-compliance results in punishment. According to the banks, sometimes, the regulators circulate new rules, guidelines, prudentials, and policies for which implementation has not been clearly articulated. Even when there are unclear definition of requirements from the regulators, banks are expected to comply. For instance, in 2016, four banks were fined N3.2billion for regulatory infractions which included the new Treasury Single Account requirements of which the banks contended in court, that the definition of the requirements were unclear. This creates a new challenge which is the need for agility in implementing regulatory requirement. The emerging trend from the interviews is that Compliance Risk has become a primary risk to be managed by banks in Nigeria, otherwise they could face fines that could run them down. This situation is not peculiar to Nigeria or emerging economies. A recent survey of banks by Chartis showcased compliance risk and cost of compliance as a major global challenge for banks (Le, 2018). It is even more so in developing economies like Nigeria and perhaps some other African countries, or environments where the precarious nature of the political environment can result in political inclinations affecting banks' licenses and every other thing may be subject to manipulations.

Another risk that emerged from the interviews, which is also peculiar in its content to the Nigeria environment is strategy risk. This risk is significant particularly because of the political environment. "Simply put, it is the risk of a bank losing their strategy". The strategy for which the bank is being established may be thwarted by external events, both political and economic, resulting in a limbo, inability to take off, or shut down. A bank's licence is granted based on its strategic plan. As highlighted in the interview from a regulator:

"the risk of banks meeting their strategy is fundamental to us in Nigeria. So, when we go to a bank, we ask for their strategic plan. What do you want to be? What is your target audience? what is your aim? What do you want to achieve?"

If the strategic plan gets aborted by changes in the system, the bank is halted and everything goes haywire. Political economy of the nation is a major impactful factor on this risk. An brief foray into literature shows a definition by PWC saying that "Strategic risks can be defined as the uncertainties and untapped opportunities embedded in

your strategic intent and how well they are executed". (PWC, 2017) Strategic risks are full responsibility of the board and impact the organisation's existence.

In respect of lessons, learnt so far, two areas come to mind- Basel exclusion of developing economies and Basel III African approach.

8.12.7 Exclusion of Developing Economies from Basel Applications- How Appropriate?

When the Basel committee rolled out the framework, they specifically stated that the principles were not recommended for application in developing economies due to the complexities and the limitations of technical capacity such as infrastructure. Our research shows that some of the banks in Nigeria had prior to Basel, been re-engineering their operations in ways that matched the Basel roll-out. Presently, those banks have more sophisticated and advanced ORM structures in place and are looked upon by both regulators and others to provide guidance in some of the practical applications of ORM.

From a regulator:

"Several banks have been on top of ORM before Basel. For some, it is part of their structural move to improve profitability and for some, it is to comply with Basel". (R2)

From another regulator:

Some of the banks have capable structures and up to date systems comparable to the best in the world. Staffs are highly experienced, skills-trained, competent and reporting ratios as desired. Their capital requirement ratios exceed Basel by average of 3%. (R6)

Furthermore, it was found that although the banks may not have direct investments in developed economies, some banks in developed economies had taken advantage of high interest rate regimes and stability offered by the government in terms of exchange rate, to invest directly in the Nigeria banks for good profit. Therefore, it was more advantageous to BIS for Nigeria banks to adopt the Basel principles and be in tandem with the investors.

8.12.8 Basel III vs Banks in Africa/emerging markets:

According to Basel Committee on Banking Supervision, Basel III is “an internationally agreed set of measures developed by the Committee in response to the financial crisis of 2007-09. The essence of the measures is to address the gaps found on the previous accord, which bankers took advantage of and which of course, resulted in global financial crisis and instability. The measures aim to strengthen how banks are regulated and supervised and how they manage risks. Like the previous standards, Basel III standards are minimum requirements and apply to internationally active banks. The framework is to create more resilient banks. Therefore, it focused on those areas of Basel II that posted weaknesses. The current version of revised principles for the sound management of operational risk (BCBSd515) dated March 2021 includes additional principle -ICT and change management, making twelve principles. A comparative listing of the previous version (2011) and the current version is attached in Appendix 6. The framework for capital measurement and capital standards has also been streamlined towards revised standardised approach and removal of AMA approaches which will be discontinued in December 2022 (See Section 3.6) AMA approaches have been found to create room for dissimilarities resulting from banks using internal models in calculating their regulatory capital. All the Basels have now been integrated into the Basel Framework since the 2020 pandemic. The implementation has also been given a timeline for the transitional arrangements ranging from 2017 to 2027. Revised OR framework is to be implemented in 2022.

In consideration of Basel III and African banks, except for South Africa which is a G-20 member, majority of the banking sectors in Africa focus mainly on the fundamentals of loans and deposits activities. They handle less of the complex and complicated financial products and financial engineering services, some of which led to the financial crises' situation that Basel III was made to address. As the Basel accords were primarily designed for these banks in advanced economies that are involved in a wide variety of complex activities with significant cross-border operations, applying the rules and conditions of the Basel III standard can be long-winded in African set up. For instance, Oxford Business Group, in discussing this position at Cote D'Ivoire, expressed that “the application of rules on funding long-term assets with long-term capital, for example, can be difficult, given that the majority of deposits in Africa's banks are short term” (Oxford, 2018). However, that is not to say that banks in Africa

may not find value in adapting the standards, especially in areas that enhance their stability and robustness of the system, such as developing resilience via stress testing. Nigeria has already commenced Basel III – the CAR, and it is running simultaneously with Basel II. As earlier discussed on the level of implementation in Section 7.2, Nigeria regulators are only discretionary, implementing only the areas they consider relevant to their economy which is allowed by Basel. In a similar position, African Development Bank has urged caution in the implementation of Basel III which it views as a one-size-fits-all policy. AfDB argues that because Basel III measures are costly, it might inadvertently impede the capacity of emerging economies to strengthen and develop their financial systems. On its side, the Central Bank of Nigeria (CBN) has emphasized that it will continue to exercise discretion. While Nigeria banks will continue to implement the standards, there is need for impact assessments in respect of the journey so far. It is believed that the outcomes of such impact assessment would add value to the future decisions if provided and accepted by Basel. In respect of CAR, banks in Nigeria have continued to maintain higher CAR than required by Basel. Local banks are expected to maintain 10% & 15% CAR. All the Basel accords are now consolidated into the Basel Framework.

8.13. Nigeria and UK Banking Group: A comparative discussion:

Efforts were made to compare what obtains in Nigeria with a UK banking group. The UK group selected for the purpose has also undergone a double consolidation process. This provides some assurance of similarity in background. The group is made up of four banks with even more subsidiaries, and the structure consists of an alliance of banks, each with several branches functioning with headquarters in four different cities on the United Kingdom. It is therefore a realistic comparative institution and accounts for some construct validity in the comparative discussion, as against making a comparison with a single bank.

The UK operates a dual financial regulatory system, in contrast with Nigeria which has a single regulator. In the UK, there is the Bank of England's Prudential Regulatory Authority (PRA) and then the Financial Conduct Authority (FCA). The BoE, like the CBN, is the resolution authority, with primary responsibility for regulatory intervention and exercise of resolution powers in relation to banks that are failing or likely to fail,

while the PRA and the FCA handle all other regulatory and conduct activities. This would imply that areas relating to fraud and forgeries by staff and conducts of bank executives would be directly under FCA while prudential guidelines relating to monetary policies and the like, are under PRA. As such banks in UK are answerable to both regulators as separate entities. In Nigeria, the CBN handles all aspects of regulations and authority over banks, now in conjunction with the NDIC for deposit insurance.

In respect of Structure, the UK group has distinct group for each risk area which is similar to Nigeria. Credit risk, Operational risk, etc. However, in terms of structure of operational risk, each business unit has its own operational risk. The Retail has its own operational risk team, consumer finance has its own OR team, insurance has their own team, so each area has specialization in the business operations which the OR team manage.

Each operational risk team is specialized to handle the operations of a business area, managing the unique risks in the business line. That is not the case with the Nigeria ORM system in which OR teams are not specialists in business areas but have generalized knowledge of business and then train for Operational risk knowledge. So, emphasis is on OR to manage the business, while UK emphasis is on the Business knowledge, then OR.

In respect of capital calculations, the UK banking group on implementation of ORM capital, has transited from Advanced Measurement Approach pre-mergers to Standardized approach post-merger. This is the first difference in ORM. Nigeria banks are moving from Basic indicator to Standardised and did not deal with Advanced measurement, even the subsidiaries. However, this difference is not critical in as much as it only affected calculation of Tier 1 capital, of which Nigeria banks exceeded Basel minimum standard.

There is a significant difference observed in the classification of Material events vs Operational risk events, where the UK names material events as huge cost or loss events but risk events are regular Ops risk events. Material risk events have a different framework with tight escalation timelines in the UK. Such events, however, are all considered Operational risk events in Nigeria. Also, in the UK, fraud events are boundary events between risk and OR. Fraud events in Nigeria are OR.

The most frequent events are errors in operational activities and errors in documentations. The most frequent for Nigeria is fraud and forgeries. Also, there have been in the forefront, regulatory issues such as mis-selling. Also, reputational risk events matter much in the system like the recent personal life issues of the MD of Lloyds. Business has become far better in identifying risk events, due to educational awareness of OR. This upheaves the fact that the better you get at managing OR, the more your events, not because events have increased but because you have become more adept at identifying and reporting them. This can be likened to the increasing number of events reported in the Nigeria banking system for which the successful attempts have decreased in commensurate terms. It may be because ORM has gotten better that the numbers reported have increased.

Another dissimilarity is that in UK, each business owns its controls and has responsibility for managing them, while in Nigeria, controls are centralized but dispersed across business units. So, in UK, OR interface is to check that the controls have been tested and are effective. This is where the experts in the business areas add most value. They know where gaps exist and help in plugging them by implementing controls. In UK, OR team is a coveted area because only very specially proven people are recruited into the OR in those areas.

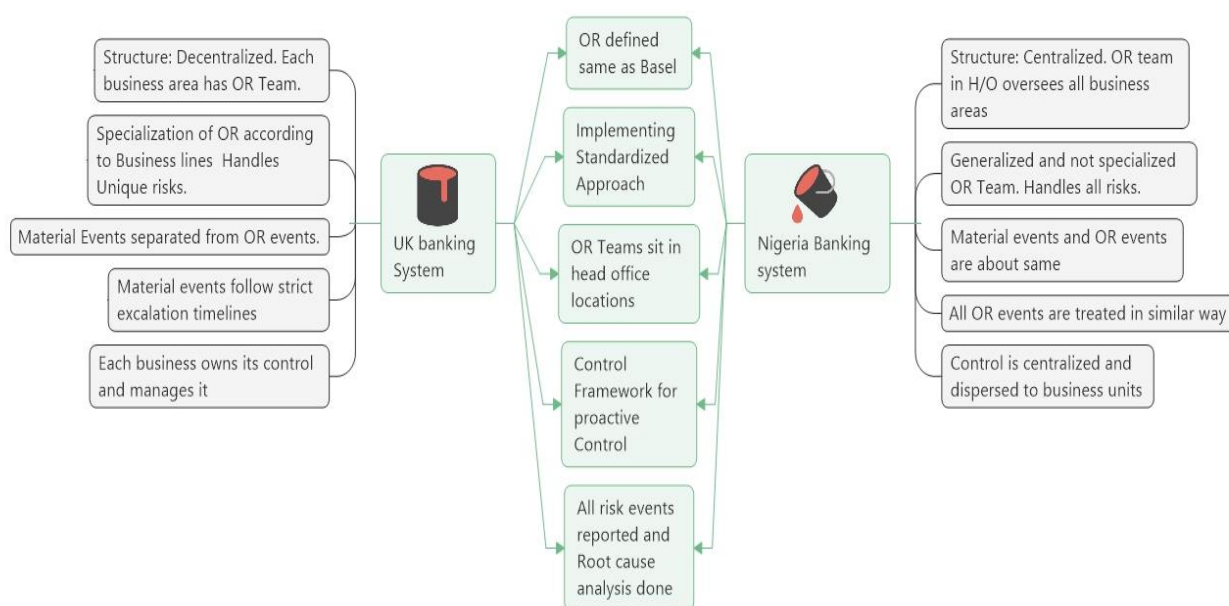
Similarities exist in areas such as control framework which cuts across most of the banks. It also exists in measuring Ops Risk and in the fact that Operational risk management will always be undermined by the uncertainty surrounding risk events, That is why Operational risk management is claimed to be a thankless task, even as it is the most interesting. The comments below substantiate the claim:

“In terms of measuring, it’s easy to measure once it’s happened, because you can say how many risk events have occurred, how much it cost you and what you did about them”. “The impossible thing about OR is that obviously, you have no idea when the next one is coming. So, it’s impossible to accurately measure before it happened. And the other thing about it is of course, you can put your controls in place, you have really no way of knowing if they have been effective. So, let’s say you have a situation of no events taking place, is that because of your controls, or is that because there have not been situations that potentially prompted an event. (B515)

So, it's a bit of a thankless task in many respects, because you only get the bad news. So, when a risk event occurs, something has broken, or something has not worked as it should have. But what you can't do, is quantify and say Yeah but it stopped fifty (50) other similar occasions from happening!

This discussion leads back to the theoretical deductions on risk and uncertainty in Section 2. One cannot measure uncertainty; quantification of risk is limited to events that have happened in the past. When capital amounts are calculated and set aside, they are like preparing budgets for uncertainties. All other efforts are good for mitigation and control, but the real test of control remains uncertain. The diagram below encapsulates the Nigeria vs UK ORM systems.

Figure 8.8 Select UK versus Nigeria banks ORM systems



8.14 Summary

This chapter set out to discuss the findings presented from the empirical research into Operational risk and Basel applications by Nigeria banks. The research identifies several original pieces of evidence, supporting that Nigeria banking system has made tremendous progress in their implementation of Basel principles. This has enabled them to build the foundations required for implementing the pillars perhaps in advance of some globally SIBs. Albeit, the regulators have not fully granted that domestic

banks use a standardised approach for operational risk regulatory capital requirement, but subsidiary banks can use it for their external reporting. Bankers believe that the principles are more important than the capital.

Several benefits have been derived from Basel implementation. They include value adding, innovative ways of doing things, integration of bank units, as well as diffusion of risk ownership which impacts cost and bottom line. The socio-political environment has its own impacts on the banks reflecting in things like weakness of regulations for contract parties and partners in provision of banking services. Challenges faced by the banks/regulators include information exclusion whereby banks share more among themselves but less to regulators. This aligns with Basel supervisory college report as a global phenomenon. Several Nigeria banks are operating at a level far beyond the limited conception of Basel for developing economies and such banks are benchmarks for innovation and best practices. Their experiences can provide growth platforms for both banks in African and other developing economies. Theoretically, competence, uncertainty theories and governance are implicated in the Nigeria case. Furthermore, an emerging point not covered by theory is that RM can be trajected into a continuum of three levels namely, functional, tactical and strategic.

A few significant differences exist between the practice of ORM in the UK and the Nigeria banking systems, while the technical Basel principles remain the same. Thus, global application of the Basel principles is helping to build commonalities in global banking.

Chapter 9 Conclusions and Recommendations

9.1. Introduction:

This concluding chapter is a summary of the research work done on operational risk management in Nigeria banking system. It explains the procedures employed in the conduct of the research as well as the results. It also presents the contributions of this research to the body of knowledge, particularly the contribution to theories of operational risk and to the practice and development of operational risk as both a practice and an academic concept. It also highlights the limitations, and other aspects that were beyond the scope of this study which are recommended for future studies.

9.2. Summary of Work Done

The purpose of this study was to explore operational risk management theory and practice in the context of Nigeria post consolidated banking system with an aim to identify how Nigerian banks have adapted their application of Basel's operational risk management principles to suit their unique setting, manage operational risk and achieve/maintain the foundation needed to face global economic challenges. This qualitative research was embedded in interpretive worldview and constructive realism paradigm as the philosophical windows. With this paradigm, the emphasis is applied through a selective research process (Creswell, 2014). Attempt is made to inductively generate patterns of meaning from first-hand accounts of the experiences of the study participants in respect of the phenomenon of ORM and Basel application. The narratives are described in rich details and provide findings in engaging and perhaps evocative form (Yin, 2003). The justification for this methodological stand is that it offers a suitable framework for the development of an in-depth understanding of an under-researched phenomenon (Creswell 2003), and leads to the unearthing of 'richly detailed narratives on operational risk management practices in the Nigeria Banking system. Creswell's use of theory generation, understanding, and meaning in analysing qualitative data is co-opted. In this context, the facts are needed, even though they may be imperfect, and they need to be understood and explained using theory (Gillham, 2000)

Twenty-two in-depth interviews were conducted with purposively selected bank ORM practitioners and regulators. Responses were elicited based on their practice experiences.

The study exhumed relevant theoretical underpinnings of ORM from diverse disciplines, explored the key issues of ORM as one of the topical risk types in today's banking world, dissected the Basel principles and risk factors, and mapped them all to the three Basel pillars and as well as theories. It also related the various aspects to the Nigeria system, including the pre-consolidation risk management practices and forged a holistic presentation of how the system performs, its strengths and weaknesses, as well as lessons for the future. The study culminated with a comparative discussion of the Nigeria versus UK system, in order to identify differences and commonalities that can be benchmarked for future better practices, and towards achieving a stable banking system that can play successfully in the face of global economic challenges.

The literature review section presented a review of relevant writings on the various aspects of the concept of risk, which has multidisciplinary approach to its definitions. It revealed the gaps in the conceptualization of risk in banking, from the foundations of uncertainty as well as behavioural theories. Uncertainty theories hold that risk is the outcome of uncertainty while behaviourists transverse from the angle of limited human abilities and capacity, to bounded rationality and inadequate cognitive strengths, to positions such a governance and competence determining strategy. Other theories such as complexity and chaos were discussed and explorations made on the various attempts to define operational risk, which was hitherto, a risk without definition. Its eventual acceptable definition was by BIS' Basel Committee on Banking Supervision and provided a basis for the identification of the four risk factors of people, process, systems and external events. The chapter further exposed the gaps that have been identified from prior examination of literature on ORM which revealed that majority of the dominant themes in ORM discussed operational risk from quantitative and practice aspects such as measurement, quantification, performance, efficiency, modelling and assessments, but rarely delved into theories that inform operational risk. Thus, this work proceeded to successfully abstract from Economic theory among others, the theoretical and conceptual frameworks underpinning operational risk management

thereby filling the gap identified in literature. A further examination of empirical literature, enabled proper positioning of this work.

The third section which focused on Basel's Operational risk management considers how the theories identified fits to Basel practical applications or principles. It maps the three pillars of Basel II to theory, regulatory implementations and practice. It considered the principles of the Basel accords, including the trajectory from Basel I through Basel III, and to the current culminating Basel Framework. It further related some of the relevant aspects of Basel practice to theoretical foundations in which consistency have been found such as Information Asymmetry, bounded rationality, risk and uncertainty, adverse selection and moral hazards, principal agency issues, conformity theory, governance and competence. The important aspiration made was to consider how these relevant theories play further roles in ORM in the Nigeria banking system and how the practice framework on which the banks function, is useful in proactively addressing emergence of various operational risks, as well as Nigeria's adoption/adaptation of Basel.

9.3 Conduct of the Research

The research was conducted as a case study, applying primary research efforts through semi-structured interviews of 22 purposeful respondents. It identified the practice of ORM in Nigeria banking, pre and post consolidation, as well as pre and during Basel. The data obtained were transcribed and analysed through both manual thematic extraction and Nvivo software-assisted process of coding, nodes extraction and aggregation of emerging patterns to derive themes for discussion. The themes were directed at answering the research questions of how the ORM principles of Basel perform in Nigeria, their strengths, challenges and lessons. A collation of the discussions enabled a presentation of deep narratives about both bankers' and regulators' experiences and perspectives of ORM and Basel application in Nigeria. In addition, a UK banking group was also interviewed and a comparative discussion highlighting the major differences and similarities in practice were showcased, towards projection of better practices.

Discussion of practice and the risk factor implications were related to theory to enable derivation of how theories inform practice. Uncertainty, competence, governance,

information opacity and some other behavioural theories in addition to Psychology's conformity theory were implicated in the practice of ORM in Nigeria.

9.4 Summary of findings

The adoption of risk-based supervision provided a foundation for the implementation of Basel principles of ORM in the Nigeria banking system. Prior to then and pre-consolidation, Nigeria banks operated based on compliance and banks were evaluated based on CAMEL parameters. Although Basel, was not recommended for developing economies, Nigeria adopted Basel. This work revealed that at least two Nigeria banks were ahead, having already advanced beyond the anticipated limitations envisaged by Basel in putting a caveat for developing economies. Their expertise and competence led the regulators to use them as benchmarks for Basel implementation and for development of best practices. There are several implications of this evidence. One implication is in respect of existing literature. Literature on competence suggests that firms that develop their competency and knowledge use it for competitive advantage, thereby ousting competitors in the business or market. This research evidence implicates a contrast for operational risk management units. More competent and developed operational risk management units in Nigeria banks have provided their competences and knowledge to both regulator and other banks in order to build a support system and provide benchmarks for sound practices across the industry, thereby supporting each other to stand and not fail. This may be because ORM units see more of the interconnectedness of the banking business and the fact that bank failures or losses affect everyone, either directly or indirectly. Thus, OR would rather that banks do not fail because as derived by this study, "when one bank fails, other banks get sick". Thus, competency can be used for strategic alliances, benchmarking, and support for interconnected systems, in contrast to competitive advantage and outperforming others. It is dependent on the units involved. Another implication is that managing operational risk by first applying the established principles, enables a proper foundation required for implementing the pillars. Even in developed economies, banks that did not sufficiently implement the principles, have faced challenges and some of the banks had to return to the basics to apply the principles as was reported in North America (Volkov, 2020). The gaps left by the shallow implementation of pillars have also led to further work and the need for more

updates by Basel. This is manifest in the recent efforts to establish operational resiliency framework in conjunction with operational risk, to strengthen banks towards the pillars and resiliency.

The study also found that Basel application became an innovative tool for banks to restructure their reward system which hitherto, introduced new products without proper impact assessment on existing products. Bankers reported that with Basel's ORM principles and framework, new product initiation now passes through ORM for impact assessments and for risk identification before progressing into launching. This has become a means of improving the bottom line and not unhealthy competition between units as expressed by several ORM heads. It has also empowered ORM heads to hold the authority to stop the banks from rolling out products that will cannibalize existing good products, thus eroding the bottom line. Implementation of Basel has enabled an integrated system of managing ORM whereby various departments own risks and work together to mitigate them. It has also led to an innovative linking of appraisal system with risk management which Nigerian ORM staffs call "a handshake of HR and OR units." This is novel and positive. The implication of this for literature is also interestingly contrasting. Most existing literature suggest that regulation inhibits innovation due to several reasons such as:- regulations install controls and restrictions, regulations do not evolve as quickly as technology, regulations focus on avoiding and preventing risks, regulations focus on caution while innovation involves dreams etc. This study has conflicted that notion in some way. Basel, being a major global regulation established to mitigate risk, has rather provided doorways for the banks to be more innovative in their approaches, for instance, the HR and OR handshake whereby individual ownership of risks is embedded in appraisal and rewards systems. Although this aberration may be peculiar to Nigeria, it remains a contribution to literature on regulation vs innovation.

It has supported the breakdown of silos and allowed the regulators and bankers to bridge some of the gap of mistrust between themselves. The performance of banks reveal an increase on the fraud and forgeries report which banks submit monthly. F & F cases had increased over time while the successful ones have declined. This could be attributed to more awareness of the importance of complete reporting and the effectiveness of the risk management systems as banks have become more adept at risk identification and assessment, including building risk catalogues. It is also possible

that as more risk incidents take place, bankers are able to pick them up more quickly using technology. As from 2018 to 2020, increase in fraud and forgeries cases can be attributed to increase in and new methods of cybercrime and technology-based risks, which include ATMs, fintech or third party platforms.

The findings have also considered the four risk factors and deciphered the theories that inform them, such as governance, competence and strategy for process factor, bounded rationality, information asymmetry, interconnections and others for people factor and complexity for system. Some of the lessons learned from these factors include the predominance of people risk factor in banking activities. People risk factor is underpinned by behavioural theories which suggest that several causes are responsible for risk behaviours. Some causes are deliberate such as fraud, forgeries, stealing; some due to weaknesses such as cognitive abilities, while some are from lack of information. Others include process weaknesses such as inobservance of policy. The major proposition contributing to the literature is that risks exist due to uncertainties caused by human behaviours and other things, and a system of governance can be used to manage and mitigate the risks.

The research also highlights challenges faced by both banks and regulators. Some of them include, the cost of compliance, information opacity between bankers and regulators which is not peculiar to Nigeria, the impact of negative publicity as well as external risk factors that result in an overload of responsibility on bankers which is more of a Nigeria peculiarity. Such factors dwell on the interrelationship between third party failures and bank failures and how banks bear most of the cost because of over regulation of the sector and under regulation of other sectors such as telecom and the like. The Nigeria banking sector is perhaps the most regulated industry and are under watch always. They are also expected to exercise market discipline by disclosing all information. While their businesses have interface with other companies like in the technology and communications industry, these others are not so regulated. Also, banks are usually made to bear the costs of transactions gone wrong. This is regulation asymmetry. The impact is high costs for banks and sometimes, banks have difficulties of categorising those transactions as costs or losses. When categorized as costs, the implications are that they do not form part of fraud and forgeries report but when categorised as losses, they are listed in fraud and forgeries report. The challenge here is to forge collaborative efforts that will enable banks to transmit third

party costs to third parties without triggering negative outcomes. Also, resiliency is needed in bringing the vulnerabilities on programmed members.

Several differences were identified between the UK and Nigeria practices of Basel's ORM. The most significant differences include the UK's categorization of material versus operational risk, all of which are called operational risk in Nigeria, as well as the decentralized ORM teams according to business operations which leads to specialization. The impact of these differences are that, for risk reports, UK will deal with the material risks separately and they will not be reported in their Operational risk list, while Nigeria will report such matters. Thus, Nigeria OR events may appear more in number, but the material risk events in UK will be very huge in value. Also, the implication of the recruitment process is that while OR managers in UK are specialised, which leads to expertise and competency, the OR managers in Nigeria are versatile and can be deployed to work in any area. In respect of technical applications of Basel rules, both countries exhibit commonalities.

9.5 Recommendations

The practical implications resulting from these findings are that the Nigeria banking system, having implemented Basel, has progressed from a closed-in compliance set up to a broader approach in risk management. The impacts have been positive and have exhumed the major challenges both banks and regulators are facing in the sector. The following recommendations are suggested:

1. That regulators utilize the Chief Risk Officer forum, or a special committee set up for harmonization, to investigate the areas of abrasion between regulators and banks, to discover more ways of bridging their information opacity and asymmetry (See section 8.11.3.). It's a global phenomenon that both sides hide information from each other implying that they do not appear to trust each other.
2. That the regulators utilise the evidence from overload of banks' responsibilities due to underregulation of other sectors of the economy especially fin tech and telecom, to initiate and forge a pathway with government that will induce sufficient regulation of other sectors and commissions. If this happens, these other sectors that have parts to play in the economic and financial development

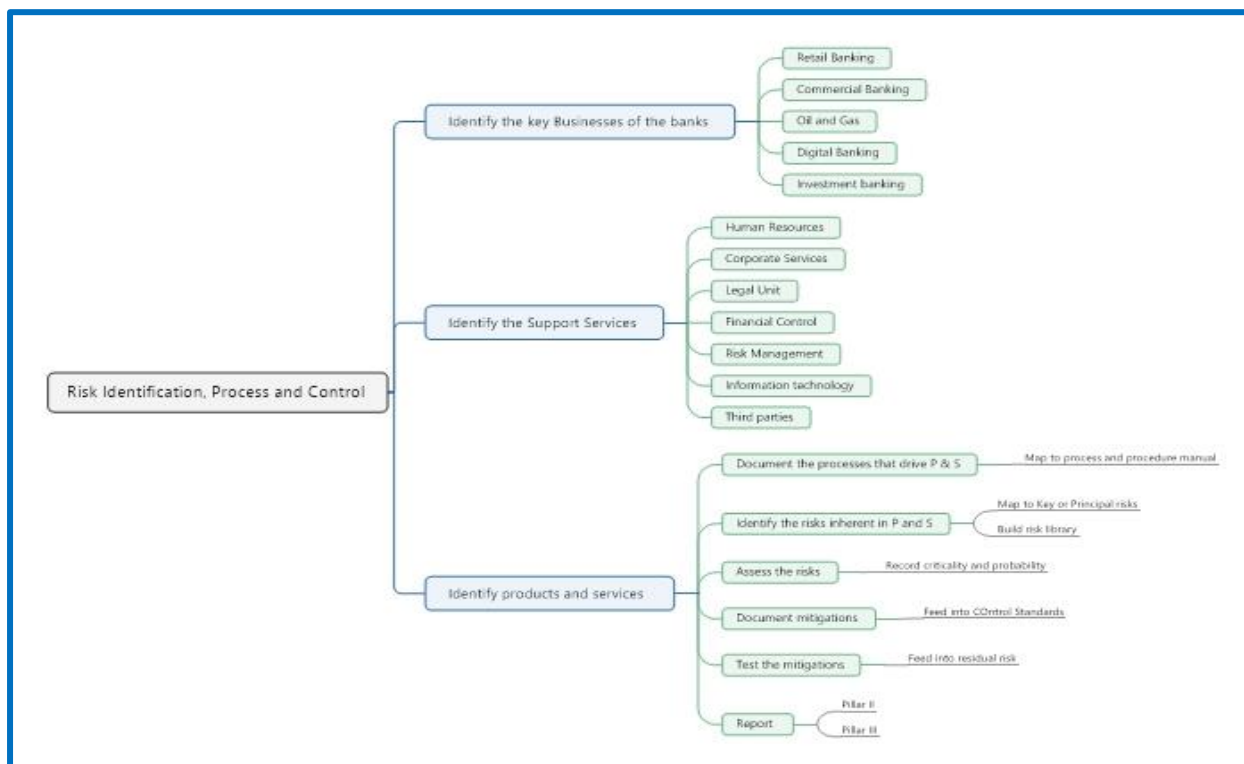
will also add their value to the system. This will also impact positively on fraud and forgeries because more loopholes will be closed. The synergistic effect will translate to a cohesive national economic development.

3. That the use of benchmarking tool as a method of implementing good practices by regulators through the advanced banks, be spread further through training and development. This will engender more harmonization of frameworks, policies and strategies which will further improve relationships, practices and sharing of information among banks, and encourage proactivity.
4. The method of recruiting OR Managers who are specialists in business lines is something that can be considered as a good practice for Nigeria. It will enable specialized OR Managers to be in charge of OR, which will command respect and not appear to be jack of all trades.
5. Nigeria does not yet have a loss event and incident data base and events are still reported as F and F instead of Event Lines. It will be beneficial for such a database to be established, maintained and subscribed to by all banks. Such database will provide banks with access to real life incidents and provide scenarios for planning and mitigations. A similar database ORX exists in Europe. Although one regulatory agency collates and publishes fraud and forgeries reports, some personnel in the regulatory agencies are not aware of ORX. It is understood that the socio-economic environment may not be ripe to receive news or data on OR losses. But growth has to start somewhere.
6. Fraud and Forgeries report that is available does not break down the types of events to enable differentiation between people risk, process, system and external or along the Event lines for risk weighting of assets and for tail loss information. It will be meaningful to break this down to enable banks know the aspects that require more resources and regulators for supervision and examination.
7. Evidence from Nigeria experience is useful for contributions to the Basel requests for review and Basel standard setting. Global financial rules ought to

be inclusive with adequate considerations for developing economies to enable them grow and play in the global markets. Developing nations ought to have adequate representation in Basel. As can be seen from the Nigeria case, some banks considered globally systemically unimportant could have best practices to be emulated by GSIB. If developing economies are excluded from implementing some frameworks, developed nations may be hindered from investing in them, due to lack of assurance of meeting the global standards. Also, several countries, both developing and developed may find the practice information useful for future actions.

8. The top ten operational risks 2020 listed resiliency risk as the third. Everyone is accountable for resilience- from mail room to board room. Major direction or topic in risk management today is Resilience. Resilience is an output. It is an output of the risk management efforts. The finance world today is focusing on resilience. Resilience can be seen in three areas; 1) resistance to risk events, 2) business continuity (ability to reconvene and continue with business) 3) oversight of third parties. To be operationally resilient and to build resilience into organisational DNA is crucial. Momentum has built around resilience agenda since the BoE issued paper in 2020. While there are various resilience packages and plans in the world today, evidence of resilience is rather ubiquitous.
9. Basel provisions although in depth, are not granular. Therefore banks had to define ways of executing their risk identification and assessment process. Considering the robust stages and advancement of some Nigerian banks on this fundamental principle, a prototype model of the first steps has been put together from the various information obtained, as a guide to banks that would like to reimagine risk identification for their institution. This is outlined in the diagram below and includes a combination of best practices for initial risk identification. Figure 9.1 below

Figure 9.1 Risk Identification Step 1



After all the individual units, services and products have been identified, the next step will be to identify and catalogue the risks inherent and probable in each unit, service and product. This will include their various functions and processes. This activity cascades to the assessment of each risk identified and to set up of controls for each risk.

9.6 Limitations of the Study and Suggestions for Future Work--

This research set out to study operational risk management and Basel implementation in developing economy using Nigeria as case study. It has established a foundation for future and further research into Operational Risk management in both Nigeria and other developing economies. It presents clear evidence of how Nigeria banks have adapted to Basel standards with the resulting benefits and challenges. However, the following limitations apply:

The phenomenon being examined is both agile and evolving. It is being continually reviewed and updated. As a result, Basel practices and other regulatory requirements

which have continued to evolve, have also needed to continuously be studied and updated in the study. Presently, the Basel principles and frameworks in this study reflect the current versions and where previous ones are referred to, the subsequent updates have also been highlighted and referenced. Each stage of the work had to include updating of the content with new codes, documents, and information. A topic in effluxion is a big challenge to pin down. To fix the work on one dated rule will imply that the work will be outdated on arrival. As a result, the researcher had to be continually changing and updating the work both with Basel changes, and Nigerian government changes.

Secondly, this work is on a very technical and exclusive area, which means that it is difficult to get other researchers to collaborate and support with things like proof reading. As a result, it has been a very isolated and most challenging journey.

Also, the length of time it has taken is one of the limitations. When this work was planned, it was expected to last about five years. However, health and family challenges elongated the time. In addition to Covid-19 pandemic and its restrictions which affected movements, resulted in further delays.

The methodology had a limitation because being primary research which is highly advantageous in acquiring an in-depth understanding of a phenomenon, it also relied on responses from people in an economy where freedom of speech on sensitive matters is not guaranteed. As a result, precautionary steps and strategic efforts were employed in order to bring respondents to a psychologically safe space, where they could speak more freely and provide reliable information. The researcher's experience of being a member of the industry for many years was useful in managing this limitation. Even so, not all respondents were comfortable with telling all the facts of their experience.

The work was relied on qualitative approach which has its inherent weaknesses as mentioned in Section 4.2.3. An opportunity exists for further and complimentary research to be conducted using quantitative approach. Applying quantitative criteria to data would produce measurable and perhaps validating results which would add value to the discussions.

The theoretical discourse in this study identified governance as an umbrella theory in the management of operational risk. Basel established separate corporate governance principle for banks, distinct from operational risk management principles. While there are overlapping content in both subjects, they remain distinct in the global banking system. This work focused on those persons directly involved in operational risk management. While some of them are directors in the bank, apart from two interviewees, the rest were not interviewed for corporate governance applications, rather, for operational risk. An opportunity exists for further and complimentary research into corporate governance of banks in Nigeria. Such work will involve obtaining data directly from banks' boards and will bring much value to bear on the banks' performance, stability and resiliency in the light of managing risks.

Given that the present study was restricted to adoption of Basel and ORM in the industry, further studies on assessment of the efficiency and effectiveness of Basel's ORM practices in Nigeria would be important. Similar studies have been conducted by some others, but the periods were usually too close to when Basel was adopted. Therefore, it will be apt to embark on such a study at this time, since it can reveal more meaningful results. The study could include an impact analysis of Basel principles which would provide useful resources to both banks and regulators. It can also be compared to similar studies such as Liu and Cortes, (2014) which used stochastic approach to measure efficiency of ORM in Taiwan.

Conduct risk as a part of operational risk has become prominent in recent times, such that banks are setting up specific units to manage conduct. An examination of conduct risk and impacts on development capital in select DSIBs in Nigeria would be worthwhile. It can also be compared to another country.

Resilience has become a named risk in Operational risk management. This risk was named by the researcher in USA, in March 2021 during OpRisk North America conference. The researcher identified Resilience risk as one of the top operational risks facing banks. After votes and debates by top industry practitioners, resiliency was voted to be the third most important operational risk facing banks in 2021 as recorded by risk.net, the risk management journal (Osborn et al, 2021). Prior to then, resiliency was not named as an operational risk. Basel has also established principles

for operational resilience. An examination of resilience risk would be very useful in finding out how banks survived during the pandemic, how they are applying the Basel principle and the impacts. Considering the different ways in which the corona virus affected the western world versus Africa, such an examination and its results will provide relevant insights to how banks in both regions maintained resiliency in the face of the global pandemic.

Lastly, Nigeria has substantial banking interest in other African countries with over four hundred bank branches. It would be an enlightening task to do a collaborative study across several African countries, and examine the operational efficiency and governance structures using quantitative studies.

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Links to Some Relevant documents

1) NDIC Annual Report 2020:

<https://ndic.gov.ng/wp-content/uploads/2021/11/NDIC-2020-Annual-Report.pdf>

2) Central Bank Policies and circulars:

<https://www.cbn.gov.ng/out/2013/bsd/basel%20ii%20implementation%20circular.pdf>

3) www.cenbank.org/documents

4) Parallel Run of Basel I and II:

<https://www.cbn.gov.ng/Out/2014/BSD/Basel%20II%20Implementation-Extension%20of%20Pillar%20I%20Parallel%20Run.pdf>

5) NDIC Annual Report 2019: <https://ndic.gov.ng/resources/publications/>

6) NDIC Case Studies : <https://ndic.gov.ng/resources/publications/>

7) The Basel Framework:

https://www.bis.org/basel_framework/index.htm?m=3%7C14%7C697

8) Review of principles for Operational Risk 2011:

<https://www.bis.org/publ/bcbs292.htm>

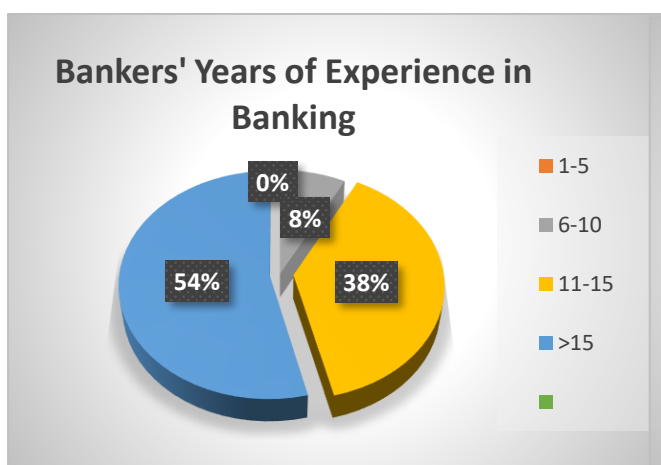
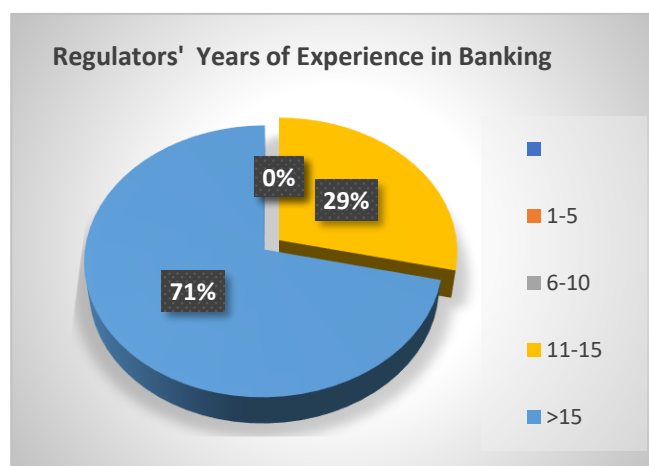
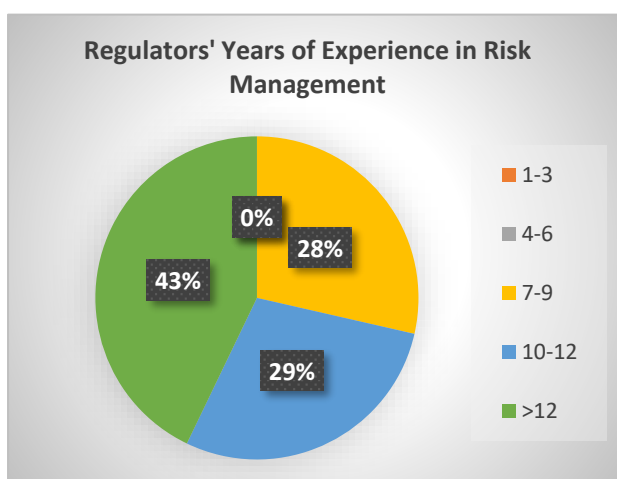
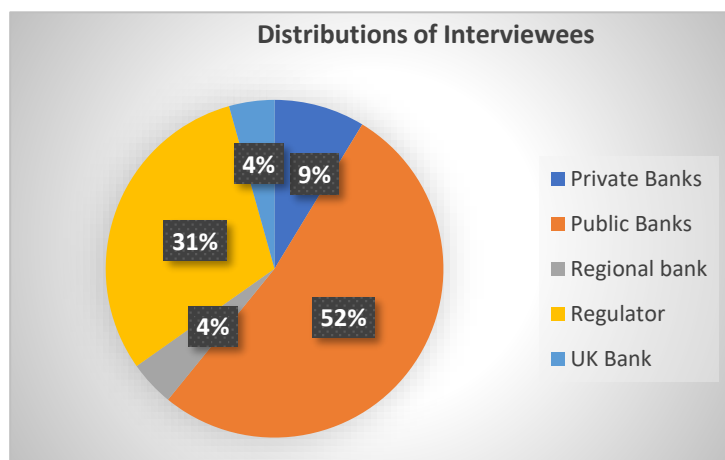
9) Revisions to the principles for the sound management of operational risk 2021: <https://www.bis.org/bcbs/publ/d515.htm>

10) Population Data from UN:

<https://population.un.org/wpp/Download/Standard/Population/>

11) CBN FDI reports: <https://www.cbn.gov.ng/documents/statbulletin.asp> (Table D.2.2.1A: International Investment Position (₦ Million))

Appendix 1: Distribution of Interviewees in charts



Appendix 2 NVivo Codes Excerpts

Code	Frequency	Code	Frequency
Banks			
BASEL	26	Strength	7
Challenges	25	Culture	3
Definition	10	Historical Context	4
Organizational Structure	7	Recommendation	13
Lines of Business	2	Regulators	0
Regional Lines	1	Challenges	5
Regulation	8	Operations	0
Risk Factors	8	Interface	1
Clients, products, practices	13	Regulator Reporting	4
Disaster	2	Ops Risk Definition	4
Fraud	20	Policy Evaluation	2
Political	2	Risk Exposure	5
Processes	8	Legal	2
Regulatory	7	Liquidity Risk	1
System	19	Market Risk	1
Risk Management Strategies	1	Potential Risks	0
Capital Adequacy	4	External	2
Compliance	18	Economic	3
Feedback	5	Political	1
Internal Control	55	Internal	0
Reporting	16	People	4
Risk Assessment	53	Process Failure	2
IT	13	System	6
Meetings	5	Realized Risks	0
Penalty	1	Economic	4
Planning	14	Fraud	2
Policies	10	Strategic Risk	1
Processes	11	Risk Management Framework	1
Product	8	BASEL, I	2
Training	21	BASEL II	3
Risk Management Structure	26	Adapting	2
Accountability	11	Governance	12
Age	4	Requirements	1
Basis	4	BASEL III	1
Incremental	1	CAMEL	1
Integrated RM	8	CANADIAN	2
RM Framework	11	ERM	2


Fraud Management	4	Risk Management Strategies	0
IT	3	Bank Regulation	15
Risk Management Structure	9	Communication to Bank	4
Accountability	12	Data Collection	6
Age	1	Ethics	3
Uncertainty	9	Mandates	5
Risk Assessment	13	Personnel and Training	2
Site Visit	7	Reporting	9

Appendix 3 Mapping of Basel Principles to selected Theories

Area of Principle/Theory	Basel Principle	Theory/Content area
	1.Board of directors to establish a risk management culture	Governance (Williamson 1999 and Mallin, 2014)
	2.Banks to develop and implement a framework for operational risk management	
Governance		
Board of directors	3.Board to establish and approve periodic review of framework	Governance TCE
	4.Board to approve and review risk appetite and tolerance statement	Williamson, 1999 Foss (1976) (Zingales, 1998). Mallin (2007)
Senior Management	5.Senior management to develop governance structure for board approval	
Risk Management Environment		Risk and Uncertainty Knight (1921) & Keynes(1937)- (assessment and measures)
Identification and Assessment	6 Senior Management to identify and assess Op.Risks	Haynes (1895)- (static and Dynamic,)
	7. Senior Management to ensure approval process for new products, processes, activities and systems	Hoffman(1998) (intentional)
Monitoring and Reporting	8 Senior Management to implement monitoring of OR	Foss (1996), Opportunist Simon (2000) Bounded rationality and Cognition
Control and Mitigation	9. Banks to have a strong control environment	
Business Resiliency and Continuity	10 Banks to have resiliency and continuity plan	
Role of Disclosure		Asymmetric information, Stiglitz(2000), Agency problem, Lemon problems, Akerlof (1970) Pence (1971),
	11. Banks' Public disclosures should allow stakeholders to assess ORM	

Developed by researcher from work done

Appendix 4 Basic Indicator Approach

	FORM OR1: Operational Risk - Basic Indicator Approach											
	2016 (N'000)				2017 (N'000)				2018 (N'000)			
	Q4	Q3	Q2	Q1	Q4	Q3	Q2	Q1	Q4	Q3	Q2	Q1
Net income from financing activities	1700	1600	800	750	2400	230	110	1050	260	240	1200	110
Net income from investment activities	250	240	110	100	360	0	0	150	450	430	200	200
Fee income (e.g. commission & agency fee)	150	100	50	70	150	150	70	90	100	240	120	140
TOTAL	2100	1940	960	920	2910	278	132	1290	315	307	1520	144
Less												
Investment account holders' share of income	900	850	400	400	1100	120	570	500	116	100	550	550
Gross income	1200	1090	560	520	1810	158	750	790	199	207	970	890
Basic Indicator Approach (BIA) in Naira (N'000)				5920				493			337	
								0			0	

	2016	2017	2,018	Total ₦
Net income from financing activities	4,850	6,850	7,300	
Net income from investment activities	700	990	1,280	
Fee income (e.g. commission and agency fee)	370	460	600	
TOTAL	5,920	8,300	9,180	
(Less)				
Investment account holders' share of income	2550	3370	3260	
Gross income	3,370	4,930	5,920	14,220

Average Gross Income (X / 3)	Y	4,740.0 0
Assigned Capital Charge	15%	
Capital Charge for Operational Risk (Y*15%)	Z	711.00
Operational Risk (Z x 12.5*)	12.5	8,887.5 0

* conversion factor (reciprocal of minimum capital requirement)

<u>Return to Index</u>	*** <u>Important Instruction for Operational Risk Reporting: Only ONE (1) Approach should be</u>
----------------------------------------	---------------------------------------------------------------------------------------------------------

Appendix 5 Literature Review Plan including Operational Risk Publications Extracts

Outline of Literature Review Plan and Processes

1. Retreat/ Substantive reflection on research questions and approved research program/proposal
2. Determination of Two Broad areas of literature – Academic and Practice
3. Identification of Databases

Academic	Practice-based/professional
Studynet Online Library	Risk Journals Catalogue (risk.net): The Journal of Risk The Journal of Operational Risk The Journal of Network Theory in Finance The Journal of Credit Risk The Journal of Computational Finance
Google Scholar	GRC Summit – Metric Stream
Ebsco Business Source complete	OpRisk NA and OpRisk Global
Social Science Research Network	Bank for International Settlement (BIS) websites
Massachusetts Board of Library Commissioners via BristolCC.edu online library	RIMAH.org websites/ RMA journal Proquest Ebsco
TextBooks	Central Bank of Nigeria website/Research Librabry
	Nigeria Deposit Insurance website/ Research Library
Other secondary sources	memos, circulars, directives, framework, written reports, newspapers, admin documents, articles, and books, conference presentations/proceedings, published working papers and journals etc.

The plan was structured into two aspects 1) The content review steps and 2) Sources of relevant literature.

1) Content review plan was determined as follows:

- Introduction
- Conceptual Clarification: Define risk, class classifications of risk,
- Forms of Risk
- Fundamental causes and theories of risk
- Governance framework for operational risk management

This process involved analyzing, synthesizing and critiquing bodies of literature ranging from Philosophy, to Engineering to Economics in order to define risk, identify its forms, isolate bank risks, and risk management. This resulted in identification of themes and patterns, and enabled the narrowing down of governance frameworks as the fundamental theory in managing operational risk. It was also possible to identify gaps in the literature while examining the various writings.

2) Sources of relevant literature

Risk Management Journals:

Journal of Risk Management,

International Journal of Risk and Contingency Management

Studynet: Studynet was the first source of records as it provided access to digital library collections including databases. It also provided mostly free access to academic journals, books, and documents, including British Library of Congress references for Ph.d theses and other records.

Google Scholar: Google scholar was also utilized.

Identification of levels 3-5 Academic Journals

Central Bank of Nigeria Online websites and

Central Bank of Nigeria Research library in Abuja, Nigeria

Nigeria Deposit Insurance Corporation Research Library in Abuja HQ.

Basel websites and Pages

Conference extracts.

Newspapers and periodicals

Risk Journal from OpRisk Global, Fusions Risk and GRC

Iterative Review Process:



A browsing of 620,192 resources on Operational Risk using University of Hertfordshire Online Resources. Delving into theoretical foundation for OpRisk was a rarity.

Ojadi, Vivien (2022): Operational Risk Management and Basel Implementation in Banking: A Developing Economy Perspective

herts-summon-seria... herts.ac.uk/search?s.q=operational+risk+&s.fv%5B%5D=ContentType%2CNewspaper+Article%2Ct%7CContent%2CBook+Revie...

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operational risk

Last 12 Months
Last 3 years
Last 5 years

DISCIPLINE ▾
business (137,435)
engineering (112,194)
medicine (75,572)
economics (74,912)
public health (44,358)
More...

SUBJECT TERMS ▾
science & technology (169,643)
life sciences & biomedicine (103,534)
social sciences (81,721)
humans (71,721)
studies (71,541)
More...

LANGUAGE ▲

LIBRARY LOCATION ▲

3 **Operational Risk Management: Best Practices in the Financial Services Industry**
by [Chapelle, Ariane](#)
Wiley finance series, 2019
This title offers the most current information available for putting in place an effective **risk** management programme for a financial services firm...
eBook [Full Text Online](#)
[Preview](#) [Reviews and Chapters](#)

4 **Supply chain operational risk mitigation: a collaborative approach**
by [Chen, Jie](#); [Sohal, Amrik S](#); [Prajoogo, Daniel](#)
International journal of production research, 04/2013, Volume 51, Issue 7
PEER-REVIEW
OPEN ACCESS
Along with increasing supply chain **risks** due to economic and environmental changes, it is imperative to answer the question of how to reduce supply chain **risks**...
Journal Article [Full Text Online](#)
[Preview](#) [Cites / Cited by](#) [Related Articles](#) SCOPUS™ 108

5 **Operational Risk Modeling in Financial Services: The Exposure, Occurrence, Impact Method**
by [Naim, Patrick](#); [Condamine, Laurent](#)
Wiley finance series, 2019

Library Book - you might be able to request a scan!
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operational risk

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6 **Operational Risk Management: A Complete Guide to a Successful Operational Risk Framework**
by [Girling, Philippa X](#)
Wiley finance series, 2013, 1
Praise for **Operational Risk** and Regulation "Boards, regulators, and shareholders have heightened their expectations for effective enterprise-level **operational risk** management...
eBook [Full Text Online](#)
[Preview](#)

7 **An Extreme Value Approach for Modeling Operational Risk Losses Depending on Covariates**
by [Valérie Chavez-Demoulin](#); [Paul Embrechts](#); [Marius Hofert](#)
The Journal of risk and insurance, 09/2016, Volume 83, Issue 3
PEER-REVIEW
...; second, this methodology is exemplified in the context of an **Operational Risk** (OpRisk) data set to be detailed later in the article; third, a publicly available...
Journal Article [Full Text Online](#)
[Preview](#) [Cites / Cited by](#) SCOPUS™ 48

8 **Operational risk: a guide to Basel II capital requirements, models, and analysis**
by [Chernobal, Anna S](#); [Fabozzi, Frank J](#); [Bacchev, S.T](#)
The Frank J. Fabozzi series, 2007, 1. Aufl.


Type here to search


Ojadi, Vivien (2022): Operational Risk Management and Basel Implementation in Banking: A Developing Economy Perspective

herts-summon-seria... herts.ac.uk/search?s.q=operational+risk+&s.fv%5B%5D=ContentType%2CNewspaper+Article%2Ct%7CContent%2CBook+Revie...

operational risk

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9  **Barrier and operational risk analysis of hydrocarbon releases (BORA-Release). Part I. Method description**
by [Aven, Terje; Skjet, Snorre; Vinnem, Jan Erik](#)
Journal of hazardous materials, 09/2006, Volume 137, Issue 2
PEER-REVIEW Investigations of major accidents show that technical, human, **operational**, as well as organisational factors influence the accident sequences...
Journal Article [Full Text Online](#)
[Preview](#) [Cited by](#) [Related Articles](#) SCOPUSSM 105

10  **Learning from others' misfortune: Factors influencing knowledge acquisition to reduce operational risk**
by [Hora, Manpreet; Klassen, Robert D](#)
Journal of operations management, 01/2013, Volume 31, Issue 1-2
PEER-REVIEW ...' processes, significant **operational risks** appear to be ignored and similar losses recur. Using a randomized vignette-based field experiment, we tested the influence of organization-level factors on knowledge acquisition...
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Don't see what you are looking for? Try one of these searches:
[operational risk management](#) [operational risk modelling and management](#)
[operational risk basel iii](#) [operational risks of hedge funds](#)


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herts-summon-seria... herts.ac.uk/search?s.q=operational+risk+&s.fv%5B%5D=ContentType%2CNewspaper+Article%2Ct%7CContent%2CBook+Revie...

operational risk

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11  **Assessing operational risk in coal mining enterprises – Internal, industrial and international perspectives**
by [Nawrocki, Tomasz Leszek; Jonek-Kowalska, Izabela](#)
Resources policy, 06/2016, Volume 48
PEER-REVIEW This paper aims to assess and compare **operational risk** in coal mining enterprises in Central and Eastern Europe...
Journal Article [Full Text Online](#)
[Preview](#) [Related Articles](#) SCOPUSSM 23

12  **Flexible inverse adaptive fuzzy inference model to identify the evolution of operational value at risk for improving operational risk...**
by [Peña, Alejandro; Bonet, Jais; Lochmuller, Christian ; More...](#)
Applied soft computing, 04/2018, Volume 65
PEER-REVIEW [Display omitted] •A fuzzy inference model for the assessment of **operational risk** is proposed...
OPEN ACCESS Journal Article [Full Text Online](#)
[Preview](#) SCOPUSSM 5

13  **Operational risk quantified with spectral risk measures: a refined closed-form approximation**
by [Tong, Bin; Diao, Xundi; Wu, Chongfeng](#)
Quantitative finance, 07/2019, Volume 19, Issue 7
PEER-REVIEW The quantification of **operational risk** has become an

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Appendix 6: Previous and Current Versions of Principles for Sound Management of Operational risk

Principles June 2011	BCBS195 Principles for the Sound Management of Operational Risk June 2011	BCBS515 Revisions to the Principles for the Sound Management of Operational Risk March 2021	Principles March 2022
Principle 1	The board of directors should take the lead in establishing a strong risk management culture. The board of directors and senior management should establish a corporate culture that is guided by strong risk management and that supports and provides appropriate standards and incentives for professional and responsible behaviour. In this regard, it is the responsibility of the board of directors to ensure that a strong operational risk management culture exists throughout the whole organisation.	The board of directors should take the lead in establishing a strong risk management culture, implemented by senior management. The board of directors and senior management should establish a corporate culture guided by strong risk management, set standards and incentives for professional and responsible behaviour, and ensure that staff receives appropriate risk management and ethics training	Principle 1
Principle 2	Banks should develop, implement and maintain a Framework that is fully integrated into the bank's overall risk management processes. The Framework for operational risk management chosen by an individual bank will depend on a range of factors, including its nature, size, complexity and risk profile.	Banks should develop, implement and maintain an operational risk management framework that is fully integrated into the bank's overall risk management processes. The ORMF adopted by an individual bank will depend on a range of factors, including the bank's nature, size, complexity and risk profile	Principle 2
Principle 3	The board of directors should establish, approve and periodically review the Framework. The board of directors should oversee senior management to ensure that the policies, processes and systems are implemented effectively at all decision levels.	The board of directors should approve and periodically review the operational risk management framework, and ensure that senior management implements the policies, processes and systems of the operational risk management framework effectively at all decision levels.	Principle 3
Principle 4	The board of directors should approve and review a risk appetite and tolerance statement ¹² for operational risk that articulates the nature, types, and levels of operational risk that the bank is willing to assume.	The board of directors should approve and periodically review a risk appetite and tolerance statement ¹⁶ for operational risk that articulates the nature, types and levels of operational risk the bank is willing to assume.	Principle 4

Principle 5	Senior management should develop for approval by the board of directors a clear, effective and robust governance structure with well defined, transparent and consistent lines of responsibility. Senior management is responsible for consistently implementing and maintaining throughout the organisation policies, processes and systems for managing operational risk in all of the bank's material products, activities, processes and systems consistent with the risk appetite and tolerance.	Senior management should develop for approval by the board of directors a clear, effective and robust governance structure with well-defined, transparent and consistent lines of responsibility. Senior management is responsible for consistently implementing and maintaining throughout the organisation policies, processes and systems for managing operational risk in all of the bank's material products, activities, processes and systems consistent with the bank's risk appetite and tolerance statement.	Principle 5
Principle 6	Senior management should ensure the identification and assessment of the operational risk inherent in all material products, activities, processes and systems to make sure the inherent risks and incentives are well understood.	Senior management should ensure the comprehensive identification and assessment of the operational risk inherent in all material products, activities, processes and systems to make sure the inherent risks and incentives are well understood.	Principle 6
Principle 7	Senior management should ensure that there is an approval process for all new products, activities, processes and systems that fully assesses operational risk.	Senior management should ensure that the bank's change management process is comprehensive, appropriately resourced and adequately articulated between the relevant lines of defence.	Principle 7
Principle 8	Senior management should implement a process to regularly monitor operational risk profiles and material exposures to losses. Appropriate reporting mechanisms should be in place at the board, senior management, and business line levels that support proactive management of operational risk.	Senior management should implement a process to regularly monitor operational risk profiles and material operational exposures. Appropriate reporting mechanisms should be in place at the board of directors, senior management, and business unit levels to support proactive management of operational risk.	Principle 8
Principle 9	Banks should have a strong control environment that utilises policies, processes and systems; appropriate internal controls; and appropriate risk mitigation and/or transfer strategies.	Banks should have a strong control environment that utilises policies, processes and systems; appropriate internal controls; and appropriate risk mitigation and/or transfer strategies.	Principle 9

Principle 10	Banks should have business resiliency and continuity plans in place to ensure an ability to operate on an ongoing basis and limit losses in the event of severe business disruption.	Banks should implement a robust ICT risk management programme in alignment with their operational risk management framework.	Principle 10
Principle 11	A bank's public disclosures should allow stakeholders to assess its approach to operational risk management.	Banks should have business continuity plans in place to ensure their ability to operate on an ongoing basis and limit losses in the event of a severe business disruption. Business continuity plans should be linked to the bank's operational risk management framework.	Principle 11
		A bank's public disclosures should allow stakeholders to assess its approach to operational risk management and its operational risk exposure.	Principle 12

Appendix 7 Non-Performing Loans and Credit Risk:

NDIC CASE STUDIES ON FAILED BANKS IN NIGERIA

Link to all cases on NDIC official page: <https://ndic.gov.ng/resources/publications/>

Case	Bank	Some causes of NPL and failure
Volume 1, Bank 2	Commerce Bank	<i>“The bank appeared to be “doing well” in its early years even though Bank Examination Reports issued between 1989 and 1992 noted high risk appetite, submission of inaccurate prudential returns to the regulators and various operational lapses. For example the Loans to Deposit Ratio was as high as 111% as at 31st December 1989”. (Several misconduct events in respect of credits recorded against management)</i>
Volume 2 Bank 3	Trade bank	<i>“Meanwhile, it should be noted that the root causes of the bank’s failure were endogenous factors such as shareholder interference, collapse of corporate governance, absence of risk management, fraudulent accounting and insolvency as the analysis of its performance in section 2 below will clearly show”</i>
Volume 2 Bank 5	All States trust Banks	<i>“Various CBN and NDIC Examination reports had highlighted the weaknesses in the bank’s credit administration process and deterioration of credit quality. In 2004, non-performing loans (NPL) increased by 114.88% to ₦3.7billion. By 2005, delinquent insider-loans alone amounted to ₦12billion..... In October 2005, the CBN removed the Board and Management on account of gross mismanagement and unethical practices in managing the resources of the bank. The CBN also referred the identified malpractices to the Economic and Financial Crimes Commission (EFCC) for investigation. One of the Directors of the Bank was arrested and EFCC’s investigations confirmed unethical practices in credit administration as well as money laundering. (NDIC 2(5), 2022)</i>
Volume 4 Bank 4	COOPERATIVE-AND-COMMERCE-BANK	<i>“Several staff members of the bank who were indicted for fraud or illegal lending practices could not be summarily dismissed or prosecuted due to the intervention of Board members. The Board members individually interfered with the process of enforcing discipline in the bank”.</i>

Links to cases mentioned above.

<https://ndic.gov.ng/wp-content/uploads/2020/08/VOLUME-1-COMMERCE-BANK-LIMITED.pdf>

<https://ndic.gov.ng/wp-content/uploads/2020/08/VOLUME-2-TRADE-BANK.pdf>

<https://ndic.gov.ng/wp-content/uploads/2020/08/VOLUME-2-ALLSTATES-BANK.pdf>

<https://ndic.gov.ng/wp-content/uploads/2020/08/VOLUME-4-COOPERATIVE-AND-COMMERCE-BANK.pdf>

Appendix 8: EC3 Consent Form

UNIVERSITY OF HERTFORDSHIRE
ETHICS COMMITTEE FOR STUDIES INVOLVING THE USE OF HUMAN PARTICIPANTS
(‘ETHICS COMMITTEE’)

FORM EC3

CONSENT FORM FOR STUDIES INVOLVING HUMAN PARTICIPANTS

The material contained in this form may be adapted for use in an alternative consent form, provided the principles of what is contained in the form are retained

I, the undersigned [*please give your name here, in BLOCK CAPITALS*]

.....
of [*please give contact details here, sufficient to enable the investigator to get in touch with you, such as a postal or email address*]

.....
hereby freely agree to take part in the study entitled [*insert name of study here*]

An exploration of operational risk management in banking – a developing economy perspective.

.....
1 I confirm that I have been given a Participant Information Sheet (a copy of which is attached to this form) giving particulars of the study, including its aim(s), methods and design, the names and contact details of key people and, as appropriate, the risks and potential benefits, and any plans for follow-up studies that might involve further approaches to participants. I have been given details of my involvement in the study. I have been told that in the event of any significant change to the aim(s) or design of the study I will be informed, and asked to renew my consent to participate in it.

2 I have been assured that I may withdraw from the study at any time without disadvantage or having to give a reason.

3 I have been given information about the risks of my suffering harm or adverse effects. I have been told about the aftercare and support that will be offered to me in the event of this happening, and I have been assured that all such aftercare or support would be provided at no cost to myself.

4 I have been told how information relating to me (data obtained in the course of the study, and data provided by me about myself) will be handled: how it will be kept secure, who will have access to it, and how it will or may be used.

5 I have been told what will be done if the study reveals that I have a medical condition which may have existed prior to the study, which I may or may not have been aware of, and which could affect the present or future health of myself or others. If this happens, I will be told about the condition in an appropriate manner and advised on follow-up action I should take. Information about the condition will be passed to my GP, and I may no longer be allowed to take part in the study.

6 I have been told that I may at some time in the future be contacted again in connection with this or another study.

Signature of participant..... Date.....

Signature of (principal) investigator..... Date.....

Name of (principal) investigator [*in BLOCK CAPITALS please*]

.....VIVIEN OJADI.....

Appendix 9: EC6 Participant Information Sheet

UNIVERSITY OF HERTFORDSHIRE

ETHICS COMMITTEE FOR STUDIES INVOLVING THE USE OF HUMAN PARTICIPANTS
(‘ETHICS COMMITTEE’)

FORM EC6: PARTICIPANT INFORMATION SHEET

Title of Research

<An exploration of Operational Risk Management in banking – a developing economy perspective>

Introduction

You are being invited to take part in a research study. Before you decide whether to do so, it is important that you understand the research that is being done and what your involvement will include. Please take the time to read the following information carefully and discuss it with others if you wish. Do not hesitate to ask us anything that is not clear or for any further information you would like to help you make your decision. Please do take your time to decide whether or not you wish to take part. Thank you for reading this.

What is the purpose of this study?

- <This study explores the operational risk management and events in Nigeria banking System post consolidation>

Do I have to take part?

It is completely up to you whether or not you decide to take part in this study. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. Agreeing to join the study does not mean that you have to complete it. You are free to withdraw at any stage without giving a reason. A decision to withdraw at any time, or a decision not to take part at all, will not affect any treatment/care that you may receive (should this be relevant).

How long will my part in the study take?

If you decide to take part in this study, you will be involved in it for periods between July 2015 to July 2017. Your actual participation which could be interview, document review and discussion could take place within one or two days. The only exception would be when there are large volumes of archived documents to be retrieved which may involve several visits to your office.

What will happen to me if I take part?

The first thing to happen will be:- I will provide you with the formal documentations needed to observe ethics protocol, request access to documents, reports, data and information as required and thereafter, schedule a personal interview with you as required

What are the possible disadvantages, risks or side effects of taking part?

As required by ethics, all information is treated in strict confidence. It is not expected that you will be disadvantaged by the research. No side effects are expected to arise from the work.

What are the possible benefits of taking part?

No personal benefit is expected but the research result could be of immense general benefit to the country at large and to the banking sector in particular.

How will my taking part in this study be kept confidential?

Data and information would be locked up in a secure cabinet in the university with controlled access limited to only me and the research supervisor.

Data and information obtained from this study would be aggregated and coded before quantifying and analyzing results. The confidentiality code provides the assurance that individual data and information would be treated in strict confidence.

All data stored electronically will be password protected and only the supervisor and researcher will have access to it.

What will happen to the results of the research study?

The results of the research would be used for the completion of a Ph.D thesis. It could be referred to in academic writing and in any published report. In all such cases, participants' identity would remain anonymous.

Who has reviewed this study?

This research has been reviewed by Prof. Hulya Dagdeviren and Dr. George Katechos.

Who can I contact if I have any questions?

If you would like further information or would like to discuss any details personally, please get in touch with me, in writing, by phone or by email:

Vivien Ojadi.

Department of AFE. Hertfordshire Business School.

University of Hertfordshire.

Hatfield. AL10 0RP. United Kingdom.

Phone: 07404102147

Email: vivojadi@yahoo.co.uk

Although we hope it is not the case, if you have any complaints or concerns about any aspect of the way you have been approached or treated during the course of this study, please write to the University Secretary and Registrar.

Thank you very much for reading this information and giving consideration to taking part in this study.

Appendix 10: Ethics Approval

The screenshot shows a PDF document titled "ETHICS APPROVAL NOTIFICATION" from the University of Hertfordshire. The document is displayed in a web browser window with a Windows taskbar at the bottom. The browser address bar shows the file path: "D:/Viv%20Lptop%20files/vo10aac/Documents/PHDb/2014-09-25-Ojadi%20V%20Approval%20cBUS%20PG%2...". The document content includes the University of Hertfordshire logo, the text "UNIVERSITY OF HERTFORDSHIRE SOCIAL SCIENCES, ARTS AND HUMANITIES", and the title "ETHICS APPROVAL NOTIFICATION". The document details the recipient (Vivien O Ojadi), the sender (Dr Timothy H Parke, Social Sciences, Arts and Humanities ECDA Chairman), and the date (25/09/14). It also provides the protocol number (cBUS/PG/UH/00706) and the title of the study: "An exploration of the impacts of risk management on banking consolidation – a developing economy perspective". The document states that the application for ethical approval has been accepted and approved with the following conditions by the ECDA for your school. The approval conditions are listed below.

UNIVERSITY OF HERTFORDSHIRE
SOCIAL SCIENCES, ARTS AND HUMANITIES
ETHICS APPROVAL NOTIFICATION

TO Vivien O Ojadi

CC Edna Stan-Maduka

FROM Dr Timothy H Parke, Social Sciences, Arts and Humanities ECDA Chairman

DATE 25/09/14

Protocol number: **cBUS/PG/UH/00706**

Title of study: An exploration of the impacts of risk management on banking consolidation – a developing economy perspective

Your application for ethical approval has been accepted and approved with the following conditions by the ECDA for your school.

Approval Conditions:

Appendix 11: CBN Implementation Status Report

(Table 7.4 complete version) CBN Implementation Status Report

BASEL II AND III IMPLEMENTATION AND CHALLENGES	
QUESTIONS	NIGERIA CENTRAL BANK
1	<p>What version of the Basel standards have you implemented?</p> <p>Basel II and some aspects of Basel III. The adopted versions are applicable to commercial banks, merchant (investment) banks, and non-interest (Islamic) banks operating in Nigeria.</p>
2	<p>Do you intend to implement a further version, in which case by what date?</p> <p>We intend to implement a further version of Basel III by end of Q3, 2020. Further details on these are contained in some aspects of this response</p>
3	<p>For Q1 (and separately for Q2 where applicable) please describe the version of the Basel standards in more detail, including any national variants on the core standards. This should include (but need not be limited to): a) Definitions of capital – Basel II, or the stricter Basel III standards?</p> <p>a) Basel II standards with a cap to Tier 2 capital elements up to one-third of Tier 1 capital, subject to deductions like deferred tax assets, good will and intangibles. Tier 3 capital is not recognized. All capital needs are met by Tier 1 and Tier 2 capital only.</p>
	<p>b) Minimum capital requirements</p> <p>b) Minimum regulatory capital adequacy ratio (CAR) of 15% is applicable to banks with international authorisation while a CAR of 10% is applicable to other banks. This is higher than the 8% required by BCBS.</p>
	<p>c) Capital conservation buffer</p> <p>c) NA- Guidelines being developed.</p>
	<p>d) Designation of D-SIBs (with implications for</p> <p>d) We currently have 6 D-SIBs that are required to maintain additional capital surcharge. They are also</p>

	capital buffer, supervision and recovery and resolution planning)	subject to more intense supervision and recovery and resolution planning requirements.
	e) Additional capital requirements for all or some banks – for example, capital buffers for systemically important banks, other systemic risk buffers	e) The D-SIBs are required to maintain an additional capital surcharge of 1% to their respective minimum required CAR. The surcharge is to be met with CET 1.
	f) Any use of the counter cyclical capital buffer, or other capital-related macroprudential tools	f) The Central Bank of Nigeria (CBN) proposes to introduce some versions of Basel III Standard to reduce pro-cyclicality and promote countercyclical buffers. This will also be supplemented with the phasing in of the conservation buffer, introduction of leverage ratio, liquidity coverage ratio.
		In the meantime, in order to encourage banks to build capital buffers, the CBN in a circular dated October 2014 directed that when banks have satisfied some conditions, they will be allowed to pay a certain percentage (30%, 75% or 100%) of their profit after tax; otherwise they will be completely barred from the payment of dividend.
		In this way, the regulation serves as a capital conservation buffer.
	g) Measurement of risk weighted exposures for each type of risk (credit, market, operational, CVA, etc, and sub-divisions of each of these risks) h) Standardised approaches	g) Where total risk-weighted assets are calculated as the sum of: - risk-weighted on balance sheet and off-balance sheet assets computed according to Standardised Approach for credit risk
		- 12.5 times the sum of the capital charges determined for market risk and operational risk h) Standardised approach under Basel II is used for

		calculating Credit and Market Risk and the Basic Indicator Approach for Operational risk.
	i) Use of internal model based approaches (AIRB and F-IRB for credit risk, IMA for market risk, AMA for operational risk (under Basel II only), etc)	i) Given the lack of reliable data and limited experience in building and validating ratings system and other internal models for the estimation of capital requirements, Nigerian banks are only allowed to implement the standardized approaches for credit and market risks and the Basic Indicator approach for operational risk under the Basel II accord. The requirement is that the adoption of other advanced methods under the accord will be subject to prior approval of the Central Bank of Nigeria.
	j) Output floor	j) NA
	k) Leverage ratio	k) Guidelines on Leverage Ratio will be issued to the industry by December 2019, drafts have been developed.
	l) Liquidity ratios (LCR and NSFR)	l) Guidelines on Liquidity Coverage Ratio will be issued to the industry by December 2019, drafts have been developed
	m) IRRBB disclosures n) Pillar 3	m) A Guideline on IRRBB has been finalised and issued but will come into effect as from January 2020. n) Banks are required to make disclosures as prescribed in Basel II on how they calculate their capital needs and risks management policies and procedures at least annually. Such disclosures are to be stated in the audited financial statements and must also be published on their websites. A copy has to be submitted to the CBN.

4	<p>What use have you made of the national discretions allowed for in the Basel standards? Where else has national implementation been adapted to reflect country circumstances?</p>	<p>In calculating the regulatory CAR, Cash and sovereign securities have a risk weight of 0%, while sub-national debt securities have a risk weight of 20%, subject to some conditions. All Corporate exposures are considered unrated and assigned a risk weight of 100%. To address concentration risks, the CBN requires that where exposure to a particular industry within a sector is in excess of the total credit facilities of a bank, the entire portfolio in that industry will be risk weighted at 150% while all breaches of single obligor limit is regarded as impairment of capital. In addition, the maximum aggregate regulatory retail exposure (SME) is defined as N100m (\$277,778), which is the threshold definition of an SME. Though there is a perception that the default experience could be higher, but the risk weight is retained at 75% to encourage consumer lending and boost employment. Further, investments in non-financial firms with negative financial results over the past two years are risk weighted 200, while breaches of single obligors is considered as impairment of capital and therefore deducted from core capital.</p>
		<p>To build capital buffers:</p>
		<p>- Banks that have a composite risk rating (CRR) of “High” and a non-performing loan ratio (NPL) of above 10%, are not allowed to pay dividend,</p>
		<p>- Banks with a CRR of “Above Average” or an NPL ratio of more than 5% but less than 10% can make a dividend pay-out of not more than 30% of their PAT,</p>
		<p>- Banks with a CAR of at least 3% above minimum requirements, CRR of “Low” and NPL ratio of more than 5% but less than 10%, can pay dividend of 75% of their PAT,</p>

		<p>- There is no restriction on dividend pay-out for banks that meet the minimum capital adequacy ratio and have a CRR of “Low” or “Moderate” and an NPL ratio of not more than 5%. However, the Boards of such banks are expected to make recommendation on pay-outs based on effective risk assessment and economic realities. NSFR</p>
5	<p>Why have you made the implementation choices set out in response to Q1 – Q4? What were the main considerations?</p>	<p>The Basel Capital Framework was implemented in Nigeria as part of the broad banking sector reforms. It was aimed at enhancing the quality of banks’ capital and to have a healthy financial sector that is able to contribute to the development of the real sector. The implementation was seen as a key step in strengthening the supervisory framework which was deemed necessary given the increasing sophistication and cross-border expansion of Nigerian banks following the banking sector consolidation of 2004/2005 that significantly increased minimum capital requirements from \$6.57m to \$81.97m. Further, a number of foreign banks from other markets such as UK and South Africa had expanded into Nigeria and some of the Nigerian banks had also established subsidiaries in jurisdictions that had already implemented the framework. The increase in crossborder banking operations made it necessary for Nigeria to implement Basel II to ensure a more consistent approach in the estimation of capital adequacy across banks operating in Nigeria and to enhance comparability of banks’ reported capital. In addition, the choices were made based on: The state of readiness of the banks, the resource requirements (staff and IT), the stage of development of risk management practices in banks, etc</p>

6	Do you currently apply (or do you intend to apply) proportionate requirements to banks in your country (for example, a simpler capital, liquidity or regulatory reporting regime for smaller banks)?	Yes, proportionality is applied as banks with international authorisation have higher capital requirements. For liquidity, proportionality is based on business model, thus, commercial banks have higher requirements than merchant banks (investment banks) and other noninterest banks.
	If Yes, please answer Q7 – Q10 If No, please skip Q7 – Q10	Yes, proportionality is applied as banks with international authorisation have higher capital requirements. For liquidity, proportionality is based on business model, thus, commercial banks have higher requirements than merchant banks (investment banks) and other noninterest banks.
7	Why have you introduced proportionality?	Proportionality was introduced as a result of the varying size, complexity and business model of each of the Nigerian banks. The smaller banks may not have the resources to implement the onerous reporting requirements, thereby reducing compliance cost.
8	Which banks are subject to different regulatory requirements? What percentage of banks in your country are subject to proportional requirements?	Internationally active banks are subject to a different regulatory capital requirement. 29.63% of the Nigerian banks are subject to proportionality requirements.

Appendix 12: FDI Outflow through Nigeria Banks (excerpts)

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Table D.2.2.1A: International Investment Position (₦ Million) Assets by Bank only														
Type of Asset	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ASSETS	5,396,331	7,759,720	8,907,353	12,113,594	12,086,759	13,116,961	15,738,479	19,432,490	18,978,888	19,252,760	20,417,665	28,921,388	35,241,136	39,737,238
Portfolio investment abroad	367,831	557,874	732,396	1,453,798	1,764,724	222,244	234,087	230,420	229,226	248,108	289,186	416,051	454,362	458,894
Equity Securities	331,799	503,225	665,806	1,287,230	1,566,415	77,246	80,981	79,117	78,343	84,454	96,817	148,577	147,103	144,533
Banks	331,799	503,225	665,806	1,287,230	1,566,415	3,862	4,049	3,956	3,917	4,223	4,841	7,429	7,355	45,591
Debt Securities	36,033	54,649	66,590	166,568	198,310	144,998	153,106	151,303	150,883	163,653	192,369	267,474	307,259	314,361
Money Market	36,033	54,649	66,590	166,568	198,310	920	972	960	957	1,039	1,221	1,697	1,950	1,992
Banks	36,033	54,649	66,590	166,568	198,310	920	972	960	957	1,038	1,221	1,697	1,950	1,992
Other Assets	1,331,030	1,696,166	1,941,473	3,294,093	3,366,448	6,176,228	8,359,025	10,311,011	9,928,863	10,965,038	12,285,185	17,926,432	20,309,089	23,595,034
Trade Credit	423,036	602,460	213,829	295,422	7,739	2,092,576	2,545,423	2,255,265	2,313,411	1,853,554	1,324,190	1,985,047	2,622,889	3,356,651
Loans	120,493	134,802	137,752	193,486	275,559	0	0	0	0	14,657	2,248	3,363	365	74,526
Banks	120,493	134,802	137,752	193,486	275,559	0	0	0	0	14,657	2,248	3,363	365	74,526
Short-term	120,493	134,802	137,752	193,486	275,559	0	0	0	0	14,657	2,248	3,363	365	74,526
Currency and Deposits	787,501	958,905	1,589,892	2,805,185	3,083,149	4,083,652	5,813,602	8,055,746	7,615,451	9,096,827	10,958,746	15,938,023	17,685,835	20,163,857
General Government	112,743	95,628	238,224	544,008	958,583	381,323	629,715	485,251	511,553	441,346	245,663	350,283	506,362	693,888
Banks	463,239	638,105	930,748	1,506,846	1,265,643	1,287,050	1,703,189	2,005,453	2,106,474	2,118,855	1,591,347	2,073,199	2,644,154	2,912,076
Other Sector	211,519	225,172	420,919	754,331	858,923	2,415,280	3,480,698	5,565,043	4,997,424	6,536,626	9,121,736	13,514,540	14,535,319	16,557,894
Reserve Assets	3,658,122	5,425,579	6,055,772	7,025,728	6,339,573	4,837,305	5,165,800	6,839,737	6,683,259	5,810,105	5,557,968	8,218,631	12,022,491	13,055,319
							1,789,190	2,089,486	2,189,692	2,223,228	1,696,473	2,234,264	2,800,927	3,178,7184
Source: Extracted from Central Bank of Nigeria														

Appendix 13: CBN Circular on Implementation of Basel III (Sept 2021)



CENTRAL BANK OF NIGERIA
Banking Supervision Department
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September 2, 2021

BSD/DIR/PUB/LAB/14/063

LETTER TO ALL BANKS

BASEL III IMPLEMENTATION BY DEPOSIT MONEY BANKS IN NIGERIA

You will recall that the Central Bank of Nigeria (CBN) had completed the development of guidelines for Basel III implementation by banks in 2020. However, due to the outbreak of the COVID-19 pandemic, the implementation was suspended to minimize the regulatory compliance burden on the banks. Following the gradual global economic recovery, the CBN hereby releases the underlisted Basel III Guidelines/Reporting Templates for implementation:

S/N	Guidelines	Reporting Templates
1	Guidelines on Regulatory Capital	Reporting Template for Group Capital Adequacy (TR-GCAR) Reporting Template for Solo Capital Adequacy (TR-SCAR)
2	Guidelines on Leverage Ratio (LeR)	Reporting Templates for Leverage Ratio (TR-LeR)
3	Guidelines on Liquidity Coverage Ratio (LCR)	Reporting Templates for Liquidity Coverage Ratio (TR-LCR)
4	Guidelines on Liquidity Monitoring Tools (LMT)	Reporting Templates for Liquidity Monitoring Tools (TR-LMT)
5	Guidelines on Large Exposures (LEX)	Reporting Template for Large Exposures (TR-LEX)
6	Guidelines on Liquidity Risk Management and Internal Liquidity Adequacy Assessment Process (LAAP)	NA

In addition, the Revised Guidelines on the Supervisory Review Process of Internal Capital Adequacy Assessment Process (SRP/ICAAP) are also issued herewith for adoption by banks.

The guidelines can be accessed at the CBN website: www.cbn.gov.ng.

The implementation of the Guidelines will commence with a parallel run effective from November 2021 for an initial period of six (6) months, which may be extended by another 3 months, subject to milestones achieved in the supervisory expectations.

All banks shall submit monthly returns not later than five (5) working days after the end of the preceding month, with effect from November 2021.

During the parallel run, the Basel III guidelines shall operate concurrently alongside the existing Basel II guidelines.

Subject to the successful conclusion of the parallel run, the Basel III Guidelines shall become fully effective.

Finally, all banks are to note that capital add-on will be introduced in a phased manner as part of the overall supervisory process of Pillar II assessment to enhance better risk management practices and better align their capital with their risk profiles.

Yours faithfully,



HARUNA B. MUSTAFA
DIRECTOR OF BANKING SUPERVISION

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Appendix 14 Mapping of Theory and Practice of ORM in Nigeria

Theoretical underpinnings of ORM	How theories inform the Basel principles of ORM?	Extent Nigerian banking system has implemented the ORM practices implied by the Basel Rules		Strengths of Nigeria system ORM	Lessons, Challenges or Limitations	British vs Nigeria
Governance	Internal Controls	The What? Extent and structure	The How? Performance of Basel principles	Granular implementation process	Senior management / Conduct Risks	
Governance,		Level of Implementations	Policy and Governance	Innovative tool	Cost of Compliance	
Uncertainty		Structure of ORM under Basel	Internal Controls	Value Adding	Negative publicity	Standardised approach
Risk	Market discipline	ORM framework	OR Champions	Proactive Approach	Outsourcing	Business Lines
People Behaviours/ governance	Risk Measurement Approach	Risk Assessment Matrix	Policy Impact	ORM and HR	Information Asymmetry / Staff Turnover	Recruitment of OR heads
Compliance	Audit	Risk identification. Assessment and control standard	Policy Implementation	Bottom-up Approach Breakdown of Silos	Curtailing cybercrime & Digital banking	Effectiveness of measures? How do you know?
Competency	Fraud Management	Risk Monitoring Database	Risk and Environ Control factors	OR and Credit Risk	Operational losses	A thankless Job
Information	Historical Context	Loss database	RCSA	After Action Review, Loss event reporting	Electronic fraud	
Third party & Outsourcing	ERM	Corporate Governance	Examination and Supervision	Fraud report New products	External Risk factors	
Integrated Risk Management	Ethics	Canadian Model	Banks' influence on CBN	Triangle of Control	Disaster Recovery	
Accountability	Internal Control	Biz continuity management	Benchmarking	Digital banking	Cyber crime	
Opportunism/ Self interest	Regulatory reporting	Risk Exposure	Site Visits	Blame free risk culture	Overload of banks' responsibility	
	Regional Lines	Risk factors	Key risk indicators	Benchmarking by regulators	Compliance risk	
Governance	Policy Evaluation	Personnel and Training	Realized Risks	After Action Review	Inadequate reporting (info withholding)	

				Incremental value gain	Regulatory imposition/ Gaps	
			Integrated RM, multi-unit handshake and joint ownership of risk			