EXPLORING HOW INCREMENTAL INNOVATION CAN BE USED TO ENHANCE GROWTH IN THE NIGERIAN ONLINE GROCERY BUSINESS

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Abstract

When it comes to businesses in the service industry, the goal of innovation is often geared towards growth and expansion by combining creativity with existing technology/inventions which is the norm in countries with low new invention drive. However, for online grocery businesses operating in Nigeria, creativity and ideas are often not matched with innovation and this in most cases results in uncoordinated and futile efforts, that give rise to ambiguity in innovation knowledge and application, which in turn rarely leads to appreciable growth in services. This thesis intends to explore innovation practices in online grocery businesses in Nigeria to see if innovation management was part of the online service culture, its use in online marketing and online placement of orders, and the form and type, if any, it took. Furthermore, specific infrastructural challenges impeding innovation usage were also investigated. The existing literature in related topics was extensively reviewed with conceptual and theoretical frameworks proposed which described the influences of innovation management in the business setting especially as it related to online services. Given the exploratory nature of the research, a qualitative approach was preferred and case study used for the research methodology. Data was collected from twenty-four respondents, broken down into three distinct groups, through interviews, with five online grocery businesses. Three of such businesses were located in Lagos and two were located in Abuja. These two locations represent the commercial and political nerve centres of Nigeria and thus, were perfect case studies for the research. The first group comprised of ICT professionals/experts who shed light on technological innovations available to online services in the grocery sub-sector. The second group were respondents from the online grocery businesses involved in ICT and marketing and should have sufficient knowledge on innovation management processes and applications. Since the field work occurred during the COVID-19 pandemic and created restrictions on movement, majority of the data was collected using e-mail and online structured interviews with phone calls for follow up where necessary. The emergent view from this research indicates that there is near absence of innovation management in the online grocery business in Nigeria with an overreliance on creativity and ideas rather than any structured innovation sourcing, acquisition and development process to drive innovation, which leads to innovation ambiguity, which in turn has created problems with the application of innovations in the online services of online grocery businesses in Nigeria, especially in the online marketing and online order placement algorithms as

the process and incremental innovations which are best suited for such businesses are undefined and random. This ambiguity leads to customer dissatisfaction as most customers are discouraged to use online grocery services. Furthermore, poor road networks and unstable power supply affect the extent to which online grocery businesses in Nigeria are willing to develop their online services using innovation as a growth medium. Lastly, poverty of wide strata of population, fraud concerns and low internet penetration, has further complicated the growth of online grocery businesses in Nigeria. The findings of the research closely considers some of the factors limiting the proper use of innovation to grow services of online grocery businesses in Nigeria and then recommends ways by which this can be tackled by addressing the key areas of innovation ambiguity, innovation application using process and incremental innovations to improve online marketing and online order placement services and mitigating infrastructural challenges to achieve growth. The findings of this research while specifically addressing the online grocery business in Nigeria, may be relevant to other similar internet-based businesses and or industries.

Keywords: Innovation management, innovation application, incremental innovation, infrastructural challenges, customer perspectives, creativity

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List of Abbreviations

AI - Artificial Intelligence

AMP - Accelerated Mobile Pages

APPS - Applications

CBAM- Concerns Based Adoption Model

FINER- Feasibility, Interest, Novelty, Ethics and Relevance

GSM - Global System for Mobile Communication

ICT - Information Communication Technology

IT - Information Technology

IDT - Innovation Diffusion Theory

KPMG- Klynveld Peat Marvwick Goerdeler

NBS - National Bureau of Statistics

OLX - On-Line eXchange

SMEs - Small and Medium Enterprises

SUVs - Sports Utility Vehicles

TAM - Technology Acceptance Model

UNCTAD United Nations Conference for Trade and Development

UPS - Uninterrupted Power Systems/Supply

UX - User Experience

CHAPTER ONE

INTRODUCTION

1.1 Preamble

Innovation is an essential part of human existence as society continually seek for better ways to improve itself by introducing new methods of doing things and or solving problems. This attempt to innovate also resonates with and is a key part of business development as companies thrive to find ways to get a competitive advantage in a complex and competitive business environment. Frankelius (2009) stated that innovation is geared towards creating more effective products or activity which encompasses services, processes, technology or business models. However, to successfully grow a business, there should be a balance of creativity, innovation knowledge, technical know-how, a clear understanding of the barriers to innovation and a proper measurement of customer perception. This is what informs this study. Due to the diverse nature and understanding associated with innovation and services, this study focuses on the intangible aspects of the service process that has the production of a tangible service as its end result. It explores how innovation can be applied to grow the service industry with specific focus on the online grocery business in Nigeria by looking at the innovation management structure of some businesses.

Following from the above, this chapter sets the stage by establishing the basic parametres of the study and is divided into eleven parts. The first part is the preamble which introduces the topic and provides an outline for the chapter. The second part is the background to the study which provides a broad overview of the subject matter and serves to provide a background on the major themes of the study as contained in the topic which are; innovation, service and the online business in general. The background to the study is followed by the third part which states the research problems and addresses the issues and challenges which informed the research. It identifies the area of concern and provides an overview of the area of exploration. It also attempts to provide evidence for the identified research problems. The research aims and objectives make up the fourth and fifth parts respectively. The intention of the study is expressed in the research aim while the research objectives clearly outline the steps to be taken in order to achieve the research aim, taking into consideration, the specifics of the study, measurability, achievability and time constrains. Research

questions are a key part of the chapter and makes up the sixth part of the chapter. The research questions are developed using the FINER criteria. According to Hulley (2007), Feasibility, Interest, Novelty, Ethics and Relevance serve as guides towards generating research questions. The research question will also determine the type of research to be used for this study. The seventh part of the chapter addresses the expected contribution to knowledge. Aside from the contribution to scholarly literature, the contribution to knowledge is expected to show how the study can have practical benefits to the service industry in general and to online grocery businesses in particular, in Nigeria. The context of the research makes up the eighth part of this chapter and situates the research within its scope including location, timeframe and expected research population. The significance of the research makes up the ninth part of this chapter and speaks to the importance of this research within the field of business innovation and practical utility especially as it pertains to the online service industry in Nigeria. The basic assumptions of the study is the tenth part, while the organisation of the study concludes the chapter.

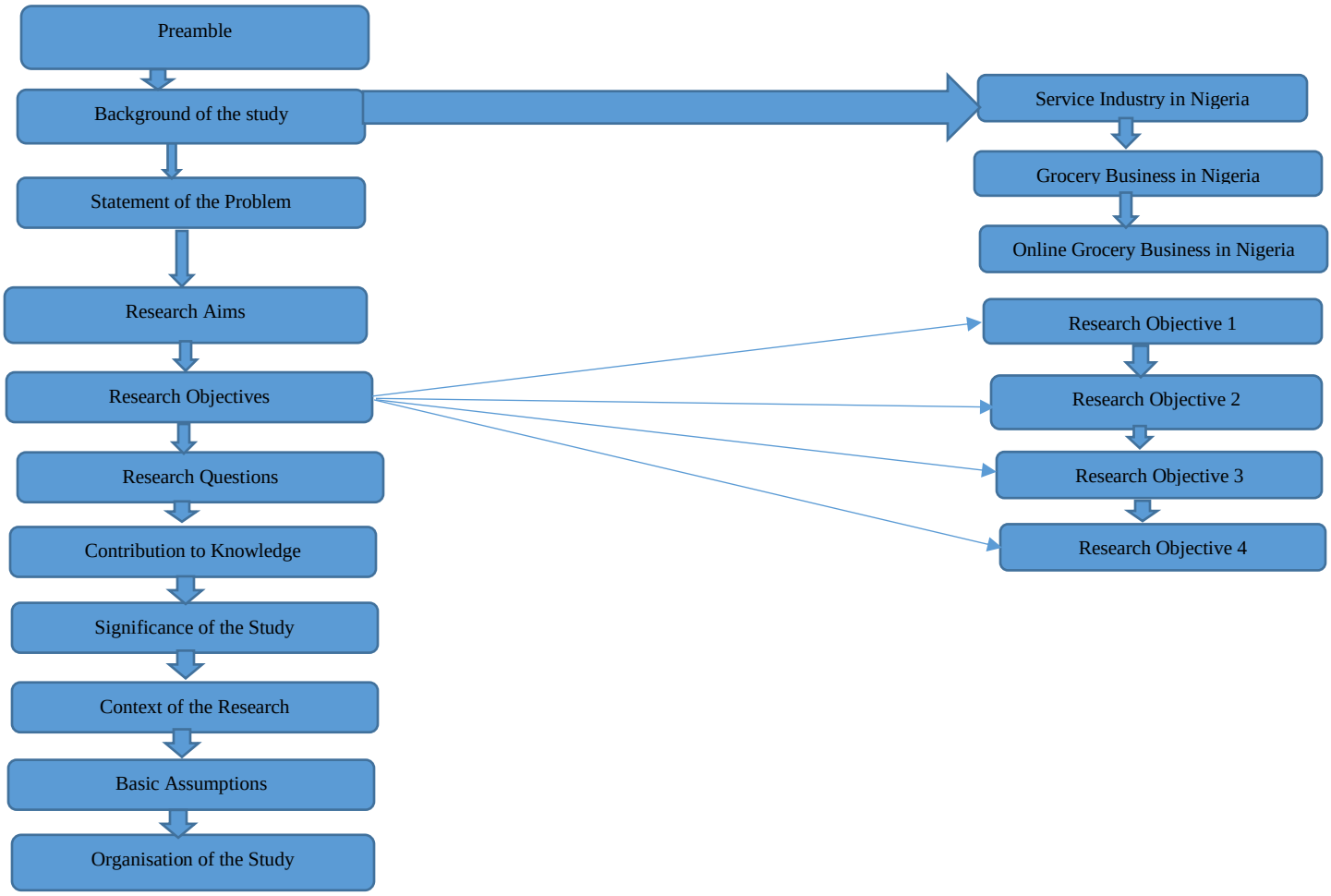

Figure 1.1: Chapter One Roadmap

1.2 Background to the Study

Various challenges often arise when traditional brick and mortar businesses try to create strategies to grow their businesses using online mediums. These challenges may arise due to a gap in knowledge and or understanding of innovation and its application in the business service process. This is more prevalent in developing countries located across the African continent where there is more reliance on utilising inventions and technologies from developed climes and as such, this research seeks to explore the knowledge of business owners and identify some of the available online innovations that are associated with online grocery businesses, with emphasis on where and how innovations can be applied in the service process so as to enhance productivity. The study also looks at some of the infrastructural challenges affecting the service industry especially as it

pertains to the online grocery sector in Nigeria and the perception of online grocery shoppers towards such services.

literature containing empirical evidence on online grocery businesses in Nigeria is exceedingly scarce and the few available literature have often focused on the post-knowledge aspects of innovation such as *trust* and *customer feedback* (Gabriel et al, 2016) or the advertising aspects of online retailing (Nwokah and Ngirika, 2018), without carrying out a comprehensive study on how innovation is sourced and applied and or linking innovation with practice. Studies focusing on the link between innovation knowledge and know-how in the service process of online grocery business in Nigeria, are largely unavailable and this has potentially affected many actual businesses negatively. The lack of knowledge on the innovation management process especially in medium and small-scale business services in Nigeria is apparent. Businesses, especially Small and Medium Enterprises (SMEs) that have failed to find innovative ways to conduct their services by improving on the innovation process aspect of their businesses, have often either folded up or are stagnated, and this is a common occurrence in Nigeria (Adeyemi, 2014; Akinso, 2018). The realisation of the need to pay attention to the service aspects of business has led to SMEs exploring various solutions and as such, businesses are becoming more inclined to incorporate technological advancements in order to improve their business by embracing e-business and its related subsets of m-commerce and s-commerce alongside various other interactive online social networking mediums in the service industry (Ndubisi, 2015; Islam and Alghobiri, 2019). Innovation in the service industry is vital and encompasses the whole gamut of process and product development, competitive pricing, sensitisation and marketing, accessibility, customer relations, consumer experience and feedback. However, there is always the question of what type of innovation is available, and when and where in the service process chain can it be most effective (Christensen, 1997). This issue of availability and applicability is more evident when the service to be provided is directly tied to tangible products such as groceries.

The grocery sector in Nigeria is a large but very traditional one which comprises primarily of ‘brick and mortar’ shops, small shops and open-air market systems which relies on the customer taking out time to be physically present to inspect, bargain and make the needed purchase. This comes along with a number of challenges such as time constraints, mobility issues, security threats

and other infrastructural challenges. Furthermore, bigger grocery stores in Nigeria are heavily dependent on walk-in customers and this requires the installation of extensive security measures including close-circuit cameras, recruitment of a high number of security personnel, risks associated with having a high physical and fairly diverse stock offerings and other costly measures which impact on overhead costs and profitability.

Some grocery shops have tried to mitigate against the challenges of traditional 'brick and mortar' shops by taking advantage of technological innovations, especially in e-business, to market and sell their products through online mediums, thus improving their service offerings, whilst simultanously reaching out to a wider spectrum of customers over the internet. There are however questions as to how effective these approaches have been, the infrastructural challenges it faces, its level of acceptance by customers and if it contributes to the overall growth of the service industry in Nigeria (Ajayi, 2011; KPMG, 2016).

The use of the term 'service' has been expanded to include the peculiar character of e-business, e-commerce and their associated concepts. Choi (2010), Miraskari et al. (2011) and Salami et al. (2018), emphasise the importance of the internet when they point out that technological advancements (on the internet) are key to the growth of service trade. Sousa (2018) reinforces this position by stating that all aspects of the global economy, regardless of the sector, have been heavily influenced and shaped by the internet. The studies of Choi (2010), Miraskari et al. (2011) and Salami et al. (2011), relied heavily on studies conducted on e-businesses from a developed context, where developed countries have better integrated services industries which includes the grocery subsector and a high number of inventions, which does not necessarily reflect the challenges and or distinctiveness of e-businesses in a developing context where the low levels of innovation, minimal levels of access to the internet, fraud concerns, underdeveloped infrastructures, and poverty of wide strata of population, has created a gap in the e-business and online grocery sector that is peculiar to developing countries.

In developed economies, the grocery subsector has been a key beneficiary of e-business as evolving innovations have helped increase visibility, provide access to hitherto inaccessible or distant markets and providing consumers with a vast array of shopping options at their convenience

while keeping marketing and other related costs manageable. The online grocery business in the UK is expected to attain 33% growth in 2020 with an estimated value of £16.8 billion, which is an increase from £12.7 billion in 2019 (Mintel, 2020). Although the sector experienced a four years consecutive fall in growth hitting an all-time low of 2.9% in 2019(Skeldon, 2020). The sector is forecasted to gain 41% growth in the United Kingdom by 2024 which is set to worth £17.9 billion (Mintel, 2020). This expected growth is however not the case in developing economies like Nigeria.

Given its size and economic potential, Nigeria is considered a late adopter of online services (Agwu, 2017, Adeboye and Alenoghena, 2019). The potential for growth in the online service industry became a viable option for the Nigerian services sector with the commencement of GSM services in 2001 and the introduction of data packages which enabled customers have greater access to the internet and carry out various transactions online (Isabona, 2013). The first notable and fully integrated online businesses in Nigeria were KONGA and JUMIA, two general multi-product sales companies that sell a variety of products ranging from electronics to cosmetics (Akintola, Akinyede and Agbonifo, 2011). Both companies were established in 2012 in Lagos, Nigeria. Since then, a number of medium to large companies such as Wakanow, Dealdey, OLX, and Payporte, who all rely heavily on e-commerce to transact their businesses have since sprung up and carved a niche for themselves by not only introducing new ways of carrying out business in the Nigerian market, but also applying innovations in the service process.(Philips Consulting, 2014).

Following the expansion of internet services, online retailers in Nigeria have made efforts to introduce various levels of innovation in their service delivery systems to address a number of challenges unique to the online services sector (Oloja et al., 2019). A major concern of customers has been the issue of the activities of internet fraudsters who are able to access customer credit card details and then carry out illicit transactions. To address this, some online retailers introduced innovative payment methods which are designed to protect customers when they make online purchases. An example of this is the KongaPay platform which is fully integrated into the banking systems of partner banks and provides greater security against online payment fraud (Enterprise Today, 2018). Another innovation introduced to address the environmental challenges affecting

the delivery of goods purchased online is the introduction of tracker services which enables customers track their purchases until they are delivered. There is also the introduction of general market-place services which allows an integration between buyers and sellers across the country and provides an interface for price comparison. These innovative introductions are pointers to the fact that the service industry in Nigeria is expanding especially when juxtaposed with the volume of online transactions (Enterprise Today, 2018).

Research shows that there is a growing number of Nigerians resorting to online transactions (KPMG, 2016; Ishola & Olusoji, 2020). For instance, a 2019 report by Paystack, an online payment solutions company based in the United States of America, but with offices in Nigeria, recorded a transaction high of $27.5Million in October, 2018 from over 2.9 Million transactions (Paystack, 2019). This was a growth from $2.7m from 186,530 transactions in July, 2017 (Paystack, 2019). The breakdown of the purchases made online in Nigeria between 2013-2014 on one of the leading online stores showed that mobile phones, tablets and similar telecommunication devices were the most purchased products online. This was followed by electronics (specifically, television brands) Clothing, watches, necklaces and other fashion accessories, constituted a small percentage with home and kitchen furniture bringing up the rear (wemadeitinafrica.com, 2019).

Companies that conduct a lot of their businesses online in Nigeria often pride themselves as major players in the service industry and tend to assert that they are at the forefront of innovation. In order to further understand and or verify the above assertions, a brief look at the service industry in Nigeria is necessary.

1.2.1 The Service Industry in Nigeria

Industrialisation is vital to any economy with the extractive, manufacturing and agricultural industries being essential to the creation of jobs, revenue for governments and production of goods and services (Szirmai, 2012). However, in the last couple of decades, the services industry has been differentiated from the other industries even though elements of services have been incorporated into various aspects of other industries (Eswaran and Kotwal, 2002; Attiah, 2019). While the services industry in developed countries are clearly distinguished and contribute

massively to the financial economy, the services industry in developing countries like Nigeria are still coming to terms with the essentials of the industry.

Nigeria is classified as a mixed economy with expanding manufacturing, service, financial and communication sectors albeit with a heavy dependence on crude oil sales (Riman et al., 2013). Following the rebasing of its economy in 2013, it became the largest economy in Africa and the 27th largest economy in the world based on nominal GDP (Mezue, 2014) with Lagos State as its financial hub. Over the past few decades, the Nigerian economy has depended heavily on oil, agriculture and mining as its main business activities and or sources of revenue, however, since the rebasing of the economy, the services sector has become more integrated into the economy with the sector accounting for almost 55% of the country's GDP as at 2014 with wholesale and retail services accounting for 18%, real estate 8%, telecommunications and information 8%, professional and technical services 4%, finance and insurance 3%, while other services account for 13% (Oh, 2017). The Nigeria services industry however, does not reflect the true potential of the Nigerian economy as it continues to be bedevilled by various challenges such as inadequately conceived policies that impacts the nation's business environment, low levels of technical knowledge and poor infrastructure to support the auxiliary services associated with the service industry, such as poor road and rail networks and epileptic power supply (World Bank, 2016). These issues are also replicated in the various sub-services sectors which includes the grocery business.

1.2.2 The Grocery Business in Nigeria

As earlier noted, the grocery business in Nigeria is large but traditional and dominated by open-air market retail stalls that sell varied fresh and packaged food items. Majority of Nigerians patronise these grocery markets where they physically inspect the product quality, haggle over prices and make on the spot purchases. These grocery markets proliferate the country and are a very common feature in all towns and villages in Nigeria. There are also large modern brick and mortar grocery stores that incorporate a wide variety of other non-food products into their sales package. Most of these large grocery stores limit their grocery products to frozen and preserved food products as a result of the common belief that products sold in large modern stores and

supermarkets are more expensive than those sold in the open-air market retail stalls (Ezenwanne, 2005).

In Nigeria, groceries are more associated with edibles, and food expenditure in Nigeria accounts for over 72 % (Uzeka, 2011) of groceries sold in Nigeria with a large percentage of this at the informal retail level; that is the traditional open-air markets and small to medium stores (BusinessDay, 2014). Some grocery retailers are however leveraging on a critical factor to attract prospective customers to a new way of grocery shopping; that is the introduction of the internet and the attendant development of e-commerce.

1.2.3 Online Grocery Business in Nigeria

Online shopping in Nigeria is still at a very novel stage despite its growing acceptance as a more convenient means of shopping. However, combining grocery business and online innovations is even more novel as the Nigerian society is more inclined to the traditional open-air market shopping for groceries. Furthermore, electronic payment systems which are a necessity for online businesses to be fully operational and successful, are still viewed with scepticism by majority of the population which still prefer cash-based transactions (Adejoh, 2018) and as such limit such transactions to only essential purchases which often does not include groceries. Online grocery businesses in Nigeria are often concentrated in very few large cities in Nigeria such as Lagos, Abuja and Port-Harcourt, and for a number of these businesses, the online services they provide are not a major part of the service delivery process, but instead serve as an advertising and awareness medium where some online transactions occur, rather than it being a key or focal part of the business structure. The point here is that most grocery businesses in Nigeria do not use or incorporate any form of online strategy to enhance growth and improve service delivery as majority of the grocery retailers/businesses do not see online grocery shopping as important enough to be a vital component of their business process.

The viability of introducing online innovations in the grocery business in Nigeria to enhance growth in service delivery is determined by the grocery business operators having knowledge about the available innovation options, understanding the usefulness of the innovation and coming to terms with its practicability, safety and reception by the potential customers. Since most grocery

businesses in Nigeria are found in the open-air market and small stalls and are dependent on walk-in customers, there is little motivation to use online mediums to carry out business transactions or even find other innovative ways to grow the grocery business.

From the above analysis, it can be noted that the grocery business in Nigeria is divided into three distinct categories. The first category are the open-air market stalls and small retailers who do not perform any form of online transactions or limit such transactions to online payments which occur at the point of purchase. These category of operators depend on walk-in customers who are physically present to inspect the goods and pay for purchases. These category of operators are found in open-air markets and streets across the country. This is the most common form of grocery business in Nigeria. The second category of grocery businesses and or operators, are medium to large grocery businesses that incorporate some form of online service as a small part of their business process rather than a major component of the business. These businesses are brick and mortar outlets and use the online medium mainly as an advertising channel and or service which sometimes incorporates a payment system but does not depend on such systems or see it as a major component in its business service process. These businesses are found around the country but mainly in the capital cities of each state. The third category are grocery businesses who are fully online service oriented and are heavily dependent on online innovations to grow their businesses. For these grocery businesses, online service is a vital component to the success of the business process. These types of operators are found in commercial and administrative nerve centres of Nigeria, especially areas with a fairly high internet savvy population such as Lagos, Kano, Kaduna, Abuja and Port-Harcourt.

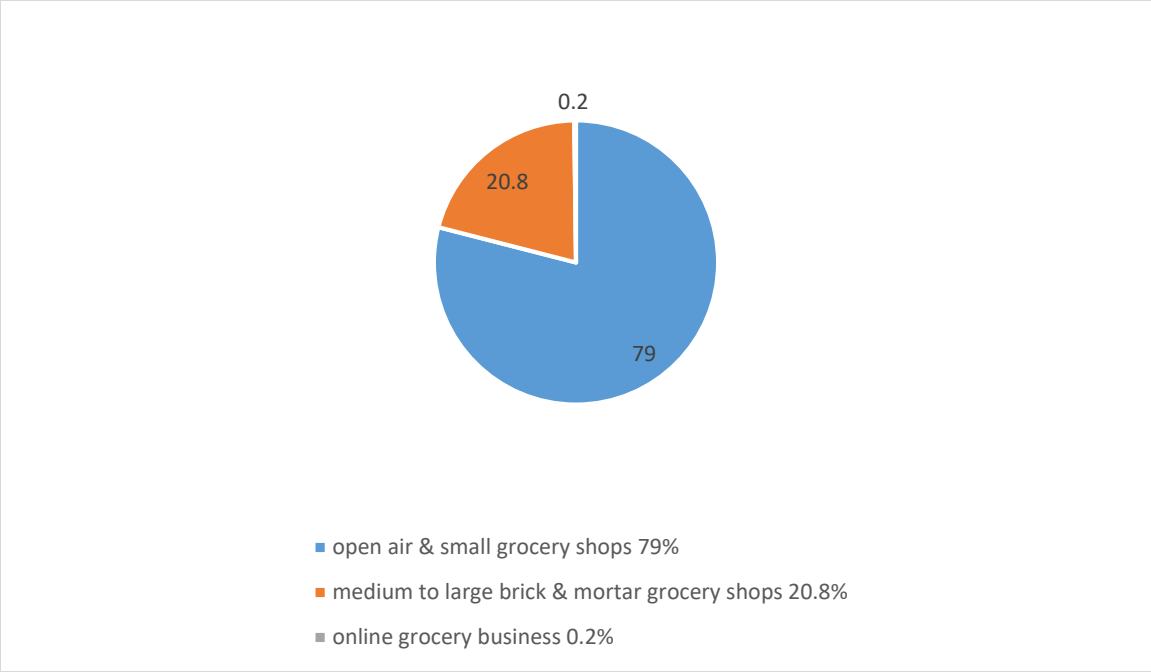

Fig. 1.2: Market share for grocery businesses in Nigeria (Author's work, 2019)

Figure 1.2 shows the market share for the various categories of grocery business in Nigeria and the open air and small grocery shops dominate the subsector with 79% market share followed by the medium to large brick and mortar business with 20.8% market share and the online grocery businesses with a 0.2% market share.

The focal point of this research is on the third category of grocery businesses because this is the category that depends on providing a high standard of service delivery and depends heavily on online innovations to reach its target population and or customer base, increase market shares and grow its business. To achieve its purpose, the study will examine how innovation in the service industry can be used to grow the online grocery business in Nigeria using five online grocery companies situated in Nigeria as case studies. The five companies selected will be businesses that carry out predominantly online grocery sales and see the provision of online services as an essential part of their business model.

Though online grocery businesses presently represent an almost insignificant number in the overall grocery sector in Nigeria, the growing emphasis on online shopping, in Nigeria, in general, indicates that online grocery services are bound to grow over time. However, given the

peculiarities of grocery shopping and the socio-cultural influences inherent in the Nigerian society, it is important that growth in the online grocery business in Nigeria be properly studied and guided for it to be impactful.

Following the introduction of the key aspects of the research which is expected to provide direction and a clear picture of the research, the next section looks at the problems associated with this research.

1.3 Statement of the Research Problem

Compared to developed economies found in Western Europe, Canada, The United States of America and fast-growing economies such as China, Brazil and India (Peterson, 2017), the service industry in Nigeria is still at the infant stage despite the availability of innovations which can be used to grow the industry and this is more prevalent in the online grocery business in Nigeria. The online grocery business is a relatively under-tapped sub-sector of the service industry in Nigeria and there are questions as to how it can grow beyond its present potential considering the potential market available in a population of over 180 million people with a rapidly growing working class (Ibrahim, 2013; Mbah, 2014). The present state of the online grocery business is fragmented and the rate of growth is less than encouraging. Although there are no comprehensive lists of online grocery businesses available in Nigeria, the researcher carried out an independent search from available online sources and field studies that indicated that between 2010 to 2015, there were twelve (12) registered online grocery companies with the Corporate Affairs Commission in Nigeria. However, by 2017, eight (8) had stopped offering online grocery services with four (4) having no trace of an online presence. While some new entrants have come into the business, its growth remains quite slow. One issue that needs investigation is identifying new online technology as some online grocery businesses seem not to be abreast of innovations that can grow their businesses. Tied to this is knowing when and how to apply innovation in the online service chain when it becomes accessible. Furthermore, the nature of the online grocery business indicates that it is heavily influenced by external factors (Aspray, Royer and Ocepek, 2013; Martin, Paliara and Roman, 2019), specifically, infrastructural issues relating to transportation (Mokhtarian, 2004) and electricity supply (Martin *et al*, 2019), is of primary interest to this study, as the researcher intends to evaluate these factors in order to ascertain the extent to which they pose problems to innovation

management in the online grocery business in Nigeria. Lastly, the issue of customer perception which requires further study to investigate what role customer bias plays in determining the growth or otherwise of the online grocery business will be studied. Overall, there is a sparse empirical study on the online grocery business in Nigeria.

Innovation management is a critical part of business development especially for those that are technology dependent in order to deliver the expected service. As noted earlier, the grocery industry in Nigeria is very *traditional* as customers prefer to be physically present when purchasing their groceries. With about 120Million Nigerians having access to the internet through various mediums such as mobile phones and tablets as at 2019 (National Bureau of Statistics, 2019) , the culture of online shopping in general is yet to be fully accepted and this is more so in the grocery retailing sub-sector, despite the inherent advantages of online shopping such as convenience and access to a wider market for both the retailer and consumer *inter alia*.

This research is undertaken to look into those innovation management and infrastructural issues that are related to online grocery business in Nigeria and how the innovation process can be introduced into the business so as to enhance the online service process and various innovations by online businesses, including secure payment and order placement functions. Also, government policies such as the Cybercrime bill of 2015 and the gradual migration to a cashless society by encouraging e-payment solutions, has seen about 40% of Nigerians make use of online transactions annually (NBS, 2018).

Innovation is vital and the grocery industry in Nigeria must design, develop and deploy more effective mechanisms that will enable them deliver services to the general public in a safe and cost effective manner. It is essential that the widest audience is reached using the most cost-effective methods. Consequently, the statements of the problem of this research are to address the following:

1. Explore the level of innovation knowledge of online grocery services in Nigeria;
2. Investigate the innovation application process in the online grocery services as it relates to online marketing and online placing of orders for online grocery businesses in Nigeria;

3. Investigate how infrastructural factors of poor road network and unstable power supply impact on innovation management in online grocery businesses in Nigeria;
4. The perception of consumers towards the online grocery service industry will be analysed.

Innovation does not occur in isolation. It occurs as a result of extenuating circumstances and evolving opportunities which either necessitate the use of innovation or provide a unique opportunity to innovate. E-business and by extension, online shopping, is by its nature, technology dependent, especially when it comes to the use of Information and Communication Technology (ICT) tools. While the ICT industry in Nigeria has expanded at an appreciable rate following the introduction of GSM technology in year 2001, knowledge about what technology is available to businesses that rely on online transactions especially as it pertains to the online grocery business remains low.

The exploration into innovation management systems and structures used by online grocery businesses in Nigeria will be properly situated and centred on two key business processes, these are; online marketing and online placement of orders. These two processes were chosen due to their importance to service delivery in the online grocery business and the impact they have in determining the general outlook of the business. They are also areas where the introduction of innovation can have a substantial impact on growth and service delivery for the business, whilst providing the business operators wider operability.

The performance of the service industry is however, also determined by other external factors. The process of delivering a service, especially in a developing country such as Nigeria, has its own challenges as it relates to infrastructural factors. This study seeks to identify the key challenges as they affect the service industry in general and the online grocery business in particular as it relates to poor road networks and unstable electricity supply, in order to investigate the extent to which they impact on innovation management.

Furthermore, innovations are only as successful as the acceptance they receive from the prospective customers. Innovations that are not in tandem or in tune with customer expectations will be less successful and are more likely to be rejected. To this end, the perception of customers

is key when looking at innovations and service delivery in the online grocery business in Nigeria. Using justification and ease of use channels, the customer perspective will be explored. Customer bias is critical to understanding why some innovations do better than others or why they are successful in one area and less so in another.

It is essential that a link between innovation management, infrastructural influences and customer perception be established in order to understand what issues need to be addressed for innovation to be able to grow the online grocery business in Nigeria.

1.4 Research Aim

The aim of this study is to investigate how innovation can grow the service industry as it relates to the online grocery sector in Nigeria. The findings of the study will contribute to both theory and practice of innovation management within the context of online grocery businesses in Nigeria. The study addresses real and pressing issues between innovation knowledge and application and the impact of infrastructure to the online grocery business in Nigeria. This aim can be arrived at by uncovering the organisational practices regarding innovation management in online grocery businesses in Nigeria, through examining how innovation is managed in the business using process and incremental innovation. This research will also examine the infrastructural factors that affect the use of innovations by online grocery businesses in Nigeria. This research will create awareness of the importance of innovation management in the online grocery business in particular and the service industry in Nigeria in general. The research will also identify the gaps in the innovation management process in the online grocery businesses in Nigeria and the possible actions required to close these gaps so as to grow the business.

The online grocery business requires a growth model which would ensure its sustainability in the harsh economic environment of Nigeria. The present penetration rate of just 0.2% indicates that online grocery services are yet to be fully accepted in the Nigerian e-business market. This makes the service very vulnerable to failure as there are little or no successful models to justify the business and this in turn justifies the need for this study to investigate the business model and suggest ways by which innovation can put the service on a more solid footing in Nigeria.

1.5 Research Objectives

1. To explore the level of innovation knowledge and application to online grocery businesses in Nigeria to grow marketing and placement of orders systems;
2. To investigate the infrastructural factors of road network and power supply and their impact on the growth of the service industry in Nigeria;
3. To investigate customer perception of the online grocery business; and
4. To recommend how innovations in the service industry can enhance growth in the online grocery business in Nigeria.

1.5.1 Objective One: Explore the level of innovation knowledge and application of online grocery businesses in Nigeria to grow marketing and placement of orders systems

The first objective is to identify the level of innovation knowledge and application of online grocery businesses in Nigeria to grow marketing and placement of orders systems.

Innovation knowledge connotes how creativity is merged with sourcing, acquisition and development in order to build a defined innovation management structure. It is the first stage in innovation management. Knowledge is vital to innovation as it creates the link between individual or group creativity with innovation as the latter, is key to the successful application of the former. The process through which innovation knowledge is sourced, acquired and developed up to the point where it can be transformed into a structured and defined form and its application is non-linear and dynamic (Maharajh and Kraemer-Mbula, 2010). Manarajh and Kraemer (2010) point out that the traditional relationship that existed between suppliers and users' knowledge, has over the years, changed and this has led to the blurring of the boundaries that existed between the public and private sectors. This is especially applicable to developing countries where most innovations in business are not home-grown. As such, an appreciable level of innovation knowledge is required.

According to Leonard-Barton and Kraus (1985), seamlessly adopting technical innovation for most businesses presents a challenge due to a number of situational factors which discourages them from fully harnessing the full potential of online shopping, which in turn leads to stagnation, poor market penetration, over-reliance on walk-in customers and general aversion to harnessing

the overall benefits of e-commerce. A number of researchers have looked at the challenges facing e-commerce in Nigeria generally, but a fewer number of researchers have looked at levels of innovation knowledge in the same setting. Ayo et al. (2011) and Kareem et al. (2014) among other issues, assessed the financial implications of introducing innovations to online businesses in Nigeria and found out that while a number of online businesses acknowledged the benefits of online innovations to their business process, they felt that the cost-profit ratio did not make it attractive enough to make such investment. These businesses rely more on traditional brick and mortar tactics of customer acquisition, where fliers, television and radio adverts and online referrals are the norm. This tallies with the work of Gabriel et al. (2016) who looked at online shopping businesses and systems in Nigeria and found out that a number of them used the online medium as an advertisement tool and stated that the cost of introducing online innovations was not worth the expected returns in Nigeria where a large percentage of shoppers were sceptical of online businesses. Scholars have opined that innovations in e-commerce and by extension, e-business, are a consequence of technological advancements which enable the introduction of improved processes and this is essential to understand and identify those technological advancements that, while being beneficial to the overall process, are limited in their implementation. Cantwell (2016) in his study posited that for businesses, the technological knowledge of business owners of innovations in e-commerce was a major determining factor in accepting, rejecting or delaying the use of innovations in the business and there is a link between innovation and internationalisation. The wide use of innovations in online businesses especially in developed countries was seen as possible as a result of the ability of executive managers and business owners to understand these innovations and know where in the business process they would have the most effective impact for the overall business structure. The ability to learn and adopt technological advancements in online businesses requires some level of re-engineering on the part of the business managers and to achieve this, they must consider their ability to pool together the needed expertise, tools and financial muscle, and match them with government regulations, socio-economic factors and consumer expectations. The gap to bridge in this area is knowing what innovation in technology is required to grow online businesses so as to enhance growth in service delivery.

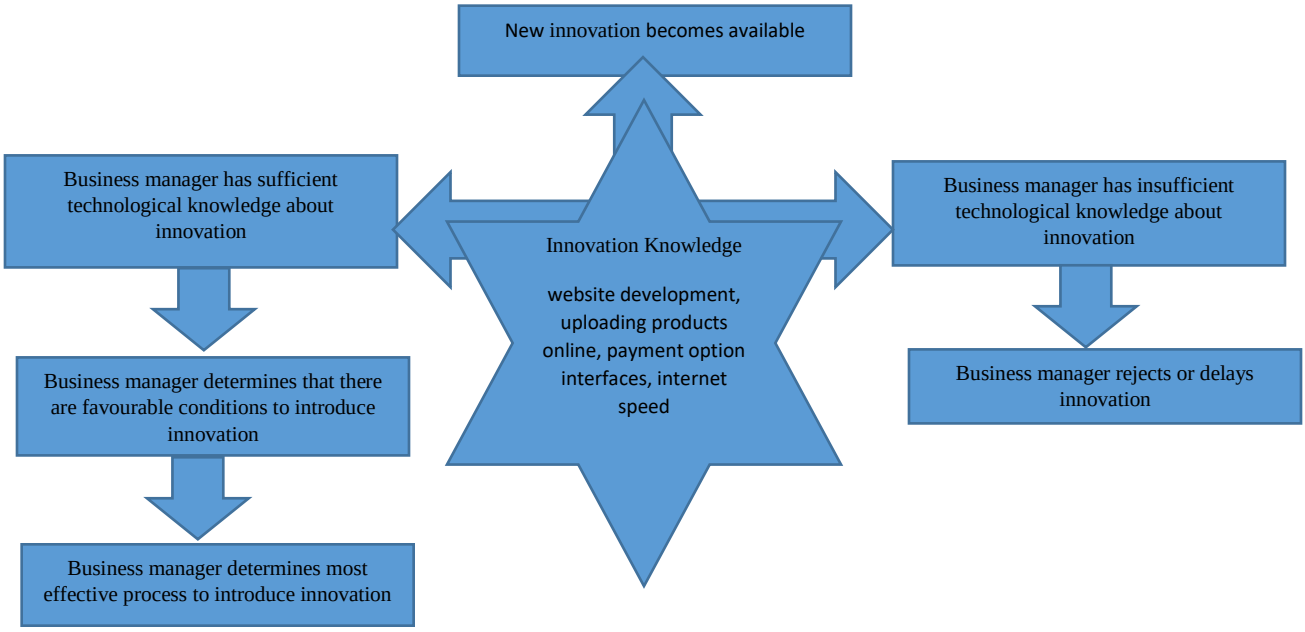

Figure 1.3: Research Objective One (Author's work, 2019)

Figure 1.3 above provides an insight into the objective of the first part of the research. The star shape shows the specific objective of the research. The ability to identify technological innovations and have sufficient knowledge, often determines if a business would go ahead to introduce the innovation to its business, thus, exploring the level of innovation knowledge is important.

Knowledge acquisition is only the first step towards innovation management. Proper and effective application of the acquired or sourced knowledge is also critical to innovation in two key areas; online marketing and online placement of orders, both of which influences and impacts online services in the online grocery business in Nigeria. In 1999, Bill Gates in his book, *Business @ the Speed of Thought*, gave insight into how digital technology could be used by businesses to move ahead of competitors. Since then, improvements have been made to the extent where digital marketing has become a default innovation for businesses in developed countries and a vital medium for growth and expansion (United Nations Conference for Trade and Development, 2019). Artificial intelligence, Chatbots, Omni-channel marketing and many other innovations are available today. However, Innovation must be easy to understand, apply and use by both the service provider (adopter) and customer. At this stage, an adopter needs to determine if the innovation would be architectural, incremental, radical or disruptive. For this study, the focus is

on process and incremental innovation. As noted earlier, the implementation of innovation in the online business can come at various points in the business process. Arora et al. (2001) opined that one of the challenges faced by online businesses is knowing when and where to introduce new technologies to their business. A major barrier to the injection of such new technology, is the fact that such technologies usually requires a firm grasp of what the innovation is all about and how to inculcate it into the corporate strategy. This is germane because an innovation that is introduced at a point in the business process that makes online transactions cumbersome for customers will invariably lead to poor service delivery.

Findings from a study conducted by (Nwokah and Ngirika, 2018), revealed that the introduction of innovations to the online business process had a direct correlation with customer satisfaction when looking at online advertising. This research is however interested in looking at the introduction of innovation in other points of the online service process, specifically, online marketing and online placement of others.

The marketing aspects to be looked at are; the use of integrated social messaging applications, chatbots and live video marketing. For the placement of orders, the aspects to be looked at are; ease of product selection online, pre-order functionality, and other relevant aspects that impacts the placement of orders.

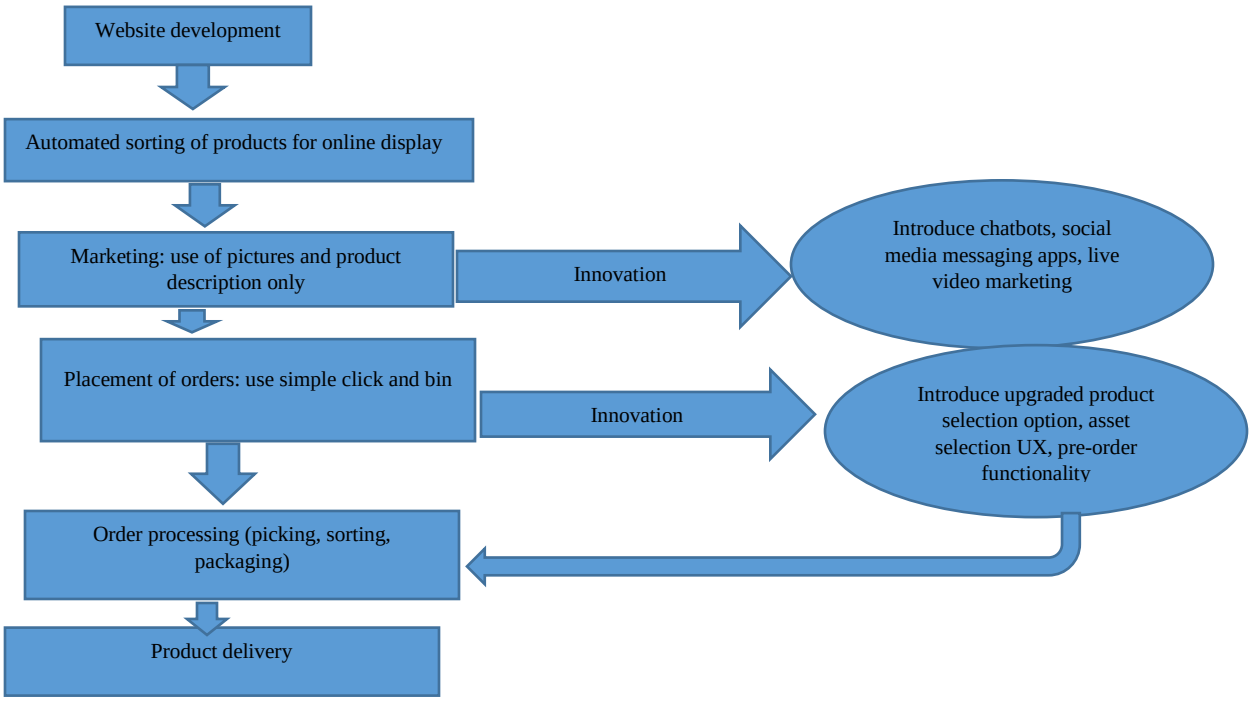

Figure 1.4: Example of an online service process showing the area of focus (in circle) for this research (Author's work, 2019)

Figure 1.4 presents a sample business process designed by the author for an online business looking for ways to improve its online service which is also the area of interest for the first objective of this research. It is important to note that figure 1.3 arises from the business manager possessing sufficient innovation knowledge and accepting the available innovations and determining where it fits best in the online service process. The rectangular shapes represent the normal flow of the online business process which starts from the web design, content and application stage where the webpage is developed, domain name secured, content uploaded *inter alia*. The next stage is the automated sorting of the products displayed online showing what is available, what has been sold out and when next a product will be available. The following stage represents the online advertisement/marketing stage where products are described and their prices stated. At this stage, innovations can be made to make the online service process more interactive as shown in the circle. The next stage is for the placement of orders using a simple click and bin system. Here also, innovations can be implemented by introducing upgraded product selection system (shopping cart software), user experience interfaces and other innovations to improve the online service. The online business process then continues its normal flow to order processing and product delivery.

The introduction of the online innovation is often determined by what the business manager feels is most germane to grow the business. The success or failure of the innovation is in turn determined by the volume of successful transactions. The marketing and sales team share very similar goals, in most cases, their functions are entwined. The marketing team calculates its productivity by the number of prospective customers that visit the site, duration of stay and its ability to use the various mediums to convince the prospective customer to place orders. The sales team determines its own productivity by its ability to convert those orders to actual sales by putting in place measures that make the placement of orders less cumbersome and secure for the customer.

1.5.2 Objective two: Investigate the effect of infrastructure on the service industry in Nigeria;

The service industry is impacted on by a number of external factors which may be outside the control of the business and this is especially so when the end product of the service involves the delivery of tangible goods/products. One of these revolves around infrastructural challenges. The environment within which a business operates is key to how it is structured and determines its limits on what it can introduce as innovation to its business in order to grow and improve services. Tiwari and Singh (2011) pointed out that the success of e-commerce is predicated on the success of the integration of other factors such as transportation and information communication technologies. The state of infrastructure such as road networks and electrical grids, are the two key issues for this study. Effective service delivery as it relates to online shopping can only be said to have been achieved when the consumer is able to physically access the product which has been purchased online. Developing nations such as Nigeria, have insufficient infrastructure, particularly, road networks and power supply; key factors needed to drive e-commerce. In addition to the aforementioned setbacks of poor road networks and inadequate power supply, are challenges associated with *security* required to enable the safe movement of goods from one location to another. Adisa et al. (2014) identified the lack of crucial infrastructure such as bad road networks and unstable power supply, as some of the key drawbacks for businesses in Nigeria. It is therefore germane to investigate how this impacts innovation management on the online grocery business in Nigeria. The nature of the online grocery business requires that the product purchased online must be received by the customer and this entails either the customer coming to receive the product from the store or having it delivered to a convenient location for it to be picked up or received.

1.5.3 Objective three: Customer perception

Given the reservations towards online services in Nigeria which will be looked at in subsequent chapters, this objective examines the online services from the perspective of the customer so as to identify and connect the gaps between the service provider and the customer. Innovation is a two-way activity that entails interaction between the service provider and consumer (Weber, 2011). How a customer perceives and utilises the processes put in place to facilitate a transaction is fundamental to the growth of the business. Innovations in business must be customer-centric. Customers making online purchases are often on the lookout for processes that ensure safety of transactions, guaranty product quality, ease of use, and make shopping generally easy. To this end, the extent to which a customer accepts the innovation introduced by the business has a direct correlation to the amount of transactions the customer will carry out on the service providers platform and or the level of patronage from the customer. Businesses that apply less innovation are less likely to grow than businesses which are able to utilise more innovations in a user friendly manner. Helverson et al. (2018) noted that customers were influenced by consumer ratings of a product or service to varying degrees. Potential customers are influenced, positively or negatively, about the use of certain mediums. For instance, in Nigeria, there is a general perception that e-commerce is unsafe and puts the customer at the risk of fraudulent activities by even the businesses themselves. For this objective, how these concerns are addressed by online services is viewed from the perspective of the customer and the extent to which it encourages repeat customers or attracts new ones.

1.5.4 Objective four: To recommend how innovations in the service industry can enhance growth in the online grocery business in Nigeria

In this objective, the link in the various variables identified in this research which will be drawn from the interviews conducted will be used in evaluating the whole innovation management process within the businesses. This evaluation will increase the awareness of the importance of innovation management in practice and encourage businesses to take proactive innovation management steps that would enhance growth in the service industry.

1.6 Research Questions

The research questions are:

1. What is the level of innovation knowledge in the online grocery business in Nigeria?
2. How can process and incremental innovations enhance the marketing and placement of orders in the online grocery business in Nigeria?
3. How do infrastructural factors, specifically, road networks and electricity supply, affect the service industry in Nigeria?
4. What is the perception of consumers towards the online grocery business in Nigeria?

1.7 Contribution to Knowledge

Oates (2006) laid emphasis on what he termed the 6Ps of research, which are purpose, products, process, participants, paradigm and presentation, as a critical guide towards understanding and therefore properly situating a research. He stated that 'product' could be seen as the "… outcomes of research, especially your contribution to knowledge about your subjects. Your contribution can be an answer to your original research question(s) but can also include unexpected findings" (Oates, 2006: pp. 11). Te'eni et al. (2015) also stated that contribution to knowledge is an essential purpose of conducting any research. The positions of Oates (2006) and Te'eni (2015) are what guides the contribution to knowledge for this study.

While the service industry in Nigeria is still expanding, the online grocery business is still a relatively unknown sub-sector that requires further exploration. This research's contribution to knowledge will therefore be the expansion of the relatively sparse empirical knowledge of the online grocery business by identifying how innovative service technologies can be used by the online grocery business in Nigeria. The researcher will also go further to investigate the importance of innovation management structures towards growing services in the online grocery business utilizing process and incremental innovations in the marketing and placement of orders to enhance online service operations. The study will also contribute to knowledge by assessing the impact infrastructural factors, specifically, road network and electricity supply, have in the service industry. Finally, customer perception of the online grocery business will be analysed to better understand how improvements can be made to enhance service delivery.

1.8 Significance of the Study

Despite an internet penetration of over 50% at 122,624,417 active internet subscribers as at May, 2019 (NCC, 2019), the total online shopping orders in Nigeria was estimated at just 15,000 per day as at 2015 (Gabriel, Ogbuigwe and Ahiauzu, 2016), the online grocery sector in Nigeria fares even worse in this bracket and falls short of its potential. Compared to South Africa, its economic counterpart in Africa, which has an internet penetration of 14 million active internet subscribers and total online shoppers of 58% of the internet population shopping online as at 2013 (that translates to over 22,000 online shoppers per day) (Rudansky-Kloppers, 2014), the online grocery business in Nigeria is a huge but largely untapped goldmine and grocery businesses that are unable to adopt innovations in their services would have an uphill task surviving and meeting their business goals. In view of this, the study is significant for three reasons:

Firstly, innovations in the service industry as it relates to online grocery businesses will naturally enable such businesses develop more efficient business processes and access a wider national market, however, Nigerian online grocery business seem unable to grow exponentially viz-a-viz the high internet penetration. This study therefore concerns itself with exploring the innovation knowledge of online grocery businesses in Nigeria and the application of the technology to the business process, specifically, marketing and placement of orders.

Secondly, previous researches on the online grocery business in Nigeria have not adequately investigated the connection between process and incremental innovations and the online grocery business, hence this research will investigate how the growth of the online grocery business can be enhanced by innovations in service delivery that lead to greater market penetration, increased revenue for government and other stakeholders, and contribute to the sparse literature presently available on the subject.

Thirdly, the study investigates the link between available innovations to the online grocery business and how they are impacted on by infrastructural issues and customer perceptions.

In summary, salient contributions of this study to stakeholders and customers in the online grocery service industry would be:

1. Increased awareness and market penetration will be achieved;
2. Improved service delivery will be achieved;
3. Development of a sustainable and viable business will be achieved;
4. Increased revenue for the government will be achieved.

It is vital to note that despite the focus of the research on the online grocery business in Nigeria, its wider significance must be taken into account. This wider significance is that the study will present a model that can be easily adapted, in fragments, by traditional grocery businesses. This is germane given the fact that the Nigerian business environment is particularly harsh on new innovative methods of providing services, as such, business owners are more likely to accept service innovations that do not disrupt an existing and fairly successful service model than one which requires extensive variations.

1.9 Context of the Research

The research looks at how innovation can enhance growth in the service industry in Nigeria with focus on the online grocery business. The Nigerian economy is classified as a mixed economy, but its service industry is still in its elementary phase following its efforts to wean itself from overdependence on crude oil.

This research situates itself within the Nigerian service industry. It looks at five online grocery businesses as case studies to understand the issues associated with the online grocery business. Its cases studies are drawn from businesses in two major cities; Lagos and Abuja, with a focus on online businesses that have been in business continuously since at least 2017 and have a minimum of 100 online orders monthly for grocery products.

Other respondents for the research will be drawn from experts with a minimum of 10 years work experience in the Information Communication Industry with a bias for e-commerce solutions, and from 10 online grocery shoppers who must have made a purchase from at least one of the online grocery businesses used as case study within the period of the research.

The selected cities for this research have a high population of middle to high income earners with a large percentage of the population connected to the internet. Lagos, which is located in the

southwestern region of Nigeria, is the commercial nerve centre of the country with a cosmopolitan population. Out of a population of 12,550,598 as at 2016 (National Bureau of Statistics (NBS), 2016), Lagos has 16,871,806 active internet subscribers (NBS, 2019) as a result of some residents having more than one source of internet connectivity. It also has 9 active registered online grocery businesses as at 2019 (Field Survey, 2019). Abuja, which is located in the north central region of the country, is the political capital of Nigeria with a population of 3,564,126 (NBS, 2016) and internet subscribers of 5,701,735 (NBS, 2019). It also has 5 active registered online grocery businesses.

The research looks at five online grocery businesses for its case study. Three from Lagos and two from Abuja. The businesses chosen for this case study are all online-based businesses with grocery constituting at least 60% of their business specialisation.

Situating the study within the limited context of online grocery businesses is important given the socio-economic conditions of Nigeria as earlier stated. While other stakeholders such as brick-and-mortar grocery retail stores and IT services providers were looked at within the context of online grocery services as is relevant to this study, other stakeholders such as government, banks/financial service providers, transporters etc, were excluded so as not to overstretch the study. A major benefit of the study lies in its independence of certain variables that are outside the influence of the service provider. This ensures that prospective and existing online grocery service providers are more susceptible to the business model because there are less variables which they have to worry about. The more external variables there are to a business, the less likely it is to be accepted.

Notwithstanding the exclusion of some stakeholders, this study is holistic enough to address its intended purpose since it is exploratory and this will in turn provide a basis for further research involving other stakeholders and how they influence online grocery businesses from other perspectives.

1.10 Basic Assumptions

1. The growth in the service industry is dependent on innovation knowledge of the adoptor;
2. Marketing and Placement of orders using online mediums are critical components of innovation in the online grocery business;
3. Level of Infrastructural development has a critical impact in the service industry;
4. Ease of use of online innovations by the customer is critical to the growth of the service industry.

1.11 Rationale

For a country like Nigeria that has a frightening combination of extreme poverty (Kazeem, 2018), reducing government revenues and high unemployment rates, innovations in the online grocery business is a viable avenue for reducing poverty, increasing government revenue and addressing unemployment.

In the context of this research, the rationale behind the study of innovation in the online grocery business is predicated on two main factors:

1. Innovation in service delivery will lead to greater networking and connections between the producers and end-users of groceries leading to access to a wider market and reduced wastages especially for perishable farm produce;
2. Having being on the receiving end of less than wholesome service delivery from some online grocery stores and the very few alternatives available, the researcher has observed that the online grocery industry in Nigeria is a niche market and with the right innovations, can become an investors haven either through developing existing online grocery businesses or establishing new markets.

1.12 Organisation of the Study

Chapter one is the introduction to the research and provides an overview of the background within which the study is situated. It identifies the statement of the problem which the study seeks to address, the significance and justification for the research. The research brief introduces its main themes by looking at the significance of innovation to the service industry, the service industry in Nigeria and the grocery business in Nigeria. The research aim is also clearly stated so as to avoid ambiguity and keep the research in focus. Chapter two contains the conceptual, empirical and theoretical reviews and theoretical framework associated with this research. It breaks down the research into distinct components so as to have a deeper understanding of the various concepts; definitions of innovation, service and service delivery, online transactions, groceries and how they have been used by other researchers and how they apply to this research. Chapter three provides details of the research design for the study. Chapter four will focus on data collection, analysis and findings, while chapter five will contain discussion of and findings. Chapter six will contain the summary, conclusion, recommendations, contributions to theory, practice and knowledge, areas for future research and further limitations to the research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Preamble

The literature review for this research focuses on providing an understanding as to what innovation and service is all about and the various aspects and views associated with them. It also provides a base from which knowledge is gained on the research topic, concepts are properly defined, previous studies critically reviewed, and the state of current knowledge and gaps in the existing literature identified. The literature will establish the relationship between innovation and its operational usage in the service industry. To be clear, this study has two pivots; internal factors that determine how innovation can enhance growth in the online grocery business in Nigeria and external factors that challenge this growth. These pivots are what condition the four objectives of this research which are innovation knowledge, innovation know-how and application, infrastructure challenges and customer bias or perception.

This literature review is important because innovation is a multi-faceted concept and its usage in business studies and application has undergone a multitude of interpretations and viewpoints and these would be captured in three distinct categories which are published works, interpretation and synthesis. The published works look at relevant works which are needed for a detailed and careful review of quality studies. Interpretation refers to "how" the researcher views and interprets the published works and other materials associated with the study. Synthesis is the bringing together of the different source materials into an integrated and structured whole so as to develop a coherent argument for the study and position this research within its own distinct niche.

This chapter is structured to provide conceptual, empirical, theoretical reviews and theoretical framework for the study. The first part, which is the conceptual review, looks at the general concept on innovation, innovation management, levels of innovation management, forms of innovation and general literature on the forms and typologies of innovation. It also looks at the concept of service, its characteristics and elements of service delivery. This is essential as the terms innovation and service are very fluid and need to be properly situated within specific contexts in

order to understand their functional values and properly situate them within the context of this research to guide against digression which is often the danger associated with such fluid concepts. There is a general discussion on service and innovation due to the fact that understanding innovation in the service industry can be complex without understanding the concept of service and innovation in general.

The second part of the chapter is the empirical review. Having understood the various concepts of innovation and service, the study embarks on an empirical review which ties the various concepts to existing literature. Here, harping on our understanding of innovation and service, a look at previous studies related to the various objectives are reviewed and gaps in previous studies identified and a conceptual framework developed. The chapter is then tied together in the third part by embarking on a theoretical review of various theories and models and drawing an appropriate theoretical framework which is the fourth part. The gap in knowledge and chapter summary make up the fifth and sixth parts of the chapter.

As noted, innovation is multi-faceted and can be both objective and subjective in its application within the domain of corporate entrepreneurship and strategic management (Ansoff, 1979; Jennings and Young, 1990) especially when its various manifestations such as product, process, business model, architectural, incremental, radical, disruptive innovations, amongst others, are taken into consideration. This study focuses on two aspects of innovation which are process and incremental innovations and how they can be used to achieve the research objectives. Other forms/types of innovation are referred to only as needed to shed light and for contrast purposes in this study so as to keep the research focused on its primary objectives.

2.2 Innovation

For this study, it is essential to have a definition of innovation that captures the essence of the research. Achieving this requires the examination of different views on innovation so as to establish an understanding of the concept of innovation.

Schumpeter (1934) noted that economic growth was driven by a combination of factors of production put in place by an entrepreneur by utilising new techniques. Schumpeter (1934) argued

that for society to grow, the need for new ways of enhancing the production process and introduction of new goods and services was essential to develop the economy. Schumpeter (1934) sees innovation as a tool for economic change which in turn drives productivity. Schumpeter's (1934) view of innovation was however more concerned with capitalist industrialization and saw the introduction of innovation as only applicable to tangible innovations which occur on a large scale (Solo, 1951). The world has evolved since Schumpeter (1943) and Solo (1951) definitions of innovation that drives economic growth. Thus, it is paramount to understand the definition of innovation in modern times, taking into cognisance, the factors that either drive or mitigate against innovation in the 21st century.

Frankelius (2009) referred to innovation as an original and relatively more effective way of introducing something into the market or society. Frankelius' (2009) definition of innovation is centred on bridging the gap between originality and strategic knowledge and argues that the general world view of innovation is technology and research-based which does not capture the non-technological innovations such as management, recruitment, business intelligence *inter alia*. The position of Frankelius (2009) aligns with the works of Lin (2006) and Yang, Marlow and Yu (2009) who posit that innovation equates to newness, be it in product or process implementation. Using the logistics industry in Taiwan as a case study, Lin (2006) argues that innovation in organisational operation is primarily about introducing a new dimension towards industry goals. The views of Lin (2006), Frankelius (2009) and Yang, Marlow and Yu (2009) on innovation do not however take proper cognisance of the fact that innovation does not necessarily have to be original or new and neither is it a one-dimensional process as noted in the studies of Garcia and Calantone (2002) and Baregheh, Rawley and Sambrook (2009). Baregheh *et al*. (2009) viewed innovation as "… the multi-stage process whereby organisations transform ideas into new/improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace (p.1334)." Baregheh *et al*'s (2009) use of 'improved' is significant because it recognizes the fact that innovation is not always about newness, but can also be used to improve an existing service or product.

The works of Slappendel (1996) and Bessant *et al*. (2005) on their part, focused on understanding and defining innovation from the essence of its usefulness to organisations and management. They

looked at innovation in relation to survival and growth of organisations. Bessant *et al*. (2005) argue that innovation is a process that must be consciously introduced by businesses in order to compete in the market-place. Bessant *et al*. (2005) are focused on the practicality of innovations and their importance in business development. Slappendel (1996) had earlier argued that innovation in organisations could be viewed from three distinct theoretical perspectives which are Individualist, Structuralist and Interactive Process. Slappendel (1996) attempted to establish a framework that would link theory and practice so as to have a better understanding of not just the concept of innovation, but its applicability in organisations and management. The views of Slappendel (1996) and Bessant *et al*. (2005) have been criticised as being too organisation-centric and does not accommodate the importance of the end users; that is customers, for whom the innovation is meant for in the first place.

Carlson and Wilmot (2006) take a more consumer centric view on innovation. Carlson and Wilmot (2006) posit that the idea of introducing innovation in an organisation is to enhance the value chain so as to provide satisfaction to the customer and increase profits as these twin issues are the reason why the organisation exists in the first place. Carlson and Wilmot (2006) bring together two vital aspects regarding innovation which other studies do not efficiently achieve. They established a link from the organisation, management, its processes, its business orientation and the customer. This link is vital because the purpose of innovation is to create value and this value must be incorporated in all the processes which lead up to the end product. The position of Carlson and Wilmot (2006) while establishing links along the business process, focuses a bit too heavily on the customer perspective and how the customer conditions innovation rather than innovation being as a result of internal development.

From the foregoing works on what innovation is all about, it can be said that innovation often refers to an idea that is designed to either create a new activity or improve on an existing activity by introducing technological and non-technological dimensions to enhance customer experience and organisation profits.

The position of Urabe (1988) is however most relevant to this study. Urabe (1988) sees innovation as the creation of a novel idea and its use in a product, process or service which can be used to

grow a business. Urabe's (1988) position is acceptable because it raises the issue of creation, which indirectly speaks to innovation knowledge and encompasses sourcing, acquisition and development. Urabe (1988) also notes that innovation is not a one-time phenomenon, but a process which involves information gathering, generation and implementation of the new idea. Again, Urabe's (1988) view subtlety acknowledges that innovations are often outcomes of ideas (and creativity) that has been put into a defined and structured form. To this end, Urabe (1988) recognises that innovation occurs in different forms, product, process and business models which would be looked at later in the study. Other authors such as Dewar and Dutton (1986) and Afuah (1998) also share the perspective of Urabe (1988) but include the technology and market perspectives in their summations. These positions are incorporated into innovation management, that challenges traditional organisational models of innovation, with a focus on leadership to produce a significant shift to technological and incremental innovations, that in-turn produces smaller but more consistent outcomes, which can be better controlled and are more beneficial to small and medium businesses especially in developing countries. This is based on the fact that three conditions are present which are (1) technological and incremental innovations challenge novel principles which challenges orthodox big management views which believe that technological innovations are always radical or disruptive (2) innovation is systematic, involves processes and methods which are incorporated into the management/business strategy and (3) progress is gradual and compounds overtime (Hamel, 2006).The studies of Burgelman (1983) and Carland, Hoy, Boulton and Carland (1984) align with the aforementioned views and also emphasise that innovation might not be necessarily new, but its application can be used in a novel way especially for firms that are either seeking to diversify (for established firms) or for product/service differentiation (entrepreneurs and small businesses).

2.2.1 Innovation Management

Based on the various definitions of innovation reviewed from a wide range of literature and utilised in this study, it is obvious that the management of innovation by harnessing the relevant resources is key. Kelly and Kranzburg (1978) and Clark (1980) stated that innovation management was the utilisation of tools that enables managers and workers to come up with new ideas while operating within defined boundaries in order to achieve organisational goals. Here, Kelly and Kranzburg (1978) emphasize the importance of ideas driving the innovation process with the understanding

that innovation does not occur in a vacuum and is the manifestation of ideas and creativity. Kelly and Kranzburg (1978) noted that organisations are not immune to internal and external stimuli and must respond accordingly in order to remain productive either through new processes or products. Clark (1980) argues that innovation management is a continuous process and management has the responsibility of triggering and appropriately harnessing the creative capabilities of its workforce.

Kumar (2013) in his work, *101 Design Methods: A Structured Approach for Driving Innovation in your Organisation*, pointed out that introducing innovative ideas to drive business is the responsibility of managers (management) regardless of where such innovation comes from. Kumar's (2013) position is premised on the rationale that innovation is a key survival trait of any business and should form an integral and primary part of the business plan rather than secondary option for when a business begins to experience challenges or becomes less competitive. Trott (2005) avers that management must drive innovation and find ways to ensure their products and services are available to the target market without any drop in quality. Trott's (2005) view is premised on his practical observations that innovation can occur at various stages of the production or service process and management should be able to identify where and when innovation is needed. The school of thought on innovation management is broken down into five distinct developmental phases (Xu, Xie, Chen and Liu, 2007). Xu et al. (2007) identified five phases of innovation management as; first phase, research on individual innovation (1940s-1950s). This phase was centred on the entrepreneur as the main driver for innovation. It viewed the innovation process as disjointed and focused more on separate components rather than integration. The second phase, research on organisational promotion 1960s-1970s), was centred on specialised fields of study and focused on the sources of innovation and how they are developed within an organisation. This stage saw the rise in the importance of Research and Development departments in organisation which were the manage hub of innovation development. The third phase, research on outsider involvement (1970s), looked at the innovation process and its utilisation. This phase of innovation puts the end user as the primary motivator for innovation. This stage is unique because it begins to recognise that external influences (in this case, the user) are vital to the innovation process. The fourth phase, research on portfolio, integrated and systematic innovations (1980s-1990s) draws from the first phase of innovation but focuses on processes, activities and components rather than separate mechanisms. This phase places emphasis on integration and

interconnectivity as integral to the innovation process. The fifth phase, research on total innovation management (21st century), which sees innovation as not just arising from specific individuals or departments, but from multiple sources. Xu et al. (2007) stated that each phase addresses the peculiar nature on innovation at the time and tracks the evolutionary process of innovation as a core requirement for the production process. It is important to note that while developed service economies have grown through the stages and are presently at the near pinnacle of innovation management, developing economies are at the lower rung of innovation management primarily because creativity is guided by innovation processes.

As noted earlier, the early origins of innovation are situated within its association with new technology and how it is used in product development (Ardevol, 2015), this has however evolved to a broader understanding and view of the innovation field. To this end, Ferras (2012) identified six distinct eras;

1. Technology push 2. Market dependent 3. The enterprise 4. Supply chain
5. Open innovation 6. Cultural dominant innovation

The technology push era was characterised by inventions with emphasis on tangible products. It was a time when inventions where the driving force in markets and as new inventions where made, it created new needs, products and invariably, new markets. This further evolved into a tighter integrative perspective of innovation that developed beyond tangible inventions and products which gave rise to the enterprise era and the earliest recognisable form of innovation management as a system or structure. This led to the development and integration of the supply chain which allowed easier flow of goods and services and the demand for more growth and inevitably, open innovation. Ferras's (2012) inclusion of open innovation is premised on the assertions of Chesbrough (2003) that innovation could no longer be confined or limited to within individuals or companies and the inevitable expansion of business relations meant that other companies are bound to emulate the success of innovative companies either in part or whole and use such innovation in ways that best suits the business's operational targets. The last era according to Ferras (2012) is the present one which has seen innovation become a global phenomenon and is now essential to every facet of human existence including economies, societies and businesses.

Loosemore (2014) carried out a comprehensive study on the construction industry in Australia, and concludes his summations by stating that businesses in general must innovate or risk perishing.

This era overview is necessary due to the fact that innovation models spanning the eras are still relevant today despite the growth in innovation management and the reality is that innovation in business management is premised on so many factors which vary from clime to clime, business to business, policy to policy *inter alia,* and it would be futile to try to exhaust them in this research. Doing this ensures that this research can focus on the key models that are relevant to it. To this end, three innovation models will be briefly reviewed, and these are Chiesa, Coughlan and Voss model, Malinen model and Cotec model.

2.2.2 Innovation Models

The Chiesa, Coughlan and Voss Model (CCV)

The CCV model views innovation as a critical internal systematic process in the organisation which is supported by technological driven knowledge that is internally processed and designed to focus more on product innovation. The model as shown in figure 2.3 describes an innovation construct that is premised on knowledge management.

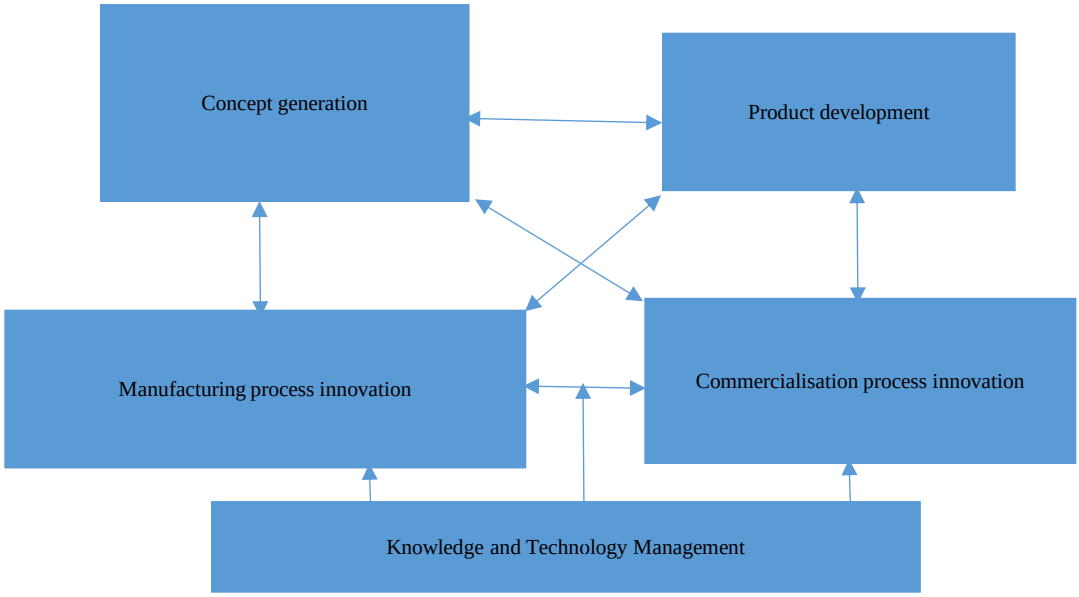

Fig. 2.1: Systemic Innovation Model (CIDEM, 2002)

The systemic innovation model is relevant to this research because it places emphasis on innovation knowledge as being vital to innovation management. This study holds the belief that for innovation to be successful, there must be clearly defined processes which are easy to understand and implement by the business. This gives relevance to the study because a drastic change to the business model might impact negatively on such fragile business with limited success rates as the case with online grocery businesses in Nigeria today. Further works on the systematic innovation model by Barba (2008) argued that the systematic innovation process is made up of interrelated processes which include technology acquisition, formulation of new ideas, structuring of concepts into products and manufacturing innovation processes. However, the system makes the assumption that there is already an innovation structure in place, something that is often taken for granted in businesses in developed economies but may not be so in developing ones. In addition, this model places emphasis on internal related processes and does not delve into business management which is where services become relevant. It also does not factor in the environmental influence on innovation.

Malinen Model

The aim of the Malinen model is to explore and understand the factors that influence the development of innovations across three dimensions, which are; creation of value, internal capabilities and external influences (environment) which are tied to strategic and leadership management. The model emphasises the central role played by management leadership in innovation management as it provides direction on innovation application, processes to follow and responses to challenges that may arise. It recognises the fact that the environment is an influencing factor in determining outcomes.

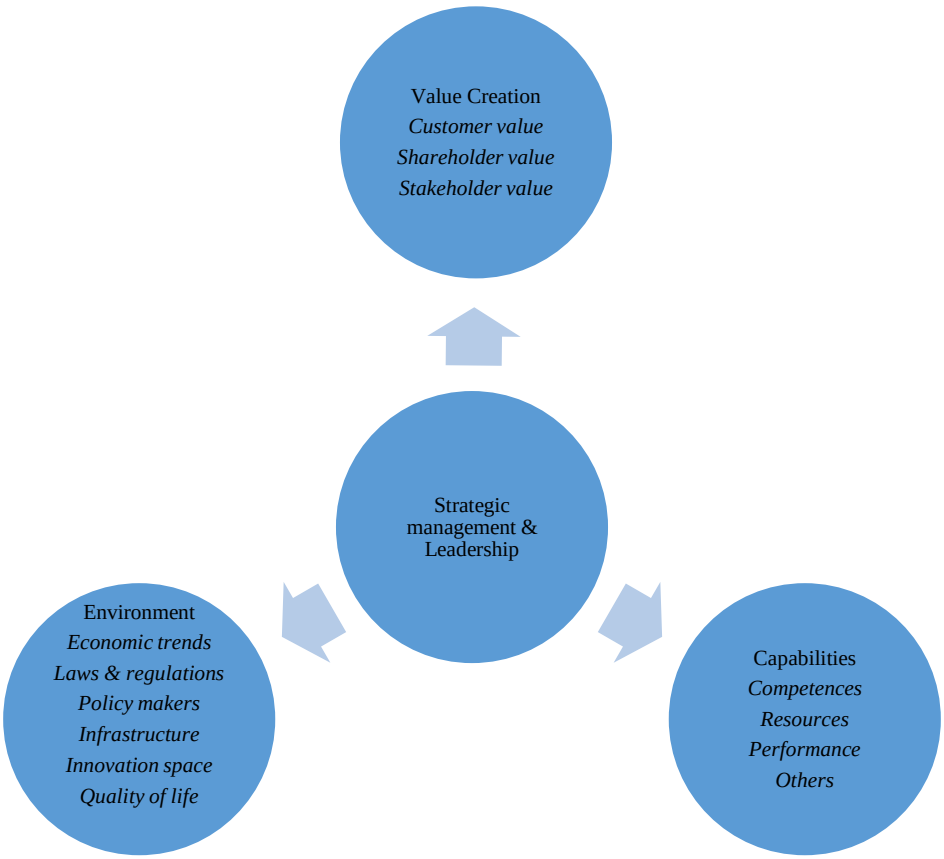

Fig. 2.2: Dimensions of Innovation Management (Malinen, 2006)

Malinen's (2006) view takes a more integrative approach to the practical aspect of innovation management as seen in figure 2.7. It shows that innovation is a naturally complex undertaking and acknowledges the role of intangible outputs (services) as part of the innovation process. However, there is an inherent assumption that the business and social environment which condition this model are understood and functional, again, the business and social environment in developing countries lags behind what developed economies consider as normal.

While the systemic model places emphasis on processes, the Malien model looks at the integration of those processes. This also ties in with this investigation because not only do prospective and existing online grocery businesses need to establish new or strengthen processes, there must be an integration of these processes. For instance, if the online marketing service of an online grocery business is put in place without a commensurate improvement in online order placement services, the effectiveness of the overall system will be reduced.

The Cotec Model

This model posits that there are three key internal factors that support innovation management within the arena of innovation enterprise which are; innovation election, innovation operation and innovation value.

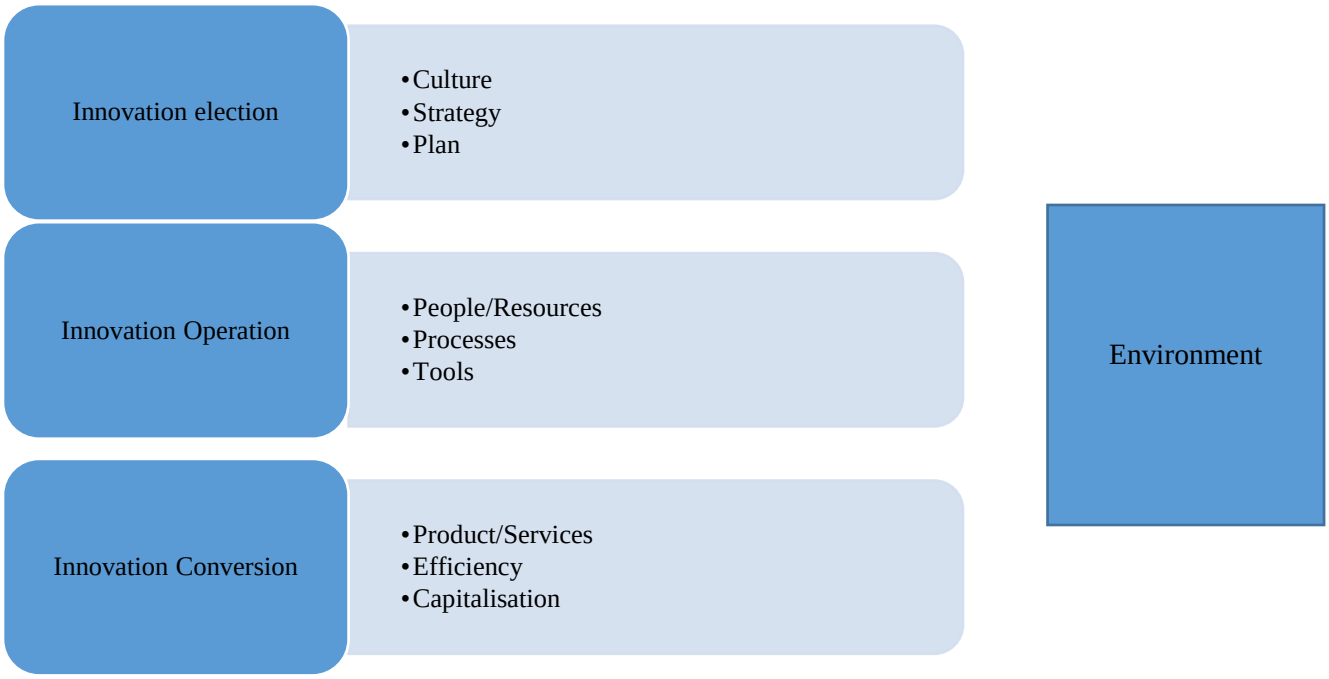

Fig. 2.3: Cotec Innovation Enterprise (Cotec, 2010)

The first factor in the innovation enterprise is the innovation election. Here, innovation is elected to become a vital part of the business structure and is made part of the company structure and a strategy is developed around it and a plan of execution devised. The second factor puts innovation into operation and assigns people and resources in such a way that it is guided by the strategy and plan devised in the first factor. At this stage, the processes and tools are defined and applied as needed by the business. The third factor is the conversion of the innovation into value in the form of finished goods and services, improved efficiency and increased capitalisation. It should be noted that the Cotec model has a fourth factor that looks at the external environment and how it affects innovation management, but the Cotec environment in the model appears to be underdeveloped and not integrated (Coelho, 2014).

The goal of the Cotec model is to provide a model which businesses can emulate in order to achieve their objectives. The evaluation methodology is based around questions that seek to shed light on

the four factors. The Cotec model is most relevant to this research because the study situates itself within the confines of the model.

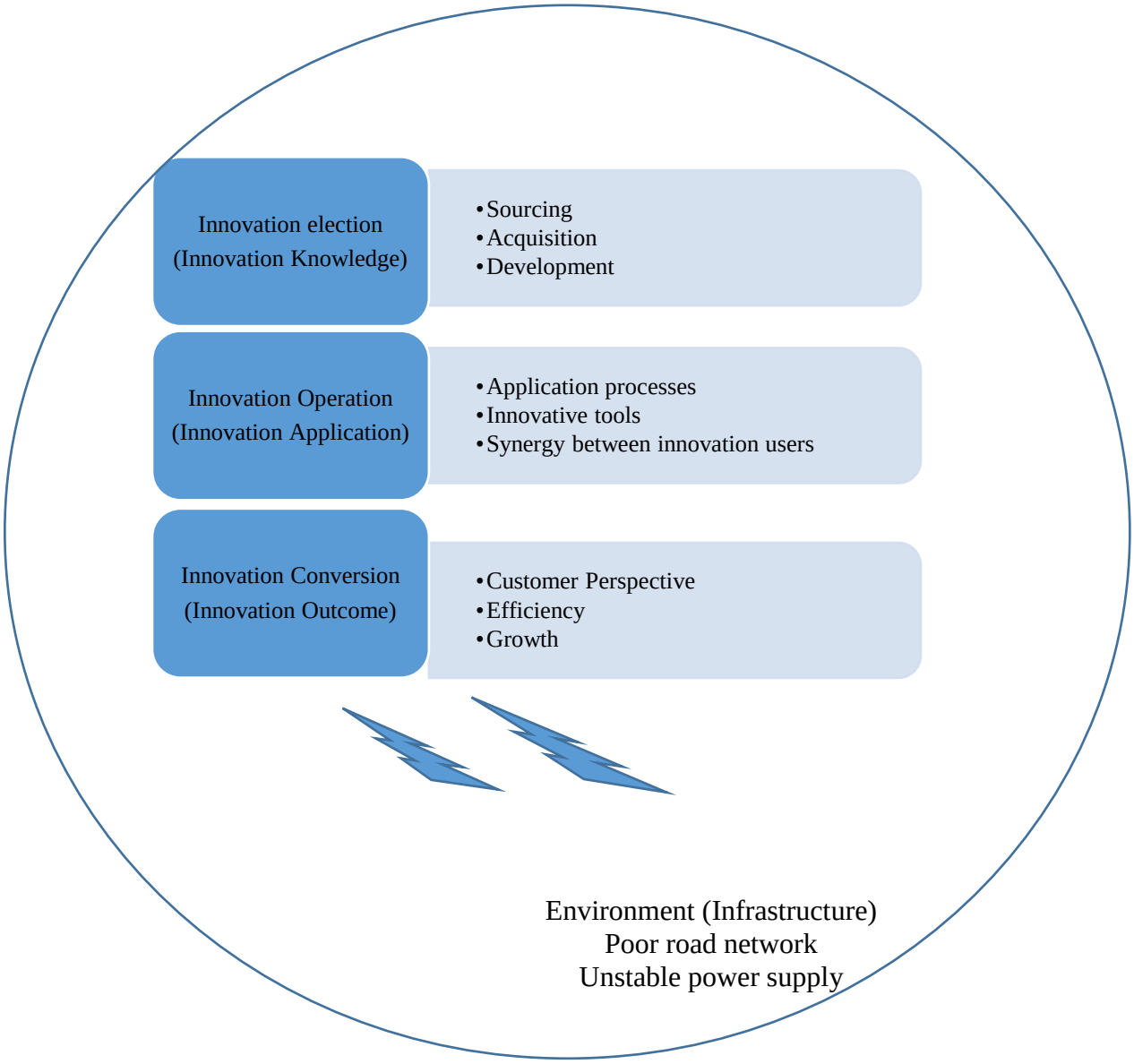

Fig. 2.4: The Cotec Model adopted to suit this research (Author's work, 2019)

Figure 2.4 shows how this research uses the Cotec model to explore innovation management for this research. The Cotec model provides a holistic view of the business innovation practices upon which the research questions and objectives are designed to address. The circle represents the environment within which the infrastructural challenges this research addresses are situated and impact on innovation management and customer perceptions.

The Cotec model and its adaptation by the researcher serves to connect the three essential elemental models for this research which can be viewed as processes-integration-implementation. As noted earlier, the systemic and Malien models address the process and integration phases of this research. It is however the Cotec model, as adapted by this researcher, includes the implementation phase which helps bring the research full circle within the context and scope it seeks to address. By situating the study within a specific environment, the investigation is able to tailor its innovation management postulations to suit the peculiarities of the Nigerian society.

2.2.3 Innovation in Reality in Business Management

In innovation management, expectations of perfection from the innovation process should not always be all encompassing for the business owners and employees so as to avoid unpleasant surprises which may lead to disenchantment with the innovation process. Regardless of the possible negative repercussions of innovation, business experts are putting in more efforts towards achieving appropriate innovations so as to develop appropriate business innovation strategies to grow businesses. The realistic approach to innovation management would be to provide answers to the questions of *'what you know'* and *'how will you apply it',* and this should be made distinct from creative ideas of the innovation adopter that would rather address the questions of *'what do you think you know'* or *'how will you hope to apply it'*. Attempts to pursue a course outside the reality will show up in patterns of unrealistic plans, implementation and application processes, unreliable performances, unsatisfied customers, reduced growth and inability to overcome external influences (Gish, 2016).

Furthermore, innovation is vital to businesses as they give direction for growth and unclear innovation management structures might lead to loss of confidence in the overall business model and will make investors and business owners less likely to commit their funds to the business. Businesses (individual and organisations) have carried out operations for years by having an innovation management plan either consciously or unconsciously and using it in an intuitive manner. Modern views on innovation can be said to be a relatively new but rapidly evolving area of expertise having a majority of its significant approaches to learning and innovation which developed from the 1940s (Cohen and Levinthal, 1990). Tidd, Besset and Pavitt (2005) are

advocates of the formal use of innovation management systems and structures and they argued that organisations and businesses can achieve sustained growth by using innovation management techniques and integrating them into the marketing and organisational structures to suit the business environment, resolve challenges and improve service delivery systems. However, businesses were slow towards integrating formal innovation methods early because these methods required what was viewed as additional financial costs, which were often difficult to understand, and thus, questions were raised in relation to their relevance to informal planning and creativity. Also, critics of the formal innovation management approach as noted by Caniels and Rietzschel (2013) posit that it makes things too rigid and constraints creativity in what should be a dynamic business environment since creativity is the root of invention and innovation. In addition, the prioritization of the use of creativity without subjecting it to a formal innovation management process as observed pre-1950s led to substantial conflict in the developing innovation studies (Kamoche and Pina, 2001). Innovation management can be viewed primarily as a discipline and it is supposed to be useful to business owners and managers who are responsible for the growth and development of the business or organisation. Studies on innovation should not be done in isolation, but within the definitive context of how they can be put into practice, identified and measured. Beneficial innovation encompasses a fairly diverse mix of approaches which include socio-environmental factors, cross-field assumptions, business environment and physical infrastructures that influence the form and type of innovation best suited. For instance, incremental innovations might have fewer constraints for implementation in a harsh business environment than innovations of a radical nature (Caniels and Rietzschel, 2013) and it is vital that businesses have a good grasp of what is best suited for their businesses.

2.2.4 Innovation Methods

Broadly, innovation methods, like models, are very diverse and are dependent on the views of the proponent of such methods. Choosing the best innovation method depends on the situational factors that necessitate the use of innovation and whether it is long term innovation or short-term innovation or whether the innovation is for a new or existing business, service or product. However, whichever method is chosen should always be geared towards creating value and

structured growth (Kerr, 2016) and it is vital that individual or group creativity and ideas are subjected to innovation management scrutiny. There are a number of methods available to the innovator to utilize. Conservatively and for the purpose of this research, the research breaks down innovation methods into two categories which are forms and types which would be explained briefly later on in this chapter. The rationale is that while a number of innovation methods exist, there are three key forms innovation can take which are; product, process and business model (Chesbrough, 2010; Snihur and Wiklund, 2018). Also, relevant literature reviewed for this study are filled with various types of innovation methods and or concepts, but they can be classified into four distinct types which are; architectural innovation, incremental innovation, radical innovation and disruptive innovation (Howells, 2005; Leavy, 2019). Almost all other types of innovation can be found or combined as sub-types.

2.2.5 Innovation Significance and Managerial Implications

The use of innovation by units or departments in a business organisation might be dependent on the area that needs innovation. For instance, if a business needs to change its marketing strategy, the marketing, sales and advertising units should be part of the innovation management process. Each department/unit utilizes innovation for different purposes, objectives and goals. For example, in online services, the ICT department plays a key role in the innovation process and is tasked with the responsibility of maintaining the online algorithms and or technology that service both internal and external transactions and relations. It uses technological innovations to integrate various online processes as needed to support the activities of other departments such as marketing, advertising, purchasing and supply, financial and accounting.

The nature of the business also determines the form and type of innovation required. The creativity and ideas gathered should be subjected to an innovation management process. For example, a brick-and-mortar grocery store that wishes to provide online multi-product shopping services will require a change in business strategy and therefore use business model innovation since it is changing its mode of business to incorporate both product and process innovations. It can then employ architectural or radical innovation and combine them with service and organisational innovations to suit the peculiarities of its business objectives and environment. On the other hand,

an online grocery business may decide to use innovation to improve its online services to achieve growth, in this instance, it might use process innovation to target specific online service processes and then use incremental innovation to improve or grow these services in such a manner that it achieves innovation conversion (business efficiency, customer satisfaction and growth).

Overall, the use of innovation management systems within the business context of the organisation will help the making of accurate decisions and further long-term growth (Meht, Chandani and Neeraja, 2014). Innovation links the intent to value which drives the growth process as seen in figure 2.5.

Fig. 2.5: Innovation Management System (SIS, 2017)

2.2.6 Creativity and Innovation Management

Preceding this sub-section, the researcher has at certain times made mention of creativity or ideas in connection with innovation. All innovation, be it newly created, or an existing innovation applied in a new way or simply introduced into a new market, is premised on creativity and the election to use innovation (innovation knowledge). The presence of innovation in almost all facets of business relations is pervasive on current researches in organisational creativity and innovation studies (Van Gundy, 1987 and Amabile, 2010). The success of innovation arises when there is a

positive impact on ideas and their implementation since creativity presents the starting base for innovation in order to develop and possibly improve either general or specific aspects of the business as it is the transition of creativity and ideas into a defined innovation management process that makes it a practical reality in a way that enhances the business (Tidd and Bessant, 2008). However, Amabile (2010) points out that managing innovation does not end with creative awakening as it must be guided, controlled and shaped (innovation application). It was further pointed out that there should be a balance between the flow of ideas and matching them with results which are beneficial to the growth of the organisation within reasonable targets and financial commitments (Amabile, 2010). To this end, innovation management brings a level of balance and control to creativity and ideas. Kamel, Martins, Pessanha and de Andrade (2017) note that while innovation might be driven by creativity, innovation is what puts it in practice, resolve challenges that may arise using interconnected and interdependent processes that complement each other.

Creativity might be taught in certain educational settings, but it primarily represents itself in specific areas of personal experiences or areas of expertise. Alencar (2012) warned about over dependence on creativity to drive business growth due to the possibility of bias, inadequate capabilities and the problems associated with translating ideas to practice. Also, dependence on just human values which jettisons procedures and processes that are incorporated in a defined structure, might lead to fragile innovation applications.

2.2.7 Levels of Innovation Management

Farson and Keyes (2002) and Dyer et al. (2009) pointed out that incorporating innovation in the system should be a careful consideration taken by the management. Farson and Keyes (2002) stated that business executives must determine if innovation is required and the extent to which the innovation is required. To determine this, Dyer et al. (2009) identified three key questions that business executives were required to ask themselves, these were;(1) level of risk the organisation is prepared to take (2) cost of development of the innovation (3) availability of the talent and culture to be innovative.

Following from the works of Farson and Keyes (2002), Cohn et al. (2008) and Dyer et al. (2009), Miner (2010) identified four levels of innovation.

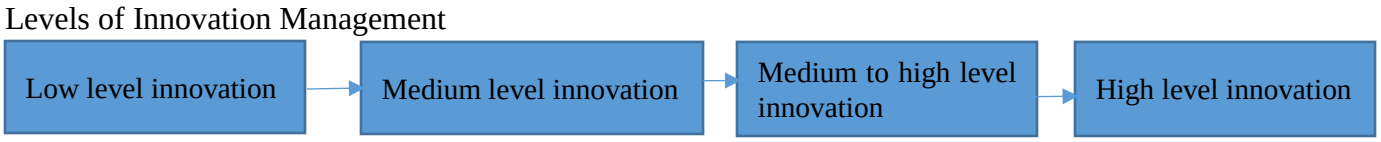

Fig. 2.6: Adopted from Farson and Keyes (2002), Cohen et al. (2008), Dyer et al. (2009), Miner (2010)

In the first level, organisations are focused on minimal innovations, low risk-low reward adaptations that enhance the brand but do not change the actual product or service. An example would be redesign of the Lufthansa logo in 2018. The change in logo had no effect on actual service delivery and while it would seem like a major change for a logo that had been in use for about 100 years, it had little overall impact on service quality and consumer experience. Miner (2010) stated that this level of innovation was minimal, and companies should make constant efforts at achieving this.

The second level of innovation is the integration of new features into existing products and services. It also involves the marketing of variations of the same product to different segments of customers in the market. This attracts a medium level of risk as the variations in the products and services do not vary significantly enough to force a disruption in the customer base. The primary product or service is retained, and this gives some level of financial security as the customer base for the primary product or service remains secured while giving the company a foothold to explore product and service variations (Farson and Keyes, 2002). An example is the MTN telecommunication company in Nigeria which offers various services such as call, messaging and data services, but provides variations of these same services to various market segments in the Nigerian market.

The third level of innovation involves greater financial commitments and risk taking. It is evolutionary and transformative in application. At this level of innovation, managers exercise more care in decision making and consider a greater number of internal and external factors (Cohen *et al*., 2008). The largeness of the market is a primary concern at this stage as the company must have a certain level of assurance that there is a large enough market for the product or service. Miner

(2010) however noted that at this stage, the decision makers have to be objective about the actual need for the innovation. This is necessary because some product sales can be increased by a more effective marketing strategy or technique rather than a more costly and risker technological innovation. Miner (2010) further noted that a combination of a research and development team, leadership, talent and extensive market knowledge is crucial. An example is the automobile industry prior to the commercialisation of the Sports Utility Vehicles (SUVs) at a time when station wagons were more popular and accepted by the general populace. The transition from station wagons to SUVs required a huge investment in finance, technical know-how, marketing and research and development; requirements that few companies are able to make in order to innovate.

The fourth level of innovation can be termed revolutionary as it often has far reaching impact on how people live and interact. It is also often associated with new innovations or innovations that are markedly different from the competition (Dyer et al., 2009). Examples of revolutionary products and services include the televisions, computers, the internet and e-commerce. This stage of innovation carries the highest risk and requires decision makers and employees to be together to work for the common goal. This level of innovation often sees the introduction of products and services that are unique, have little or no market (between the time of concept to introduction into the market) and require skill levels that are not always readily available.

The levels of innovation is connected to this research because it shows how innovation can be incrementally introduced to grow the online grocery business. The questions raised in this section by Farson and Keyes (2002), Cohn et al. (2008), Dyer et al. (2009) and Miner (2010) are also relevant to the study. Knowledge, application, costing, staffing etc, are all fundamental elements that may influence the choice of incremental innovation as the preferred growth path for online grocery businesses in Nigeria.

2.2.8 Forms of Innovation

From the various studies on innovation and innovation management, it can be clearly seen that innovation can occur at almost any point along the service delivery process and can take any number of forms such as product innovation, process innovation, business innovation (Dewar and Dutton, 1986; Popadiuk and Choo, 2006; Rowley; Baregheh nd Sambrook, 2011) or a combination

of two or more forms (Boer, 2001; Torres and Augusto, 2019). It is important to note here that a number of studies use classifications, forms or types to identify the various variations of innovation and as such, group all variations of innovation together (Garcia and Catalone, 2002; Kogabayev and Maziliauskas, 2017). However, for this study, innovation is classified into three distinct groups. The first group represents the major forms innovation can occur in an organisation and this will be discussed in this section. The second group are the types of innovation which represent the various ways innovation can be applied to an organisation operationally. The third group represents the various subsets through which innovations can manifest themselves.

2.2.8.1 Product Innovation

Drucker (1954) posited that the primary purpose of any business is to create and maintain a customer through marketing and innovation. Drucker (1954) argued that management must combine business intelligence and technological advancements in order to create a product that is of value to a customer. Building on the studies of Peter Drucker (1909-2005), Mohr and Sarin (2009) argue that to achieve product innovation, collaboration between marketing, finance, manufacturing and research and development is essential as any miscommunication along these lines will lead to a flawed product and reduced market share, which will invariably affect company revenues. Mohr and Sarin (2009) further point out that product innovation is often seen as technology-driven, but companies must have the capabilities to support the available technology and such drive should be centred on three themes: market driving, customer co-creation and corporate social responsibility. Ander and Levinthal (2001) noted that product innovation was must successful when the product was heterogeneous in its application. Ander and Levinthal (2001) argued that customers demanded innovation and one of the most appreciated aspects of innovation in a product was its diversity of usage as the customer then felt that such product provided more value for money. Gjerde et al. (2002) in their study, noted that product differentiation was critical when adapting product innovation, however, cost must be considered as a product innovation that is not cost effective to manufacture and cannot be sold at a price to recover its cost of production without reducing quality will be counterproductive. Cohen et al. (1996) looked at the *time-to-market* constraint of product innovation and noted that there was the high possibility of a trade-off between target performance and time-to-market of a new product.

They further posited that as essential as product innovation is, companies have to take cognisance of the markets' 'expected needs' and 'expected wants'. Cohen et al. (1996) argued that the timing of introducing a new product, that is, product replacement, should be such that it does not create a gap or lead to loss for the company especially when an already existing product which the company manufactures still meets the markets' needs or has a high performance, except when the company has a fast development capacity. Product innovation comes with some advantages such as providing a competitive edge over similar products and attracting new customers. It however also carries some risk such as the possibility that the cost of the innovation would be higher than its actual market value, the risk of the product not being popular enough in the market to break even within a reasonable timeframe and the possibility of loss of credibility due to the business changing its products too often (Cohen et al., 1996).

Product innovation emphasises the development of a new type of product or service that are either slightly (incremental) or clearly distinct (radical) from what was on offer before. This is done to essentially cover for shortcomings noticed in the older product so as to increase its competitiveness and value in the market. Despite its appeal, the emphasis on goods by product innovation means it ignores the processes and decisions which are involved in arriving at the final product. This is a key factor because before a product can be made, it must arise from a knowledge-based stage and proceed to the conceptual or ideological stage and the implementation stage, before the product is made. These stages, which will be looked at in-depth later in this study, are central to this research and vital towards achieving product goals and objectives. Also, as noted by Shelton (2008), product innovation has proven to be inadequate to achieve a truly competitive edge for a company and neither is it sufficient to enhance growth especially for service-oriented businesses.

2.2.8.2 Process Innovation

Davenport (2003) sees process innovation as activities that are structured to produce a pre-determined output. Yamamoto (2013) views it as activities engineered to improve various aspects of a business process such as product development, production or logistics. Process innovation involves the introduction and incorporation of a strategic activity in the way and manner an organisation carries out its business in order to meet specific needs of its consumers or improve its business process often in form of technology or technique. Chesbrough (2003) noted that as

technology continues to grow with products and services becoming less differentiated, companies are turning to using technologies to improve their business processes to make them more efficient and competitive. Boer and During (2001) argue that process innovation is primarily an internal process and has three distinct activity categories which are problem solving, internal diffusion and organisational adaptation. It is put in place to address a need by taking advantage of an opportunity to introduce innovation in the organisation. Boer and During (2001) further identified some steps in the categories which are development, adoption and implementation.

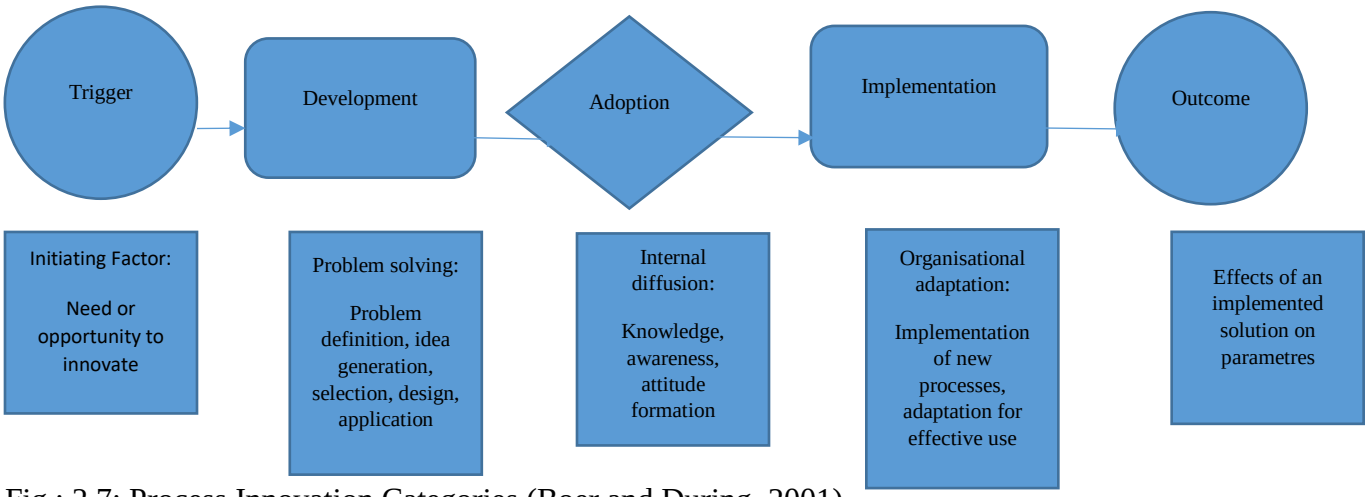

Fig.: 2.7: Process Innovation Categories (Boer and During, 2001)

Krogh et al. (2018) point out that process innovation is often the least obvious form of innovation and organisations often try to keep the process as a corporate and or company secret. They argue that process innovation involves the collection of ideas, skills and other distinct attributes that should be kept away from the competitors and public. Krogh et al. (2018) note that technological advances can be utilised in different ways by businesses and it is the uniqueness of this application that determines the eventual outcomes that the business seeks to achieve, taking into cognisance, internal and external factors. This position is in tandem with the works of Mina et al. (2014) and Lakemond et al. (2016) who argue that for process innovation to be successful, managers must see the opportunities and properly juxtapose them with prevailing social and non-technological factors. The work of Mina et al. (2014) provides insight on process innovation to business services which is a departure from studies that are more manufacturing centric. They argue that business services need more process innovation due to the nature of the service industry which emphasises the tailoring of services to each customers' needs other than for manufacturing which mass

produces its products. Lakemond et al. (2016) also state that process innovation is better suited to the services industry with project management and knowledge matching critical factors in the process.

From the various studies on process innovation, it can be seen that it is more of an internal activity within the organisation and its value to the service delivery process is best appreciated by the management and employees.

Process innovation also presents a more encompassing form of innovation as it recognises that innovation occurs not just as a physical end-product, but also as a series of processes which are all inter-dependent to arrive at the agreed outcome. Though scholars like Shahzad, Luqman, Khan and Shabbir (2012) and Raza (2014), have often associated process innovation with manufacturing, they recognise that the process leading to the manufacturing of a product is as important as the finished product. Slack, Chambers and Johnston (2006) and Tejada and Moreno (2013) also state that management and knowledge systems play essential roles in process innovation. This means that acquiring knowledge on available innovations and applying them effectively, are critical elements of process innovation and is essential to growth in the services industry. How this knowledge is sourced, acquired, developed and applied is of vital importance to the business growth. This is the part of process innovation that bears significant relevance to this study as the online grocery business in Nigeria is still at an elementary phase where knowledge acquisition on innovation and application are vital to growth of the business.

2.2.8.3 Business Model Innovation

Teece (2010) and Zott and Amit (2011) defined business model as how an organisation conducts its business. Teece (2010) points out that the central objective of a business model is value creation and effective service delivery. Zott and Amit (2011) also argue that the business model incorporates some vital architectures: design elements which are content, structure and governance. Design themes which are; novelty, lock-in, and complementarities, and efficiency; which all add up to create the value system. Barnejea et al. (2006) in their study on banking services in Columbia, noted that the content of activity refers to a selection of activities that seek

to link the new innovations to existing systems. The structure looks at how the activities are linked and the bridging of core, supporting and peripheral structures (Siggelkow, 2002). Siggelkow (2002) emphasised that the structure must fit and be justified by the circumstances that have warranted how the business has been structured. Zott and Amit (2011) argue that personnel management is critical to business models and this is what the governance of an activity system addresses. They point out that those who do the work are key, however, the 'who' do not necessarily have to be core staff of the organisation but can also be in the form of franchises as used in the Suzuki model of business retailing.

Zott and Amit (2011) state that the novelty of a design system is premised on its ability to seamlessly adopt new content or activity. They further argue that the lock-in of business partners and keeping them involved is essential. Studying the business model of eBay, Zott and Amit (2011) pointed that the business model puts the customer (buyer and seller) in the forefront of the activities (photographing and marketing). They also note that offering complimentary services can help keep cost down and help tailor services to meet the specific customer demand and a combination of novelty, lock-in and complementarity will invariably lead to efficiency.

Business Model Innovation is often seen as the most radical form of innovation as it involves a more obvious and extensive change in how an organisation conducts its business, type of product it develops and how it relates to its customers. It may involve a change in brand identity, expectations and other critical aspects of the organisation. Business model innovation is transformative in practice and seeks to challenge old or traditional practices (Zott and Amit, 2011). It is most applicable to start-up businesses who have to find innovative ways to challenge traditional big businesses that have larger customer base, funding and other resources. An example is the Glo Telecommunication Network in Nigeria that had to come up with an innovative business model to challenge the existing telecommunication giants in Nigeria; MTN and Econet (now 9mobile) (Olaoluwa, 2019) Glo Telecommunications changed the game by introducing the per second billing which gave it a competitive edge (Akingbola, 2016)

Chandler (1990) argues that industrialisation was the major engine for business innovation as the creation and advancement of technology created previously unavailable growth opportunities for

organisations. Chandler's (1990) position is premised on the reality that businesses are not immune to external influences and changes in the general society and need to adapt to these changes by taking advantage of the external system and internalising it for the organisation's benefit. Henderson (1994) strongly insinuated that integrative capability was vital for businesses when dealing with technological change and innovation and this is important because technology, when not properly handled, can be disruptive and or lead to managers not taking full advantage of the technology's inherent potential to expand and access new markets. (Christensen, 1997)

Though business model innovation encompasses elements of product and process innovation, it is not suited to this research because the businesses in this research have already adopted a business model, and the goal of the study is to see how innovation can be used to enhance the business rather than changing the business model which is not the objective of this research.

2.2.9 Types of Innovation

As noted earlier, innovation can occur in various forms (product innovation, process innovation and business model innovation). Within these forms are various types of innovation that have varying impacts on the business. There are four broad types which are architectural innovation, incremental innovation, radical innovation and disruptive innovation. However, there are other types of innovation which can be classified as subsets of the four main types of innovation and sometimes cuts across the main types (Garcia and Catalone, 2002; Kogabayev and Maziliauskas, 2017).

All other types of innovation represent subsets of the four main types of innovation, and they are represented in various patterns depending on how the innovation is being implemented within the system. For instance, a business can chose to use marketing innovation in a disruptive way or may use service innovation in an incremental way. Some businesses more often than not, use a combination of subsets to achieve desired results. As such, a combination of service, technological, open and sustaining innovation, may be used in an incremental or radical manner.

Type of innovation	Key Characteristics	Authors
Architectural Innovation	Prioritises improvement in existing areas of a business to allow better connections	Henderson and Clark, 1990; Han, 2017
Incremental Innovation	Gradual and continuous improvement to existing services, products and business model; Safe with	Christensen and Bower, 1996; Pellegrino, 2018

	low financial risk; Easy to implement; Predictable outcome.	
Radical innovation	Makes use of existing technology in a new way; Medium to high financial outlay; Medium difficulty of implementation; Fairly unpredictable outcome.	Schweitzer, 1961; Briggs and Buehler, 2018
Disruptive Innovation	Introduces a new market category using; High financial risk; Unpredictable outcome.	Chen, Zhu and Zhang, 2017; Christensen, McDonald, Altman and Palmer, 2018
Marketing innovation	Introduces a new marketing method to existing product/service; Aimed at making the product/service more attractive to the customer.	Hurley and Hult, 1998; Gupta, Malhotra, Czinkota and Foroudi, 2016
Service Innovation	Refers to improved concepts/technology/methods; Has wide applicability and utility in the overall business process.	Den Hertog, 2000; Miles, 2005
Technological Innovation	Technology plays a critical role in the success of the organisation; Involves high level of specialization and knowledge.	Dosi, 1982; Coccia, 2016
Organisation Innovation	Refers to the restructuring of work in a company for better efficiency.	Armbruster, Bikfalvi, Kinkel and Lay, 2008; Hollen, Van den Bosch and Volberda, 2013
Line Extension Innovation	Refers to the expansion of a product line or service using the same brand name	Heath, DelVecchio and McCarthy, 2013; Caldieraro, Kao and Cunha, 2015
Experiential Innovation	Focuses on creating improving the experience of customer-organisation relations	Pine and Gilmore, 1998; Voss and Zomerdijk, 2007
Operations Innovation	Focuses on introducing changes into various aspects of operations to improve efficiency	Covin and Slevin, 1989; Alegre-Vidal, Lapiedra-Alcami and Chiva-Gomez, 2004
Paradigm Innovation	Refers to how an organisation changes and frames how it carries out its activities	von Hippel, 1986; Dutta and Manzoni, 1999
Position Innovation	Refers to brand positioning and visibility. It looks at how an organization uses innovation to enhance its position in the market place	Beverland, Napoli and Farrelly, 2010; Schmidt and van der Rhee, 2013
Sustaining Innovation	It refers to the development of existing markets/products/services for better value without creating anything new.	McDonagh, P. 1998; Belz and Peattie, 2010
Network Innovation	Involves the strategic utilization of multiple players from inside and outside organizations to create new products and services	Cowan and Jonard, 2003; Gloor, 2005
Open Innovation	Emphasises the importance of sharing and receiving ideas from outside the organization. It draws from different sources such as other businesses, customers and communities.	Chesbrough, 2003; Gassmann, Enkel and Chesbrough, 2010
Profit Model Innovation	Places priority on innovations to enhance revenue generation especially on value, pricing and target-market	Afuah, 2004; McGrath, 2010
Product Performance Innovation	Emphasizes the improvement of a specific product in order to increase its value, performance and competitiveness.	Cooper and Kleinschmidt, 1993; Tohidi and Jabbari, 2011
Channel Innovation	Refers to how an organization makes changes to the way it connects its products/services with the customers	Beier and Stern, 1969; Nyberg, 1998
Responsible Innovation	Refers to innovation developed for public interest	von Schomberg, 2011; Stilgoe, Owen and Macnaghten, 2013
Digital Innovation	IT dependent; Requires above average expertise to implement	Benbasat and Zmud, 2003; Fichman, Dos Santos and Zheng, 2014
Open Innovation	Extensive use of knowledge to grow internal innovation in order to influence external markets	Chesbrough, 2003; Naqshbandi, Kaur and Ma, 2015;

Table 2.1: Some Types of Innovation

Table 2.1 shows various types of innovation, a brief overview and some proponents. This is far from exhaustive and delving into the numerous innovation typologies will require extensive effort which would knock the research off course. Innovation in business and marketing research and operations has very fluid and dynamic applications. Table 2.1 shows various types of innovation literature from some scholars, but as stated earlier, there are four main types of innovation, which are architectural, incremental, radical and disruptive, while other types of innovation can be found as subsets.

2.2.9.1 Architectural Innovation

Architectural innovation often refers to the utilisation of certain proven skill sets and technology that already exist in one market and applying those skills and technologies in a new market. Though the technology and skills may require a little adjustment to suit the new business, the risk is generally low. Henderson and Clark (1990) see architectural innovation as the "… reconfiguration of the existing… technology… (p.9)". Henderson and Clark (1990) however point out that there are two types of architectural innovation which are; architectural components and architectural knowledge. They argue that most businesses rely on architectural components, which is the use of components of existing technology to suit the new business strategy. This denotes that the business using the technology does not make any modifications on the technology. Architectural knowledge on the other hand requires an in-depth understanding of the technology and its effective application to business. Bozdogan et al. (1998) argue that matching of specialised skills when applying architectural innovation as simply combining the technological innovation without having the requisite skill (and knowledge) to operate it, would lead to a less than successful outcome. Bozdogan et al. (1998) further argue that successful architectural innovations incorporate a variety of enablers such as commitment to suppliers, shared responsibilities for design and configuration control, flexibility in system configuration *inter alia.* Fagerberg et al. (2017) notes that innovation is not necessarily about something being new and architectural innovation is more about using existing innovations in a new way.

2.2.9.2 Incremental Innovation

Incremental innovation denotes the use of technology already being used by a business or organisation to increase its output or value within its existing market. It is aimed at gradually increasing product or service efficiency and differentiation. Incremental innovation allows for gradual adjustments or improvements in a service by utilising already core competencies and technology and having a realistic growth path at reduced costs. Based on their studies of innovations in the Indian market, Iyer et al. (2006) noted that over 80% of businesses that try to introduce new innovations to their product lines are unsuccessful. They pointed out that the growth of some Asian markets has opened new corridors of expansion for Western businesses; however, the technologies which have boosted the Western markets cannot be adopted wholesale or swiftly in the Asian markets due to varying factors such as environmental, consumer behaviour, institutional behaviour and market characteristics. This position is succinct because it recognises the role of other external variables which may have an impact on the way innovation is accepted as such, a gradual (incremental) adaptation is needed to prevent an outright rejection by the target market.

Ringberg et al. (2019) noted that organisations that chose incremental innovation are able to innovate at a sustainable pace without damaging pre-existing links and connections and as such, do not have customer needs as a priority. The position of Ringberg et al. (2019) is interesting because on the surface of it, it seems to go against the sound logic and position of many studies that innovations are geared towards meeting customer needs. While this may be true of other types of innovation, incremental innovation by its nature, focuses on gradual changes in technology and managerial mind-sets (Porac et al. 1989; Ringberg et al., 2019). Porac et al. (1989) argued that the mind-set of the organisation to accept technological innovations is very important in the decision-making process and any constraint in that flow of information to the decision makers will limit the business knowledge and vision of the organisation. Incremental innovation is relevant to this research because the research as part of its objectives, seeks to investigate how innovations are applied to online service systems. While online shopping in general in Nigeria is growing at a fairly steady rate, online grocery shopping lags behind, and one of the areas this research sets out to explore is how process and incremental innovations are applied in the online grocery business

in Nigeria. Furthermore, considering that online grocery businesses in Nigeria are situated within the SMEs bracket, the adoption of online grocery business model is already both radical and as such incremental innovation is best suited to achieve growth.

2.2.9.3 Radical Innovation

Radical innovation often involves revolutionary technology. Green et al. (1995) made use of four dimensions in their assessment of radical innovations. These were technological uncertainty, technical inexperience, business inexperience and technology cost. Green et al. (1995) argued that for radical innovation to be measured, the use of the four dimensions should be incorporated in the analysis of radical innovations of businesses to determine their success/failure over a long term. McDermott and O' Connor (2002) in their study of radical development of new products identified three major high-level strategic themes which are; market scope, competency management and people issues. They argue that radical innovations require a long time to actualise and businesses should be prepared to weather the storm without resorting to low-risk – immediate reward incremental projects. The market scope when engaging in radical innovation must be properly identified and take into consideration various external factors and influences such as environmental factors, social factors, ability of the market to accept new and revolutionary innovations, support services for technological advancements, among others. Competency management refers to the management ability to provide leadership and manage capable employees and the integration of human resources towards achieving the vision, mission and goals of the organisation. Finally, people issues refer to employee retention and engagement of competent employees.

2.2.9.4 Disruptive Innovation

Disruptive innovation refers to innovation that extensively affects how an industry or market functions. Christensen (1997) noted that new entrants or start-ups into a market are usually the major drivers of disruptive innovation as they seek to aggressively challenge the existing system in other to cause enough impact to gain a foothold in the market. Christensen (1997) further pointed out that established market leaders tend to be more cautious in their approach of using new technological innovations as they are concerned about how this will affect their market share, the

cost of introducing these innovations and other factors concerning the business environment. New entrants on the other hand, have no such restrictions. Christensen (1997) also noted that disruptive innovation carries a very high risk when juxtaposed with other forms of innovation, but when successfully applied to the market, is capable of deeper market penetration and impact in the market.

Disruptive innovation is often misrepresented, thus, Christensen et al. (2015) pointed out five key attributes of disruptive innovation, in an attempt to establish the core concept and understanding of the terminology. Firstly, they argued that it is a process and not a product or service and it occurs from the periphery to the mainstream. This means that disruptive innovation is a means to an end and not an end in itself. Secondly, it is most applicable to markets where customers are less demanding or where the product or service to be marketed is non-existent. They further pointed out that markets where customers have little or no options to certain products and services, are more receptive to disruptive innovations as they are more open to giving the product or service a chance to gain a foothold in the market in the absence of viable alternatives. Thirdly, disruptive innovations in established markets have a hard time gaining mainstream customers who already have attachments to more established alternatives to the product or service. This however tends to change over time if the quality of the new product or service is able to meet or surpass the standards of the customer. Fourthly, disruptive innovations bring high rewards when applied successfully, but they can also fail spectacularly. This is because disruptive innovations tend to be all-or-nothing ventures into the market and any setback usually comes at a steep price. Finally, Christensen et al. (2015) state that the application of disruptive innovations by new firms often differs significantly from established competitors. This is a key attribute of disruptive innovations because the success of the firm depends on its ability to differentiate itself from the existing competition.

Christensen (1997) stated that;

> Generally, disruptive innovations were technologically straightforward, consisting of off-the-shelf components put together in a product architecture that was often simpler than prior approaches. They offered less of what customers in established markets wanted and so could rarely be initially employed there. They offered a different package of attributes valued only in emerging markets remote from, and unimportant to, the mainstream (p.15)

Weeks (2015) noted that disruptive innovation, despite its drawbacks, had gained a major foothold in market application as more businesses sort to use the concept to break into new markets. Bower (2002) argued that when technology designed to revolutionize an existing market becomes available, established companies often do not see it as a threat and therefore deem it as unattractive and not something that their customers will demand. Such established companies see the new technology as not important enough to be utilized viz-a-viz cost of implementation and projected profit margins. Bower (2002) further argued that this technology that has been ignored by the established company in favour of what is currently popular in the market, is often taken up by a start-up that brings the innovation to market and once established, the company works on raising the product and service to that of the level valued by mainstream customer.

For this study, the focus is on process innovation as the major form of innovation and incremental innovation as a type, with the subsets of technological, service and marketing innovations. Incremental innovation is chosen because it makes use of technology that already exists and introduces it into an established process in order to improve or enhance service. This is what is applicable to the online grocery business in Nigeria which makes use of small adjustments to add value to the overall customer experience.

2.2.10 Incremental Innovation and its Relevance to the Study

Incremental innovation presents a favourable medium through which small and medium businesses can grow their businesses. In developing countries, incremental innovations can sometimes have more impact than radical innovations. This is so because incremental innovations focus on refining and tweaking an existing design to suit the peculiarities of the environment it is been adapted to. The thrust is that while innovation is vital to growth of small and medium businesses as noted throughout this study and pointed out by various studies such as Gunasekaran, Forker and Kobu (2000), Sanz-Valle, Naranjo-Valencia, Jimenez-Jimenez and Perez (2011) and Talke, Salomo and Kock (2011), the type of innovation preferred plays a determining role in the level of growth of such businesses.

The volatile nature of the business environment in Nigeria does not often encourage risk taking or introduction of radical innovations. It is more favourable to businesses which copy existing businesses and then incorporate small enhance to improve the business and its services. These little

tweaks, over time, present a more sustainable growth path for small and medium scale businesses and this position is what informed the direction of this study.

Nigeria has an appreciable internet penetration as previously highlighted in this study. However, harnessing this penetration and transforming it into much needed growth remains a teething problem. One of the reasons for this is the attempt by government and most businesses to take innovation paths that are incompatible with the socio-economic realities of the country. Apart from the financial sector in Nigeria which was able to implement radical changes to its operations, other sectors have seen less success in attempting to follow the radical or disruption innovation path. Other forms of innovation such as architectural, radical and disruptive, are often capital intensive and present higher levels of risk when compared with incremental innovation.

Incremental innovation focuses on improving existing products, services, operations or processes to achieve better market positioning. This understanding is germane because this research, which concerns itself with online grocery businesses, seeks to explore the gap inherent in studies on innovation in Nigeria that are more suited to new entrants into the general online service market, than on how struggling existing businesses can achieve stability and growth utilizing appropriate innovation forms.

2.3 What is Service?

Service is often connoted as the outcome of the combination of various variables designed to achieve a stated objective for the purpose of creating value (Woodruff and Gardial, 1996; Vargo and Lusch, 2006; Gronoos, 2011). Various interpretations are given to the real life application of service related businesses as its anticipated outcomes and its service system parameters, service success rate, complaint rate and service recovery rate (Hays and Hill, 1999), are often dependent on certain factors such as policies, technology, socio-environmental influences, accountability, expectations of the consumer *inter alia* which differ according to locale with some scholars regarding it as one of the most difficult problems facing businesses today (Phillips et al., 1983; Cronin and Taylor, 1992). However, regardless of the difficulty in controlling some of the variables that influence services, it is undeniably a critical part of business and management with various methods of analysis being developed to properly evaluate performance and service quality (Cavalcante et al., 2013).

Service, as stated earlier, is often seen as the outcome of an internal process and is determined by the hierarchy at various points of the business and management process that lead to that outcome. For instance, an advertising manager would be more concerned with reaching the largest audience using the most cost-effective methods and would believe that a service has been delivered if that target is reached. On the other hand, a line production manager would see the attainment of the production target as service delivered, while a financial manager would be more concerned with the financial inflows and outflows. For each category, a service has been rendered, and for that process, delivered with the responsibility for providing subsequent services shifted on to the next business process until it gets to the final consumer. Improving service is a precursor for businesses to thrive and permeates the business process in order to have acceptable outcomes. However, a number of existing literatures do not take this into consideration as they are more concerned with the end process while ignoring specific variables and overall impact of service delivery systems of those individual variables (Bettencourt and Brown, 1997).

For this phase of the study on service, it is important to review the various aspects and terms that govern its operational usage and its relevance to this study. This part of the study starts off with looking at the term ‘service’ and its usage in other studies. This leads to the discussion on its most generally agreed characteristics which are tangibility, inseparability, variability and perishability. This is important in order to situate this study within a definitive context and avoid ambiguity in usage of the term ‘service’. This will be followed by an extensive review of ‘service delivery’ as this is the overall objective of the service industry. Here, service delivery elements such as service culture, quality, employee engagement and customer experience are reviewed. The service industry will then be studied in-depth. This would help convey a general understanding of the service concept and apply it to the operational business.

Providing a service is often tied to the value upon which that service is rendered (Sasser *et al*. 1978). Sasser *et al*. (1978) see service as an action that has no intricate value unless when consummated. This view does not however take cognisance of the fact that a service does not necessarily occur at the end of a transaction as it can take place anywhere along the business process. To this end, Luu *et al.* (2016) point out that the process involved in creating value often differs from the outcome of the expected value. This position is situated within the understanding

that behind every service being rendered, the expected end goal is to provide an activity that has value to the final consumer or user of that service. Within that process of creating value, there are various aspects which create conditional influences that impact on the process of providing a service. The position of Luu *et al*. (2016) presents a more encompassing view of the applicability of service in various aspects of the business process. This follows with the works of Ballantyne, Christopher and Payne (1995) and Johns (1999) who all argued that the term service, is more of a concept which can be applied across various parameters such as quality of service and service experiences. Johns (1999) however further notes that despite its broad applicability, a service can be divided into core and emotional/hedonistic dimensions. The views of Ballantyne *et al*. (1995), John (1999) and Luu *et al*. (2016) are all cogent, but they do not capture the practical reality that a service is more than concept. By situating service within the realm of an idea, they do not provide a firm link between service and its value as an economic unit as noted by Hill (1977) and Vargo and Lusch (2004).

Hill (1977) sees service as the coming together of two different economic units designed to effect a change to one of the economic units based on prior agreement. The view of Hill (1977) was grounded in the prevailing economic realities at the time and draws a direct practical link between economic variables designed to achieve a predetermined objective. The work of Vargo and Lusch (2004) are in tandem with the views of Hill (1977) and they go further to state that service includes the utilisation of specialised skills to create value for others. The view of Vargo and Lusch (2004) captures the unique nature of the concept of service. It recognises that service is a combination of factors and does not occur in isolation.

Gadrey (2000) states that the term 'service' has been widely disputed by economists for over two hundred years and existing definitions have yet to properly capture the concept and its applicability to economics and marketing. Gadrey (2000) however notes that despite the difficulty in arriving at a cohesive and unified concept of service, its modern-day differences in application have been in place since the time of the classical economists. Adam Smith in his most famous work, *An Inquiry into the Nature and Causes of The Wealth of Nations* published in 1776, noted that there were two types of labour which he termed as productive and unproductive and that they produced different types of output or end value. He expatiated further by stating that productive labour

produced physical goods that could be stored and exchanged for either money or used as an exchange for something that the producer of the good considers valuable. This, Smith argued, created and contributed to wealth creation as the physical goods could be used repeatedly. For unproductive labour, Smith recognised its importance but argued that such labour was immediately consumed and its value could not be enjoyed repeatedly unlike physical goods.

Smith's writing is interesting because it raises the question of what can be considered valuable in wealth creation. Smith attaches more value to tangible products and sees intangible products as having less value. The intangible products referred to by Smith are those that are known as services. Contributing to the work of Adam Smith, Johns (1999) points out that the concept of service especially as it applies to management, involves processes and their outcomes and is viewed from different perspectives by the service provider and consumer of the service. John (1999) raises this observation because in the process of creating a demarcation between tangible and intangible products, the overriding interest of what the company seeks to provide and what the consumer expects is often lost. This means that a company may provide a tangible end product but structure its business in such a way that the processes leading to the production of the tangible product has more value than the actual product, while the consumer places more appreciation or value on the process that leads to the end product (Gruner and Homburg, 2000; Bonner, 2010). Fuchs (1968) and Bell (1973) however present a more intertwined view as they argue that the production of goods and services are part of a continuous process which has been made possible as a result of industrialisation and technological advances.

Fuchs (1968) and Bell (1973) agree that the production of goods and services can occur within the same production process. Bell (1973) posits that the advent of the industrial revolution gave rise to new ways of manufacturing goods especially given the technological advancements. He further pointed out that these advancements opened up new economic avenues that laid emphasis on social interactions as a means of carrying out business transactions in tandem with the technological advancements. Bells submission attempts to create a merger of goods and services by seeing them as a continuous process, the emphasis being on 'process'.

Stanback (1980) position on what a service is not, is more definite in its application. Stanback (1980) argues that a commodity that cannot be stored and transported is a service. This position is more concerned with the output or the value derived from the end product of the production process.

The combined studies of Fuchs (1968), Bell (1973), Stanback (1980) and Vargo and Lusch (2004) are deemed most relevant to this stage of the research as their positions contain critical elements that are fundamental to the understanding of the service as an operational concept and the role of technological advancements in bringing innovation and growth to the service industry.

Despite the differing opinions, a common progressive link running through the identification of what service is over the last couple of centuries and what it entails is that, a service is intangible and can either be situated within the process of producing a tangible product or can be an end in itself without providing a physical commodity. This entails that a service can be defined using pointers or characteristics which are generally acceptable. Identifying these characteristics and establishing what a service entails is key because it is easy for the research to be pulled in a number of directions which do not address the main objective of the study and to this end, the next section attempts to narrow down the characteristics of a service from the perception of various studies and identify those which are most relevant to this study.

2.3.1 Characteristics of Service

Bitner et al. (1993) identified the characteristics of service by reviewing hundreds of related literatures and classifying them into three developmental stages, that is; crawling out (pre-80s), scurrying about (80-85) and walking upright (86-present). Though Bitner et al's work is concerned with service marketing, it still had to properly place the concept of service using past literature.

	Journal Articles	Books	Proceeding Papers and Book Chapters	Dissertations	Total
Crawling out (pre-1980)	59	10	32	19	120
Scurrying About (1980-1985)	104	26	141	16	287
Walking Upright (1986-present)	361	50	272	37	720
Total	524	86	445	72	1,127

Table 2.2: Classification of General Services Literature (Bitner et al. 1993)

Table 2.2 shows the classification of general services literature according to the review of Bitner et al (1993). The information gathered showed that in the crawling out stage (pre-1980), there was a focus on the physical marketing of goods with little understanding of the service industry. The researches of MacDowell (1953), Parker (1958) and Johnson (1969) were instructive during this stage and they raised the debate on the separation of goods and services and the marketing strategies accompanying them. This stage was focused on carving out and demarcating the services from the goods as a separate field in what would be known as the goods versus services debate. The scurrying about stage witnessed the contribution of a high number of scholars to the rapidly developing field of services marketing with studies from Berry (1980), Bateson (1983), and Berry et al. (1983). Within this stage, expansive efforts were made to further differentiate services from goods. A key factor for this rise in interest in service marketing can be attributed to the opening up of the services industry as a major player in the global economy. The deregulation of various sectors such as aviation, rail transportation, communication, banking and other financial services *inter alia*, intensified competition and demanded new and innovative ways of conducting business and this forced a convergence of business managers and academics to chart a clear and more sustainable path for the services industry (Fisk et al., 1993). The walking upright stage was also characterised by increased empirical literature on services but it was more focused on specific aspects and characteristics of services business such as heterogeneity of providing a service, establishing and controlling the processes related to intangibility, and investigating the constraints associated with demand and supply of services (Bartels, 1988; Bateson, 1989; Fisk et al. 1993). It was within this stage that a clear identification was made on what services entailed with key characteristics identified. The key characteristics identified were; (1) Intangibility (2) Perishability (3) Inseparability (4) Heterogeneity.

2.3.1.1 Intangibility

Regan (1963) undertook a study of the evolving nature of manufacturing and opined that the lines between tangible and intangible outcomes of the production process were intertwined but distinguishable. Regan posited that the value attached to an activity that seeks to bring satisfaction to a consumer can be situated either in the goods produced by that activity or in the activity itself as a final product. This position concerns itself with establishing various outcomes of values that are intangible but still have value for the consumer either as an end product or the production process. For instance, to produce a shoe, which is a tangible commodity, its concept must be designed on paper before its actual manufacture can commence. The designing of the shoe is a service that has been provided and is in itself, an activity that has provided satisfaction for the manufacturer of the shoe, if the design is accepted. However, the manufacturer still has to turn that design into a tangible product in order to create satisfaction for the proposed wearer of the shoe. From this example, it can be seen how tangible and intangible value and satisfaction have been achieved in one production process, it is then no wonder that there is debate on what a service is all about. Bateson and Hoffman (2011) argue that the key differentiation between goods and services is ‘intangibility’.

Bowen (1990) emphasises that the tangible/intangible classification of services is made more difficult by what the consumer values as service. Using other studies on the matter, Bowen (1990) creates a table showing various characteristics that can be termed as services with the production process. As shown in table 1, the intangibility of service takes a variety of forms and its application is subject to varied perceptions.

Classification of services	Bell (1981)	Bowen and Bowers (1986)	Browing and Singleman (1978)	Chase (1978)	Daniels (1982)	Grove & Fisks (1983)	Judd (1964)	Kotler (1984)	Langeard & Eiglier (1983)	Lovelock (1984)	Mills & Margulies (1980)	Rathmell (1966)	Ryans & Wittink (1977)	Silpakit & Fisk (1985)	Stiff & Pollack (1983)	Thomas (1978)
Employee Skill Level																X
Audience Size						X										
Service Delivery System					X					X						
Employee/Customer Contact	X	X		X		X				X	x			x	x	
Importance of Employees								X		X		X				X
Economic Concentration												X			x	
Multiple or Single Site									X	X						
Ability to Meet Peek Demand										X		X				
Degree of Regulation										X						
Extent of Demand Fluctuation										X						
Services affecting People or Things								X		X						
Customer Participation														x		
Intangibility	X	X					x			X						
Level of Customisation									X	X						
Function			X					X								
Differentiation													X			
Ability of Customer to Switch Firms										X			X			
Continuous vs Discrete Transactions										X						
Importance of Machines									X		x		X		x	

Table 2.3: Bowen's Analysis on the Classification of Services (Bowen 1990)

Table 2.3 shows Bowen's (1990) analysis on the classification of services by various researchers using different parameters. From Bowen's (1990) analysis, it can be observed that the intangibility of service, which has been identified as an essential characteristic of service marketing, is quite subjective and various studies as shown in table 2 had different interpretations on what the intangibility of service entails.

However, Lovelock's (1984) view on intangibility is most relevant to this study as it captures a key essence of what services is all about. Lovelock (1984) emphasised that intangibility relates to services because services are most associated with immaterial performances rather than physical objects as they cannot be sensed, that is, touched, seen or tasted in the same manner as goods and products. Lovelock's position addresses this study because the study is concerned with the intangible aspects of service marketing such as how innovations are applied; factors that affect

service quality and consumer bias. Taking this further, Fisk et al. (2008) and Sichtmann et al. (2011) point out that that examination and/or evaluation of a service by a customer is quite difficult and this often leaves ambiguities on what the customer is actually buying and what the service provider is selling. When this is related to the online grocery industry in this study, the emphasis is not on the groceries which is the end product, but on the processes (intangible aspects) which lead to the actual purchase of the physical goods (groceries). It is important that this distinction is made as it is easy to leave the crux of the matter which is the service (intangible) aspect of the study and focus on the physical goods, which is the groceries. While intangibility is a critical criterion for understanding services, it does not speak to the aspect of value which is also essential.

2.3.1.2 Perishability

Studies have debated that a key characteristic of service is its perishability as its value terminates as soon as it has been rendered. The idea is that a service, as a value to the consumer, does not exist until it is actually consumed. Zeithaml (1981) emphasises that despite the inherent difficulty is separating goods from services, the perishability of a service is a unique characteristic. Zeithaml (1981) states that a service cannot be kept in a store for future distribution or use. Businesses often confuse the possibility of providing a service with its actual availability. The possibility of a customer requesting and utilising a service always exists, but the value for that service ends as soon as the service is provided. This is unlike a good that keeps on providing satisfaction to a customer without further direct input from the manufacturer. Palmer (2005) argues that perishability of a service is a key concept of services marketing.

Technically, a service only exists when an order is placed for it and as soon as that order is consummated, it seizes to exist until another order is placed. This is key because goods can be stored for use at a later date and can exist and be utilised without further input from the manufacturer once it has been made. Services however is produced on demand and utilised immediately. To this end, Kasper et al. (2006) and Hollensen (2010) posit that services are heavily affected by supply and demand, as low demand leads to unutilised capacity and reduced profit maximisation for the service provider which cannot be gotten back and is therefore lost forever unlike a tangible product which can be sold at a later date when demand rises.

Palmer's (2005) view on perishability is most relevant to this study because it emphasises that once a service has been rendered, purchased or sold, it cannot be gotten back even if the service was unsatisfactory to either the seller or buyer. To put this in context, a customer who wishes to procure a service online must make use of the available online technology such as searching for the desired product, placing an order and making a payment, these actions are service related and once consummated, cannot be reversed and even a cancellation of an online order already placed is simply an extension of service rendered and not a negation of the totality of the service process. Palmer (2005) argues that services managers must recognise the perishability of services in order to better understand the service demand and supply market as the activity or service must be made available to the customer on demand and this invariably leads to another characteristic of service which is inseparability.

2.3.1.3 Inseparability

Service is often seen as an activity that cannot be separated from its production process and customer as it occurs simultaneously. Thomas (1995) posits that a service cannot be divorced from its source of production and the customer. Thomas (1995) argues that for a service to be enjoyed, the provider and receiver of the service will have to be in contact in order for the required transaction to be successful.

Zeithaml et al. (1985) noted that the marketing process between the production and consumption of a service and good is reversed, because goods must be produced and marketed before they can be consumed while services are first marketed, then produced and consumed simultaneously. A service therefore, cannot take place in the absence of the provider and consumer. This can however be sometimes confusing. For instance, an automobile technician can repair a vehicle in the absence of the vehicle's owner, but the owner has to request for that activity (repair) by either bringing the vehicle to the repair shop or calling for the repairer to receive the vehicle at a predetermined location.

Brown et al. (1994) point out that the dispute arising from the inseparability characteristic of an activity that qualifies it to be called a service is as a result of technological advancements and improved ways of providing services to customers. Brown et al. (1994) note that this impact of

technological advancement is pervasive along all characteristics of services, but it is more pronounced when the characteristic of inseparability is concerned. This position of Brown et al. (1994) is buttressed by Bateson and Hoffman (2011) who looked at real world business scenarios across various subsectors.

Bateson and Hoffman (2011) in their in-depth study noted that technology continues to blur the lines of inseparability in services marketing as technological advancements at the same time, create and reduce separation between producers and consumers. This push and pull effect of technology on services marketing can be seen in e-commerce and the growth of applications that support online business transactions. There is an increasing dependence on e-transactions across the globe and producers often do not have to be in direct contact with the consumers in the physical sense but are linked via mediums which still facilitate whatever transactions that may occur between the seller and buyer.

Correa et al., (2007) however take a slightly different stance on the concept of inseparability. They argue that there are varying degrees of interactive and therefore, simultaneous consumption between what is being produced and its rate of consumption. The major argument centres on stockability. Stockability is the ability to inventory the required items necessary for service delivery before the demand is placed and also the ability to get inventory, for the serviced rendered (Correa et al., 2007). They attempt to downplay the notion that inseparability connotes that there is low stockability. The issue is that just because a service is delivered on demand and therefore has low stockability, does not equate to all services and is dependent on the 'degree' of inseparability of the service rendered.

For this study, it is the usage of these mediums that are of key interest and as such, the position of Bateson and Hoffman (2011) are crucial to understanding how innovations can facilitate growth in the online services business as it acknowledges the importance of technology in services and towards growing the services industry as well as the inseparability of the seller and buyer from the overall service process. Bateson and Hoffman (2011) also place emphasis on the importance of communication and specialised interpersonal skills when it comes to services. This communication and interpersonal skills are however a two way process when it comes to understanding the

inseparability of services and this is because the seller would only be able to provide the service based on the information provided by the buyer and this input has a direct influence on the quality of the service to be provided.

2.3.1.4 Variability

Kahneman and Tversky (1979), Rust et al. (1995) and Swait and Erdem (2002) all agree in their studies that a key quality of services is their variability. They argue that service, by its very nature and production process, cannot be replicated in the exact same manner and would vary from one customer to another or even to the same customer at different times. Kahneman and Tversky (1979) argue that services are susceptible to uncertain outcomes and the satisfaction it provides for a consumer, varies from time to time. The argument of Kahneman and Tversky (1979) does not imply that there are vast differences in the provision of the same service, but reproducing the exact same service may be impossible. Rust et al. (1995) further point out that services that do not meet the customers' expectations risks being avoided by such customers in the future based on the bad or less than acceptable experience. This position is however true of all products, tangible and intangible. Flowing from this, Swait and Erdem (2002) provide further clarification by surmising that due to the characteristic of inseparability of services, flaws in service activity are harder to conceal and are more prone to subjective assessment by the consumer even when the service provided is near identical or even an improvement on the previous service and state that factors such as price and availability of service have a fundamental impact on this perception. This observation is germane because it can be used to explain the reluctance of service providers to quickly embrace new technologies as they are concerned about the reaction of the consumer to the impact that technology would have on their satisfaction.

2.3.2 Service Delivery

Having identified what a service is, it is also pertinent to look at what it means to deliver a service. Bateson (1989), Bolton and Drew (1991) and Cronin and Taylor (1992) in their studies covering the late 80s and early 90s, identified the services industry as a growing major player in the economic development of developed countries, primarily, the United States of America. Bateson (1989) opined that due to the growing service industry, which accounted for about 58% of global

Gross National Product (GNP), there was an urgent need for deeper understanding of service delivery. Gronroos and Ravald (2011) state that the creation and delivery of value is the primary target of service and this service is often expected to be of an acceptable quality to the customer. Lemon and Verhoef (2016) argue that service delivery is dynamic and tends to change over time and customers are influenced by each time differential at the point of service. Lemon and Verhoef (2016) are primarily concerned with the customer experience. To this end, *timing* and *consistency* of service is seen as a major factor in service delivery. Ruyter et al. (1997) state that service delivery is a process and at each stage of that process, activities centred on that stage have a cumulative effect on the final outcome, that is, *service quality* and the *customer experience*. The position of Ruyter et al. (1997) emphasises the importance of coordination along the service delivery line and argued that various service delivery models must take into vital cognisance, the overall process in relation to the customer experience.

The submissions of the various scholars are uniformed when viewing service delivery as having a direct impact on customer experience. Hesket (1987) and Ponsignon et al. (2010) stated that various businesses had challenges coming up with appropriate service delivery designs. They argued that the nature of the service industry made it imperative for service businesses to customise their services to suit customers. Hesket (1987) further posited that a synergy of *service concept*, *service integration*, and *operations strategy* are essential inputs for service delivery to produce valuable results. Building on the work of Hesket's (1987) service concept, Roth and Menor (2003) developed the *service strategy triad* to emphasise service specifications in order to reach the target market.

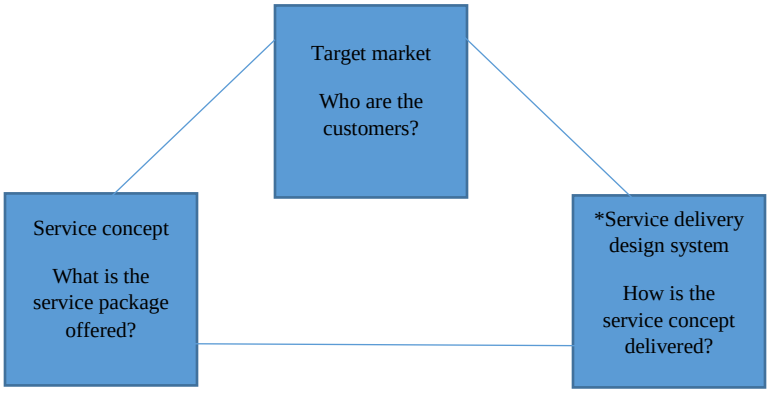

Figure 2.8: Roth and Menor's Service Strategy Triad (2003) *Area of focus of the study

Roth and Menor's (2003) service strategy triad in figure 2.8 shows how the various aspects of the triad influence one another. A business must be able to clearly identify what service it can offer, which should be a service that is within its area of expertise and can be efficiently delivered with minimal overhead costs. It also relates to product innovation since the service may have a physical end product meant for consumption by the customer. The next step is identifying the customer base. These aspects encompass the income range of the target customer, location, and lifestyle *inter alia*. The third aspect of the triad deals with the service delivery design and system. This is the aspect that is the focus of this study. This aspect is most relevant to the study because it places emphasis on the intangible aspects of the service to be provided and therefore, focuses more on the service processes. These are the processes which a consumer must access before the end product can be achieved and it is within this area that innovation for the online grocery business that is being studied, can be situated.

The work of Roth and Menor (2003) is therefore key to this aspect of the study as they insist that a key difference in service delivery when it comes to differentiating goods and services, is that producing goods is routine and there is more often than not, a consistency in the goods produced which requires less specialisation. Services on the other hand, require a higher degree of specialisation since no two services are exactly the same, as such, employees must be adaptable to skilfully manage even the most subtle of changes in service. Ponsignon et al. (2010) pointed out that different service concepts lead to different delivery systems with their own unique characteristics. This entails that the employees are required to have greater skills, more discretion and enhanced specialisation.

The works of Bates (1989), Bolton and Drew (1991), Cronin and Taylor (1992), Gronroos and Ravald (2011), Lemon and Verhoef (2016) as well as other related studies on service delivery, all have certain elements that cut across them. These elements are *service culture*, *service quality*, *employee engagement* and *customer experience*. They are all in agreement that the absence of the key elements of service delivery, no matter how specialised the delivery system is, will be ineffective in the absence of these key elements.

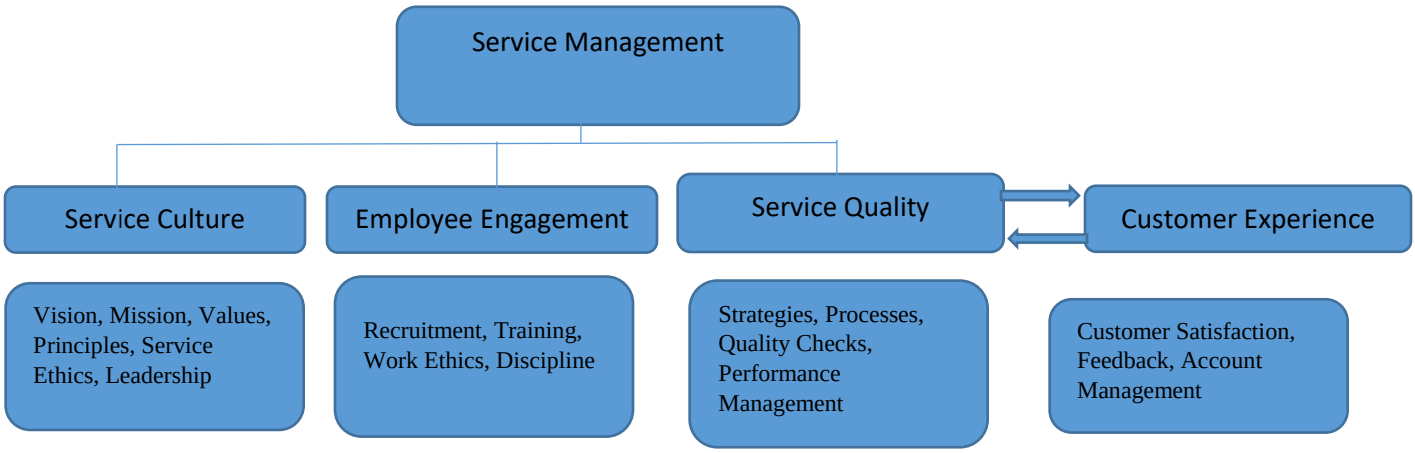

Fig. 2.9: Service Delivery System (Adapted from Anderson and Ankerstjerne, 2014)

Figure 2.9 above shows the key elements in a service delivery system and their interrelatedness. It also goes further to highlight the essential components of each element and importance to the service delivery system. The service delivery system as shown in figure 2 is important to this study because it shows the strong connection between the backend components that make up a service and its inseparability from the customer. Frei and Harker (1999) point out that the way a service business is designed and configured, provides a vital direction towards how a service delivery-oriented system provides value to its target market. The value as it applies to this study, is directed at the online systems and the innovations which can be introduced to ensure growth and invariably provide an acceptable customer experience.

Anderson and Ankerstjerne (2014) state that the four elements of the service delivery system are driven by very complex processes and interactions. The service elements are 'independently dependent' as each element has its own composition and role but is only effective when the other elements are optimised. Furthermore, while service culture, employee engagement and service quality, are firmly within the control of management, the customer experience is less outside the control of management and this is why part of the objectives of this study is dedicated to understanding customer bias/perception as it relates to the online grocery business. For instance, an online grocery store may have proper service culture, well-trained and motivated employees, have a high service quality and operations system which ensures that the quality of service is top-notch, some customers may however, not find the final service satisfactory while the same service will meet or exceed the expectations of other customers.

2.3.2.1 Service Culture

Service culture is at the forefront of service delivery as it contains the embodiment of what the service is all about. Anderson and Ankerstjerne (2014) identified *vision, mission, norms, habits* and *leadership principles,* as the key components of service culture. Hotamisli and Baytok (2008) pointed out that within the service culture is an essential requirement as the organisational culture is a direct reflection of the leadership value system. A service culture without clear leadership cannot embody the critical values needed for success. Liao and Chuang (2007) also emphasised the role of leadership in service culture by looking at how certain service businesses were able to maintain long-term customer loyalty based on transformational leadership. Liao and Chuang (2007) noted that service culture climate had an overall impact on the service employees' performance which in turn, influenced customer relationships. Bagozzi et al. (2003) proposed that service culture was significant in modifying the behaviour of employees. Employees viewed the direction given by leaders as sacrosanct with the objectives of the company and this 'view' permeated throughout the company even when it hurt the company and regardless of the customer feedback. On the other hand, when employees were less than effective in carrying out their assigned roles, leadership intervention was usually sufficient enough to correct the observed lapse.

2.3.2.2 Employee Engagement

Employee engagement is a vital component of the service delivery system. Leadership without the proper commitment from followers is an exercise in futility. The services industry by its operational nature, has a direct link between employee and customer based on the principle of inseparability of services. This means that service employees are a central link in the internal service delivery process as they are the touch point for the customer. Kahn (1990) argues that employee engagement is an all-encompassing work-place behavioural modifier as it concerns how workers apply themselves physically, cognitively and emotionally. Kahn (1990) is concerned with role occupation and believes workers are occupiers of their work-space and their productivity is directly linked to how well they are able to occupy their assigned roles. The importance of Kahn's (1990) assertion as it relates to service delivery, is that workers will be more productive if they are well engaged in the service delivery process while disengagement will lead to poor service delivery. Rucci et al. (1998) point out that the employee-customer link is essential to business success. They argued that how employees felt about their jobs had a direct relation to business output. Using Sears as their case study, Rucci et al. (1998) noted that customer satisfaction increased in direct proportion with employee satisfaction at 4%. As such, an improvement in employee engagement leads to a corresponding increase in customer satisfaction.

2.3.2.3 Service Quality

Heather-Stewart (1998) points out that service offerings are often subjective activities as their output or value is dependent on the consumer. Heather-Stewart (1998) further noted that for a service to meet some level of expectation with the consumer, efforts should be made to tailor such service to the specifications of the consumer. The direction of Heather-Stewart (1998) is that the consumer is the ultimate decider on if a service has met expectations or not and this is best captured by measuring the quality of service or service quality. Service quality is essential to service delivery because it is the most obvious way a consumer can rate a service that is rendered because the consumer is more often than not, outside or is unaware of the service delivery process that has culminated in the service that he or she is consuming at that point in time. For instance, who shops from an online grocery store will rate the service quality on issues like range of options available, efficiency of the ordering process, ease of purchase, among other factors. The moment the

customer observes a flaw in any of the issues mentioned above, it will negate any other positive factors that may be in the service culture and employee engagement because the consumer is often not privy to the internal mechanisms and processes of the online grocery store. Waldman (1996) also posits that service quality and consumer satisfaction are intertwined. Waldman (1996) noted that the organisation and all its resources are geared towards achieving the singular goal of providing an acceptable level of satisfaction for the consumer. A consumer's contact point when it comes to the service delivery process is almost always the service quality as its phase of direct interaction between the service provider and consumer. The work of Parasuraman et al. (1988) is instructive when looking at the essentials of service quality. Parasuraman et al. (1988) identified five dimensions of service quality which are; *tangibility*, *reliability*, *responsiveness*, *assurance* and *empathy*. Parasuraman et al. (1988), Oliver (1993) and Lee et al. (2007) are uniform in their assertions that assessing service quality using the five dimensions, allows for a more informed evaluation of service delivery. Oliver (1993) argues that a consumer associate things like well-dressed employees, clean environment, physical facilities and other physical factors that can be seen and or observed with the human eyes, as part of the tangible dimension of service quality. Well-dressed and clean employees often convey a positive image to a potential customer. Furthermore, the reliability of the service is a crucial factor. A customer will appreciate a service that is dependable, delivered accurately and within a measurable timeframe. Lee et al. (2007) also state that prompt service (responsiveness), knowledge and expertise (assurance) and individualised attention (empathy) are essential to having repeat customers. Kotler and Armstrong (2006) argue that the best measure of service quality is the ability of service providers to retain their customers. Kotler and Armstrong's (2006) view buttresses the notion that service quality is a focal interaction point and is the last stop where a service provider can influence the customer.

2.3.2.4 Customer Experience

According to Pine and Gilmore (1999), the customer experience varies from customer to customer and even with the same customer at different times of service and is often a total experience occurring across a range of individual experiences such as spiritual, emotional, physical and intellectual. Verhoef *et al*. (2009) see customer experience as the last stage of involvement between a service provider and customer which happens on various levels ranging from rational to emotional interactions. Janakiraman, Meyer and Morales (2006) and Meyer and Schwager (2007)

further breakdown the customer experience into direct and indirect contact. Janakiraman et al. (2006) argue that customer responses vary when they come in contact with an organisation offering a service and the reactions are often unpredictable especially for first time customers and further argued that an unexpected change in the price or quality of a service offering begets a corresponding positive or negative reaction from the customer. Janakiraman et al. (2006) identify a 'reward-punishment' type of response from customers. This means that when a customer is satisfied with the customer experience, such customer 'rewards' the provider of the service by either spending more or request for a repeat of such service. On the other hand, a poor service will elicit a negative reaction (punishment) from the customer by either a reduction in spending or a stoppage of such service. Meyer and Schwager (2007) also posit that customers react to various service offerings in different ways. They go further to state that this reaction can occur at any point in the direct or indirect contact. The crux of Meyer and Schwager (2007) summations, is the argument that a customer does not have to utilise a service (direct contact) before the customer experience can be measured. Indirect contact like advertising, service features, packaging, ease of use and other indirect interactive mediums are all key influences on the choice of the customer. Meyer and Schwager (2007) identified three patterns of customer experience which are persistent, periodic and pulsed and as shown in table 2.4.

Pattern and Purpose	Owner	Data Collection, Frequency and Scope	Collection and Analysis Methodology	Discussion and Action Forums
Past patterns: Captures a recent experience ➢ Intends to improve transactional experiences ➢ Tracks experience goals and trends ➢ Assesses impact of new initiatives ➢ Identifies emerging issues Examples: Post-installation or customer service follow-up, new-product-purchase follow-up	Central group or functions	Persistent: ➢ Electronic surveys linked to high volume transactions or feed-back system ➢ Automatically triggered by the completion of a transaction ➢ Focused, short-cycle, timed data collection ➢ Feedback volunteered by users in online forums	➢ Web-based, in-person or phone surveys ➢ User forums and blogs	➢ Analysed within functions, central survey groups or both ➢ Cross-functional issues directed to general managers ➢ Strategic analysis and actions directed by general managers
Present patterns: Tracks current relationships and experience issues with an eye towards identifying future opportunities. ➢ Keeps a consistent yet deeper watch on state of relationship and other factors ➢ Looks forward as well as backward ➢ Used with more critical populations and issues Examples: Biannual account reviews, "follow them home" user studies	Central group, business units or functions	Periodic: ➢ Quarterly account reviews ➢ Relationship studies ➢ User experience studies ➢ User-group polling	➢ Web-based surveys preceded by preparation in person ➢ Direct contact in person or by phone ➢ Moderated user forums ➢ Focus groups and other regularly scheduled formats	➢ Initial analysis by sponsoring group ➢ Broader trends and issues forwarded to general managers and strategic operating forums ➢ Deeper analysis of emerging issues at the corporate, business unit or local level
Potential patterns: Targets inquiries to unveil and test future opportunities Examples: Ethnographic design studies, special-purpose market studies, focus groups	General management or functions	Pulsed: ➢ One-off special purpose driven ➢ Interim readings of trends	➢ Driven by specific customers or unique problems ➢ Very focused ➢ Incorporates existing knowledge of customer relationship	➢ Centred within sponsoring group, with coordination by and support from central group

Table 2.4: Patterns of Customer Experience (Meyer and Schwager, 2007)

2.4 Knowledge Acquisition and Innovation

The vital role of external knowledge sources in contributing to the innovation process has been expressed in various studies (Cohen and Levinthal, 1990; Caloghirou, Kastelli and Tsakanikas, 2004 and Jantunen, 2005) and this arises as a result of a multitude of issues affecting modern businesses, such as; more demanding customer needs and fast-paced technological advances. This changes in the marketplace has energised the need for knowledge acquisition of innovation as a key success metric to any given organisation. The ability of such organisations to embrace multiple sources of external information and knowledge, is crucial to their survival and growth (du Plessis, 2007; Xu, Houssin, Caillaud and Gardoni, 2010). As noted by Chesbrough (2003), the research for sources of innovation in contemporary times is increasing dependent on borrowing (i.e., acquiring knowledge) rather than inventing (i.e., creating knowledge internally) and this is more visible in developing countries. Thus, there is an increased dependence and growth of partnerships and knowledge-exchange between organisations and stakeholders especially those within the value-chain which in turn has impacted on product and process innovations in the service industry (Johnson, Christensen and Kagerman, 2008; Chesbrough, 2011). This ensures that emphasis is placed and geared towards acquiring and building knowledge acquisition capabilities by purposefully putting in place activities and processes designed for searching and obtaining innovation knowledge (Gold, Malhotra and Segars, 2001).

From the above discussion, it is often presumed that organisations that follow a purposeful approach of collaborative relationships and arrangements are expected to have access and exposure to wider best practices and innovation knowledge and this would translate to effectiveness and efficiency of its knowledge acquisition processes. This knowledge acquisition mode is vital to the online grocery business in Nigeria, where most of the means by which innovation can be acquired are from external sources and this means that businesses must institute mechanisms that are able to acquire sufficient knowledge that can be incorporated into the business. However, knowledge acquisition is only a part of the process as there is a need to also integrate and apply the knowledge acquired into the business service process.

2.5 Knowledge Integration and Application of Innovation

As much as the ability to acquire knowledge is essential for creating and managing knowledge, the integration and application of this knowledge is also essential as the implementation of innovative technology requires additional complementary knowledge related to activities and processes (Xu et al., 2010). Innovation knowledge, especially when the adopter is not the inventor, is more often than not, acquired in a form that is suited for a process specifically designed by the inventor (Grant, 1996; Zahra and George, 2002). For instance, a technology developed in the United States of America to monitor online sales may not be as efficient in its function if adopted by a business in Nigeria due to varying differences such as; infrastructure required to sustain the adopted technology, perspective of society towards such technology and policies to support the use of such technology within the confinement of the laws that guides and or regulates the Nigerian marketplace. Arising from this, there is the need for the integration of the new technology in such a way that it is properly absorbed and incorporated into the business process. This necessitates the transformation of newly acquired knowledge into a form and process that can be effectively utilized with existing processes (Kogut and Zander, 1992; Jantunen, 2005; Xu et al., 2010).The base function of innovation knowledge integration in developing a business' innovative capabilities has been studied by Grant (1996) who emphasised that knowledge is situated in individual members of a business and manifests itself in various forms such as "… skills, expertise and know-how… and… such collective specialized knowledge residing in individuals must be integrated" (Dahiyat, 2015).

Knowledge, in this case, innovation knowledge, that is effectively acquired and is meticulously merged with the required expertise and skill sets within the business, becomes a part of the business strategy and plan which in turn, builds and strengthens the already available repository of knowledge, thus adding significant value to the business' collective knowledge (Nonaka and Takeuchi, 1995; Seleim and Khalil, 2011). Kogut and Zander (1992) and Brachos, Kostopoulos, Soderquist and Prastacos, 2007) argue that innovation is acquired and restructured to suit the peculiarities that are unique to the business and its environment.

The application of innovation knowledge also represents an important step towards achieving growth since innovation can essentially be viewed as a process from which a business "… adopts a set of activities designed to enable it to utilize and apply created and learned knowledge…" (Dahiyat, 2015, p.110) which is then used to create new products/services, administrative systems and processes, while also improving the overall performance and productivity (Damanpour, 1991; Xu et al., 2010). A mistake often made by adopters of innovation is that they assume that by simply acquiring and applying the new innovation from external sources, the success achieved by other businesses who are using the technology, would also apply to them. This is often the bane of businesses in developing countries who adopt external technologies without considering other factors that are unique to their business environment and may adversely affect efficiency of the new technology if certain measures and adjustments are not put in place or when such innovation is used in a radical or disruptive manner (Nonaka and Takeuchi, 1995; Gold et al., 2001).

Knowledge acquisition, integration and application, is vital because a crucial theme in innovation literature is the emphasis on the importance of developing processes that are specifically designed to make use of external knowledge sources as a spring board for innovation activities (Chesbrough, 2003). A business that fails to develop the required structure to purposefully and effectively utilize acquired knowledge and incorporate it in such a manner that it improves products, services and processes, runs the risk of being stagnated or having the innovation work against the business because it has not been properly integrated and applied (Cavusgil, Calantone and Zhao, 2003; du Plessis, 2007).

2.6 Relationship between Process Innovation and the Service Industry

As noted earlier in the study, innovation plays an important role by enhancing the quality of goods and services available to customers and this also leads to improved business performance for businesses which gives them a competitive edge. Process innovation, which is the form of innovation being used for this study, has been stated by Arshad, Asif and Baloch (2012) to be the most common form of rivalry that exist among organisations offering the same product services. Process innovation is especially useful when it comes to reducing cost and improving efficiency. Dolan and Ryan (2014) however, point out that process innovation requires a dedicated team or

unit similar to a Research and Development (R&D) Unit that is tasked with identifying and acquiring know-how of innovations that can be used to improve and grow the organisation. To this end, Hartmann (2006) identified four key benefits of process innovation which are:

(1) It allows an organisation be in the forefront when it comes to market competitors;

(2) It places emphasis on resource utilization and application of new technologies to an existing service process in order to overcome previously observed weaknesses;

(3) It captures commitment and creativity as the organisation places premium on improving its internal processes and therefore challenges itself to achieve positive outcomes;

(4) It allows services to be tailored to meet the peculiarities of the target market.

Process innovation is related to this study because it captures elements of uncertainty which is essential to business development. According to Zakuan, Yusof, Laosirihongthong and Shaharoun (2010) they insinuated that uncertainty comes about because of having to deal with non-routine situations which is as a result of the gap between information available to the leaders of the organisation (know-how) and the actual information needed to accomplish the task at hand (knowledge). This difference is one of the key objectives of this research as it looks at how an organisation handles knowledge and knowledge management to achieve growth. This uncertainty in process innovation application can also be expressed in the possibility of identified basic assumptions which are expressed at the design or knowledge identification stage. This implies that in order to properly utilize process innovation in the service industry, there must be identification of known and unknown uncertainties which can impact the future direction of the product/service. Known uncertainties are closely associated to the service properties while unknown uncertainties are linked to external factors such as infrastructure and customer bias (Hartmann, 2006).

Pratali (2003) pointed out that process innovation, when effectively utilized, had a positive impact on increasing competitiveness and value of a company. Though Pratali (2003) laid emphasis on the manufacturing industry, process innovation is widely applicable to the service industry as noted by Lay (2002), Drejer (2004) and Castro, Montoro-Sanchez and Ortiz-De-Urbina-Criado (2010). Lay (2002) argues that process innovation is positively tied to the growth of the company and by incorporating innovative processes into key parts of the business process, the overall goal of the company can be better achieved. Consistent with this view is that of Castro *et al*. (2010) who

studied 11,300 Spanish companies and noted that though service industries were more biased towards organisational and commercial innovations as against technological innovations by manufacturing firms, process innovations were key towards integrating the organisational/commercial goals with the needed processes to achieve these goals. Also, Drejer (2004) pointed out that technology and process innovations are often used interchangeably and this was so because it is almost inconceivable to introduce new technology to a business without a change or adjustment in the process of delivery of the service.

Also, using the Turkish Airline as an example, Kurt, Yilmaz and Karakardila (2013) utilized a four-classification framework; product/service, process, marketing and organisational, to provide knowledge about the relationship between innovation and a firm's performance. They were able to arrive at the conclusion that while all the frameworks played critical roles towards improving service delivery and profitability, process innovation appeared to be the vital link towards enhancing organisational performance and growth. Madrid-Guijarro, Garcia-Perez-de-Lema and Van Auken (2013) also conducted an in-depth study among Spanish manufacturing companies within the SME range during periods of economic growth and downturn and they arrived at the conclusion that process innovation was key to contributing towards a positive service related performance during both periods of growth and downturn.

Soete and Miozzo (2001) had also suggested that the introduction of novel technologies was a contributing factor towards firms' growth as the internationalization and internalization of global best practices contributed significantly to growth when situated and utilized within appropriate processes, especially when it relates to the service industry.

2.7 Relationship between Innovation and Online Business

Online business refers to financial transactions using various digital devices such as smart phones and computers, between organisations and consumers over the internet. Since time immemorial, humans have always tried to develop ways with which to make business transactions faster, more efficient and convenient for both the company and customer. Various technological advancements have been incorporated into the business world and one of the most widely used technology is the internet. Lambert et al. (2005) noted that the internet had become a vital tool in business

transactions around the world for both goods and services. Botha et al. (2008) further pointed out that online shopping was a direct consequence of the development of the internet and had grown exponentially since the mid-90s with large organisations like Amazon and Alibaba building their brands around the effectiveness and convenience of online shopping. Jarvenpaa and Todd (1997) argued that the acceptance of online shopping was boosted by certain factors such as; greater product and service options, competitive pricing, availability of more information and convenience from the perspective of the customer. Stephen (2004) looked at online shopping from the perspective of the businesses and determined that wider markets, lower costs in relation to brick and mortar stores and sustainability, were the primary advantages which made online shopping attractive. Kannan and Hongshuang (2017) posited that the digital environment, that is, the easy and virtual unlimited access to computers, smart phones and other electronic/digital devices, have greatly influenced buyer behaviour.

Service innovation is used to connote various levels of new developments that are introduced into an existing business or is used by a new/start up business to differentiate its products and/or service from the competition. Van Ark et al. (2003) insists that it often refers to a change in one or multi facets of the tangible and intangible inputs of a business. These include the service concept or delivery system, customer interaction channels and other aspects of a business that significantly changes the service or product offered or introduces a new one.

The conceptual review explains the areas of study by previous authors from the innovation and services aspects and the gap to be addressed by this research. It addresses the areas of relevant literature used for this research and the areas of similarity by other works before identifying the gap that this research will address. The first link between innovation and services can be seen in the connection between innovation, business and service management which gives rise to researches in innovation service management. In innovation service management, process and incremental innovations are determined to be germane to this research as they can lead to productivity, competitive advantage, quality improvement and growth. How this relates to growth in services for the online grocery business in Nigeria, is the gap this research seeks to explore.

2.8 Empirical Review

The empirical review for this study is divided into two distinct sections. The first section looks at literature on technology, innovation and business development. It critically reviews related literature that investigate how businesses are able to identify and acquire knowledge of technological innovations that can be used for online business development. It also explores the level of acceptability of innovations by businesses and how these innovations are applied to enhance online businesses. The second section identifies infrastructural challenges affecting the service industry and also looks at studies that have investigated customer perceptions to online businesses.

2.8.1 Technology, Innovation and Business Development

Utilising proven innovations and technologies for business development is a fairly established practice as companies use various means to keep abreast of technological developments that can lead to improved business and provide solutions to processing challenges (Cohen and Levinthal, 1990; O'Mahony and Bechky, 2008).

Kim, Pae, Han and Srivastava (2010) point out that as much as technology is key towards supporting businesses, especially those dependent on online/internet services, knowledge of the available technologies by the business owners/managers is also fundamental. Kim *et al*. (2010) posit that technological innovations towards achieving improved service is not new, but the awareness of these technological advancements is a relatively new and rapidly expanding field of study.

Lu, Wu, Mao, Wang and Zhang (2015) noted that one of the ways businesses are exposed to knowledge of available technology is via recommender systems. Recommender systems have a dual application role. Firstly, the act as an algorithm to identify consumer preferences and make appropriate recommendations which enhance the customer experience. Secondly, it has been more recently used to harness information on available technology that can be used to improve and grow the business. This collaborated earlier studies by Benamati and Lederer (2001) and Fang, Benamati and Lederer (2011). However, recommender systems are only effective when there is sufficient

knowledge about exactly what these systems are, how they operate and how they can be applied to the business. To this end, Gbadegeshin, Oyelere, Olaleye, Sanusi, Ukpabi, Olawumi and Adegbite (2018) argue that transformation of technology dependent businesses is directly proportional to the amount of knowledge available to the business manager and the growth of such business is therefore tied to the extent to which the business manager has sufficient knowledge of available innovations. Gbadegeshin *et al*. (2018) further argue that this knowledge is limited by other variables such as ability of business owners/managers to operate a computer, high cost of accessing the internet and inability to maintain a website. The position of Gbadegeshin *et al*. (2018) is however too basic and is more applicable to businesses which perform only peripheral IT-dependent services.

Wilburn and Wilburn (2018) on the other hand, presents a more expansive view and posits that it is not that business owners/managers do not have or cannot access knowledge on new technological developments to enhance their internet-dependent businesses, but they purposely avoid doing this due to concerns about changes to the business structure and management and government policies. Wilburn and Wilburn (2018) are particular about organisations adopting artificial intelligence to enhance their business performance. However, Wilburn and Wilburn (2018) overlook the fact that the introduction of IT innovations does not necessarily need to threaten a business structure or lead to a new one. Using incremental innovation, new innovations can be adopted to conform to the existing business structure and therefore enhance such business.

While Gbadegeshin *et al*. (2018) and Wilburn and Wilburn (2018) agree that knowledge of technological innovations is key for the survival of online businesses; they differ on the reasons why some organisations are unable or reluctant to access the available technological innovations. This point of divergence is made all the more peculiar because it is often assumed that businesses that are technologically dependent would naturally be inclined to use the most advanced technology available to enhance their business and as such the questions asked by Gbadegeshin *et al*. (2018) and Wilburn and Wilburn (2018) are that, do internet-dependent business owners avoid certain technologies because they lack knowledge or because they are uncertain of the change it will bring to the structure of their businesses?

Devece (2013) had earlier discussed about the role and competence of managers when it comes to knowledge on information technology and its use in internet-dependent businesses. He split this knowledge into two parts- telecommunication and biotechnology. He opines that managers will only champion technologies for which they possess sufficient knowledge, and this plays a key role in IT-Business integration. Devece (2013) emphasised on the issue of competence as the determining factor to ascertain if an internet-dependent business would be open to innovative technologies to grow its business. Devece (2013) does not however take cognisance of the fact that businesses that are technology dependent will often have little or no choice but to innovate in order to keep up with competitors. To further buttress this point, Heroux and Fortin (2018) argued that the intensity of information technology plays a more dominant role than what managers feel they have sufficient knowledge of. Contributing to IT innovation and IT governance studies, they surmised from their studies of some organisations, that IT innovation is less dependent on what business owners/managers want and is instead driven by IT intensity, that is, what other businesses are doing. The premise of Heroux and Fortin (2018) is that IT-dependent businesses will naturally be drawn to innovative technologies regardless of the extent of competence of the managers especially when competitors are harnessing available innovations.

The study of Al-Nashim and Amer (2014) opines that the triumvirate of IT infrastructure, IT innovation and IT knowledge management, are necessary towards understanding the extent to which companies are more likely to adopt new technologies. By studying 138 groups across some nongovernmental organisations, the study determined that the interplay of these three variables created an 'adopt-do not adopt' crisis for the organisations. The availability of necessary IT infrastructure had a telling influence on the development of IT innovation which in turn challenged the IT knowledge management of the organisations. As such, without the necessary infrastructure, IT innovations would not be developed and the IT knowledge management would be limited. Al-Nashim and Amer (2014) are however emphatic that IT knowledge is the essential variable especially as it concerns developing countries.

With the introduction of various digital technologies, the Small and Medium Enterprises (SMEs) have benefitted immensely from the adaptation of these innovative technologies especially in developed countries. The fact that the grocery sector falls within the SME benchmark, means that

the sector has also benefited from these creative and or innovative new technologies, albeit in the developed settings. There is little or no research that proves that such benefit has been translated to the grocery sector in Nigeria despite the availability of most of these innovative technologies.

Heim and Sinha (2005) undertook a study of the service-product attributes of electronic food retailing taking into cognisance, the digital content and target market and how it affected customer satisfaction. The study identified 255 online food retailers that sold a variety of food and non-food items but were required to sell at least one food item in order to be considered a food retailer. This condition was key because the study noted that most food retailers also sold non-food items. Using cluster analysis, the study found out that customers had a high level of satisfaction in terms of timely delivery of orders, customer support and product availability. However, the study did not look at the actual innovations in the online food industry that gave rise to customer satisfaction and how the socio-environmental challenges were addressed to achieve effective service delivery.

Adeleke et al. (2017) recognised the importance of location and the environment in the establishment of small and medium businesses and its impact on product innovation, particularly as it affects and influences the grocery business in developing countries. The study drew its data from various literatures which studied over 5000 SMEs in China and Nigeria over a five-year period. The study noted that economies of scale, specialisation, access to financing and manpower, infrastructure and cost reduction; were the key considerations for the establishment of SMEs and this led to clustering. This is key because the online grocery industry in Nigeria also has similar clusters with most of them situated in either Lagos or Abuja, the commercial and political nerve centres of the country. The study however, was over-dependent on secondary data and also did not look at the importance of technology in mitigating the environmental challenges. This makes the findings of the study questionable.

Alford and Page (2005) concerned themselves with the adoption of technology for use in SMEs from the perspective of the business owners. The study noted that technological innovation, especially the internet, was essential for business development and this was to be driven by the business owners. The qualitative study looked at 24 businesses in the United Kingdom and how they had adapted to the new trend where internet marketing has replaced face-to-face marketing

in many ramifications. This was done to improve the marketing of their services. The study found out that business owners were receptive towards adopting various aspects of the internet, specifically, the social media networks such as Facebook and Twitter, to improve customer interaction, customer acquisition and for other relevant marketing purposes. The study emphasises the need for innovation to develop SMEs but looks at it from only the perspective of the business owners and does not take adequate cognisance of the customer who determines the eventual success or otherwise of the business.

Blut et al. (2016) looked at the introduction of innovative service delivery systems by companies from the angle of the customers using a meta-analysis of the factors that influence customers to accept self-service technologies. The study identified culture, ease of use and usefulness as key determinants influencing the acceptability of innovative technologies by customers. The study of Blut et al. (2016) revealed that customers are more receptive to service innovations if they felt that such technology was widely acceptable in their society and was easy to access and utilise. It must be noted however, that issues of trust vary from society to society and are critical to acceptance of innovative technologies especially in developing countries like Nigeria that has a high financial cybercrime rate.

Bollweg et al. (2019) took a critical look at the drivers and barriers as it concerns the digitization of retail businesses in Germany. Bollweg et al. (2019) noted that online shopping had grown astronomically and retail outlets were being forced to adapt their businesses to incorporate digital technological advancements. The study pointed out that internalisation of digitisation in the business process of SMEs was essential. It argued that the interaction between internal processes, external influences and the customer, determined service delivery outcomes and noted that the only part of that connection which the retail outlet had full control over, was the internal process and as such, greater focus should be placed on this area by the retail outlet. Using the Stimulus-Organism-Response model, the study observed that external pressure was a driver for innovation, however, this pressure to innovate did not come from customers or direct online competitors, but from the need to properly manage internal barriers such as financial constraints, time management and capacities, in order to deliver services in accordance with customer expectations. Bollweg et al. (2019) aptly captured the need to internalise innovation, but its relegation of external influences

as a barrier to innovation may only be applicable to developed societies where there is a wider acceptance of technology and less socio-environmental challenges.

The effect of online mode as it attracts other retailers' customers was the subject of study of Dawes and Nenyez-Thiel (2014). The study investigated the extent to which innovation in online grocery shopping was able to attract new customers and the percentage of existing customers that moved from in-store shopping to online shopping within the same business. Using data from grocery businesses in the United Kingdom, the study observed that there was a high tendency of in-store shoppers migrating to online shopping within the same grocery business than for new customers to be attracted to the online grocery business from other grocery retailers. Dawes and Nenyez-Thiel (2014) attributed this to brand loyalty. This insinuated that when making online purchases, customers preferred to stay with brands they were already familiar with and it was therefore easier to switch internally from in-store shopper to online shopper within the same grocery business. The study however does not factor in innovative techniques that could encourage a shift in brand loyalty. For instance, visible online marketing and ease of use of online placement of orders can act as a big attraction to potential customers especially in markets where online retailing is still growing.

De Kervenoael et al. (2016) looked at customers' expectations from online grocery shopping especially as it concerned emerging markets and the required logistics to ensure effective service delivery. The study espoused that there was a strong link between local geography and the consumption patter of customers and sort to investigate this connection by studying over 350 online grocery shoppers in Istanbul, using supply and demand led characteristics of consumer expectations. The study recognised the fact that beyond the technological advancements inherent in online grocery businesses, location was also key in shaping customer expectations especially with respect to time deliveries. The study further argues that there was disconnect between management and logistics providers. The study however pays less attention to other socio-environmental factors that could affect customer decision making.

Dubihlela and Chauke (2016) looked at the adaptability of regular brick and mortar retailers to adopt innovative approaches to marketing and selling their products using online mediums while

also maintaining a satisfactory level of customer satisfaction. It also investigated the key factors that would encourage a customer to make repeated purchases from the same retailer using online mediums. Utilising the combined theories of planned behaviour and social exchange, over 370 questionnaires were distributed and collated in Guateng, South Africa for the study. The study noted that customer satisfaction and brand loyalty were very influential to customer repurchases but also noted that this was still the case with brick and mortar retail outlets with no online shopping presence. A short-fall of the study was the fact that it was not specific about the types of online innovation or socio-environmental factors that when incorporated, may lead to a significant shift from regular brick and mortar retail outlets to online shopping for customers.

Using the Technology Acceptance Model (TAM), Faqih (2013) carried out an investigation into how customers reacted to online shopping when juxtaposed against perceived risk and internet self-efficacy. The study noted that perceived ease of use, usefulness and risk, had significant influence on the decision of customers to use online shopping mediums in Jordan. Faqih's study is vital to the understanding of the interplay between culture and technology. However, environmental factors which are external may also have a significant impact on the acceptance or otherwise of using online shopping mediums and the incorporation of the innovations therein.

Galante et al. (2013) argued that convenience was a key determining factor that influenced online grocery shopping in Europe. The study is centred on the acceptance of online grocery shopping by customers as against the traditional shopping methods. The study noted that poor supply invariably gave raise to poor demand from customers. This perspective is unique because it shows that technological innovations in the online grocery industry are only effective when other external and non-technological factors are constant or reliable. It also noted that online innovations do not necessarily impact positively on service delivery as there are often unanticipated increases in other service delivery processes such as logistics, provision of internet security *inter alia,* which increase the price of goods and for which customers may determine to be excessive or not worth using the online mediums. The study points out that an adjustment to the innovation may bring about greater acceptability. The study is however, Euro-Centric and as such does not take into consideration the peculiarities businesses and customers in developing countries face when adopting new technologies.

Hand et al. (2009) in their study, investigated the situational factors that give rise to the adoption or discontinuation of using online grocery shopping among consumers. The study adopted a mixed approach and determined that a change in the situation of a customer often had an impact on the drive to consider online purchase of groceries and that the resolution of this situation factors led to a discontinuation of the online purchase. The study identified health issues and having a baby as major situational influences. The study is circumstances driven and does not account for innovative processes that could make the consumer continue to patronise the online grocery store even when the situational factor has been resolved.

Kurnia et al. (2015) undertook a comprehensive analysis of the adoption of technology by SMEs in the grocery sector in Malaysia, a developing country. The study noted that developing countries had challenges adopting electronic commerce. Using a quantitative survey of grocery retailers, the study identified the significant role of organisational, environmental and national factors while industry readiness was seen as less influential or significant. The study presents an overview of various micro, meso and macro factors as they determine the level of innovation that the grocery retail in a developing country can accommodate. However, its relegation of industry readiness does not always hold true because some industries can actually be the harbingers of innovation regardless of the less than adequate presence of the other factors.

2.8.2 Use of Innovation in the Service Industry

Innovation is vital towards assisting business. Decision makers keep up or stay ahead of the competition and place their services at an advantageous position. As such, innovation is considered a key component of the service industry. In addition, the importance of innovation to the service industry continues to grow due to the realisation by businesses that failure to innovate would certainly have dire consequences especially in a rapidly changing business environment (Junge, Severgnini and Sorensen, 2016; Kamp and Parry, 2017). Effective use of innovation enhances business services and the natural instinct of managers to innovate, but to achieve this, there must be the sufficient knowledge and application of the innovative technique to supplement the desire and need to introduce innovations to business. Innovation deals with embracing certain techniques that when implemented, would translate to improved services between business-to-consumer and

business-to-business organisations (Tzempelikos, Kooli and Lichtenthal, 2019). The drive to improve services contributes to the acceptance of innovative methods to achieve this goal. Pitra (1997) argued that the various forms of innovation often seem attractive to a business that has the drive to improve its services, however, a careful innovation strategy must be made from the available options and this strategy becomes a focus by applying it to an appropriate section or phase in the business where it would be most effective as argued by Tidd (2006). There are multiple choices and directions to which innovation can be applied, but the success of the innovation depends on its effective utilisation. Tidd (2006) emphasised that there must be a balanced support for whichever innovation process is chosen by a service provider. Tidd (2006) speaks towards expanding the presently limited perspectives on innovation as enumerated in what he termed the problems on partial views of innovation.

Perceptive of Innovation	***Consequences***
Strong Research & Development capability	Technology which fails to meet user needs & may not be accepted
The province of specialist	Lack of involvement by others, lack of knowledge & experience input from other perspectives
Understanding & meeting customer needs	Lack of technical progression leading to inability to gain competitive edge
Advances along the technology frontier	Producing products & services the market does not want or designing processes which do not meet the needs of the user
The province of only large firms	Weak small firms with high dependence on large customers. Disruptive innovation is insignificant.
Only about breakthrough changes	Neglects potential of incremental innovation
Only about strategically targeted projects	May miss out on lucky accidents which open up new possibilities
Only associated with key individuals	Fails to utilise creativity of other employees & secure their inputs to improve innovation
Only internally generated	Creates a 'not invented here' effect which leads to good ideas from outside being rejected and/or resisted
Only externally generated	Leads to low levels of internal learning or development of technological competence
Only concerning single firms	Excludes the possibility of various forms of inter-organisational networking to create new products, services etc

Table 2.5: Perspectives of Innovation (Tidd, Bessant and Pavitt; 2005 and Tidd, 2006)

Table 2.5 clearly shows that the perception of innovation as it applies to organisations especially in the services industry is highly subjective and this position is supported by Trier (2011) and Dolan and Metcalfe (2012). Trier (2011) points out that innovation requires a conducive environment to be created and these conditions are determined by "… social networking of groups, organisations and civic action groups" (p.233). Trier (2011) also harped on the inconsistency of innovation which emphasises its subjectiveness.

Brown and Eisenhardt (1995), Walters and Rainbird (2007) and Dahiyat (2015) state that innovation in the service industry represents a global trend and is most noticeable in knowledge adoption of technological advances and firms with higher levels of propensity to innovate are more responsive and better equipped to handle changing conditions and improve performance. To this end, external knowledge plays a vital role especially in developing countries who are primarily adopters of existing innovations

2.9 Theoretical Approaches

The approaches to the study of organisation and management in general varies and is often dependent on the conditional and opportunistic factors present at any given point in time. The Incorporation of innovation into service delivery requires a conscious management decision which is premised on the available opportunities inherent in that innovation. The incorporation of this innovation may occur in any form, that is, product, process or business model, depending on where the opportunity to innovate exists. There are two broad approaches to the study of organisation and management as it concerns theories on innovation.

The first approach is the more traditional approach which focuses on a generalised view of organisation and management which attempts to incorporate innovation studies. These include the modernisation theory, the business model approach, critical theory, supply chain theory, the systems approach and the contingency approach.

The second approach consist of a more refined and focused field which has developed in response to the unique field of innovation management. This includes the innovation diffusion theory, concerns-based adoption model and technology acceptance model.

2.9.1 Modernisation Theory

The modernisation theory is premised on the ideas of Max Weber (1864-1920) and the works of Talcot Parsons (Mayhew, 1985). It places emphasis on the social variables that play a vital role in social change which it sees as vital to progress and development in any society. The modernisation theory presents an interesting perspective to management because modernisation is, by nature,

driven by social peculiarities as applicable to individual societies. As such, modernisation applies to the service industry. To this end, Kendall (2007) argues that modernisation is the link between urbanisation and industrialisation and the more modernised a society, the better it becomes at transcending familial and community limitations. Today, businesses most evolve or stagnate and perish and this is what also drives the service industry as it latches on innovations in technology to improve on its processes. The disparities in advancement of technology between developed and developing countries appears to buttress this position. The modernisation theory has however been criticised as seeing societies in the process of modernising as inferior and is too western/Eurocentric. Furthermore, its application to business and management issues is often limited to the human angle.

2.9.2 Business Model Approach

The business model approach emphasises value creation in the business chain. It focuses on business strategies and the incorporation of innovation into the business process. Its application is broad, and it recognises both technological and social variables as they affect the business process. The business model approach is relevant to this study because it recognises commercial opportunity, places emphasis on the institutionalisation of mechanisms for growth, can be replicated in practice and is applicable to new and existing businesses (Baden-Fuller and Morgan, 2010; George and Bock, 2011; Massa and Tucci, 2014).

2.9.3 Supply Chain Theory

The supply chain theory concerns itself with the strategic means by which an organisation purchases and supplies its goods and services (Monezka et al, 2010). It views the purchase-supply link as the most vital aspect of business management. In more recent times, it has been expanded as the "supply network" to incorporate other aspects such as product development, information technology and marketing (Mills et al., 2004; Burgess et al., 2006). The supply chain theory has been criticized for its application to real-life situations as it is a very complicated concept (Chen and Paulraj, 2004; Kim et al., 2011) which requires other external but associated variables to be at optimum capacity or adequacy. This is even more glaring in volatile and unstable developing countries like Nigeria.

2.9.4 Critical Theory

The critical theory as applicable to management studies can be best looked at from the perspective of social movements. It lays emphasis on power relations and exploitation (Cheok et al., 2014). Critical theory has been criticised as being too abstract in application and focuses more on worker emancipation than actual improvement in business management.

2.9.5 Innovation Diffusion Theory (IDT)

The innovation diffusion theory (IDT) is the brainchild of Everret Rogers which laid the bases for providing specific knowledge of innovation adoption and factors influencing choices on innovation. It represents a useful framework to explain the adoption or non-adoption of innovation or new technology. It posits that innovation occurs at a steady and progressive rate within a market as information on the innovation or technology diffuses among potential adopters.

The broadness and wide range of applicability of the IDT resonates positively because of its flexibility and adaptability to use across a varied area of contextual compatibility (Straub, 2009). Straub (2009) pointed out that the IDT had difficulty when used as a process model especially when it was for organisational planning arising from the adoption of innovation. This observation by Straub, indicates that the IDT despite its numerous merits, also has some disadvantages in its application.

IDT posits that there are four critical components which are: the innovation, channels via which the information of the innovation is disseminated, the environment within which the adopters and non-adopters of innovation operate and the time which it takes for the innovation to be adopted (Rogers, 2003; Straub, 2009). A key relevance of the IDT to this research is that it addresses the issue of a sub-process which leads up to the acceptance or otherwise of innovation which Rogers (2003) categorised into five parts.

Rogers (2003) noted that the first stage in adaptation of innovation was seeking knowledge about innovation in general and its function. The second stage involves the formulation of an opinion on the innovation and its overall benefit to the business. At this stage, the potential adopter considers factors such as cost of adopting the innovation, the level of skill required to operate the innovation,

the social system within which the innovation will be deployed and other such factors. The third stage is when the adopter takes a decision to either accept the innovation or rejects the innovation. Again, the factors stated in stage two play a vital role in arriving at this decision. The fourth stage is the implementation stage. Here, the adopter implements the innovation. It can be implemented incrementally or radically. Lastly is the fifth stage when the adopter reviews the impact of the innovation and determines if it has achieved the desired result. Here, a decision is taken to maintain the innovation as adopted, adjust the innovation to suit specific business peculiarities of reject the innovation.

Arising from the five stages in the sub-process of innovation adoption, are five attributes which determine if an innovation is adopted or rejected (Rogers, 2003). These attributes are;

1. Relative Advantage: This looks at the alternatives available to the chosen innovation and the benefits or otherwise of choosing a particular innovation over others;

2. Compatibility: It is important to note that innovation should fit seamlessly within an existing framework or business process whether it is incremental or radical. An innovation that is incompatible to an existing process runs the risk of disrupting the whole business;

3. Complexity: Some innovations are particularly complex to implement and the adopter must take cognisance of certain variables such as the amount of time needed to learn and then implement the innovation and the level of skilled manpower available. The higher the complexity of an innovation, the less likely it is to be adopted especially by SMEs;

4. Trialability: Adopters are more open towards innovations that can be tested before full implementation begins. This gives the adopter the opportunity to experiment the innovation and take a decision on its acceptability or otherwise;

5. Observability: Once innovation has been adopted, it gives opportunity to others in similar businesses to observe its operations and make a decision on if to also adopt or consider adopting the innovation.

Various studies have used the IDT to explain innovation adoption and application (Doyle, Garrett and Currie, 2014; Burgess, Sellitto, Cox, Buultjens and Bingley, 2017). A key aspect of the relevance of IDT is the study of adoption rates. Rogers (2003) identified five categories of adopters which are; innovators, early adopters, early majority, late majority and laggards. The innovators are the first to accept and take risks towards adopting innovation. This category is often technologically savvy and socially mobile. While they might not possess sufficient financial

resources on their own, they are able to make more sacrifices (such as working from home, remaining single for long and putting aside creature comforts) towards achieving their goals. They tend to favour radical and/or disruptive innovations. The second category are the early adopters. They are often better educated than other classes, more business savvy, financially secure and have access to greater human and material resources where they can make scientific analysis of the probabilities of adopting or rejecting innovation. They often favour incrementally radical innovation. The third category are the early majority who take their time before accepting to adopt innovations. They are less able to bear financial losses associated with risk taking. The fourth category are the late majority who are more sceptical about adopting innovation due to various reasons such as the financial implications, availability of technology to sustain the innovation and the readiness of the social system to accommodate the innovation. This category is commonly found among SMEs in developing countries such as Nigeria where there is a harsh business environment and financial risks are weighed carefully. They prefer incremental innovations. The fifth and last category are the laggards. This category is made up of two groups. The first are small or niche businesses which have very limited clientele and do not see the need for innovation except it is essential to productivity and the other category are the big businesses that have very strong financial bases and for whom innovations are not critical to their success but would adopt innovation in a gradual manner.

The IDT is valuable as a theory because it created the foundation for specific theories towards innovation rather than the generalised theories earlier mentioned. Its practicality makes it very relevant when doing case studies as it has clearly defined stages that are easily relatable.

The Innovation Diffusion Theory has been criticised for its emphasis on ‘newness of innovation’ and interchanging innovation with technology. Innovation is not necessarily the introduction of something new while innovation is not always about technology. Also, the theory takes too much liberty with the assumption that businesses will over time, adopt new innovations as long as others do so (Lyytinen and Damsgaard, 2001).

2.9.6 Concerns Based Adoption Model (CBAM)

The Concerns Based Adoption Model (CBAM) looks at innovation from the angle most impacted by adopting innovation and tasked with implementing change. The CBAM is based on the work of Hall (1979) and was focused on innovation in the educational system. Hall (1979) pointed out that by resolving the concerns of educators when adopting innovation, the inevitable challenges that would arise during the change process would be minimised. To this end, Straub (2009) stated that there were six major assumptions surrounding CBAM:

1. Change is a process and not a singular event;
2. Individuals are at the forefront of implementing change;
3. Change is a personalised experience;
4. Developmental growth is essential to change;
5. Understanding change is best seen while in operation;
6. Innovations, context and change actors should be the focal point of facilitation.

Going further, Straub (2009) identified three components that guide a leader when planning for change which are; stages of concern (SoC), Levels of Use (LoU) and innovation configuration (IC). The stages of concern refer to singular or individual attributes that are relative to the educators as individuals and which extends to the students during the process of adopting new innovations and this can be broken into seven critical stages.

STAGES	***ATTRIBUTE***	***DESCRIPTION***
Stage 0	Awareness concerns	Occurs when there is no knowledge available to the adopters because they are unaware of the innovation
Stage 1	Information concerns	Here, the potential adopter concerns with gaining knowledge and information on the innovation available
Stage 2	Personal concerns	Questions the ability to make use of the innovation or its potential risk to the adopter
Stage 3	Management concerns	Manifest within the early stages of using implementing an innovation and involves issues arising from logistics, coordination and learning time
Stage 4	Consequences concerns	Occurs when potential adopters consider the effect the proposed innovation will have on students within the educational context
Stage 5	Collaboration concerns	At this stage, efforts are directed towards bringing user groups together and establishing best practices in order to get the most out of the innovation
Stage 6	Refocusing concerns	Here, there is a re-evaluation of the innovation viz-a-viz the extent it fulfils its goals or there is a need to change to a more suitable innovation.

Table 2.6: Seven Stages of Concern (Hall, 1979; Straub, 2009)

The seven stages of concern represent the various concerns that are prevalent when a new innovation is being adopted in the educational environment. These concerns must be addressed at each stage in order to achieve best results.

At the levels of use scale, there is a deconstruction of the various stages of attributes as educators build up from basic uses to more advanced uses of the innovation (Straub, 2009). The premise here is that the greater the knowledge of the educators about the innovation, the easier it is to utilise the innovation. This also speaks to the issue of complexity. Educators will spend more time understanding a complex innovation than a simple one. The final piece is the innovation configuration which is the process or guide for processing innovation.

CBAM is very useful when studying innovation in the education system. It is relevant when addressing issues that are designed to improve competence and understanding (Carr and Kemmis, 1986). CBAM is however, more suitable for studying innovation in a closed environment such as the educational system which it was primarily developed for and its applicability to the business environment remains largely untested.

2.9.7 Technology Acceptance Model (TAM)

Opinions, attitudes and perceptions are factors that have major impact on the adoption of innovation. Davis (1989) posited that the attitude and expectations of a potential adopter determines whether a new innovation will be accepted or rejected. The TAM is situated within the social psychological general theory and is used primarily to explain user acceptance of technology (Fishbein and Azjen, 1975). The work of Davis (1989) on TAM, revolves around a three step process which are; Perceived Usefulness (PU), Perceived Ease of Use (PEOU) and Intention to Use (ITU) with PU and PEOU being the critical independent variables. Straub (2009) stated that the extent to which an innovation can be easily studied and implemented (ease of use) and the extent to which the innovation will enhance the overall personal and job experience (potential usefulness).

Further studies on TAM indicated that regardless of how easy it is to learn a new innovation or technology, the actual usefulness of the innovation and technology for enhancing productivity is a deciding factor towards adopting the innovation (Davis, 1989; Moon and Kim, 2001; Lopez-Nicolas, Molina-Castilla and Bouwman, 2008).

2.10 Theoretical Framework: Innovation Diffusion Theory

The preferred theoretical framework for this study is the Innovation Diffusion Theory (IDT). As mentioned previously when the IDT was reviewed in the theoretical review, the IDT is a versatile theory and has become widely used in understanding changes in developed and developing countries. Rogers (2003) noted that the concept of diffusion had previously been more associated with unplanned or spontaneous spread of a new idea. The theory positions itself to explain why and how some innovations are accepted within certain social systems.

The IDT proposes a number of constructs and views on how new ideas or services are adopted into the society; however, its most valuable contribution to this research is its adopter categories which have earlier been explained. The rate of adoption within a social system gains wider acceptance if it is perceived to be more valuable to what it intends to replace or enhance, it can be easily adopted and can be quickly learned.

Since this study is concerned with the application of technologies that can be used to enhance the online grocery business in Nigeria, challenges to its adoption and user responses, the survey was structured to investigate the respondents' opinions on their knowledge, compatibility, challenges and complexity of the online grocery business. Rogers (2003) acknowledges that not all attributes identified in the IDT are actually needed and it was therefore critical to establish a baseline for measuring the attributes most relevant to the study to determine the predictors of adoption rates. The use of the online grocery shopping technology in Nigeria has had a slow rate of growth when compared with other nations in the same economic and societal bracket as Nigeria (Brazil, South Africa, Egypt etc) and is only becoming more diffused rather than growing (Aminu, 2013).

Expounding on the IDT, Rogers (2003) points out that the generality of people in a social system may share similar social, economic and demographic attributes, but when viewed individually, there are varying levels through which potential adopters must pass before adopting innovation within the social system. This relates to the scope of the study which is the online grocery business in Nigeria. The only grocery business remains a largely unexplored subsector and only few organisations have fully integrated themselves in the business and as such, innovations in the subsector are limited by certain factors such as knowledge of the available innovation, infrastructural challenges and customer views.

2.11 Conceptual Framework

Based on the foregoing literature review, it is important to establish a link between the research objectives and the conceptual review in order to establish the conceptual framework within which this research is situated as earlier shown in figure 2.10. To be clear, the research seeks to address how innovation can be used to enhance growth in the online grocery business in Nigeria, using knowledge acquisition and knowledge know-how/application with process and incremental innovations as the form and type of innovations best suited for this growth and also to look at impediments to this growth as it concerns the service industry in the form of infrastructure deficits and customer perceptions. These issues arise as a result of the perceptions and approaches to innovation in the service industry.

The researcher examined literature cutting across various periods of development, however, due to the volume of literature available on various aspects of the study, only literature from 1990 was used as they represent and contain information on the stages of development of the study for periods preceding the chosen year.

Previous studies as seen in the literatures reviewed shows that innovation leads improved productivity (Cohen and Levinthal, 1990; Harley and Hull, 1998; Gassmann et al., 2010). Also, innovation gives rise to competitive advantage (Christensen and Bower, 1996; Hollen et al., 2013; Burgess et al., 2017) and this leads to quality improvement (Chappel et al., 2015; Adejoh, 2018;

Uma et al., 2019). These three, productivity, competitive advantage and quality improvement leads to growth in the service industry in general.

The first objective is to explore the levels of innovation knowledge in online grocery businesses in Nigeria. This is essentially about knowledge acquisition and investigates how online grocery businesses in Nigeria source their innovations and their level of knowledge and developments in the service industry as it relates to the online grocery business. This is vital because scholars have argued that failure of business managers to be conversant about the new technologies and innovations available to the business, will lead to stagnation (Cohen and Levinthal, 1990; Johnson et al. (2008).

The knowledge about new technologies is very important towards promoting growth in business especially for those businesses that are adopters of new technology and depend on what is available to grow their businesses. The primary questions revolving around this are; are online grocery businesses in Nigeria abreast of the new technologies? What have they put in place to ensure that they are able to access and acquire new technologies to enhance their businesses? Do they source their innovations from just any source, or do they have a dedicated unit or system for knowledge acquisition? Ability to have a well-structured knowledge acquisition system should be a priority to any business (Brown et al. 1993; Grant, 1996; Benamati and Lederer, 2001).

The use of innovations in marketing and placement of orders for online grocery businesses in Nigeria. This applies to the integration and application of the knowledge acquired. Here, a vital decision has to be made on how and where the innovation is used within the business. Here the research looks at process and incremental innovations as best suited for the integration and application of new technologies with focus on the marketing and order placement of products for online grocery businesses in Nigeria. It also tests the knowledge of the grocery businesses to see if they understand how innovation works and its usage in their businesses. Literature on knowledge integration and application over the ‘how’ and ‘where’ a new technology is used, is vital to the success of the business. A new technology that is applied using a wrong form of innovation and applied to a part of the business process that does not require such technology can prove disastrous and detrimental to the business (Hurley and Hull, 1998; Gassmann et al. (2010).

The form and type of innovation used have a significant impact on the business development (Damanpour, 1991; Moon and Kim, 2001) and various views have emerged that situate the role of innovation forms and types as having significant influence on how a business structures its operations to accommodate the new technology (Miles, 2005; Hamel, 2006; Burgess et al. 2017; Pellegrino, 2018). It has however been argued that the absence of empirical evidence explaining the specific impact of the various forms of innovation on business development has meant that a number of business managers, especially in developing countries have difficulty in applying technologies to their businesses in an effective manner especially in the services industry where such technologies are deemed intangible and therefore not a vital component of the business process (Afuah, 1998; Chesbrough, 2011; Adejoh, 2018).

The second objective is to investigate the infrastructural factors affecting online grocery shopping in Nigeria and also innovation management. Knowledge acquisition, integration and application of innovations to grow a business are affected and conditioned by various challenges, internal and external, such as management and leadership styles, employee skills and commitment, financial resources, government policies, climate, structure (Merx-Chermin and Nijhof, 2005; Krasnova, 2007; Smith, Busi, Ball and Van Der Meer, 2008).

For this research, the focus is on infrastructural challenges as it affects the service industry in Nigeria (and by extension, the online grocery business as part of the service industry) especially road networks and electricity. This is because as a developing country, road and power supply have been stated to be a major drawback to the service industry in Nigeria (Igwemma and Nwoko, 2007; Uma, Obidike, Chukwu, Kanu, Ogbuagu, Osunkwo and Ndubisi (2019).

The third objective is to assess customer perceptions on the use of innovations by online grocery businesses to see if these innovations have the desired effect of increasing the customer base of online grocery businesses who introduce various innovations in the marketing and placement of orders processing system. This information will be extracted from the interviews conducted in the research. This is necessary to draw a link between the knowledge acquisition, integration and application, infrastructural challenges and customer perceptions and the process and incremental

innovations. Doing this will increase the awareness of online businesses and allow them make corrective efforts, if needed, to enhance growth in their businesses.

The fourth objective is to recommend how innovation can be used to grow the online grocery business and this would be achieved by linking the first three objectives and then making appropriate recommendations.

Figure 2.10 shows the interrelationships between the dependent and independent variables and how they relate to achieve the objectives of this research. Growth in the online grocery service is dependent on a number of variables which are innovation management systems/structures, infrastructure and customer perceptions. Each of these independent variables addresses the first three objectives and the link between them gives rise to the fourth objective for this research. The interaction between specific aspects of these independent variables determine if growth can be achieved for the online grocery businesses.

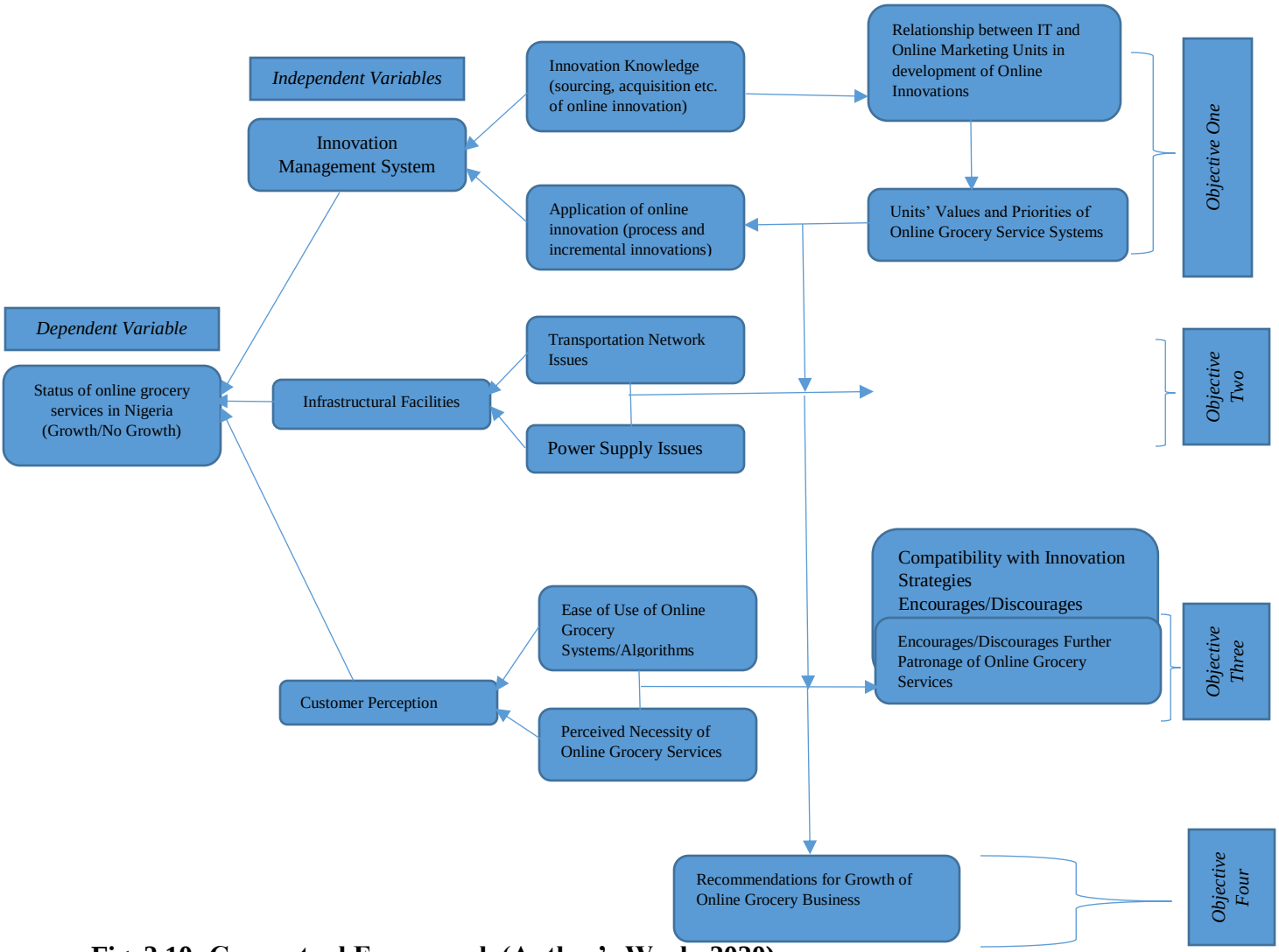

Fig. 2.10: Conceptual Framework (Author's Work, 2020)

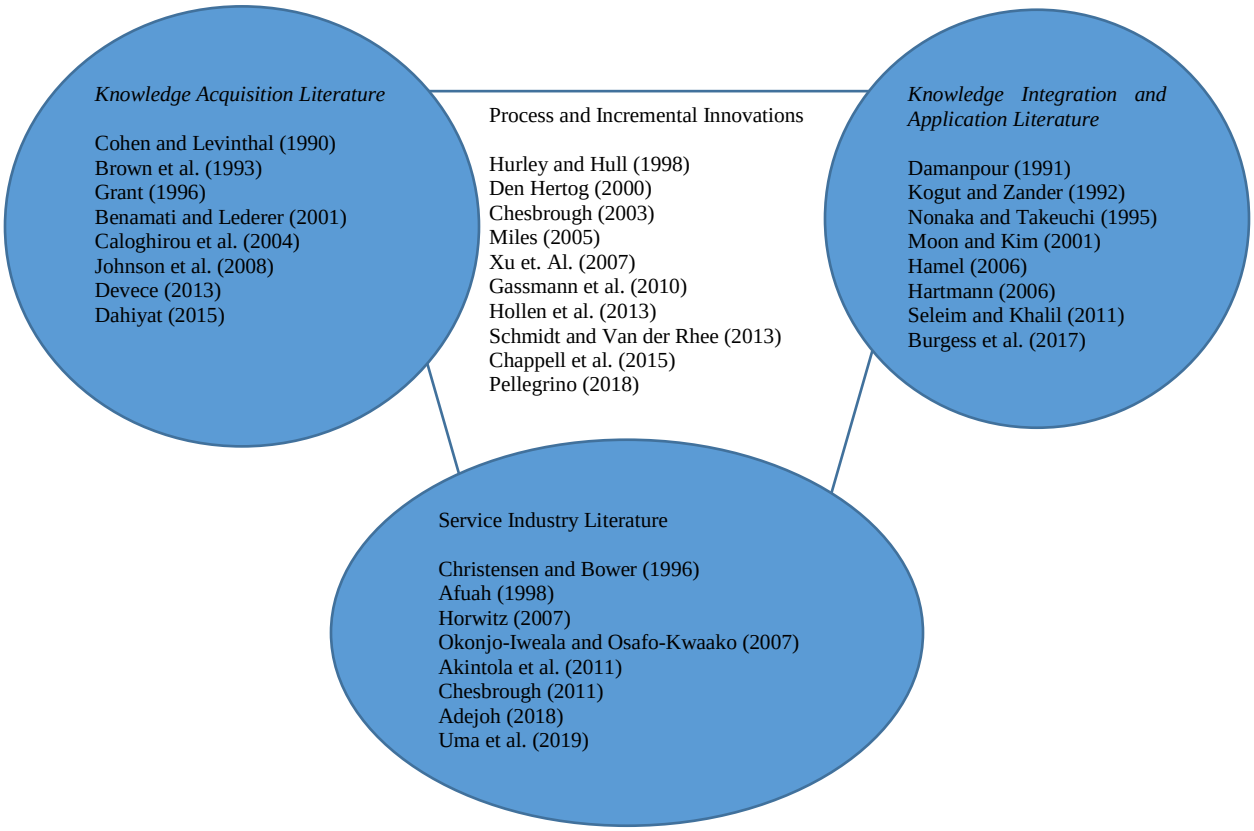

Fig. 2.11: Key Literatures Used to Develop Conceptual Framework (Author's Work, 2020)

Figure 2.11 represents some of the key literature used for the conceptual review to develop the framework for the research. Only literature from 1990 was selected so as to get the most current literature related to the research. All the literature revolved around innovation and looked at various aspects of its acquisition, integration, application and its use in the service industry. Literature on process and incremental innovations is used in linking the various aspects of the literature as this will be used by the researcher to explain how they can enhance growth in the online grocery business in Nigeria.

The conceptual framework for this study was influenced by the Cotec model, process innovation, incremental innovation and Innovation Diffusion Theory.

The Cotec model addresses the issues of knowledge sourcing, acquisition and application. These are vital aspects of this study and help identify the basic innovation structure of the online

businesses sampled for this study while giving rise to the dependent and independent variables in the conceptual framework. The Cotec model also posits that external influences have a role in determining the type of innovation that businesses can adopt. It covers the areas of innovation management, infrastructure and customer perception. Process innovation is germane because the study focuses on the intangible aspects of service delivery. Given that online services are intangible, it becomes necessary that the processes involved in designing a system towards productivity and growth be made the focal point of research and this informed the identification of the various areas of focus of the study within the service process for online grocery businesses in Nigeria. Process innovation is linked to the Cotec model by breaking down the components to be studied which are drawn from the model such as innovation knowledge, application, transport and power issues and ease of use/necessity. Incremental innovation is relevant to the conceptual framework as it is the fulcrum around which the study is built. Incremental innovation is the preferred medium through which the research posits that growth in the online grocery business in Nigeria can be achieved and is therefore used to interrogate the specific areas of focus as arising from the process innovation. These include relationships between units, unit values and priorities, compatibility and patronage. It links the model and innovation type of the study to the objective of the study. The Innovation Diffusion Theory helps to explain and situate the phenomenon under study.

2.12 Gap in Literature

Most innovation studies have looked at the relationships between innovation and productivity, innovation and competitive advantages and innovation and quality improvement in general. But innovation is a very fluid concept and varies according to influencing (or absent) factors. Within the Nigerian context, most of the literature that have looked at innovations in the service industry in Nigeria have been focused on finance and manufacturing with a strong bias for tangible innovations. While some studies have reviewed challenges associated with innovation in the services industry in Nigeria, none have drawn the connection between knowledge acquisition and application, infrastructure and customer bias or perceptions. Making this connection is essential to understanding how innovation can grow the online grocery business in Nigeria. Figure 2.6 shows

the usual flow of literature on innovation and the service industry in the online grocery business in Nigeria while figure 2.7 shows the gap to be filled by this research in the existing literature.

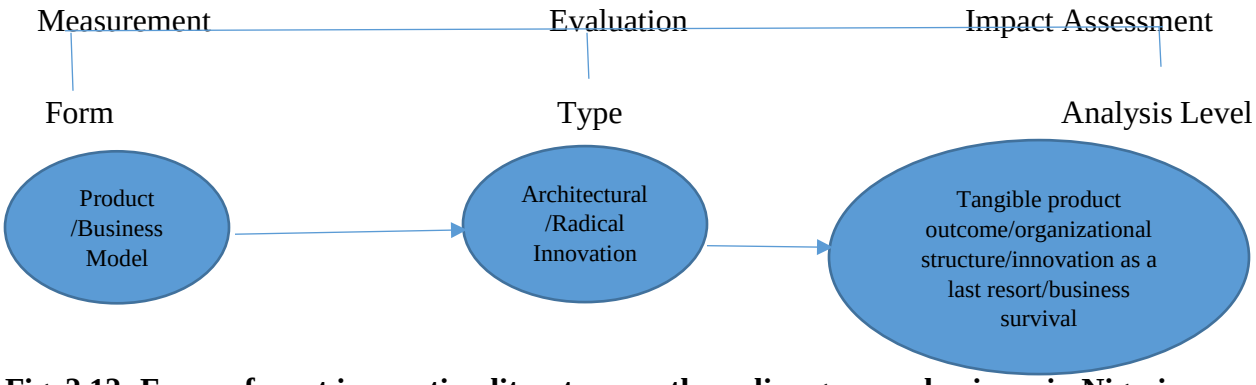

Fig. 2.12: Focus of most innovation literature on the online grocery business in Nigeria

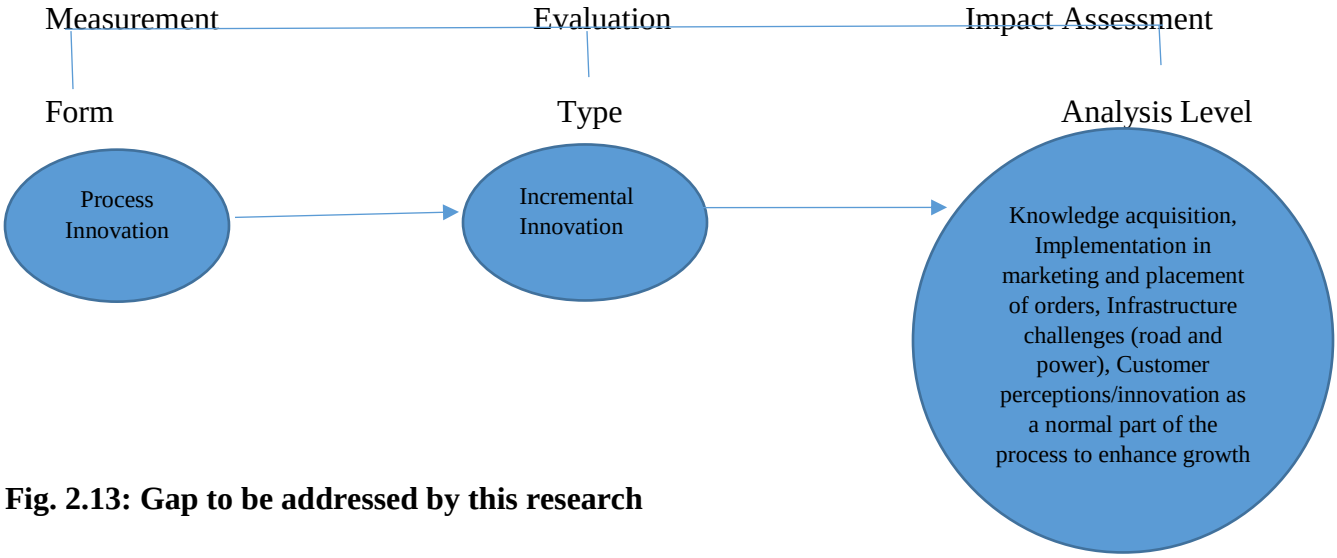

Fig. 2.13: Gap to be addressed by this research

Figure 2.12 represents the direction most studies on innovation in the online grocery industry in Nigeria has followed. The studies have always focused solely on using the product and business model innovations as measurement, radical architectural and radical innovations as the evaluation and analysis levels often comprising of tangible products, company structure and innovation as a survival strategy rather than a growth strategy (Asikhia, 2009; Ayo, Adewoye and Oni, 2011; Olasehinde, Ogundipe, Ayodele and Bankole, 2020). Figure 2.13 shows the direction for this study which is similar to the work of Fatunde (2012) which looks at challenges facing ICT in Nigeria,

but presents a broader perspective and link between innovation and growth in the online grocery business in Nigeria.

2.13 Chapter Summary

Innovation in the service industry is a critical element due to the impact it often has on businesses that have intangible services as a critical component of their business. A number of researchers have sort to situate innovation within a definitive context in attempts to improve its accuracy when used in both literature and practice across various fields (Hauser, 2003; Chappell, Cutting, Tecwyn, Apperly, Beck and Thorpe, 2015). The chapters provided an expansive view of previous researchers on innovation, innovation management, relationship with the service industry in addition to presenting forms and typologies of innovation. Furthermore, the concept of service, its characteristics and service delivery were also discussed. Innovation is dynamic and can be hard to identify, but its importance cannot be disputed due to its potential impact on performance and operations of a business especially when there is sufficient adopter knowledge, ease of use and customer acceptance of the innovation. As such, knowledge of innovation and its applicability are vital in enhancing growth (Birkinshaw, Hamel and Mol, 2008).

There are a number of debates on the forms of innovation from which various typologies evolved. Various authors have proposed multiple versions of innovation and their applicability to different fields with the consensus that product innovation was the main form of innovation as innovation should be tied to an ultimate end-product which is the reason for adopting innovation in the first place. Thus, all authors agree that the ultimate goal of innovation is to improve a product for the customer (Drucker, 1954; Mohr and Sarin, 2009). Other scholars such as Boer and During (2001), Davenport (2003), Mina et al. (2014) and Krough et al. (2018) argue that process innovation presents the most useful form of innovation to an organisation since it aims to improve the various processes which includes services and other activities which set a clear process for implementing various types of innovations. Some authors on the other hand focused on business model innovation which determined that innovations made in the organisational structure and integration of the business flow (Chandler, 1990; Barneja et al. 2006; Tecce, 2010; Zott and Amit, 2011).

Arising from the various views on the forms of innovation, a number of typologies arose with the main ones being architectural, incremental, radical and disruptive innovations. Architectural innovation was the primary objective for some scholars who argue that innovation is more effective when the structure of a business is redesigned around the existing product or service (Henderson and Clark, 1990; Bozdogan et al., 1998; Fagerberg et al. 2017).

Porac et al. (1989), Iyer et al. (2006) and Ringberg et al. (2019) are however of the view that incremental innovations using existing technology by a business to increase value within its market is the right use of innovation as it minimizes risk and allows for better assimilation of the innovation by the adopters through continuous but manageable improvements. This also builds confidence for the adopters. Other scholars have argued in favour of radical and disruptive innovations such as Green et al. (1995), McDermott and O'Connor (2002) who state that radical innovation and revolutionary use of technology with the aim of long term gains rather than the immediate rewards offered by incremental innovation, is the best use of innovation. Christensen (1997), Bower (2002) and Christensen et al. (2015) argue in favour of using disruptive innovation to extensively challenge the existing system in order to gain a firm foothold in the market.

Process innovations and incremental innovations is what is most relevant to developing countries like Nigeria who have some very visible setbacks as regards the adoption of innovation and or technology. Firstly, they are often not the inventors of any innovations. Secondly, they have slow developing services industry and rely on the adoption of existing innovation from developed nations. Thirdly, a plethora of problems peculiar to the business environment like the poor state of infrastructure and power supply, makes translating and or adopting certain innovations a very cumbersome task. (Horwitz, 2007; Daksa, Yismaw, Lemessa and Hundie, 2018). Process and incremental innovations in the service industry are affected by factors such as access to knowledge, proper identification of innovation placement needs, infrastructure and customer bias towards innovations. Proper understanding of innovation needs is crucial for organisations seeking to grow their businesses in a business environment that is fraught with risks, an upcoming service industry and low technological know-how (Cohen and Levinthal, 1990; Tunzelmann and Acha, 2005). Accessing knowledge on innovation, properly applying the gained knowledge, identifying infrastructural challenges and understanding customer biases, are important factors to consider when seeking to grow the service industry in developing countries, however, majority of business

owners in the service industry in these areas do not have a proper grasp of these processes and variables and this often leaves such businesses stagnated and unable to grow (Chesbrough, 2011).

This research will explore the access to knowledge and use of innovation in marketing and placement of orders in online grocery businesses in Nigeria. The research also aims to investigate the challenges road networks and power supply pose to the service industry and the impact of customer bias.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Preamble

This chapter delves into the philosophical framework and research processes guiding the research and their applicability to the practical aspects of the study. The relevant research methods and how they apply to the research questions, aims and objectives of the research will be discussed as well as the strengths and limitations of the methodological approaches. The chapter will provide germane information on various aspects of the research methods such as the area of study, research design, study population and sample size, data collection, data analysis and other relevant aspects of the research method. Other research methods related to the study will be briefly looked at before the most applicable methods are identified and applied to the study while providing the required justification of the selected methods. The research ethics will also be discussed.

In order to create a seamless transition and establish coherence, this chapter is divided into twelve distinct parts. Firstly, is the preamble which introduces the chapter and outlines the major themes to be looked at and this blends into the second part which is the research purpose. The research purpose states the purpose for the study which is exploratory in nature. The third part is the research approach which looks at the two main approaches; the inductive and deductive approaches and leads to the fourth part which is the research design. Here the appropriate design is identified and the sub-themes of research philosophy, research methodology and research methods are discussed so as to situate the study with its proper methodological context. Data collection forms the fifth part and discusses the data collection techniques and process used for the study. Sampling and sample size makeup the sixth and seventh parts of the chapter and links the data collection with the data analysis which is the eighth part of the chapter. Trustworthiness and its elements of credibility, transferability, dependability and confirmability makeup the ninth part. Ethical issues and the research limitations form the tenth and eleventh part of the chapter, while there is a brief recap of the chapter which rounds up the section.

3.2 Research Purpose

Research purpose refers to the overriding rationale which informs the need for the research. There are essentially two broad categories under which research purposes can be situated especially when dealing with social, business and management studies. These are for information gathering or theory testing. Information gathering encompasses exploratory and descriptive purposes while theory testing encompasses explanatory and predictive purposes.

Exploratory research is conducted when a phenomenon has not been studied extensively or clearly and therefore requires exploration so as to establish priorities and build operational definitions (Shields and Rangarjan, 2013). It is suited towards case studies and allows familiarity with the phenomenon being studied and is very suitable for business and management focal research. As noted by Babbie (2007) it is suitable for studying phenomenon in its preliminary stages such as the online grocery business in a developing country like Nigeria. Exploratory studies are preferred for three purposes: (1) it can satisfy a researcher's curiosity and desire to understand a phenomenon better, (2) test the feasibility of undertaking further study into the phenomenon, and (3) develop methods for use in subsequent studies (Bless, Higson-Smith and Kagee, 2007). Exploratory research has been criticized for being inadequate towards providing generalizations which can satisfactorily answer research questions and this has been attributed to the issue of representativeness (Armstrong, 1970). Exploratory research is however very useful towards answering questions that have to do with discovering and exploring. It also gives room for flexibility, adaptability and saves time by properly determining the areas of phenomenon that require further in-depth study. It also helps provide answers to questions relating to how and why of a phenomenon (Singh,2007).

Observation of phenomenon can be an essential part of a study when the goal is to describe a phenomenon by observing it and this is what descriptive design is all about. Ethridge (2004) defined descriptive design as an attempt to identify and describe, while shedding more light on a phenomenon. Descriptive study is effective when analyzing non-quantifiable phenomenon and allows for the observation of the intended phenomenon without undue interference in its natural

setting. It has however been criticized for the often absence of statistical tests which may allow for the influence of bias and they are often not repeatable (Johnson, 1953).

Exploratory research is also referred to as casual research and is useful for interrogating cause and effect relations of a phenomenon. Zikmund, Babin, Carr and Griffin, (2012) pointed out that explanatory studies are more applicable to addressing very specific problems using experiments. It is useful towards identifying the reasons for a multitude of processes and has a very high replicable rate if required. It is however susceptible to coincidences and often does not factor in social environments and actors. It also sometimes does not establish which variable has the most impact on the other.

The purpose of this research is to explore how service innovation can be used to grow the service industry as it relates to online grocery businesses in Nigeria which is largely undefined and therefore exploratory study is deemed most appropriate. This study seeks to address innovation and growth in the service industry as it relates to the online grocery business in Nigeria by looking at various aspects such as technology, marketing and placement of orders, socio-environmental challenges and customer bias. The research looks at underlying specifics from three broad angles. The first is the introduction of technology and its use or applicability in two key areas of the online business, marketing and placement of orders, and how it can grow or improve service delivery. This aspect is within the control of the business owner as the business owner determines what innovation to utilise and in what aspect of the business it would have the most impact to grow the business. The second angle is the socio-environmental challenges. This is a constantly evolving situation and the business owner has limited influence on such challenges but must find ways to adapt and ensure growth. The third angle is the customer perspective which is influenced by both the actions of the business owner and socio-environmental challenges. The research will look into these various levels of interactions as they relate to the grocery business in Nigeria, in order to provide better understanding of how innovation can grow the service industry.

The knowledge for the research is built around the interaction with and relevant information gathered from designated respondents from five online grocery businesses in Nigeria, experts from the ICT industry in Nigeria as well as customers who have also made online grocery purchases

within six months of the study. This will enable the researcher explore widely on innovation and its impact on service delivery in the online grocery business.

3.3 Research Philosophy

Research philosophy refers to patterns of assumptions about how knowledge is developed in a particular field of study. It is the first layer of the research design and has a determining influence on how a researcher views the relationship between knowledge and the process through which it is developed.

There are three broad research philosophies or paradigms and these in turn determines the direction of the research methodology and methods. As such, Easterby-Smith *et al*. (1991) posited that the use of research philosophies ensures that the research is conducted in an acceptable and rational manner. To this end, every researcher is guided by a set of assumptions which determine the direction of the research to be undertaken. It should however be noted that research philosophies do not provide definitive answers to the phenomenon being studied, but acts as justification for the process taken to achieve the research objective (Easton, 2002).

The three main broad categories of research philosophies are; ontology, epistemology and axiology. According to Guba and Lincoln (1994), ontology concerns itself with the researchers view about the world. It is premised on the reality of what the world is. Epistemology on the other hand, concerns itself with the character or nature of knowledge and how we can gather knowledge about the world, while axiology is concerned with value judgements. Easterby-Smith *et al*. (1991) pointed out that the understanding of the various philosophies provides a firm base from which the research design can be explained.

It is important to state that each philosophy has a significant influence on the research process and should suit the research purpose of the researcher (Easton, 2002). To better understand the various research philosophies, the compilation works of Crotty (1998) and Dezin and Lincoln (2000) as illustrated in table 3.1., will be studied briefly.

Research philosophies' disposition	Philosophies	Definitions
Epistemology: The theory of knowledge or 'resources' which is concerned with the nature and scope of knowledge	Positivism	Deals with observable world reality and phenomena which can be measured using objective and/or statistical methods (Easterby *et al*., 1991).
	Realism	Works with objects which have a high degree of independence and related to scientific research (Bhaskar, 1989)
	Interpretivism	Interpretivism supports logical empiricism with the assumption that facts can be gotten through a process that gradually increases confirmation of the phenomenon under study (Easton, 2002). Saunders *et al*. (2007) posited that post-positivism is applicable to research conducted in the field of business management.
Ontology: Concerned with studying of the existing nature of reality and being.	Objectivism	Deals with the realities of social existence. (Denzin and Lincoln, 2008).
	Subjectivism	Refers to social phenomena created from various perceptions arising from the consequences of social behaviour (Ittelson, 1973).
	Pragmatism	It is a proposition that can only be said to be true if it is practically viable, accepted and can prove its validity through testing (Saunders *et al*, 2007).
Axiology: Concerned with studying of the judgments value.	Functionalist	This is concerned with rational explanations and provision of possible solutions for the specific phenomena under study (Saunders *et al*, 2007).
	Interpretive	Refers to the manner by which people understand their environment in general (Saunders *et al*, 2007).
	Radical Humanist	This concerns the subjective input of social actors within an organization (Saunders *et al*, 2007).
	Radical Structuralism	Deals with understanding structural patterns within organizations by adopting objective inputs (Saunders *et al*, 2007).

Table 3.1: Research Philosophies (adapted from Crotty 1998; Denzin and Lincoln, 2000)

Table 3.1 explains the types of philosophies which are available to researchers. The first is 'positivism', which generally refers to the view that factual knowledge can only be truly acquired by observations and the use of instruments for measurement which is the only reliable way to make trustworthy generalizations. It relies on quantifiable observations which lends itself to statistical analyses based on the premise that knowledge arises from human experiences (Easterby-Smith *et al*., 1991); Collins, 2010). Crowther and Lancaster (2008) argued that positivism is fact-based and is closely associated with deductive approach and excludes all forms of human interest or bias which leads to the independence of the researcher from the research and allows for objectivity. It is most associated with research in the core sciences. However, positivism does not take into

consideration, the possibility that not all phenomena is based on experience and as such, there is an over-reliance on the status quo which often leaves out external factors that can influence the phenomena being studied. This makes it less suited to business studies. On the other hand, 'Realism' speaks to the separation of reality and what the human mind sees or believes to be real. It posits that only a scientific approach can lead to the development of real knowledge devoid of human feelings which creates bias if not separated from the research being undertaken (Saunders *et al*. 2012; Novikov and Novikov 2013). Myers (2008) posited that 'interprevitism' is premised on the belief that social constructions are essential to understanding and gaining knowledge about reality. It lends itself to qualitative analysis. It stresses the importance of the human factor in understanding the phenomenon being studied. To this end, emphasis is placed on the use of data collection methods such as *observations* and *interviews*, as critical to gaining knowledge. Interpretivism has been criticized for its subjective nature and inability to generalize the data gathered. It however allows for in-depth study on various issues affecting the research and tends to have a high validity as data gathered tends to be trustworthy.

Table 3.1 also shows the three main types of ontology which are *objectivism*, *subjectivism* and *pragmatism*. Objectivism shares similar perspectives as positivism and emphasises the divergence between social entities and social actors. Its premises are that social phenomena occurs in isolation of social actors (Bryman, 2012; Saunders *et al*. 2012). Subjectivism on the other hand, does not emphasise on the distinction or separation between social entities and social actors, it in fact posits that social phenomena is continually influenced by social actors (Itellson, 1973; Bryman, 2012). Pragmatism is the third ontological view which speaks to the practicality of social phenomenon. It posits that if something works as it should, has a practical application and its validity can be tested. Pierce (1897), James (1907) and Dewey (1917) were the forerunners of pragmatism as a research philosophy. Further works by Teddlie and Tashokkori (2009) noted that pragmatism removes the shackles placed by other forms of philosophical approaches as it allows for the incorporation of more than one research method.

Table 3.1 further highlights the main research 'axiologies' which are (1) Functionalist: (2) Interpretive: (3) Radical humanist: which is concerned with giving freedom to the social constraints limiting human potential. (4) Radical structuralism: which refers to a commitment to

radical change. It views the social environment as having an independent existence, but which impacts or influences social behavior (Burrell and Morgan, 1979).

The views of a researcher has a significant influence on the direction of the research philosophy as the understanding and knowledge available to the researcher at the embryonic stage of the research often determines the processes which would be adopted to build on the initial knowledge. The researcher will have to choose between following a fact-based process or be partial towards emotional (feelings and attitudes) views. As noted by Easterby-Smith et al (2002), the research philosophy serves as the precursor to the inner parts of the research design and leads up to other aspects such as methods to be used for data collection and enables the research to be situated within a rational and logical sphere.

As is applicable to all research, the paradigms of the research serve as guidelines for the researcher by enabling the formation of relevant assumptions or hypothesis. Guba and Lincoln (1994) and Cresswell (2014) established that the research paradigm is premised on three interrelated pivots which are; *ontology*, the perspective through which the researcher understands society, *epistemology*, which deals with the process involved in understanding society and *axiology* which is basically value judgement or determining what is of value. It is however fundamental to recognise the limits of a research philosophy as they only serve as guides in the conduct of empirical research and do not in themselves provide the needed answers or solutions that the study seeks to investigate.

Collins and Hussey (2003) posit that clarity of communication in research is essential for a researcher. The nature of knowledge and interpretation by the researcher is best conveyed through research philosophy. Research philosophy is broad and presents a number of conflicting applications (Mkansi and Acheampong, 2012), with proponents giving varied interpretations to it (Guba and Lincoln, 1994; Becker, 1996 and Saunders, Lewis and Thornhill, 2009). Saunders, Lewis and Thornhill (2009) have stated that that there are various types of research philosophy which includes; functionalist, subjectivism, realism, positivism, interpretivism and objectivism, among others.

3.3.1 Relevance of Interpretivism for this Research

The philosophy for this study best aligns with the interpretivism philosophy. The primary objective of the research is to investigate how innovation can enhance growth in online grocery businesses in Nigeria, especially as it affects marketing and placement of orders which are an essential service process associated with the service industry. Achieving this objective requires a gradual investigation into the decision-making process and perceptions of innovations, its applicability and usefulness to the specific business. The assumptions used for this research match the interpretivism views as they were based on the recognition of the various levels of involvement of the users of innovation within and outside the organisation and the fact that there are external factors which shape and determine the nature of innovation and level of acceptance. As such, the focus of the research aligns four pivotal issues which bother on the knowledge of the organisations on what innovations are available and how they can be applied to the service process, infrastructural factors that influence innovation, and the customer perception to the service innovation.

The interpretivism philosophy has been criticized for its susceptibility to researcher bias which may undermine the reliability of the data and suffers from the absence of a cohesive and universally agreed doctrine (Silverman, 2008). However, its ability to generate in-depth data, increases its trustworthiness and allows for an honest presentation. Humans play a vital role in interpreting their society and due to the nature of man; a single phenomenon can be viewed and interpreted from a variety of angles (Hammersley, 2013). Interpretivism is very relevant to contemporary social environments (Merton, 1995) and this includes the field of business and management sciences. The studies of Hirschman (1985), Carson, Gilmore, Perry and Gronhaug (2001) and Black (2006) made objective use of interpretivism to investigate organisations and their complex phenomena.

The conceptual and theoretical frameworks used for the study, determined the appropriateness of the data collection and analysis as the view of the study was in tandem with the interpretivism philosophy because it addresses both the social entities and social actors by recognizing their importance to having a holistic view of the phenomenon being studied as posited by Saunders *et al*. (2007). This is also supported by Mason (2002) who argued that perceptions, opinions and people, are essential to understanding perceived reality which is determined by probabilities rather

than any measure of perfection as nothing is perfect in the social environment and this is more so in a developing country like Nigeria where there is a high level of unpredictability in government policies, poor infrastructure and a relatively young service industry.

The general objective of the research positions itself to identify the substantive issues that impact on using innovation to grow service delivery in the online grocery business in Nigeria. It recognises that growth, in the real world and for this study as is applicable to businesses, is predicated on varying factors and conditionalities, some of which are within the purview of the business concerns to influence and implement (such as identifying available innovations, accessing them and applying them to the business process), some which are outside the control of the business concern (such as infrastructural factors which are less than adequate such as electricity and road networks) and the perception of the customer who is influenced by the innovations introduced by the business.

The specific objectives of this research are in consonance with the tenets of interpretivism philosophy which is problem-oriented, recognises the existence of multiple realities and is applicable to qualitative research. The objectives were generated with the goal of the general assumptions, that is the subject of the research and a breakdown of its applicability to different aspects of the research objectives and how they interact and affect one another, which is the primary focus of the research.

3.3.2 Relevance of Subjectivism for this Research

As explained earlier, interpretivism best matches the epistemology of this research as it best addresses the nature and scope of knowledge for this study, that is, social entities and social actors are inseparable, as reality is determined by what people believe and see as reality, is best understood through a gradual process of investigating the various factors which act on reality.

As a consequence, the ontology of this study is best suited to subjectivism which refers to social phenomenon and is viewed from different perceptions arising from the consequences of social actors. Arising from the evolving nature of research, subjectivity lends its importance to this study

as it looks into various aspects of the applicability of innovation as it can be used to grow online grocery businesses in Nigeria.

There is often a natural tendency for business and management studies to adopt the positivist path due to the propensity to use major statistical and mathematical formulas. The focus is often on measurements and viewing the world as an object to be studied independent of social actors which interpretivists on the other hand, recognize the fact that social actors are critical to understanding social phenomena as it is subjective and shaped by values, beliefs and perceptions (Maylor and Blackmon, 2005).

The nature of this study is premised on investigating the various aspects of the phenomenon of innovation in the service industry in Nigeria and as such, qualitative research approach was deemed most appropriate for data collection by semi-structured interviews while applying the case study methodology which is discussed next.

3.4 Research Approach

Research approaches are divided into two main types, the *Deductive* and *Inductive Approaches*. The *Deductive Research Approach* is where the research strategy is designed to test existing hypotheses, whereas the *Inductive Research Approach* is where data is collected to develop theory as a result of data analysis; i.e. theory would follow the data collected and not the opposite way as in the *deductive approach* (Saunders *et al.,* 2007). The research approach identifies the most effective strategy that impacts on the validity of the study to be undertaken (Creswell, 2007). The two types of research approaches are inductive and deductive. Inductive approach refers to the collection of data in order to develop a theory following the analysis of relevant data (Saunders, Lewis and Thornhill, 2007). Goddard and Melville (2004) state that inductive involves the search for patterns from observation of a phenomena and development of explanations. It follows that this approach connects more with theory building through the identification of patterns and relationships in order to arrive at a conclusion. However, the drive towards theory building does not exclude the use of existing theories by the researcher to generate the needed research questions. According to Saunders *et al.* (2007) arriving at a conclusion using

inductive approach (or inductive reasoning) does not preclude the use of relevant existing theory to guide the research. Neuman (2003) argued that abstract generalisations and ideas are an intricate part of inductive approach as there is a flow from detailed observations arising from empirical observations to build a picture of the phenomena under study.

Thomas (2003) presented an encompassing view of inductive approach when he opined that it allows for the emergence of research findings arising from the significant themes inherent in the primary or raw data gathered from the field. Inductive approach is prevalent in qualitative data analyses (Strauss and Corbin, 1990; Backett and Davison, 1995).

Deductive approach aims at testing an existing theory by moving from broad generalisations to specific observations. Deductive approach is theory dependent in order to carry out the research. Wilson (2010) stated that deductive approach is concerned with developing hypotheses based on existing theory which then informs the designing of an appropriate research strategy to test the hypotheses. Unlike inductive approach which moves from general to particular, deductive approach moves from particular to general (Gulati, 2009). It builds on existing knowledge and then makes generalisations based on the research findings. Deductive approach is most applicable when there is abundance of resources and to avoid risk. It is associated most closely with quantitative data analyses.

For this study, inductive approach is preferred based on the interrogation of the primary focus of the study. The primary assumption that 'innovation can be used to enhance growth in the service industry' will be tested qualitatively as it would be beneficial in its ability to explain the interrelatedness between innovation and growth of the service industry in Nigeria online grocery business.The inductive approach allows for greater flexibility than the deductive approach as it gives room for alternative explanations which is not the case with the deductive approach (Saunders *et al*. 2007). Also, due to the scarcity of sources, inductive approach is preferred as it would allow for the use of open-ended questions for an in-depth study which is process-oriented. It also allows for the use of narrative description and constant comparison of the data.

Attribute	*Inductive Approach*
Direction	Allows for bottom up approach
Focus	Greater integration of the dynamics involved in the study which allows for robustness, focus on individual idiosyncrasies and construction of alternative futures
Spatial Scales	Allows for multiple spatial scales which would lead to a unified resolution
Predictive vs Stochastic Accuracy	Gives room for multiple future outcomes
Data Intensity	Allows for data intensity from the individuals/groups being studied

Table 3.2 Advantages for Inductive Approach

3.5 Research Design

Research design is essentially a framework that guides the researcher on how to collect and collate data in order to find answers to research questions. Easterby-Smith, Thorpe and Lowe (1991) stated that research design alludes to the overall structure of a given research which includes the process of data collection and interpretation of the data. Creswell (2014) pointed out that the type of study is premised on the research design some of which he identified as experimental, descriptive and correlational, among others.

Descriptive design research is used when describing that the characteristics of a phenomenon is paramount to the study (Shields and Rangarajan, 2013). Descriptive research relies on the use of instrumentation for measurement of data and observation of the phenomena being studied (Borg & Gall, 1989). Its strongest premise is based on the belief that phenomena can be studied, solved and improved upon through observation and analysis (Hoh and Owen, 2000). It is useful when there is sparse information on the phenomena to be studied but can produce a wide variety of data that can be analysed. It also lends itself to both qualitative and quantitative methods.

Correlational research design is used to measure the relationship between two variables with no influence from any extraneous variable. It speaks to the degree to which two variables influence each other (Tan, 2014). It is used to determine if there is a positive, negative or zero correlation. A positive correlation occurs when two variables change together in the same direction while

negative correlation occurs when the variables change in opposite directions. Zero correlation is when the two variables have no relationship (McLeod, 2018).

Experimental research design is used to investigate the causal relationship between a control group and experimental group. There is a high degree of control over the experiments (Kothari, 2004).

The research design chosen for this study is descriptive as it aligns with the exploratory study which seeks to explore a phenomenon that has not been well studied. The online grocery business in Nigeria is still a niche market and there are very few studies which have been done. Descriptive design allows for in-depth investigation using a research process that can address the various social aspects of the study (Punch, 1998, Denscombe, 2010).

Research design is supported by three essential sub-components, which are; the research philosophy, research methodology and research methods. The research philosophy interrogates and provides a link between what is known and how that knowledge is acquired or arrived at. The research methodology refers to a set of established guidelines that bridge the gap between the research philosophy and the procedures used in gathering and analysing the relevant data which is the research method (Birks and Mills, 2011) as shown in figure 3.1.

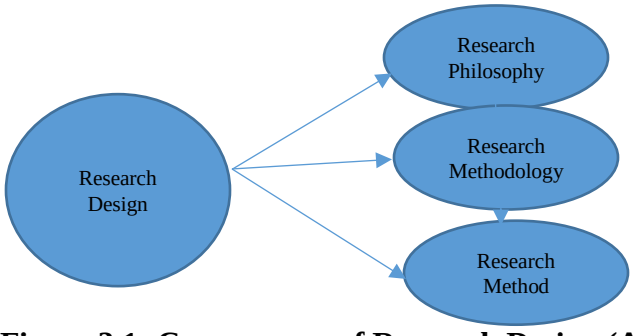

Figure 3.1: Components of Research Design (Adapted from Birks and Mills, 2011)

3.5.1 Case Study

Scientific reasoning has often been stated to be the bedrock of all research (Tariq, 2015). Brown (2006) referred to methodology as the foundation upon which a research is based or conducted. Empirical research commences with the formulation of relevant assumptions or hypothesis that can be falsifiable and tested using data collected from the field. Case study is a fairly common research methodology in the field of business and management sciences and is especially useful in carrying out research in an area that has not been adequately studied as applicable to the online grocery business in Nigeria. The case study methodology falls under the umbrella of methods which can be used to test a theory. The case study is preferred when the nature, problem of the study and theoretical positioning are taken into perspective (Crowe et al., 2011). The study primarily aims to interrogate the relationship between innovation and the service industry with the online grocery industry as the focal business of interest from the perspective of the businesses and consumers in order to establish a veritable link. Case study allows for the use of qualitative analysis for different phases of the study and the selection of a sample size that is significant enough for descriptive analysis.

According to Harrison et al. (2017), the use of case study across various disciplines as a viable methodology to carry out investigations into complex real-world issues, continues to grow at an appreciable rate. They stated that:

> "Consequently, over the last 40 years, through the application of a variety of methodological approaches, case study research has undergone substantial development. Change and progress have stemmed from parallel influences from historical approaches to research and individual researcher's preferences, perspectives on, and interpretations of case study research" (Harrison et al, 2007, p.1).

The case study methodology and its application to research has been done in a variety of ways with strong ontological and epistemological leanings. It allows for special attention and in-depth investigation of the phenomenon being studied, especially when there is little empirical information on the subject matter.

Case study has often been criticized as been more of a method than a methodology and its classification has generated intense debates as to which category it belongs. Case study is criticised

for its non- replicability, non-objection conclusion and being biased in the case selection (Creswell, 2014). Idowu (2016) argues that critics of case study are mainly those researchers who are inclined to quantitative methodologies.

Swanborn (2010) noted that despite the difficulty in situating case study within an acceptable research strategy due to the multi-linear sources of data, it is adaptable to be used to interrogate multiple data streams.

This research is concerned with establishing a link between innovation and growth in the service industry as it applies to online grocery businesses in Nigeria. With focus on innovation management and application, identifying the available technological innovations in the online business sector, how the relevant technology is applied to specific business processes in the online grocery business, that is, marketing and placement of orders, the infrastructural challenges facing the service industry in the online grocery businesses and customer perception to innovations by online grocery businesses.

3.5.1.1 Brief Historical Development of the Case Study

The development of case study is often traced back to the Chicago School of Sociology starting from the early 20s (Stewart, 2014). It used to be closely associated with the clinical sciences which had a natural inclination to investigate cases so as to gain more insight on health issues. This also extended to issues that had to deal with law (Swanborn, 2010). Individual cases were looked at in an attempt towards generalization. This led to similar developments in fields such as political and management sciences. The concept of what a case actually means is a subject of intense debate as it may refer to an object or process, be empirical or theoretical or a combination of both (Ragin and Becker, 1992). However, an indisputable fact is that case studies are *location* and *time specific*. These are two important features for this study.

The works of Stake (1995), Merriam (2009) and Yin (2014) are pivotal to understanding the contemporary development of the case study as a research methodology. Stake (1995) takes a position on addressing the substance of what phenomenon is been studied or investigated rather

than the process involved in the study. This by no way relegates the importance of rigour in the process, but focuses on the activity and any other circumstances surrounding that activity. For example, this researcher is interested in innovation and the online grocery business in Nigeria and as such, focus is laid on investigating, through which ever means, the key issues and as long as the objective of the study is achieved, the process through which it was achieved should be flexible enough to accommodate circumstances that may affect or influence the study. Merriam (2009) largely agrees with Stake (1995) but adds that focusing on specifics is essential to the success of case studies which should produce an outcome that is descriptive and heuristic. Yin (2014) however takes a different stance by focusing on process, methodological intricacies of the case study, nature and contextual importance of the case study.

3.5.1.2 Relevance of the Case Study Methodology

The key point taken into consideration for the use of case study methodology for this study is that selections for the study was not random due to the peculiarities of online grocery businesses being a niche business in Nigeria, it was however as impartial as possible. According to researchers such as Eisenhardt (1989), Stake (1995), Gillham (2001), Merriam (2009) and Bartlett and Vavrus (2017), case study is suitable when investigating complex and contemporary phenomena in its natural context as is applicable to this study. According to Stake (1995), a case study is guided by interests in specific individual cases in order to acquire in-depth understanding of a phenomenon.

Case study methodology also aligns with descriptive design and interpretivism philosophy with dependence on qualitative research method which will be looked at next. For this research, the works of Stake (1995) and Merriam (2009) are most relevant due to the recognition of the flexibility of the research process and insistence on the subject of the research.

3.5.2 Research Method

The evolving nature of research techniques has generated a lot of debate in the social and management sciences regarding the relationship between the objectives of the research and the research methods to be used to achieve or arrive at those objectives. Scandura and Williams (2000) noted that the outcomes of empirical research are heavily dependent on the design options used in

arriving at these outcomes. Carcary (2011) agreed with these findings and summations, and expanded the discussion on the importance of the research design and its influence on empirical research.

There are essentially two broad types of research methods. They are the *qualitative* and the *quantitative* methods. This distinction helps in understanding the process through which data is collected from the field. However, there is a third method which is the mixed method approach which combines both qualitative and quantitative research methods to generate more expansive data that can be applied to content and statistical analysis. This research uses the qualitative research method.

As noted by Carcary (2011) qualitative research methods are encapsulated within the interpretivism philosophy as they attempt to describe and present ways to understand phenomena as it concerns the social world. It places emphasis on words, pictures, and symbols, to describe situations and this allows for an in-depth and immersed study rather than the quantitative method which is numbers based and impersonal and takes little cognizance of social actors which have an influence on social phenomena (Easterby-Smith *et al*., 1991). Qualitative research method provides flexibility and richer context which gives room for broader interpretations and can lead to better understanding of complex phenomena. The combination of the social entities being studied with the social actors allows for exchange of views and positions which can lead to rational and objective conclusions (Kvale, 1996; Hinton, Mieczkowska and Barnes, 2003).

Qualitative research method is attractive for its ability to collect large volume of specific and relevant data which allows for in-depth analysis and keeps the research focused on the important aspects of the study. As noted by Alvesson and Skoldberg (2009) qualitative research gives a deeper understanding of the social world. Mason (2002) however pointed out that following laid down procedures is vital when conducting qualitative research so as not to undermine the flexibility and contextual benefits inherent in the method as digressions may ensue due to the influence of social actors as gotten from the respondents whose opinions are vital to understanding the phenomenon being studied. This is so as unlike quantitative methods; qualitative research takes on multiple perspectives involving multiple relationships.

Though qualitative research has gained acceptance in scientific research, it still generates epistemological arguments about its outcomes and as such, the validity of its science continues to be debated. However, the relationship which is established between the researcher and respondents in qualitative research allows for an informal setting which gives room for more in-depth discussions and elaborations rather than the straight-jacketed responses from quantitative research.

Qualitative research is accommodated across four basic theories; *grounded theory, ethnography, phenomenology* and *case study*. Grounded theory is used to generate theories from observing social phenomenon while ethnography studies the behaviour of people. Phenomenology refers to the way social actors understand social entities, while case study combines a select group social actors and entities in order to get an in-depth understanding of a specific social phenomenon.

This research uses a descriptive design which matches with interpretivism philosophy as this addresses the issue of social actors having significant impact on social phenomenon. Case study is used to explore the relationship between innovation and the service industry as it applies to the online grocery business in Nigeria. As noted by Onwuegbuzie and Combs (2010) and Creamer (2017), the data collected for the research should be done in such a way that it is coherent and meaningful and is able to bring forth valid meta-inferences which can then either be merged or kept as separate and distinct wholes.

3.5.2.1 Rationale for Qualitative Method

According to Greene et al. (1989), there are five basic reasons that guide research methods which are triangulation, complementarity, development, initiation and expansion. Triangulation refers to the comparison of the various aspects of the research objectives with qualitative results which this study tries to achieve by searching for points of connection between the responses gathered from ICT experts and online businesses with the information from the consumers who are a terminal but essential part of the service delivery process. Complementarity allows for the expansion and clarification of data gathered from the qualitative process by using information gathered from primary and secondary sources of data. In this research, the secondary data is used to expand and clarify those points of connection identified from the triangulation of findings and results. The

development reason is also crucial since data is collected sequentially, it is important that it is developed in an orderly manner as the information gotten from the qualitative findings will inform the structure and direction of the instrument to collect the needed data. In the initiation, this is where it would be determined if the research questions will need to be reviewed or not. Expansion allows the study to expand as needed as can be seen with the introduction of the customer perspective into the study to give a holistic view to the research.

3.6 Data Collection Method

As noted earlier, qualitative research method is preferred for this study since it is an exploratory research in an area where there is presently little empirical studies as online grocery business in Nigeria is still at an early stage. It is concerned with gaining knowledge and understanding the motivations, since quantitative methods are unable to capture feelings and emotions which are essential to understanding the phenomenon under study. According to Monette, Gullivan and Dejong (2010), qualitative research acknowledges the value of abstractions and generalisations and this in turn informs data collection methods.

Understanding the data is essential to determining how such data is ordered and collected. Thematic classification of data is to be used to develop properties and propositions so as to arrive at what Glaser and Strauss (1967) refer to as the theoretical saturation stage. Glaser and Strauss (1967) define the theoretical saturation as the level at which;

> … no additional data are being found whereby the (researcher) can develop properties of the category. As he sees similar instances over and over again, the researcher becomes empirically confident that a category is saturated when one category is saturated, nothing remains but to go on to new groups for data on other categories, and attempt to saturate these categories also (p. 65).

Primary and secondary data are the two types of data used in empirical research. Primary data, also known as raw data, refers to data collected from a source by the researcher through questionnaires, formal and informal interviews, focus group discussions, participant and non-participant observation. Secondary data is information gathered from other sources including

works conducted by other researchers, journals, textbooks, government publications, newspaper and magazine articles, internet sources, among others.

For the purpose of this research, a combination of primary and secondary sources of data will be utilised to properly interrogate the study. The combination of both data sources is essential towards creating a broad perspective. The primary data ensures that data that relates to the specifics of the objective of the study. It also ensures that the quality of the data (from the researcher's perspective) is undisputed and additional information can be gotten throughout the course of the study. The secondary data will be used to enrich the study and verify the information gotten from the primary data where possible.

The primary data collection exercise will be done over a period of two (2) months due to the anticipated spread of the respondents. A letter of introduction will be obtained from the University and it will provide details of the researcher and the reason for the data collection exercise. It will also assure the respondents of their confidentiality. In-depth interviews would be the data collection technique. The interviewees whom would have been identified using purposive sampling, will be contacted through e-mails and phone calls and appointments booked for face-to-face interviews. Interviews will also be held over the phone where it would not be convenient to hold face-to-face interviews. The interviews will last between 1 to 2 hours for the primary respondents and 10-15 minutes for the secondary respondents and will be recorded using a recording device and/or jotting (whichever the respondent permits).

Semi-structured interviews will be conducted. This is preferred over structured interviews because it allows for wording and sequencing (Kvale and Brinkman, 2008) of the questions to be asked which allows for uniformity in the general questions for the various groups of respondents to be interviewed while also giving room for them to make clarifications on their responses and bring relevant enlightenment to the study which might have not been captured in the initial questions. This will invariably help increase the reliability and viability of the research data (Lindlof and Taylor, 2002). Semi-structured interviews also align with the exploratory research design of the study which aims to gather information in an area that is relatively unexplored.

It should be noted that due to the Corona Virus Pandemic which necessitated the restriction of movement in Nigeria, the interviews were conducted using WhatsApp Video calls, emails and phone calls.

3.6.1 In-Depth Interviews

The research takes cognisance of the fact that while there are facts (such as technology/innovation that is readily available), the way people understand and apply these facts is dependent on the realities on ground (such as funding, state of knowledge, perceptions etc) which determine how these facts are applied and in turn the outcomes (service delivery and customer perceptions). Thus, the combination of in-depth interviews for the primary participants (ICT experts and business owners/managers) and for the secondary participants (online customers) will provide an exhaustive overview that captures the totality of the interaction from introduction of innovation in online grocery businesses to the customers' perception of the service delivered.

The interviews may be conducted in a conversational way that can be termed as informal whereby the respondents are allowed to introduce issues that are not covered in the open-ended questions to be asked by which may be deemed vital to understanding the issue being researched, or it may be conducted formally using the close-ended questions, but whereby the respondents answer only the questions put to them and do not provide additional information beyond this. A close-ended question limits the respondent to the available options provided by the researcher while the open-ended question provides an avenue to express their opinion without being influenced by the researcher (Foddy, 1993). A bias might occur in the case of a close-ended question because the responses are in a way suggested to the respondent (Reja et al., 2003). Schuman and Presser (1979) argues that close-ended questions should be backed up with open-ended questions so as to ascertain the validity of the close-ended questions. This affirms that with open-ended questions the researcher will be able to get more from the respondents. According to Couper et al., (2011) with open-ended question you can probe to get an answer that gives a narrative response rather than a predefined answer in the case of close ended question. Also, rather than pushing respondents to agree with something or otherwise based on the statements we present before them, they can actually tell us what they think about the topic under discussion (Singer and Couper, 2017) .The

researcher will however control the interview process by using semi-structured interviews so that whichever way the interview is conducted, formally or informally, there will be a guide that ensures that the issues discussed are kept within the scope of the study and the data required. This is germane due to the flexibility associated with semi-structure interviews which would allow the respondents adequate time to gather their thoughts and also ensure that the response captures both the reality and feelings.

The initial interview questions would be developed by the researcher based on available knowledge of the phenomenon and in line with the study's objective. However, after each interview, any new areas of interest or information on the subject matter that may arise in the course of the interview and is deemed pertinent to understanding the issues been discussed, will be incorporated into interview questions for the next respondent after proper analysis and evaluation on its relevance and value to the study. This process will be done until saturation levels are reached. This will allow the study incorporate various opinions from different angles on the same issues. For example, an ICT expert may determine that the most important innovation to online grocery business is the incorporation of advanced payment systems while another ICT expert may raise the issue of making the website mobile friendly as more germane. Also, an online business may believe that innovation is only needed in the marketing of their produce while another may see the interconnection of the produce of smaller sellers been hosted on their web platform as more beneficial to it.

In order to investigate deeper into the divergent views of the respondents, questions would be focused on the perceived area of strength and interest to the business to find out the underlying reasons for their preferences. This will enable the respondents open up and be more receptive towards expatiating on their opinions.

The pattern of the research for this stage of the data collection recognises the possibility of researcher's bias as is applicable to in-depth interviews due to the need for the researcher to guide the respondent to ensure that deviation is kept minimal and for responses to be misinterpreted (Easterby-Smith et al. 1991). The issue of researcher bias will be reduced by the researcher

confirming any unclear or ambiguous statements from the respondents to enable them confirm, rephrase, elaborate or re-evaluate their opinions as needed.

The semi-structured interview would be arranged into three distinct parts. The first part would be general questions and serve as an introduction to the research subject. It will enable the respondents understand the value of the research to the respondents. The second part will focus on the specifics of the research which are the areas of focus such as innovations available to the online grocery business, where these innovations are applied with focus on marketing and placement of orders, and the socio-environmental challenges affecting growth in the service delivery. The third part of the interview questions will allow the respondents express their personal opinions on how innovation can be used to grow service delivery in the online grocery business. The questions would be designed to flow with the research objectives.

3.7 Sampling

Matching the phenomenon to be investigated with the respondents is essential in order to allow for generalisation of results. The case study provides a firm base for the use of a qualitative research based on the objectives of the research as earlier stated.

For this research, the sample population is taken from three categories of respondents. The first category is drawn from managers or their representatives of online grocery businesses who must have appreciable knowledge of application of technology to online business. The second category is drawn from ICT experts while the third category comprises of online grocery shoppers.

The case study research will allow for an in-depth investigation into the areas that link the three focal points of the research. As such, the first point of call would be the ICT experts who would identify the innovations that are available to online businesses in Nigeria especially as it pertains to the grocery industry. This would be followed by interviews with online grocery business owners/managers or their representatives who shed light on how innovations are sourced and acquired and how they have been introduced in their marketing and placement of orders to enhance service delivery of online services and the infrastructural challenges they face. Within this period,

interviews would be conducted with individuals who have made online grocery purchases within six months of the study to get their practical experiences on if and how their shopping experiences were improved in any way when using the online medium.

Due to the fact that the total population to be studied is unknown or cannot be easily determined, purposive sampling is deemed best for the study. The researcher will determine the workable population and respondents from the online grocery services in Nigeria. Purposive sampling technique which is also referred to as judgement, subjective or selective sampling, is a form of non-probability sampling which is apt because the research makes use of case study and scholars have averred that the use of nonprobability techniques is often inevitable as they are often applicable when dealing with multiple levels of objectives (Lucas, 2014) such as this research.

3.8 Sample Size

Selecting a target population is vital as respondents have to be aligned and match the phenomenon under study so as to allow for generalisations. Case study requires a different sampling process because as noted by Strauss and Corbin (1990), the research sample cannot be gotten earlier as the sampling process develops in the course of the research which is why quantitative methods may be inadequate for this study.

For this research, the sample population is drawn from three broad categories. Information Communication Technology experts, persons who work in online grocery businesses and customers who have made online grocery purchases within six months of the research from the online grocery businesses used as case studies. This is to ensure that as broad a perspective is achieved. Being an exploratory research, it will link actions and perceptions across three categories of social actors that are instrumental to growing innovation in the service industry in Nigeria.

The ICT experts would be drawn from persons who have had at least ten years-experience in online reputation management, website development and hosting and/or similar areas of expertise. This is necessary as they would be able to address the first objective of the study by exploring innovation knowledge and the online innovations that are readily available to online businesses in

Nigeria. The online grocery businesses for the case study would be selected by sourcing them from the internet and contacting them through e-mails and phone calls. This would ensure that the selected businesses are active and actually make use of their online platforms. The respondents for this stage were drawn from the ICT and marketing managers. The ICT experts and online business respondents were categorised as the primary respondents while the customers were classified as secondary respondents. This was done because the primary respondents contained the case study group and were the key determinants of using innovation to grow the service industry while the secondary respondents were the beneficiaries of that innovation and therefore, not the initiators of the service innovation but drawn as a subset of the primary case study group. This was possible because of the flexibility inherent in the case study methodology which supported the research.

Arising from the use of case study methodology and semi-structured interviews, certain parts of the interview questions evolved dependent on the category from which data was been collected. Respondents from the ICT sector, online grocery businesses and customers, would be contacted through e-mails and phone calls. The interviews would be carried out using semi-structured technique that would address general and specific areas of interest to the researcher. The approval of the respondents would be gotten following the ethical parameters of the interview which would have been outlined such as the issue of anonymity, which information should be kept confidential and the mode by which the interview should be recorded that is audio recording or jottings.

On conclusion of each interview, the responses would be reviewed and where necessary, inputs made for the next interview due to the knowledge acquired in the first interview. This is in line with the semi-structured interview model which allows for the corroboration of new information that can be philosophically problematic and which needs to be explored to determine its generalisation. It will also identify conflicting opinions from the respondents.

The collection and interpretation of data can be very cumbersome and time-consuming as there is a lot of information that would have been gathered. Some of this information may not add value to the overall research and it is therefore necessary to identify and extract the relevant information for the data through a coding process. The coding process refers to the deconstruction of raw data gathered from the field and its reconstruction into a way that meaningful and relevant data can be

identified for further analysis (Linneberg and Korsgaard, 2018). Coding can be defined as the categorization of data and is associated with themes and ideas which are fundamental to understanding a given phenomenon. It is especially helpful when dealing with unquantifiable factors such as behaviour, opinions, values, activities etc.

The nature of qualitative data makes it inevitable that data that is not relevant or needed in the research would be collected along with the relevant information. The coding process allows for the data gathered to be tested against the objectives of the study in order to develop a clear understanding of the research.

The coding process is generally divided into three action sequences which are open coding, axial coding and selective coding (Linneberg and Korsgaard, 2018). Axial coding helps find the related connections between categories and sub-categories in line with the basic assumptions.

The sample for this research was done through purposive sampling technique. This allowed for the contact of different persons associated with online grocery businesses in Nigeria. A number of online businesses were contacted to participate in the research from a list of all online grocery businesses located in Lagos and Abuja alongside contact details. Some online grocery businesses turned down the opportunity to contribute due to confidentiality issues related to the business and customers who would be drawn from their client base and this was despite being informed that the information collected will be treated as strictly confidential and anonymous. The research looked at online grocery businesses because they were keen about growing their businesses. In total, 24 interviews were conducted. These interviews were conducted with four (4) respondents from the ICT industry, ten (10) from the ICT and marketing departments/units of online grocery businesses and ten (10) customers who had made multiple purchases within six months of the study.

Ref.	Company Description	Respondents' Title	Department/Unit
A1	A leading ICT company specializing in providing online business solutions	Chief Executive Officer	ICT Team leader/General Administration
A2	An innovation ICT services provider (Web development)	Web Master/Programmer	Website Development
A3	A multi-stage ICT business solution company	Systems Analyst	ICT Development
A4	ICT Networking company	Systems Analyst	Networking
B1	A leading online grocery business with specialization on delivering fresh grocery produce	IT Analyst	ICT
B2	A leading online grocery business with specialization on delivering fresh grocery produce	Business Development Officer	Marketing
B3	Online grocery business specializing in a wide range of grocery products (food and non-food items)	Web Developer	IT
B4	Online grocery business specializing in a wide range of grocery products (food and non-food items)	Marketing Manager	Business Development
B5	Start-up grocery business specializing in farm market grocery produce	IT Officer	General Administration
B6	Start-up grocery business specializing in farm market grocery produce	Marketing Officer	Marketing
B7	Established brick-and-mortar grocery store expanding into online grocery services	IT coordinator (consultant)	Independent consultant (ICT)
B8	Established brick-and-mortar multi-product grocery store expanding into online grocery services	Marketing Officer	Business Development
B9	Online grocery business specializing in packaged grocery products	IT Manager	Business Development
B10	Online grocery business specializing in packaged grocery products	Marketing Officer	Business Development
C1	Not required	Public Servant	Not required
C2	Not required	Civil Servant	Not required
C3	Not required	Financial Analyst	Not required
C4	Not required	Business owner	Not required
C5	Not required	Marketer	Not required
C6	Not required	Private sector worker	Not required
C7	Not required	Private sector worker	Not required
C8	Not required	Health worker	Not required
C9	Not required	Private sector worker	Not required
C10	Not required	Business owner	Not required

Table 3.3: Sample Population: Author's Work (2019)

The sample size for the study is borne out of necessity arising from the fact that there are very limited numbers of online grocery businesses in Nigeria that are actually registered with the appropriate authorities in Nigeria. It was necessary to identify legitimate businesses so as not to encounter any legal or unethical issues during the field work which might derail the research. As noted earlier, the online grocery business sector in Nigeria is yet to be clearly defined and the few businesses are located in specific locations in the country which further limits the number of respondents relevant to the study.

Also, of the various online grocery businesses sampled, care was taken to ensure that the service offerings were as diverse as possible but still within the scope required for the study. This was so because businesses in Nigeria have a propensity to copy each other and as such, there is little product or service differentiation to justify more than the number of businesses used for the case study. This was also applicable to the experts and customer respondents used in the study. A pre-field survey by the researcher showed a high similarity index of the opinions of the respondents which meant that during the actual field work, saturation stage was quickly reached and further respondents were not required as the responses had become repetitive and of no additional value to the study.

3.9 Data Analysis

This research makes use of narrative analysis to analyse the qualitative data. Qualitative data analysis is the scientific use of observation to gather non-numerical information and has a wide range of applications in the humanities, social and business disciplines (Denzin and Lincoln, 2005; Given, 2008; Babbie, 2014) and this suits the use of narrative analysis especially as there is little existing empirical information on the phenomenon under research in this study. The narrative analysis is preferred because it establishes trends and relationships between variables by allowing the reformulation of the information gotten from the respondents and takes into account, the specific context and experiences of each case and respondent. Simple frequencies, percentages as well as standard deviation will be used to analyse the collected data.

As pointed out by Miles and Hubberman (1994), the focal objective of a case study is to develop a pattern of prepositions using partial ordered displays. Due to the near absence of prescribed or standard procedures, the research tools are a crucial factor in explaining the process of data analysis (Scott and Howell, 2008). These prepositions are drawn from the interpretation of data from the interviews and other sources of relevant literature and used as a guide in the development of the case study by first, guiding the formulation of the case study questions and then secondly, as the basis through which the coding is generated for data analysis

There are often arguments about the use of qualitative data analysis methods, however, its flexibility to allow for the introduction of technical and social data is vital and offsets any inherent weaknesses that may be associated with it (Rossman and Wilson, 1991). Since the research is collecting raw data from the field, the question as to the use of quantitative or mixed methods may arise with the usage of questionnaires factored. However qualitative method was chosen for this study. Qualitative approach is exploratory in nature which captures how the participants feel or will react to a certain phenomenon which creates room for ambiguities in data, this is typical of social reality (Denscombe, 2010). Maxwell (2012) explains that qualitative research captures meanings and motives which cannot be reduced to operationalisation of variables. Almeida, Faria and Queiros (2017) agrees with this, stating qualitative data isn't concerned about numerical representation but focuses on understanding the deeper meaning of a phenomenon being studied thereby, bring to the surface an in-depth information that can be used to the various dimension of a problem. The design of this research is set out to understand possible angles to the problem with online groceries in Nigeria and make possible recommendations. Also the sample size is small because we will be dealing mainly with professionals in the field so one can still capture the required information needed.

Yin (1994; 2014) outlined some key steps for undertaking case studies while Miles and Huberman (1994) proposed an approach to the analysis of case study data. As such, the data analysis comprised of four steps or phases which are (1) creation of data repository, (2) data coding (3) analyses of the coded data and (4) final propositions.

Step one: Creation of Data Repository

To properly analyse data gotten from case study research, it must be collated in a manner which allows for easy retrieval, identification and use as required for the study. For this study, the respondents would be contacted through emails and phone calls. The interviews would be semi-structured for reasons that have been stated earlier. General and specific questions about innovation and the online grocery business would be asked. This is crucial because as noted by Strauss and Corbin (1990) and Pandit (1994), there must be a link between the research questions and research objectives in such a way that they provide insight into the research problem which then allows the research become focused following the selection of the cases based on purposive sampling technique.

Each interview will be put into a written format before commencing the interviews as this would ensure that there is consistency in the interviews, however, further questions will be asked if needed, based on the responses of the respondents. Each interview will be broken into open codes which are then linked to previous interviews in order to determine common and/or conflicting view points between the respondents. The data base structure would be designed to allow the easy manipulation of the data for maximum view and to align with the principles of relational data base theory (Codd, 1970).

Step two: Coding

As pointed out by Creswell (1994), useful information or data can be gotten through a variety of ways and the method of data analysis. A code may be used to identify a specific item that is important to the research. It could be a word, phrase or sentence, but it generally helps associate meaning to the huge volume of data that is expected from the raw data as is often applicable to qualitative research. This is important to note because the nature of qualitative research makes it inevitable for extra data not needed for the research, but which should not be ignored by any means and should also be coded appropriately (Knight, 2002). This would however be mitigated to an extent by being specific on the areas of interest of the study as indicted in the research questions and objectives.

Huberman and Miles (1998) and Knight (2002) pointed out that it was essential to prevent lapses while processing the codes and that they must be arranged in an easily identifiable pattern so as to be able to properly evaluate codes that are deemed not related to the research but need to be continuously checked against the research assumptions and literature.

As such, the guidelines and conditions are developed through a process referred to as selective coding and through which distinguishable patterns may emerge (Knight, 2002; Linneberg and Korsgaard, 2019). However, to avoid lumping data and prevent lapses as stated earlier, the data generated would be developed sequentially and this would allow the research avoid inconsistencies, irregularities and be able to properly check transcripts for relevance and adjustments if required as this is quite common in exploratory research where there is little information to guide the researcher at the start of the study. To achieve this, the coding process would be divided into types as noted earlier; these are open, axial and selective processes. These are also known as initial, expanded and rationalized coding process.

Open or initial coding refers to the creation of base codes which are used to code the data collected in the case studies which must be in line with the research questions, assumptions and problem statement (Huberman and Miles, 1994). It is however important that the volume of codes created is not excessive so as to make the data manageable. Using the constant comparative method as developed by Scott and Howell (2008), general descriptors and interrelationships are derived. These codes go through a process of categorization whereby they are refined, redefined and grouped as appropriate. Depending on the results from the initial coding, this may lead to the next coding phase which is the axial or expanded coding.

Axial or expanded coding refers to the process of identifying the relationships and connections between categories. The selective or rationalized coding removes duplications that may have been created.

Step three: Analysing the Coded Data

At this stage, the case study data can be closely scrutinized. The character relational database design assists the analysis process arising from the fact that the researcher has considered the

theoretical outputs from the database. This means that before the database is created, the structure of the tables where the data is inputted had been well thought out and defined. As is expected from exploratory research of this nature, there is always the possibility that the researcher would need to tryout a variety or combination of methods or outputs. This is critical so as to avoid overlooking data that may be important to the research findings but has been ignored because it was not properly processed and as such could not be efficiently analyzed (Linneberg and Korsgaard, 2019). This is especially so in this research as there are a number of aspects which are interrogated from various perspectives and it is vital that the interrelation be properly identified so as to arrive at appropriate conclusions. If needed, the researcher would take time to generate a variety of reports and try to avoid bias of allowing the researchers opinion to determine what is appropriate.

Step four: Final Propositions

Analysis of the case study data centres on the propositions and rationalised codes as discussed earlier. The propositions would be derived from the research questions and from interpreting data from the semi-structured interviews and secondary data.

3.10 Trustworthiness of the Research

According to Knight (2002), qualitative research needs to be reliable as the replication of research findings in a case study with similar social entities, actors and context. The more credible the research, the greater the reliability of the research findings and this was addressed in this study through the detailing of the rationale guiding the research decisions. Expansive explanations were given for the overall methodology including research design, processes and data analysis and this would allow other interested researchers understand the methods used, processes followed and determine the effectiveness of the research which in turn increases the reliability of the research.

Stiles (1993) argued that for qualitative research, two standards must be taken into consideration. The first relates to the utilisation of good practice (internal validity) which speaks to the trustworthiness of observations and data. It entails that future research would give rise to the same results when the same methods of data collection are employed for the research. The second points

to the issue of validity standards and refers to the trustworthiness of conclusions drawn from the data. According to Elliot (1999) and Pandit (2006), this provides evidence that points to establishing and then interpreting casual relationships that could lead to other situations and shows consistency in interpretations. Punch (2005) noted that establishing the process of data collection in qualitative research and build-up of relevant empirical knowledge through the use of primary data (interviews) and secondary data (books, journal etc) is vital to situating the study's orientation, utilisation of source materials and interpretations.

To this end, Lincoln and Guba (1985) had identified four key elements guiding trustworthiness and vigour in qualitative research which are; credibility, transferability, dependability and confirmability which will all be discussed in the next section of the work.

3.10.1 Credibility

According to Lincoln and Guba (1985), observations of phenomenon must correlate to the reality or social context within which these observations are made, as this is key towards establishing trustworthiness. The use of recordings (audio and visual) go a long way in supporting the credibility of research and they provide information that is valuable to data analysis and interpretation. For this research, the number of recorded interviews would be determined by the number of respondents who approve it.

Case study methodology is very compatible for this study as it explores issues at various levels within and outside the organisation and works towards developing knowledge through interviews and gives insight into the social actors and extent of their knowledge and adaptability to other social entities. The research focuses on the application of technology towards growing innovation in the service industry and it does this by first identifying what is available to test innovation knowledge and then the applicability of that knowledge by online grocery businesses in Nigeria towards growing their businesses, while taking into cognisance, the infrastructural issues and customer perceptions.

Prospective respondents reserve the right to turn down a request to take part in the research and this would ensure that only interested respondents who would be willing to provide honest responses are interviewed. Interviewees would be contacted through sending emails and phone calls and preliminary introductions made about the research topic. The contact details of the researcher (email and phone number) would be made available to the respondents while a supervisor's approval will be gotten and only those who show interest in taking part in the research will be interviewed.

The background, experience and qualifications of the researcher have an impact on the collection and interpretation of data from qualitative studies and this contributes to the credibility of the research. The researcher has worked in a grocery business and was tasked with growing the business by incorporating innovation into the marketing side of the business.

3.10.2 Transferability

Merriam (1998) and Punch (2006) agreed that transferability when it concerns qualitative research, speaks to the extent to which a given research can be applied to other situations within a similar context which allows for generalisation. Unlike credibility which connects with internal validity, transferability deals with external validity which means the results can be applicable to the larger society which is the essence of case studies. External validity speaks to the extent which the research can be relevant or applied to real world situations.

Authors such as Cole and Gardner (1979), Erlandson, Edward, Barbara and Steve (1993) and Pitts (1994) had noted that there are some limitations concerning the findings of qualitative research as they are based on social actors and the inevitable responses that are conditioned by views, observations, opinions, number of respondents, among other issues. However, as pointed out by Stake (1994) and Denscombe (1998), it is often not realistic to sample who many populations for a number of reasons ranging from time constraints to financial constraints, and qualitative methods are adequate enough to offer a representative sample of a larger group or population. In view of this, some criteria were considered such as; the size of the online grocery business, degree of dependence on e-business and the percentage of grocery related products.

3.10.3 Dependability

Dependability of research refers to its ability to replicate itself given similar context (Junior, Abib and Hoppen, 2019). As noted earlier, a thorough explanation of the various processes involved in the research was provided to address the issue of dependability. These detailed explanations should serve as a guide for others.

3.10.4 Confirmability

This is the final criterion of trustworthiness in qualitative research and addresses the issue of researcher bias and to the degree to which the research findings accurately reflect the opinions of the respondents rather than those of the researcher. This is closely related to objectivity and this, as argued by Lincoln and Guba (2003), is often difficult to avoid in qualitative research such as this. However, confirmability for this research would be established by leaving an audit trail and clearly detailing the research process.

3.11 Ethical Issues

Ethics will be approved by the University before contacting the respondents. Ethical considerations are necessary to guide against unwholesome research practices. The copy of a letter duly signed by the supervisor will be shown to the respondents before discussions on the research commence. This will inform the respondents of the objectives of the research which is strictly for academic pursuits and that the names of the organisation and respondents will be kept confidential.

The information gotten from the respondents will be treated with confidentiality and stored in a location that is only accessible by the researcher and this information will be disposed of as soon as the research is concluded, and the necessary data utilised to its full potential for the research.

There will be efforts to encourage participation in the research by giving the respondents, especially the ICT experts and online grocery businesses, an option to be able to access the research once it is completed.

The researcher will have full responsibility of protecting the identity of the respondents in the body of the research and will assign designations as would be appropriate for the research. However, organisations that wish to be acknowledged will be obliged in such a way that they would not be identified in the main body of the study.

3.12 Limitations

The research limitations so far revolved around identifying online grocery businesses that match the criteria for this as most grocery businesses do not make online services an essential part of their business or do not stock or sell enough products to be truly considered online grocery businesses. This is however being addressed by using the internet to search for online businesses and then contacting those that meet the required criteria for the study. Other research limitations were identified and addressed in the course of the study.

3.13 Recap of the Chapter

This chapter discussed the purpose of the research which is exploratory due to the fact that the phenomenon has not being previously adequately studied. The research approach was inductive while the research design linked the research purpose by employing interpretivism and subjectivism for the epistemology and ontology. The nature of the research requires the researcher to choose the suitable methodology for data collection and analysis and as such, the selected methodology for this research is case study. In-depth interviews were conducted using semi-structured interviews as this allows for the research to be focused, but also allow room for new views and opinions from the respondents as that is part of the essence of the research purpose which is to explore the phenomenon, and this linked with the research method, which is qualitative, sampling and data analysis process. Finally, a detailed explanation on the elements of trustworthiness and ethical considerations for this research was stated.

CHAPTER FOUR
DATA ANALYSIS AND PRESENTATION

4.1 Preamble

This chapter is dedicated to the analysis of the data as outlined in chapter three and also captures the results arising from the research. In furtherance of the research goals, this chapter presents an overview of the respondents who participated in the research, the variables and relationship identified, observations of the researcher and the establishment of a link towards achieving the aims and objectives of the research.

For purposes of clarity, this chapter is divided into sections. The first part is the data analysis which is further sub-divided into sub-sections. The first section contains the views of the respondents and assigns specific tags, which was done by the researcher, to each participant. This was vital due to the fact that there are three categories of respondents that address various aspects of the research and the views gotten varies and is dependent on the perception of each respondent to the online grocery business in Nigeria. The second section is the findings arising from the results. Here, the findings are further divided into six stages. The first is the creation of data repository of core selective coding which are gotten from the core analysis and from which a number of sub-categories or axial codes are drawn from and used to expatiate on the core categories. This would be followed by a relationship guide which conceptualizes the primary phenomenon for each category and leads to the reflective coding for each category as this is required for developing the relational matrix or relationship guide, conceptualizing core categories and investigating links between major and minor categories that would in the long-run, provide clarification on each phenomenon being studied and lead to the building of factual insights as represented in the axial coding for each core category. The flow for the second sub-section is shown in figure 4.1. The double arrowed line shows that the insights gotten from the data coding process should be able to be linked to the core category.

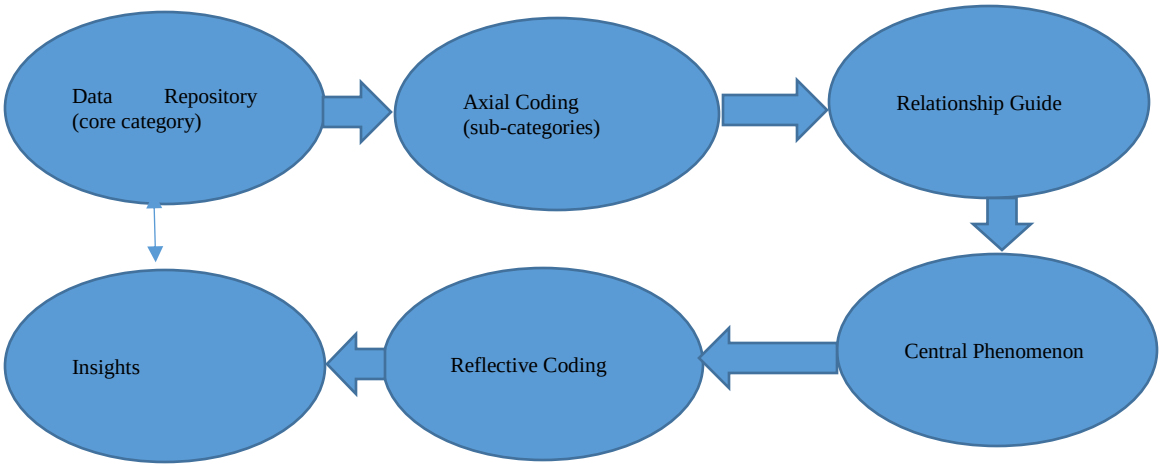

Fig 4.1: Flow for Presentation of findings

Table 4.1 shows the core categories, sub-categories identified in the course of the study and the core phenomena derived from each category which are linked and explained.

Core Category	Sub-categories	Phenomena
Innovation Ambiguity	-Absence of R&D Unit -Inconsistency in accessing innovation knowledge -The innovation construction	Low innovation knowledge for online grocery business can cause slow growth
Innovation Application	-Insufficient know-how of process and incremental innovations application in marketing and order placement algorithms -ICT view of innovation -Marketing view of innovation	Application of innovation and synergy of usage can be have a positive, negative or neutral effect and is determined by the form and type of innovation
Infrastructural Challenges	-unstable power supply creates reluctance to use online innovations -poor road networks negate advantages of online grocery shopping	Power supply and road network are critical to the growth of the service industry
Customer Perception	-Online marketing view -Online order placement view -Skepticism associated with online shopping in general	Individual customer insights determine acceptance or rejection of innovation

Table 4.1: Core and sub-categories and phenomena for analysis

The second phase of this sub-section provides a detailed discussion of the findings so as to identify the issues related to innovation sourcing and adoption which is critical to the growth of online grocery businesses, infrastructural challenges to the growth of the service industry in Nigeria, customer perception of the online grocery business in Nigeria, and the impact related to each core category which will help build the insights that links the core categories together.

4.2 The Five Selected Cases

The number of cases used for this study is adequate due to the limited number of online grocery businesses in Nigeria. The businesses involved in this research were selected with the essential criteria of being businesses providing online grocery services with a desire for growth through innovation and showed interest in this research. The last criterion was of vital importance to ensure that the businesses would devote enough time to the research. The five cases selected had their offices located in Lagos and Abuja, the commercial and political nerve centres of Nigeria.

All five businesses declared that they viewed innovation as vital to their services but viewed the entire online grocery business as a radical innovation driven by technology and marketing strategy. This means that the selected businesses were operating in what they viewed as a period of radical technology advancement which they had keyed into with the hope of near future market advancements that would help grow the business and as such, innovation management is essential to their business model and provision of services.

While no confidentiality agreements were signed with any of the businesses, the business owners/managers requested that trade secrets, if mistakenly revealed by the respondents, should not be used so as not to expose themselves to competitors by the leakage of sensitive information. As a consequence of this, the names and other information provided have been put in an abstract form with some highlights of the participating businesses briefly described as shown in table 4.2.

	Business 1	Business 2	Business 3	Business 4	Business 5
Grocery Specialization	Fresh and packaged grocery products	Food and non-food grocery products	Farm produce	Market leading general multi-product sales but with 60% dedicated to fresh and packaged groceries	Packaged grocery products
Estimated Av. Monthly Sales Turnover (Naira)	<3,800,000.00	>7,000,000.00	<5,000,000.00	>10,000,000.00	<2,000,000.00
Brief Case Description	Pioneer online grocery business. Minimal product stock. Retail and Bulk sales. Medium scale business.	Transforming from brick-and-mortar grocery store to online grocery business. Retains high level of product stock. Retail and Bulk sales. Medium scale business.	Start-up farm produce business focusing on bulk sales only. Medium scale business.	Have multiple brick-and-mortar shops. Has high level of product stock. Medium-large scale business.	No product stocks. Small scale business
Online Services Innovation Strategy	Service transformation pioneer. Online services a vital component of business growth strategy	Online services gradually becoming a vital component of business growth strategy	Online services a key advertisement medium with plans for further development	Plans to use online services to expand business scope	Uses online services to cut cost and for advertisement purposes.

Table 4.2: Brief profile of the five case studies

4.2.1 Overview of the Characteristics of Respondents

The research covered a total of 24 respondents divided into three categories. The first category comprised of 4 ICT experts who have been involved in developing online business platforms for online businesses. The second category comprised of 10 respondents from online grocery businesses who are involved in the ICT and/or marketing units of the business. All the respondents in this category worked in one of the two units and were involved in the process of innovation management. The third category comprised of 10 customers who have done their grocery shopping online within six months of this research. The use of different categories of respondents was to ensure that the researcher obtains the relevant information and results that align with the research problem.

Table 4.3 provides an overview of the characteristics of the respondents involved in this research and the reference model for each of the respondents using three classifications, A, B and C. Class A (A1-A4) shows 4 ICT experts were interviewed. Class B (B1-B10) shows that 10 respondents

from online grocery businesses in Nigeria were interviewed and a letter indicates which unit the respondent works with I indicating *ICT* unit and *M* indicating Marketing unit. Class C (C1-C10) shows the 10 customers that were interviewed. The table also provides a brief description of the various categories and classes of the respondents.

Ref.	Company Description	Respondents' Title	Department/Unit	Interview method
A1	A leading ICT company specializing in providing online business solutions	Chief Executive Officer	ICT Team leader/General Administration	e-mail/Phone calls
A2	An innovation ICT services provider (Web development)	Web Master/Programmer	Website Development	e-mail/Note jottings
A3	A multi-stage ICT business solution company	Systems Analyst	ICT Development	e-mail/Phone calls
A4	ICT Networking company	Systems Analyst	Networking	e-mail/Phone calls
B1	A leading online grocery business with specialization on delivering fresh grocery produce	IT Analyst	ICT	e-mail/note jottings
B2	A leading online grocery business with specialization on delivering fresh grocery produce	Business Development Officer	Marketing	e-mail/phone calls
B3	Online grocery business specializing in a wide range of grocery products (food and non-food items)	Web Developer	IT	e-mail/note jottings
B4	Online grocery business specializing in a wide range of grocery products (food and non-food items)	Marketing Manager	Business Development	Note jottings/phone calls
B5	Start-up grocery business specializing in farm market grocery produce	IT Officer	General Administration	e-mail/phone calls
B6	Start-up grocery business specializing in farm market grocery produce	Marketing Officer	Marketing	e-mail/phone calls
B7I	Established brick-and-mortar grocery store expanding into online grocery services	IT coordinator (consultant)	Independent consultant (ICT)	e-mail/Note jottings
B8	Established brick-and-mortar multi-product grocery store expanding into online grocery services	Marketing Officer	Business Development	Phone call/Note jottings
B9	Online grocery business specializing in packaged grocery products	IT Manager	Business Development	e-mail/Note jottings

B10	Online grocery business specializing in packaged grocery products	Marketing Officer	Business Development	Phone call /Note jottings
C1	Not required	Public Servant	Not required	Online survey interview
C2	Not required	Civil Servant	Not required	Online survey interview
C3	Not required	Financial Analyst	Not required	Online survey interview
C4	Not required	Business owner	Not required	Online survey interview
C5	Not required	Marketer	Not required	Online survey interview
C6	Not required	Private sector worker	Not required	Online survey interview
C7	Not required	Private sector worker	Not required	Online survey interview
C8	Not required	Health worker	Not required	Online survey interviews
C9	Not required	Private sector worker	Not required	Online survey interviews
C10	Not required	Business owner	Not required	Online survey interviews

Table 4.3: Profile of Respondents

4.3 Findings of the Research

This section presents the core categories that were developed by bringing together similar open codes to build the core categories. The research findings were broken down into four core categories which were; innovation ambiguity, innovation application, infrastructural challenges and customer perception. These core categories reflect each of the four objectives of the research and are further developed in detail next.

4.3.1 Innovation Ambiguity

There were clear and obvious gaps between the respondents in classes A and B about innovation knowledge of available online technologies which could be used to enhance online businesses in

Nigeria. This was mainly due to the differences in practical experiences and views on how innovative technology should be sourced. While the respondents in class A viewed acquiring knowledge on new innovations for online businesses as a core part of their job and crucial to business growth and were able to identify some innovations that could be used to enhance online services, the respondents in class B placed less emphasis on actively sourcing for new innovations that could improve their businesses based on the reasoning that they were not assigned such responsibilities. The comparison between the various respondents in classes A and B showed clear separation between innovation knowledge, knowledge sourcing and knowledge acquisition and the consequences of such separation. This core category reflects the foundational stage of setting out the business plan and establishing the direction of how the business strategy and affects how it intends to grow. Respondents in class A showed more innovation knowledge exposure and a better understanding of the importance of sourcing and acquiring new innovations than those in class B. They however both shared some level of agreement that innovation ambiguity hampered growth for the online business.

The description of the core category one aligns with various literatures on innovation knowledge, sourcing and acquisition. Three sub-categories which are Absence of R&D Unit, Inconsistency in accessing innovation knowledge and the innovation construction were gotten from the first core category. Table 4.4 shows the conditional relationship guide for innovation ambiguity. The aggregation of these sub-categories will lead to the phenomenon in table 4.5 for the first core category which is that *Low innovation knowledge for online grocery business can cause slow growth.* The respondents in category A identified some online innovations for online grocery businesses and their benefits in online marketing and online order placement as shown in table 4.4

Innovation	Main Benefits
Artificial Intelligence (AI)	• Improve customer experience and support • Provides platform to build on existing services • Reduces customer churn
Chatbots	• Allows for 24/7 customer service • Instant response to simple and complex enquiries from customers • Allows for quick resolution of complaints
Omnichannel marketing	• Allows integration of multichannel marketing systems • Allows customers have access across multi-social channels
Accelerated Mobile Pages (AMP)	• Allows for faster loading of pages
Progressive Web Applications (PWA)	• Creates better web experiences • Eliminates need to download app from app store • Eliminates need for multi-apps thereby reducing cost
Email and marketing Automation	• Eliminates time wastage • Minimizes errors • Enables integration of various business units
Video marketing	• Allows customers see exactly what they are placing orders for • Allows for referencing on order placement
Voice search/order placement	• Allows for quick placement of orders for customers on the move • Enables faster search than typing
Augmented reality	• Allows customers to see what has been purchased before it is transported for delivery • Eliminates return orders
User generated content	• Improves customer feedback • Customers serve as free marketing agents

Table 4.4: Top ten innovations available to online grocery businesses in Nigeria

Table 4.4 shows the top ten innovations that are readily available to online grocery businesses in Nigeria as identified by the ICT experts. Though the cost of applying these innovations varied, these were innovations that are generally available and could be used to improve the marketing and online services of online grocery businesses in Nigeria, and this will be juxtaposed later in this chapter to explore the innovation knowledge of the businesses used for the case study.

4.3.1.1 Sub-category One: Absence of R&D (Research and Development) Units

Respondents from class B were less than clear on what innovation was especially as it related to the business without fully understanding the importance of having a structured innovation sourcing and acquisition system. The respondents in class B further stated that there was no dedicated Research and Development (R&D) Units in their companies and no alternative research or planning units. A primary reason for this was that the Management did not see the need to have

such a unit because it felt that the present knowledge acquired was sufficient for the smooth running of the business and also the additional expense of maintaining a R&D unit was a factor towards doing away with the need of having a R&D unit. This relegation of the importance of having a vital unit which should be integrated into the business structure may result in the slow development of the business. Also, the use of external ICT experts was seen as too expensive except for one company that had IT personnel as a contract staff. Sourcing and acquisition of innovation technologies was subject to the personal experiences, views and assessment of people who were not experts which leads to innovation ambiguity.

This was the position of respondent A4 who said that "*Small and medium online companies do not value the importance of sourcing and acquiring new technologies that can improve their businesses. They depend on copying what an existing business is already doing*". This was buttressed by respondent B2M who stated that "*Sourcing and acquiring new innovations is important to grow the business and we depend on the computer experts to manage the system and develop it further*". Most of the computer experts in class B however say that they are employed to manage existing systems and not necessarily develop or change anything. B3I stated that, "*My job is to ensure the website and the algorithms function as they should. If there is need for new solutions, the top-level management decide that based on reports we give to them about the system*".

Respondent A1 and A3 felt that small and medium businesses did not have the needed financial muscle to have fully established R & D units or to contract established ICT experts who could source for and acquire new innovations to help grow the business. Respondent B2I admitted that the nature of the business required that certain online processes be developed further, but the resources to source and acquire these new innovations was discouraging. Respondent B2I stated that, "*Of course, we want to grow the business, but investing funds into research and development is not our priority at this time. We have to make use of what is available right now*".

Absence of R & D units lead to a situation of stagnation and discouragement within the business system in addition to the consequence of losing faith in online systems and seeing them as an unnecessary drain on company resources and becoming reactive rather than proactive. This view

is supported by respondent B7 who said that, "*Most of our business is supposed to be transacted online, but since we started, we have been experiencing less orders online so it's more of a contact and advertising point for us than any serious business transaction medium*". The absence of R &D unit leads to more debate to the next sub-category which is inconsistency in accessing innovation knowledge.

4.3.1.2 Sub-category Two: Inconsistency in Accessing Innovation Knowledge

Absence of dedicated innovation sourcing and acquisition has led to variations and differences in understanding the importance of innovation to the growth of the business and this has led to stagnation. The differences between innovation user priorities in various departments affect how innovation is sourced and acquired. The resultant absence of coordinated knowledge sourcing and acquisition arise from not having a clear plan to gather innovation knowledge and leads to application conflict (as would be seen in core category two). According to respondent A4 who agreed with these consequences, "*Not knowing what is available and how to source and acquire what an online business needs to develop, is a drawback for most ICT dependent businesses. Most online business owners are not ICT trained and this affects what they see as being relevant to the business*". In a similar vein, respondent B7 said, "*The management already has a vision for the business and we all have to key into it. If sourcing and acquiring new innovations is not a priority, there is nothing much the staff can do*". On another hand, some respondents stated that the management team headed by the business owner who has the final decision determined where innovation is sourced and acquired from and is the main factor for inconsistencies of innovation knowledge due to absence of proper integration as pointed out by respondent B8 who said "*Innovation is important to grow the business, but the business owner determines the direction the business would go and therefore what is essential to it*". The inconsistency arising from innovation sourcing and acquisition might give rise to a less than committed effort of employees to contribute to the innovation management process.

The inconsistency of innovation knowledge leads to varied debates that might not be clear to others involved. For example, respondent B1 states that "*My team is very interested in sourcing for new technology that can be used to grow the business, but when these are put forward and the cost*

implication calculated, the management goes for a cheaper option that sometimes does not meet the required needs of the business". The inconsistency of innovation knowledge contributes immensely to the emergence of Core Category Two which is innovation application.

4.3.1.3 Sub-category Three: The Innovation Construction

It is generally agreed by the respondents in classes A and B that taking steps to adopt new innovations is determined by the IT and marketing units since a dedicated unit was not available. The IT and marketing units provide inputs on what is needed to improve service delivery on the online medium, according to respondent B3, "*We are sometimes depended on to provide solutions and ways to enhance service delivery online…*". This was supported by respondent B6 who said "*IT and marketing are tasked with providing information to management and have to justify the proposed financial outlay based on knowledge and experience, but the business owner always has the final say*". When this sub-category is linked with sub-category one (absence of R & D unit), it appears that the IT unit depends on their judgment and experience.

From another perspective, the performance appraisal grading for the IT and marketing units in the online grocery businesses is based on income, revenue generation and profit, and as such, there might be no true reflection of the impact of the online system. Respondent B6 stated that "*As long as we make substantial profits from the existing system, there is little desire to expand the horizon since the ultimate goal is to make money. Doing R&D simply eats into the already small profit margins*".

Developing a structured means of accessing innovations is obviously based on a need's assessment by the business owner without considering the potential benefits of having a dedicated plan for sourcing and acquiring new innovations since the business does not develop its own innovations. This absence of innovation knowledge sourcing and acquisition may lead to a stagnation of the online business.

Core Category One: Innovation Ambiguity

Sub-category	What	When	Where	Why	How	Consequences
Absence of R & D unit	-There are no innovation knowledge sourcing, acquisition or development experts -No R & D unit to drive innovation	At inception of business and during annual operations review	In management and final decision-making team	-Unrealised importance of innovation sourcing, acquisition and development to the service industry -High cost of maintaining a R & D unit	Organization structure	-Low innovation levels -Reactive strategies -Stagnation of business growth
Inconsistency in accessing innovation	-Unclear understanding of what innovation is all about as it relates to the business	At inception of business and during annual operations review	In management and final decision-making team	-Unrealised importance of innovation sourcing, acquisition and development -Different unit priorities as to innovation demands	Clash of ideas	-Loss of confidence in breaking new grounds -Inconsistent unit strategies -Employee alienation
The innovation construction	Innovation sourcing and acquisition is determined by business owner	At inception of business and during annual operations review	In management and final decision-making team	-IT and marketing units are appraised based on technology maintenance and revenue and profits respectively. -Business owners are the determiners of innovation	-By revenue and profit performance -By experience -By judgments -By creativity	-Unclear innovation strategies

Table 4.5: Conditional Relationship for Core Category One: Innovation Ambiguity

4.3.1.4 First Phenomenon: Low Innovation Knowledge for online grocery business can cause slow growth

The assemblage of sub-categories in core category one led to the first phenomenon for this analysis which is *Low innovation knowledge for online grocery business can cause slow growth*. The first phenomenon is found within the reflective coding which is presented in table 4.6 as is applicable to core category one. Following from this, the first phenomenon provides three key insights based on a variation of innovation processes, contexts and consequences. These insights are expatiated in further detail after table 4.6.

Core Category One: Innovation Ambiguity	**First Phenomenon** *Low innovation knowledge for online grocery business can cause slow growth*		
Processes	Undefined	Structured Approach	Random Approach
Context	Struggles to find direction	-Clear focus -Efficiency	-Subjective judgments -Overriding personal interest
Consequences	Contradictory directions	-Improved teamwork -Enhanced service output	-Reactive strategies -Immeasurable service output

Table 4.6: Reflective Coding for Core Category One: Innovation Ambiguity

First Insight: Undefined Process

Undefined processes in the online grocery business in Nigeria gives rise to a struggle to find a proper direction for the business as there is no conscious effort to source for innovations that will lead to improved service systems and growth for the business. The undefined process is the result of not having a clear innovation sourcing, acquisition and development process, which means that employees are dependent on the business owners to provide direction for innovation. The unavailability of a formal innovation sourcing, acquisition and development plan, orientates workers towards having a less than committed attitude and increases vagueness and innovation conflicts.

Second Insight: Structured Approach

This occurs when innovation sourcing, acquisition and development is considered a fundamental part of the business structure and process and there is an aggregation of ideas. It provides a clear focus on what is needed by the business and how these needs can be addressed by sourcing, acquiring and developing the needed innovation. This will also breed efficiency and lead to the creation of clear lines of responsibility and proper needs assessment. Such is achieved within the context of a high level of integration and may result to a better alignment of the business.

Third Insight: Random Approach

The ambiguity of innovation sourcing, acquisition and development, might lead to a random approach where creativity on innovation needs are subjective and based on the personal experience of the business owner rather than structured and proven justifications. This is characterized by uncertainty whereby the needs of the business are influenced by the attitude and motivations of the business owner and influences innovation knowledge. In this insight, the business reacts to unexpected changes in the approach and this might breed low confidence in innovation techniques.

In most cases, the innovation process is based on the personal interest of the business owner and as such, the innovation may not match the reality on ground as it does not arise from a properly defined and structured internal process and this might lead to conflicts in innovation application in the online service delivery systems that will be looked at in Core Category Two, which is Innovation Application.

Sub-Category	**Business 1**	**Business 2**	**Business 3**	**Business 4**	**Business 5**
Use of R&D	No	No	No	No	No
Primary source and determinant of innovation	Creativity of Business owner	Ideas of Business owner	Business owner and external ICT consultant	Top management (includes ICT unit; excludes marketing unit)	Creativity of Business owner
Level of innovation construction	Alienates internal structures	Alienates internal structures	Alienates internal structures but incorporates external expertise	Incorporates some internal structure	Alienates internal structures
Consequences	Low innovation knowledge	Low innovation knowledge	Low-Medium innovation knowledge	Low-Medium innovation knowledge	Low innovation knowledge
Insight	Random	Random	Undefined	Undefined	Random

Table 4.7: Level of innovation knowledge for the case study

Table 4.7 shows the level of innovation management for the case studies. The first sub-category shows that none of the online grocery businesses makes use of any form of R&D to manage the innovation process and this also shows that innovation is not properly defined and is mostly sourced creativity/ideas rather than a defined process and this leads to alienation in most cases. This matches with responses from the respondents in class B. In cases where there is some vague

level of innovation construction, it is not properly structured and innovation knowledge in these cases are medium at best, but more often low as is the case in general. For three of the businesses, the insight gathered was random since there was no link between personal bias (individual creativity) and any other recognizable structure (internal or external) the other two have undefined insights since there is some level of management that tries to source ideas but is not an innovation management structure.

4.3.2 Core Category Two: Innovation Application

It is established that innovation sourcing, acquisition and development is an area of concern for online grocery businesses in Nigeria especially regarding views of innovation and their definition of innovation success towards company growth. Innovation application is the relationship between innovation knowledge (sourcing, acquisition and development) and innovation know-how (usage) within an organisation. This is because every business that sources, acquires or develops a new technology, must apply that technology in a way and manner that it is most beneficial to the organisation and an improper usage without taking into consideration, extenuating factors may lead to conflicts related to the unit's views on innovation. These factors may include; the employee's job description, performance appraisal systems, targets, training and skill-set. Product, process and business model innovation are the main forms of innovation while architectural, incremental, radical and disruptive innovations are the main types of innovation. For this core category two, the focus is on applying innovation using process and incremental innovations in two specific service delivery processes, that is, marketing and order placement, to determine their importance to growth of the online grocery business.

Using respondents' job descriptions and title, this core category was further developed into three sub-categories which are insufficient know-how of process and incremental innovations application in marketing and order placement algorithms, ICT view of innovation, and marketing view of innovation. This is due to the opposing views arising from users of the innovation that might influence the form and type of innovation usage and invariably, the level of commitment and adoption model. As pointed out by respondent A1, "*structured acquisition or a haphazard approach to sourcing new technology, does not automatically translate to an efficient service*

delivery system. Success depends on how the new technology is integrated into the service process and existing algorithms".

Where and how innovation is applied often differs and this also affects the priorities of the ICT and marketing units who have different priorities especially considering the limited input they often have in the sourcing, acquisition and development of innovation as captured in core category one. This also connects with the customer bias or perspective which would link up in core category four. While the management, ICT and marketing units might have differing perspectives, there exist some areas of similarities as would be identified later in this core category. Addressing the core category is based on investigating the innovation application knowledge of the organisation on how it introduces innovation into its service system and then distinguishing the innovation views of the ICT and marketing units. Table 4.5 shows the conditional relationship for core category two, Innovation Application, and provides information about the relationship between each category which goes to answer the germane questions of what, when, where, why, how, and the attendant consequences.

Faulty application may lead to a less than effective utilization of the innovation which if not rectified will have undesirable consequences. The second phenomenon is *application of innovation and synergy of usage can have a positive, negative or neutral effect and is determined by the form and type of innovation.*

4.3.2.1 Sub-category One: Insufficient Know-how in Process and Incremental Innovation Applications in Marketing and Order Placement Algorithms

For all the businesses involved in the study, the respondents in class A felt that innovations were applied without thought towards the form and type that would be best suited for the business. Based on the view of respondent A3, it was stated that "*little consideration is given on the form and type of innovation. The new technologies are often incorporated on a need's basis rather than on a well-defined process and the impact can often be negative because a number of supposed online grocery businesses do not really carry out much online services as applicable to their names".*

The insufficient know-how of innovation forms and types will have tremendous implications on the overall online service system because the online business is supposed to be able to take full advantage of new technologies that should be used where they would be most impactful. Respondent A2 said that "*a key aspect on these kinds of businesses is to have an interactive marketing, search engine and order placement algorithm and these must work in synergy and in such manner that the business is able to efficiently manage the service system while the end user finds it comfortable and easy to use*". Respondent A2 further stated that "*in situations like this, we advise clients to start with simple but effective marketing and order placement algorithms which are easy to maintain and use by both the business and customer. Developments should be made incrementally so that the system is not disrupted or becomes too complicated for a customer*".

The ICT experts' view of process and incremental innovations focuses on its effect on web development, search engines, payment security and advertisement.

4.3.2.2 Sub-category Two: ICT View of Innovation

Being that the research was heavily skewered towards the technological aspect of using innovation to improve online services in online grocery businesses, the views of the Information Technology (IT) officers in charge of developing and maintaining an efficient online system was crucial. All the IT respondents in class B confessed that there were big obstacles facing how online innovations are applied. They justified this position by stating that the undefined process of sourcing, acquiring and developing online innovations made it problematic to apply innovations to build the business since most of the innovation acquired by the Management (who often do not take proper consideration of the ICT unit's request) ended up being incompatible with the existing service system. This was especially so when it came to upgrading the online systems as the unit often had different priorities on what should be developed. Respondent B1 stated that "*the Management and marketing people are not networking experts and their knowledge of how the system operates is limited, but they still force their own requirements and this often leads to system crashes with us* (IT) *being held responsible*". This was supported by respondent B3 who said "*the marketing people are more concerned with sales and keep pushing for the incorporation of various algorithms that support this at the detriment of other aspects of the online system that require*

attention and the limited finances makes it hard to find a balance". The consequent outcome is that there is innovation application conflict. Respondent B5 said that "*algorithms like chatbots, email automation, overloading the search engine with different kinds of products, online tracking distribution algorithms are detrimental to the system. We still have to accommodate other aspects such as payment systems which are more vital to operations*".

The IT officers were further tasked on their views on the forms and type of innovation they felt would be best suited for the online grocery business. Respondents B1, B3, B5, B7 and B9 had different perspectives on the forms and type of innovation in place at the time of the interview and what was needed to grow the business. Respondent B1and B5 pushed for an overhaul of the business process (business model innovation) and radical innovation, as they felt that the present innovation process was slow and not yielding the desired growth. Respondent B5 said "*the business needs to be revamped and more funds put into it so it can have the desired effect. The way it's been done now is not conducive for growth*". Respondent B1 also said "*if you are being specific to the marketing and order placement side of things, then it needs the introduction of radical innovations that makes the customer more involved in the online process, like a self-service as done by most banks*". Respondents B3, B7 and B9 however urged for a more process driven and incremental innovation approach. B9 said "*this business is fragile and it needs to be nurtured well. Any drastic moves would create problems. The innovations have to focus on improving our online service delivery processes, that's the intangible aspect of the business, in an incremental way*".

Respondent B7 also said "*I agree the marketing side has to improve as greater interaction with the customers is needed. Also, the order placement algorithm needs to be gently fine-tuned to have the desired impact. But all these should be done incrementally so that at each stage, developments can be assessed. Customers need to build trust in the online service*". All ICT respondents in class B agreed that there were also other challenges outside the online service delivery system such as infrastructural challenges of unstable power supply which leads to the development of core category three which is infrastructural challenges.

4.3.2.3 Sub-category Three: Marketing View of Innovation

All respondents in the marketing unit (classes B2, B4, B6, B8 and B10) regarded innovation and innovation management as a far-reaching subject in both literature and practice and felt that it was something that was natural to businesses and therefore required little research. This was reflected in the view of respondent B8 who said "*innovation is part and parcel of the business. The whole online grocery concept is an innovative way of grocery shopping and there are continuous improvements in the way we conduct the business as directed by the management*". This assertion was most likely in reference to core category one where it was noted that innovation sourcing, acquisition and development was not a collective effort and was primarily driven by management, especially the business owners. Moreover, the marketing people are more concerned with innovations directly tied to customers, market size, availability of grocery produce and products, delivery of services, pricing, sales, meeting targets, developing, expanding and exploring new markets. In essence, the marketing view of innovation and innovation management are motivated more by meeting their own individual targets. This was addressed by respondent B10 who said "*as long as I meet my marketing targets (financial target) I am not too bothered by other issues. It's the job of the management and ICT unit to ensure they provided the needed online support to make our marketing jobs easier*". When asked specific questions on the marketing and order placement aspect of the online business, respondent B10 further stated that "*developing online marketing systems like chatbots, chat rooms, email automations and the rest would be helpful. It will give a level of service personalization to the customer. The placement of orders needs to also be revamped. A number of customers have complained that it was a bit cumbersome searching for and placing orders*".

According to respondent B2, the marketing unit is more interested in achieving or beating revenue targets without consideration as to the vital importance of bringing innovations to the online marketing and order placement algorithms. Respondent B2 said "*bringing innovation to the online marketing side of things beyond what we have now might be a good idea, but the key thing for us is meeting targets and developing better customer service contacts and communication*". Respondent B4 also said that "*the pressure of marketing makes us tend to rely less on the present online marketing systems which is too abstract and does not allow us (marketers) get more*

involved in the online marketing process to guide customers". Another respondent, B6 said "*there is need to upgrade the online marketing systems. Part of the problems is that they tend to focus more on other parts to the detriment of the system. It will be nice if my customers can send me a personalised company e-mail or chat with me on the website and then place orders online which I can then follow up*". Respondents B4 and B8 however had different experiences. Their businesses had already made some changes to their online marketing and order placement platforms. Respondent B4 said "*we have chatbots and real-time online sales contact in place, so it gives a better outlook and more of our repeat customers are taking advantage of it. They like the personal touch it gives and the opportunity to actually negotiate discounts on what they buy*". Respondent B8 also said "*the online innovations have been helpful. We had a lot of customer complaints about the placement of orders been too technical for them or not doing what they requested, so the ICT guys had to look into that and since then, there have been less complaints, but I think it can be improved on*".

On the forms and types of innovation, the marketing units were unanimously of the form of innovation best suited to the business but were sharply divided on the type of innovation. Respondent B2 said "*process innovation is definitely best suited for our online business. The products are already available and the business model is sound. So, it's just the processes that need fine-tuning. The type of our business is certainly radical and so are the upgrades needed as it concerns the grocery business. It's very unique*". Respondent B8 had a slightly different view and said "*process innovation is the way. That's an aspect that needs improving and would extend to our power management and delivery systems. But innovations also need to be incremental. Apart from funding issues, we need to pace the innovations, so customers don't get frightened off. As technologically savvy as a good number of Nigerians are, they don't like cumbersome apps*". Respondent B8's position alludes to two issues that will be discussed in core categories three and four which are; infrastructural challenges and customer perceptions. Respondent B10 also said that "*innovation in the areas of online marketing and placement of orders needs to be incremental. Customers don't want to feel crowded or monitored or use apps that are cumbersome to understand and use. Thus, a gradual introduction is best*".

Sub-category	What	When	Where	Why	How	Consequences
Insufficient know-how of process and incremental innovations application in marketing and order placement algorithms	-There is a gap between knowledge and application know-how of innovation application -marketing and order placement algorithms do not address the specific needs of the business -Little or no knowledge of forms and types of innovation	At inception of business and during annual operations review	In management and final decision-making team	-Because there are no guided online service delivery strategies -Business is determined by ownership decisions -Low financial commitment	-The innovation process is determined by business owner/management	-inter-unit conflicts -inconsistent/ineffective innovation strategies -reactivity -Loss of confidence in online business model
ICT view of innovation	-ICT view is guided by improved data storage, processing speed, financial security, website security	At inception of business and during annual operations review	In management and final decision-making team	-Because ICT presents technical issues and bears responsibility for maintaining a functional online system	-The innovation process in hampered by divergent values, targets and job description	-inter-unit conflicts -inconsistent/ineffective innovation strategies -reactivity
Marketing view of innovation	Marketing view is guided customers, mode of communication, profits, registrations, pricing, distribution and targets	At inception of business and during annual operations review	In management and final decision-making team	-Because marketing units bear the brunt of performance reviews -Marketers see online innovations as the responsibility of ICT units	-Marketers feel they have less knowledge of online algorithms and as such rely more on traditional marketing tactics	inter-unit conflicts -inconsistent/ineffective innovation strategies -reactivity -Loss of confidence in online business model

Table 4.8: Conditional Relationship for Core Category Two: Innovation Application

4.3.2.4 Second Phenomenon for Core category Two: Application of innovation and synergy of usage can have a positive, negative or neutral effect and is determined by the form and type of innovation

The combination of the sub-categories in core category two has led to the second phenomenon which is; the *application of innovation and synergy of usage can have a positive, negative or neutral effect and is determined by the form and type of innovation*. The second phenomenon is captured in the reflective coding for core category two as shown in table 4.9.

The consequences of differing views and directions between the business owners/management and units on one hand and between the various units on the other hand, shows that there is a conflict as to how innovation should be applied and the forms and types it should take that would be best suited to grow the business. These innovation application conflicts give rise to reactivity and loss of confidence in the online business model as a cohesive understanding and application of online innovations requires a team effort. Drawing from the reflective coding for core category two, three insights can be identified from the second phenomenon which is *application of innovation and synergy of usage can have a positive, negative or neutral effect and is determined by the form and type of innovation.*

Core Category Two: Innovation Application	**Second Phenomena** *application of innovation can have positive, negative or neutral effect*		
Processes	-Disagreement -Rejection	-effective application of innovation technology	-Innovation is deemed too cumbersome or with high know-how difficulty
Context	-Struggling dynamics	-Team work and synergy -Confidence building	-Unclear priorities -Confused reactive actions
Consequences	-Reduced confidence in business model -Insecure actions	-Increased appetite for improvement -Effective utilization of forms and types of innovation	-Loss of interest/reconsideration of business model -focus shifts to end product (Product innovation) -innovation is deemed too radical

Table 4.9: Reflective coding for category two

Insight One: Disagreement in or Rejected Innovation

This is a situation where the adopter faces rejection and is unable to convince other users of the innovation about the innovation know-how and application, where the innovation will be seen as too difficult to use and/or apply. This may be as a result of absence of cohesion between units resulting in inter-unit supremacy struggles, indecisive actions and reduced confidence in the online business model. In this case, there is reduced confidence in the overall business model and actions towards growth become indecisive.

Insight Two: Effective Application of Innovation Technology

In this case of agreement, innovation technology is applied effectively as people have appropriate understanding of what is required and how it can be achieved by leveraging on team work and this in turn, builds confidence and will lead to an increased appetite to source for (link from core category one) and apply innovations by improving the online service delivery processes (process innovation) in a gradual and easy-to-use manner (incremental innovation).

Insight Three: Innovation is deemed too cumbersome or with high know-how difficulty

When innovation is deemed cumbersome or the difficulty know-how too high, it gives cause for unclear priorities as the business tries to re-adjust itself to implement what it feels it can afford or what is less technically challenging, and the reaction becomes confusing for team members. This will lead to a loss of confidence in the business model (online business) and a shift from process innovation to other forms of innovation which may not be best suited to the growth of the business.

Online Marketing Tool	**Innovation**	Business 1	Business 2	Business 3	Business 4	Business 5
	AI	No	No	No	No	No
	Chatbots	No	Yes	No	No	No
	Omnichannel Marketing	No	Partial	No	Partial	No
	Accelerated Mobile Pages	No	Yes	No	Yes	No
	Email Automation	Partial	Partial	Partial	Partial	Partial
	Video Marketing	No	No	No	No	No
	Augmented/Virtual Reality	No	No	No	No	No
Online Order Placement	Branded/Customizable Ordering Website	Yes	Yes	Yes	Yes	Yes
	Assets Selection with Efficient UX	Partial	Yes	Partial	Yes	Partial
	Pre-order Functionality	No	Yes	No	No	No
	Customisation for Smartphones/Tablets	No	Yes	No	Partial	No
Estimated Av. Monthly Customer Base		>250	>800	<200	>750	<200

Table 4.10: Shows Use of Online Marketing and Online Order Placement Tools

Table 4.10 shows various online marketing and online order placement tools the online grocery businesses could use and which ones where being used and the estimated average monthly customer base. It could be clearly observed that the businesses with more online innovations in marketing and order placement had a significantly higher average monthly customer base and this seems to have some correlation with their higher monthly financial turnovers as shown earlier in table 4.2.

4.3.3 Core Category Three: Infrastructural Challenges

As noted in the literature review, innovation does not occur in isolation and is impacted on by a number of internal and external factors. For this study, infrastructural challenges represent some of the uncontrollable factors that influence innovation and affect service delivery especially as it concerns the online grocery business in Nigeria. The specific infrastructural challenges looked at by this study are power supply and road network and is divided into two sub-categories which are; power supply creates reluctance to use online innovations and poor road networks negate advantages of online grocery shopping.

4.3.3.1 Sub-category One: Unstable Power Supply Creates Reluctance to Use Online Innovations

Unstable power supply was emphasised on by the ICT experts (class A) and ICT units (respondents B1, B3, B5, B7, and B9) and while the marketing units acknowledged the problem, they were less familiar with its real impact. The wide incidence of unstable power supply in Nigeria increases the constraints in innovation. Online businesses require enormous energy requirements to function round the clock. This affects the amount of investment that can be made on the online systems and processes as a large volume of the finance needs to be allocated to having constant power supply. Respondent A3 said "*the biggest problem facing the service industry in general and online businesses in particular, in Nigeria, has to do with unstable power supply. The online systems need to be run continuously, and any disruptions can be catastrophic to the business. This makes most online businesses not to explore the full potential of innovations that can grow the online business in Nigeria*". The power supply has a vital impact on service for online businesses. For example, disruptions at the data centre where most online information is stored. The absence of a major data

centre storage facility in Nigeria means that online businesses are not able to share the cost of maintaining single large data centres and must make provision for their own data centres with the attendant additional costs of security and power supply.

In Nigeria, power supply is very poor, and this adds additional costs to the cost of doing business. As noted by respondent B9, "*power supply is critical to the business. The general power supply is very irregular and as such we invest so much in Mikano generators and Uninterrupted Power Systems (UPS) to ensure the online systems and data storage is always up. This is often discouraging to management and there is a sense that there will be a reduced dependence on online systems*".

The general opinion from respondents B1, B3, B5, B7 and B9 was that power was the main infrastructural challenge towards the growth of the online grocery business in Nigeria. There was a general notion that online grocery businesses lacked the sufficient financial resources to access other means of regular and stable electricity to power their data and associated systems as done by bigger multi-product businesses such as Jumia and Konga. This observation is also shared by respondent B5 who said "*Jumia and Konga can afford to make huge investments in power because they have a larger product base and therefore sell more products. Ours is restricted to groceries and the profit margin does not justify such huge investment in power to sustain the data beyond the basics*".

4.3.3.2 Sub-category Two: Poor Road Networks Negate Advantages of Online Grocery Shopping

When it comes to infrastructure, road network forms a major part of it and its importance to the service industry cannot be underestimated. One of the biggest advantages of online shopping in general is the convenience gotten from the customer avoiding having to deal with transportation issues. This can however be an issue when the road network is bad and accessing customer locations difficult. Due to this factor, innovation in a developing country like Nigeria is greatly impacted on by the road network available and the online grocery industry is also affected. Road network problems are captured more by the marketing units who have duties more directly related to the actual delivery of the products. According to respondent B8 who said "*poor road network*

is a big challenge which is why we often have to restrict orders to certain locations and specific times. When the customer places an order, they expect delivery within the hour, and if that timeframe is exceeded, the customer considers the service as being poor". Respondent B10 further added that "*most online grocery orders are not like other products where people plan ahead and can expect delivery in 3 to 4 days. For grocery shopping, its often a spur of the moment decision and they expect delivery in hours and given the road network, this can sometimes be insurmountable. We will deliver, but timing is the issue*".

Respondent A3 said "*bad roads in Nigeria are a fact of life. Nothing much can be done since the governments don't care and given the congestions in a state like Lagos, people may not be so comfortable placing orders for groceries especially when their locations are not static and for security reasons, people generally avoid home deliveries*". Another respondent B4 said "*delivering the products is where the online services connect with the realities of physical contact. Moving around from market* (where groceries are purchased) *to delivering the products can be time consuming due to bad roads. Some customers who choose to come pick up the goods are sometimes unable to make it as a result of traffic jams arising from the poor road network*". Respondent B2 also further stated that "*customers have the option to pick up their goods from a specific location but if that location is not convenient for them due to distance and traffic issues, they cancel their orders and that can be a huge loss for us since we have already made the purchases*".

Core Category Three: Infrastructural Challenges

Sub-category	What	When	Where	Why	How	Consequences
Unstable power supply creates reluctance to use online innovations	-Huge cost of powering data storage and other online systems due to unstable power supply	During the running of the business	-Primarily affects ICT operations	-Because of irregular and unstable power supply	-Loss of data -Unreliable online services	-Restriction of online services to advertisement and enlightenment purposes -Loss of interest in expanding online innovations
Poor road networks negates advantages of online grocery shopping	-Poor state of road network leads to traffic jams and affects delivery times	During the running of the business	-Primarily affects marketing and sales operations	-Because delivery times cannot be effectively determined	-Restricts service/business times and therefore unable to maximize revenue -Unreliable service delivery times	-Restricts growth as business services only specific locations where it can reasonably guarantee delivery times -Customers prefer to shop from traditional locations close-by to avoid delays or long commutes

Table 4.11: Conditional Relationship for Core Category Three: Infrastructural Challenges

4.3.3.3 Third Phenomenon: Power Supply and Road Network are Critical to the Growth of the Service Industry

The aggregation of the sub-categories in core category three has led to the third phenomenon for this analysis which is; *power supply and road network are critical to the growth of the service industry*. The inability of small and medium scale businesses in general, to have better access to stable power supply and good road networks, often leaves such businesses at a disadvantage and this is especially so for online grocery businesses who have to conduct business in an awkward environment when the cost of conducting the business model outweighs the rewards and the drive to access better online innovations. Based on the reflective coding which is shown in table 4.12, the third phenomenon can be explained using three insights along the line of processes, context and consequences.

Core Category Three: Infrastructural Challenges	**Third Phenomena** Power supply and road network are critical to the growth of the service industry		
Processes	-Increased cost of doing business due to uncontrollable external variables	-Less clarity on forms and types on innovation needed	-Review of innovation management strategies
Context	-Risk management conflict -Cost-benefit conflict	-Uncertain influences -Restriction of business growth	- Expected and predictable challenge
Consequences	-Reactive strategies -Loss of confidence in business model	-Unpredictable and uncontrollable situations	-Alternative online marketing and sales strategies

Table 4.12: Reflective Coding for Category Three

First Insight: Increased Cost of Doing Business Due to Unpredictable External Variables

For the first insight, the online grocery business which is part of the service industry, is not immune to the challenges of unstable power supply and bad road networks that affect the service industry in general in Nigeria, as such there is an increase in the cost of doing business which breeds risk management and cost-benefit conflicts as businesses try to weigh the possibility of running a full-fledged online grocery business (risk management) against the financial commitment required to address the issues of unstable power supply and bad road networks (cost-benefit). This invariably leads to reactive strategies and loss of confidence.

Second Insight: Less Clarity on Forms and Types of Innovation Needed

For this insight, little attention is paid to innovation strategies for the online services of grocery business itself as more attention is diverted towards addressing infrastructural challenges and this will arise from being uncertain on the impact infrastructural challenges have on the online services innovation and this will lead to growth restrictions as online grocery businesses limit themselves to areas they have better control over the situation rather than been exposed to unpredictable and uncontrollable situations.

Third Insight: Review of Innovation Management Strategies

Knowing how an adopted innovation will integrate with existing challenges, allows businesses in the online grocery business review innovation management strategies and build better marketing and sales systems and this leads businesses to regularly explore alternative solutions and back-up plans to mitigate the expected challenges, this will however require more investment in power and marketing distribution areas.

4.3.4 Core Category Four: Customer Perceptions

As noted in chapter two when discussing the various aspects of service, the role of the customer plays a prominent role in determining the success or failure of a service. Determining success or failure can be seen in the degree of acceptance of the service and due to the nature of services, the customer is often well integrated in the service process and as such judges not only the end-product, but also experiences the process leading up to the delivery of the service and this is very prevalent in online shopping where the customer makes use of the online shopping algorithms and systems.

Based on the respondents' view in class C, the ability of the online grocery business to introduce innovations that can improve the confidence of customers is vital as the innovations will affect the customer perceptions on the online grocery business in general. From another point of view, the reaction of customers to new online innovations will have an impact on the business because the business has to (re)act so that it can achieve its own business targets. This links with core category two, sub-categories one and two, were it was seen that revenue targets was a major determinant on if the online business continues to build and improve on the online business model or reviews it.

4.3.4.1 Sub-category One: Online Marketing View

The perceptions of customers are linked to how an organisation orientates its business and can influence what it determines as being the most important innovation needed to grow its business (this links to core category one: sub-category one) if it possessed a Research and Development Unit to aggregate customer views and then source for appropriate innovative solutions. There is a

link between innovation knowledge and know-how on one hand and customer perceptions on the other with infrastructural challenges exerting an uncontrollable influence on both business and customer. For online marketing innovations, majority of the respondents in class C had little to no interest in various innovations like chatbots or real-time customer services interaction as they felt they were not properly integrated to be useful. Respondent C1 said that "*They provide me with suggestions of similar items which are not always helpful*". Respondents C3 and C4 also made reference to the less than useful nature of the marketing algorithms available and pointed out that the marketing systems were not interactive enough. Respondent C3 said "*customer services is hardly available*" while customer C4 said "*a number of links don't work such as the chatbox link and the marketing lines are often unavailable so when one has challenges with the online system, there is often no immediate solution at hand and when you are able to reach one of the numbers online, the response is often less than satisfactory*". Some other respondents in class C however had a different take on the online marketing system. Respondent C2 said that "*I occasionally use the live chat. Chatting with a representative helps to resolve issues n* (and) *make order tracking easy*". Also, respondent C5 said "*My preferred online grocery shop provides online chatbox and daytime customer support service, but I use such services when there are complaints or issues*".

The manner of innovation application (form and type) might affect the output of the innovation. Respondent B7 said that "*to be honest, these marketing innovations are sometimes not applied effectively due to a number of constraints… and as such some customers don't get to enjoy full value of it and this may influence how they* (customers) *view the use of the online algorithms*".

4.3.4.2 Sub-category Two: Online Order Placement View

Innovations in the online order placement is one of the critical components of the online business model that differentiates businesses that use online services as a vital component of their service process and those for whom online services are used in a rudimentary or basic way and whose growth is not tied to online service process. The ease-of-use of the order placement algorithm can be a vital determinant as to whether a customer makes a purchase or not. This was a subject of interest because the researcher's personal experiences had shown that aside from big online businesses such as Konga and Jumia that sell a wide range of goods, most small and medium online

businesses, especially the online grocery businesses, had relatively underdeveloped order placement algorithms which though seemed simplified, did not always function as expected. Six out of ten class C respondents reported having had issues with the order placement system. Respondent C3 said "*the order placement for some of these online grocery stores is sometimes hit and miss. I have selected orders before but what ended up in my online basket were not the things or brands I actually clicked online*". Also, respondent C8 said "*the online order placement system sometimes gets stuck and I end up having to send an email and follow up with phone calls and this can be annoying especially when what I need to purchase is not much and doesn't seem worth the effort*". Respondents B7 and B9 admitted that there were sometimes issues with the system arising from insufficient data storage, power failures and reluctance of business owners to upgrade the online apps due to financial reasons or because they felt it was not essential to the business.

Some other respondents however had a different view. Respondent C7 said "*the online grocery store I use have a well-structured online order placement system and I have not had issues with it on the occasions I have used them. It's simple to use and what I click is exactly what is saved in my online shopping cart*…". Respondent C8 also said "*the online placement orders work fine when I use it, but I don't like the fact that I have to sign in before I am able to place an order*". All respondents in class C however agreed that the online order placement system for the online grocery businesses could be improved upon especially when compared to bigger multi-product online sales businesses which have better reconfiguration resources that position their hardware tasks at runtimes that do not have negative impacts on each other. This position was attested to by respondents B7 and A3. Respondent B7 said "*there are technical issues when using innovation to upgrade the online system in general of which the order placement system is part of. Some of the complaint's customers refer to when placing orders is caused by problems in the online task fragmentation and reconfiguration resources. If it is not updated as needed, these problems come up*". Respondent A3 linked this problem to small and medium online businesses not investing enough in R&D and then misapplying innovations. Respondent A3 said "*these issues arise because most of these businesses get into online business model without understanding the requirements. Even when they finally acquire new innovations, they apply them with the mindset of saving cost because they are not convinced of the viability of the business model. So rather than focusing on improving processes, they blame the online business model*".

4.3.4.3 Skepticism Associated with Online Shopping in General

The credibility of innovations in online shopping can be affected when there are trust issues raised by the customer which is judged based on the confidence level which on the part of the innovation adopter, requires a mix of experience, expertise, knowledge and management leadership. This was mentioned by respondent A2 who further surmised that "*a lot of skepticism is associated with online shopping in Nigeria especially due to the prevalence of fraudsters and as such, people try to limit their online shopping to only when it is really needed and groceries happen to be things that can be gotten easily*". Respondent C8 said "*as much as I like online shopping, I do not see purchasing groceries online as necessary as they are mostly things, I can easily get around the neighbourhood*". There are pertinent two issues raised by responses of respondents A3 and C8 which is shared by most of the respondents across the classes and these are issues of online security and justification. Respondent B8 said "*a number of clients I have prefer dealing directly with me so as to avoid providing any sort of information online because they do not feel it is safe and secure enough. So, they call or text what they need to me and pay when it is delivered*".

Justifying the need for online grocery shopping in a market like Nigeria may be quite tasking as the nature of small and medium grocery businesses means groceries are sold in virtually every street corner and most people still value the brick-and-mortar shopping experience. Respondent C5 said "*shopping online is generally convenient, but it's a bit hard to justify shopping for groceries online as I can get most of these items close-by at cheaper rates. So, except for exceptional situations, I don't see online grocery shopping as a necessity*". Respondent C6 also said "*I sometimes have concerns on the information I provide online especially contact and payment information and except it is really essential I get the product from an online grocery company; I rather patronise a near-by shop*".

Core Category Four: Customer Perception

Sub-category	What	When	Where	Why	How	Consequences
Online marketing view	-Customer dissatisfaction with online marketing service	Using the online grocery business website	-Service delivery process	-Because majority of online innovations depends on personal judgments of top management	-Lack of R&D unit to study customer needs and source for relevant innovation - Misapplication of online marketing innovations	-Customers are dissatisfied with the online service -Reactivity from the online grocery business
Online order placement view	-Customer dissatisfaction with the online order placement service -process for placing orders requires medium to high technical know-how	Using the online grocery business website	-Service delivery process	-Because majority of online innovations depends on personal judgments of top management	-Lack of R&D unit to source for relevant innovation - Misapplication of online order placement apps	-Customers are dissatisfied with the online service -Reactivity from the online grocery business
Skepticism associated with online shopping	-Customers do not trust small and medium online grocery businesses to safe-guard personal and credit card information -Groceries are often readily available in near-by brick-and-mortar stores	Customer decision making process	-When deciding on the type of shopping service to utilize	-Because of convenience and reliability issues	-Top management may be motivated to increase investment in process innovations to address skepticism -Top management may review entire business model	-Customers utilize online grocery services infrequently -Business restricts online business model to contact and advertisement platform only and invests more in brick-and-mortar locations

Table 4.13: Conditional Relationship for Core Category Four: Customer Perception

4.3.4.4 Fourth Phenomenon for Core Category: Individual Customer Insights Determine Acceptance or Rejection of Innovation

The aggregation of the sub-categories as shown in core category four led the researcher to the fourth phenomenon for this study which is; *individual customer insights determine acceptance or rejection of innovation*. The fourth phenomenon is captured in the reflective coding analysis as seen in table 4.14. The customer perception of individuals is related to the innovation adoption of online grocery businesses in Nigeria and the ability of the businesses to grow using innovations that can convince not just the customers of the advantages of online grocery shopping, but also the

people within the organisation that the form and type of innovation introduced fits the growth of the business. This conviction is related to the customers' perspective, views and grocery shopping pattern and behavior, and will affect the acceptance of the online grocery innovation. From another viewpoint, the customers' response to online innovations will impact management decisions on what innovations to acquire and how to apply them and this brings the study back to the issues of innovation acquisition and application (core categories one and two). Based on the reflective coding for core category four, the central phenomenon can be explained using three insights.

Core Category Four: Customer Perspective	**Fourth Phenomena** *Individual Customer Insights Determine Acceptance or Rejection of Innovation*		
Processes	-High technical know-how -Misapplication	-Insufficient justification -Security issues	-Investment in process and incremental innovations
Context	-Confusion -Unfamiliarity	-Low patronage	-Confidence building -Reassurance
Consequences	-Rejection	-Rejection	-Acceptance

Table 4.14: Reflective Coding for Category Four

First Insight: Cumbersome or Misapplied Online Service Apps/Algorithms

The first insight is when the online grocery business makes use of innovations with high technical know-how or is misapplied. In this case, the marketing and order placement apps/algorithms are deemed too technical or cumbersome by the customers or may have been misapplied by the business. This creates confusion for the customer as they are unfamiliar with the online service process and this influences their perception and the consequence is that it will lead to rejection, that is, from the customer's perspective, the online systems require more technical know-how that the customer is willing to learn or the innovation made has led to unfamiliarity and chooses not to continue the online service process and rejects its use.

Second Insight: Insufficient Justification for Customer to Patronise Online Grocers

The second insight is that the customer cannot find sufficient justification to make use of online grocery shopping on a frequent basis and is also concerned about releasing confidential information on the internet. In this scenario, the online grocery business has failed to put in place sufficient innovations to build customer confidence and this will lead to low patronage and eventual rejection by the customer.

Third Insight: Effective Use of Online Innovations to Attract and Retain Customers

The third insight is where there is proper use of process and incremental innovations within the business service process and this can be achieved by addressing issues raised in the insights for core categories one and two. This will generate confidence building and reassurance on the part of both the online grocery business and the customer and will lead to acceptance of the innovation.

4.4 Consolidation and Development of Research Results

This section presents the research problem and objectives that were stated in chapter one and builds a holistic picture of the research that was developed and derived from the findings and data analysis from the preceding sections in this chapter. The research aims to identify some technological innovations available by evaluating the sourcing, acquisition, development and application of innovation knowledge of online grocery businesses in Nigeria, using process and incremental innovations to improve services while also addressing the conflict between ICT and marketing units and their impact on innovation. Furthermore, the overall impact of power and road network in the service industry is looked into with a focus on the online grocery business and the perception of customers to innovations by these businesses as all these factors are critical to providing insight as to how innovation can be used to grow the online grocery business in Nigeria.

The research objectives are to:

1. To explore the level of innovation knowledge and application to online grocery businesses in Nigeria to grow marketing and placement of orders systems;

2. To investigate the infrastructural factors of road network and electricity supply and their impact on the growth of the service industry in Nigeria;
3. To investigate customer perception of the online grocery business; and
4. To recommend how innovations in the service industry can enhance growth in the online grocery business in Nigeria

4.4.1 Objective One: To Explore the Level of Innovation Knowledge and Application to Online Grocery Businesses in Nigeria to Grow Marketing and Placement of Orders Systems

The findings are related to the objectives of this research and this sub-section addresses the first objective which set out to establish a foundation of innovation sourcing, acquisition, development and application (knowledge and know-how). Following the analysis earlier provided in the data analysis, core category one (innovation ambiguity) and core category two (innovation application) are combined to explain the relationship observed.

Innovation ambiguity occurs from the absence of a proper structure and non-use of experts in identifying relevant innovations (innovation knowledge) that can grow the online grocery business and this in turn leads to problems with application (innovation know-how) in the areas of online marketing and online order placements using process and incremental innovations. This disconnect arises because the responsibility for innovation knowledge and application lies outside the actual structure of the business with the ICT and marketing units attesting that they played a peripheral role in the innovation sourcing and application process.

Based on the data from the analysis, the observations arising from innovation ambiguity will lead to conflicts in handling innovation application using process and incremental innovations to develop the online marketing and order placement algorithms which this researcher sees as key to growing the online grocery business. As earlier noted, the ICT and marketing units are two key users of innovation within the online grocery business. These units however hold slightly different views of innovation application. Both units agree on process innovation as the form of innovation best suited to grow the online grocery business, but the ICT unit wants radical innovations which overhauls the totality of the online service system using models and apps sourced and developed

by them, the marketing units are mostly partial to incremental innovation which focuses on a gradual and sustainable development of key parts of the online system that are directly related to marketing and order placements.

4.4.2 Objective Two: Investigate the Infrastructural Factors of Road Network and Power Supply on the Growth of the Service Industry in Nigeria

The second objective which was captured in core category three arises as a result of the peculiarity of the infrastructural challenges affecting the service industry in Nigeria, with particular emphasis on electricity supply and road network. As noted by the respondents in class B, the online services are not immune to external challenges which have far reaching impacts on the growth of the business. The first obvious issue as developed from the data analysis in core category three is that; online services require massive investments in data storage which in turn requires higher power consumption financial outlays. These kind of expenses that online grocery businesses in Nigeria which fall in the range of small to medium enterprise are unable to shoulder and this accounts for the reason why most online grocery businesses find ways to cut cost and run the business based on personal judgment, and this leads back to core categories one and two which are captured in the first objective. The second issue has to do with road network. As noted in chapter one and the empirical review in chapter two, online grocery businesses in Nigeria are limited to certain major cities and even within those cities, there are locations where they are unable to expand their delivery services due to the poor road network and unplanned streets. As noted by respondent B8, even using applications such as Google Maps, the nature of the road network makes it unreliable and it also makes delivery times unpredictable. This is an issue that was also raised by customers as seen in the third objective, as one of the reasons why there is insufficient justification for online grocery services in Nigeria.

4.4.3 Objective Three: To Investigate Customer Perception of Online Grocery Services

As seen in core category four, justifying why they need to patronise online grocery services more frequently, was the main point of some respondents in class C. the nature of the grocery market in Nigeria is such that groceries are readily available at most street corners and customers prefer to see what they are buying in real-time rather than waiting for it to arrive and end up not being

satisfied with the purchased groceries. This implies that customers who use online grocery services do so occasionally. However, a number of the respondents in class C say that an improvement in the online marketing and order placement system, may make them patronise the online grocery services more often if there is sufficient confidence in the system and this leads to the issue of confidence building which was one of the sub-categories for core category four. To this end, there was the fear of releasing personal and confidential information to the online grocery business especially since it was not a major and well-known organisation and the online service system was not as developed. This somehow ties back into the issues of innovation ambiguity and application because the online services show that there are still gaps which need to be resolved before the online systems can be fully accepted and the customer needs to see that attention is been paid to developing this system in such a manner that the technical know-how required to access the online service is low.

4.4.4 Objective Four: To recommend how innovations in the service industry can enhance growth in the online grocery business in Nigeria.

All factors stated in this research have enabled the development of assessment measurements that can be applied to providing an overview of innovation management in the online grocery business in Nigeria. These criteria are innovation knowledge, innovation application, responses to external challenges and customer acceptance. These criteria were developed using analysis of data collected and can be applied to providing guidance to online grocery businesses on the use of innovation and other issues they need to address in order to grow their business and this will be discussed in detail in chapter six in the conclusion and contributions of the research.

4.5 Chapter Summary

This chapter presented a detailed and comprehensive analysis of the data gathered for this research through interviews that where conducted with a total of 24 respondents spread across three classes. Class A were four respondents who are ICT experts, class B comprised of 10 respondents working in online grocery businesses and 10 respondents in class C who had made purchases from online grocery shops within six months of this research. The data collected were processed and further analysed as earlier stated in chapter three of the research. Reflective coding and conditional

relationship guides were given to ensure each core category was effectively captured. As explained in chapter three, contextualization of core categories was considered to provide explanation for the main phenomena for each core category which in turn provided a detailed description of the insights resulting from each phenomenon.

Despite the common agreement that innovation refers to something or method that is new, better or improved, issues still arise by adopters of innovation to improve service in the online grocery business in Nigeria which causes some level of frustration. These issues were gotten from interviews in this research which were divided into four categories and four phenomena as shown in table 4.15 which provides a summary of the data analysis.

The Main Phenomenon of the Research	Core Categories	Sub-categories
Low innovation knowledge for online grocery businesses can cause slow growth	Innovation ambiguity	-Absence of R&D unit -Inconsistency in accessing innovation knowledge -innovation construction
Application of innovation and synergy of usage can have a positive, negative or neutral effect and is determined by the form and type of innovation	Innovation application	-Insufficient know-how in process and incremental innovation applications in marketing and online order placement algorithms -ICT view of innovation -Marketing view of innovation
Power supply and road network are critical to the growth of the service industry	Infrastructural challenges	-Unstable power supply creates reluctance to use online innovations -Poor road network negate advantages of online shopping
Individual customer insights determine acceptance or rejection of innovation	Customer perception	-Online marketing view -Online order placement view -Skepticism associated with online shopping in general

Table 4.15: Main phenomena, core categories and sub-categories identified in the analysis for this research

The first phenomenon is low innovation knowledge for online grocery businesses can cause slow growth which arises from innovation ambiguity. The emergency of this phenomenon is due to the absence of R&D units and inconsistency in accessing innovation knowledge in the online grocery

business in Nigeria and this gave rise to gaps and inconsistencies. These gaps and inconsistencies naturally affect the online service delivery processes as well as future decisions as to investments, marketing and the business model in general. The adopters of innovation were found to have limited knowledge and did not make use of a structured sourcing, acquisition and development process given that most of the respondents in class B while having a general idea of what innovations might be available, where not conversant with having suitable knowledge about innovation sourcing, acquisition and development which was done in a haphazard manner and often by the business owner or top management who often were experienced in such matters but had the final say. This led to complicated situations as there was an accumulation of errors which kept creating problems for the online business model as noted by respondent A4 and is seen as one of the issues that need to be addressed before innovations can be properly utilized to grow the online grocery business in Nigeria.

The second phenomenon which is application of innovation and synergy of usage, can have positive, negative or neutral effect and is determined by the form and type of innovation, depending on the innovation application. Each adopter of innovation has their own objectives and values which influence their judgments and how innovation is applied. ICT and marketing have differing priorities and as such different opinions on how innovation should be applied to get the desired results. The respondents in class B mentioned that the application of innovation shows the points of convergence and disagreements between the units which arises from two critical issues. The first arises as a consequence of core category one, which is innovation ambiguity and the second is the underlying issue of the overriding influence of the business owner or top management at the expense of the ICT and marketing units' experiences. These will lead to distorted or improper innovation applications and undefined forms and types which may not be suitable to the business and this would affect the customer service experience as described in the fourth phenomenon.

The third phenomenon is power supply and road network are critical to the growth of the service industry and this is applicable to the online grocery business because despite the focus on online service systems, power supply affect the overall service delivery process, impacts on the business model and customer experience. Finding innovative solutions to these infrastructural challenges is

vital to the service industry in general and the online grocery business in particular especially for service-oriented businesses that have tangible products to deliver at the end of the service process.

The fourth phenomenon which is individual customer insight determine acceptance or rejection of innovation, makes up the final link. One of the main factors in innovations is how the end users' access, view and determine its importance to them because for innovation to be justified, it must be accepted. Furthermore, it is important to state that personal experiences contribute to accepting or rejecting innovations. Successful innovations are able to change the perceptions and behaviours of the end users while unsuccessful innovations breed rejection and caution which will impact on growth.

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

5.1 Preamble

This chapter discusses the results of this research and draws correlations to relevant literature with the goal of establishing the core differences and contributions. This research is conducted within the context of online grocery businesses in Nigeria. The uniqueness of this research is that it looks at specific issues that may be affecting the use of innovation to grow the online grocery businesses in Nigeria and takes an approach of exploring how these businesses source their innovations and then apply them to their businesses using innovation forms and types (innovation management system), specifically, how it is applied to two aspects of the business which are online marketing and online order placements and the conflicts that arise from application between the marketing and ICT units. This was critical because when compared to multi-product/goods online businesses, the online grocery business lags far behind and has been unable to grow at the pace of other online general sales businesses. Also, since the online grocery business is considered under the service industry, the infrastructural challenges of power supply and road network was studied to see the level of impact they have in affecting innovations for online grocery businesses and how all these have combined to shape the customer perception of online grocery businesses in Nigeria. Using the case study, the depths of innovation management, environmental and societal influences was explored through the use of data collected and method analysis by creating conditional relationships and reflective coding as shown in chapter four.

Following the conduct of interviews with a total of 24 respondents spread across three classes/groups, the research was able to gather sufficient information which addresses the four research objectives. Arising from the nature of the research and the chosen case study methodology, current relevant literature was vital to the research; however, the data was allowed to be developed from the interviews conducted as required by the research methodology. The uniqueness of this research arises from its exploratory nature which looks at the foundation of innovation development and links them to physical and societal drawbacks as it affects the online grocery business in Nigeria.

The purpose of this chapter is to bring together the core categories analysed in the data analysis section of chapter four and establish a bridge between the research objectives and its link with the relevant literature. The contribution of this research is directed at finding what issues need to be addressed and possible solutions for the growth on the online grocery business in Nigeria. This section also incorporates the findings derived from this research with the researcher's own interpretations in such a manner that it properly addresses and achieves the goal of the research objectives.

5.2 Objective One: To explore the level of innovation knowledge and application of online grocery businesses in Nigeria to grow marketing and placement of orders systems

The aim of this objective was to explore the knowledge about technological innovations and how they are applied in specific areas of service in the online grocery business in Nigeria. Of the ten innovations identified, only two were being used by some or all the businesses. A key reason for this was that innovation knowledge was low. In the five online grocery businesses used for the case study, none had any sort of structured innovation sourcing, acquisition and development structure and relied more on creativity and copying other business models, especially foreign ones, without regard for socio-environmental differences. While each of the businesses had IT experts, personal judgments and bias of the business owners took preeminence when it came to innovations. It was discovered that there was a high level of ambiguity in innovation knowledge as shown earlier in the data analysis sections of this chapter and innovation sourcing, acquisition and development which should be a vital aspect of the business model is missing as innovation is often mixed other planning processes rather than being made an integral process that the businesses need to harness in order to grow. This finding aligns with previous literature that is related to innovation knowledge. An example is the work of Dziallas and Blind (2019) where it was pointed out that improved decisions at the front-end of businesses has an appreciable impact on company performance. These front-end decisions include putting in place a structure that allows for the sourcing, acquisition and development of new innovations that can be integrated into the business.

The near absence of a structured process of sourcing, acquiring and developing innovations has increased the usage of creativity and change in place of innovations. This aligns with the findings

of Byers (2017) who assessed the use of creativity, innovation and change to improve services in some health care organizations and found that those without structured innovation sourcing, acquisition and development processes were more prone to confuse creativity and change management with innovation than organizations which incorporated innovation management as part of their front-end decision-making structure. Also, the results are in tandem with Anderson, Potocnik and Zhou (2014) who had earlier stated that the absence of innovation management structures led to the excessive reliance on creativity which while a needed concept in business management, was not a formal process which will lead to increasing misapplication of innovations. The respondents in classes A and B described the innovations used as based on the judgment of the business owners or top-level management and some the respondents agreed that matching creativity with a structured innovation sourcing, acquisition and development process would decrease innovation ambiguity and this tallies with the views of Porter (1985) and Heunks (1998) regarding having a structured process for innovation management.

It has also been observed in this research that the near absence of innovation knowledge pushes the business owners or management to make inconsistent decisions on the application of innovation forms and types as pointed out in the argument of Khedhaouria and Jamal (2015) where they argued that due to business owners, especially small and medium start-up entrepreneurships, looking for avenues to cut cost, they are prone to source for innovations to grow their business without addressing the peculiarities of the social environment and therefore, the form and type of innovation that would be most suited for business growth.

In all of the online grocery businesses used for the case study, it was found that innovation management and integration was not an organized process, but rather a reactive one. This point was raised by Kamasak, Yozgat and Yavuz (2017) who stated that managers (and business owners) in developing countries were less concerned with setting up formal innovation knowledge processes capabilities and relied more on personal judgments under two contextual variables which are environmental dynamism and strategic flexibility. They further argued that majority of business owners in this category rarely understand the essence and concept of innovation and therefore merge it with business and operational strategies which further dampens the value of innovation to business growth. These findings are consistent with the researches carried out by

Baghai, Coley and White (1999), Klette and Kortum (2004) and Kerr (2016) who concurred that the integration of innovation within business and operational structure might have a positive effect on business growth, it may negatively impact on innovation knowledge and productive application of innovation using forms and processes best suited to the business which would arise because of the biases caused by lack of knowledge of innovation methods. This will cause confusion in organizational performance as there would be innovation ambiguity.

The results of the research also indicate that the recommendations of de Kervenoael, Elms and Hallsworth (nd) regarding having a structured innovation knowledge sourcing and development is not often applied to small and medium online grocery businesses which were shown to lack such structure especially when taking into cognisance that innovation management in online grocery businesses are subject to a number of factors which include financing, expertise and others which are not always made clear. A major issue regarding innovation ambiguity arises from the difficulty in identifying needed innovations which consequently have an effect in innovation know-how and application to the detriment of the business growth (Ahlstrom (2010). Slowinski, Hummel, Gupta and Gilmont (2009) and Sawhey, Wolcott and Arroniz condemned the absence of innovation knowledge sourcing and acquisition structures in some companies especially small and medium businesses as they believed that such absence would decrease the ability of the business to properly integrate new technologies as there would be a haphazard innovation process and this would in turn make its application a challenge as there is insufficient knowledge which is hidden under the guise of creativity. Taking another viewpoint, Kerr, Nanda and Rhodes-Kropf (2014) argued that integrating creativity into even the most basic innovation management process will help increase innovation knowledge.

Furthermore, due to the plethora of problems associated with innovation knowledge, innovation application was unclear and often undefined across the five online grocery businesses. This was seen in two ways. The first was in where innovation was applied. Due to the vast areas of innovation application, the researcher focused on two key aspects; marketing and placement of orders, and it was observed that four out of the five online grocery businesses where not fully integrating new innovations in these areas due to lack of sufficient knowledge. The second aspect is how innovation is applied. All five online grocery businesses had a hard time identifying the

most suitable form and type of innovation that would be best suited to grow the business. The gap arising from innovation knowledge to innovation application could have been bridged by having a R&D unit in place or at least an external consultant to drive innovation management as pointed out by da Silva, Olivera, and de Morales (2016). In order to harness the benefits of innovation, online grocery businesses in Nigeria need to put in place some level of structured innovation management system to go with the reliance on creativity and personal judgments. They most invest and train people on innovation management and this is vital because the service industry in Nigeria is still developing and the online grocery business in particular is affected by a number of external factors which would also require innovative approaches to address and as such, it is important that a formal innovation management is in place to deal with challenges which should start from the internal service process.

As seen in the findings of this research, creativity, which is often mistaken for innovation by the online grocery businesses in the case study, is driven by the business owners or top management, most of whom are not experts in innovation management and this therefore might lead to biased innovation adoption methods and application. This issue was put forth by Baldridge and Burnham (1975) who pointed out that when decision making on innovation adoption is limited to some individuals who are not necessarily experts in innovation management, personal interests might influence innovation sourcing, application and ultimately output.

Category	*Business 1*	*Business 2*	*Business 3*	*Business 4*	*Business 5*
Innovation Management Structure	No	No	No	Partial	No
Who Sources Innovation?	Business Owner	Business Owner	Top management	Business owner and external consultant	Top management
What Drives Innovation?	Ideas	Copying other similar businesses	Ideas	Problems identified	Copying other similar businesses
Who Determines Application?	Business owner	Business owner	Top management	Business owner, external consultant and ICT unit	Top management and ICT unit
Use of Form/ Type of Innovation	Business Model/Undefined	Business Model/Undefined	Business Model/Undefined	Business Model/Undefined	Business Model/Undefined
Priority of online service (focus of innovations)	Advertisement, sales and payment services	Advertisement	Advertisement, Sales	Advertisement, Sales and payment services	Advertisement, order placement and payment services

Table 5.1: Innovation Process observed in the case studies (Author's Work, 2020)

Table 5.1 is derived from the findings of the researcher and shows that the businesses do not prioritize innovation management and there is a lot of ambiguity in the innovation process. Four of the businesses (1, 2, 3 and 5) did not have any visible structure to guide innovation management. Business 4 had a barely discernable structure. Sourcing of innovation was driven by various factors with personal ideas and copying similar businesses been the highest drivers while one business was driven by problems it identified in the course of doing business. Furthermore, the online grocery business is seen as an innovation itself and there are no differentiations between product and process innovations and the type of innovation was undefined. Lastly, innovation priorities were mostly towards advertisement, sales and payment services with only one business making the placement of orders a priority area for improvement. None of the online grocery businesses considered online marketing as important as they felt the advertisement was sufficient.

Innovation management structures determine innovation knowledge and know-how and there is a concern that the absence of this structure leads to growth challenges which are further compounded by external factors which would be examined in the second objective.

5.3 Objective Two: To investigate the infrastructural factors of road network and electricity supply and their impact on the growth of the service industry in Nigeria

As explained earlier, this objective aims to investigate infrastructural factors affecting the service industry in general with focus on road network and electricity supply, using the online grocery businesses as the compass. Road network and electricity supply are often taken for granted in the service industry in developed countries and the significance of their impact on the service industry is minimal as there is a level of stability associated with these infrastructures and this therefore allows for predictability and planning, but in developing countries such as Nigeria, they have significant impact due to the poor road networks and unstable electricity supply (Adefila and Bulus, 2014; Berg, Deichmann, Liu and Selod, 2016).

Based on the findings, there is a reasonable conclusion that poor road network and unstable power supply will negatively impact the service industry in general and the online grocery business. The nature of the online grocery business requires the integration of tangible and intangible elements. While the specific focus of this research has been on the intangible service aspects associated with the online grocery business in Nigeria, it is impossible to disassociate the fact that physical goods have to be delivered to customers in order to complete the service delivery process and this is where the issue of infrastructure comes into play. The researcher collected information from five online grocery businesses which prioritized the sale of groceries and view their online services as a key part of their business model.

Drawing from personal experiences and other studies, the researcher identified two infrastructural factors that seemed to have the most impact, externally, on the online grocery business in Nigeria. A number of studies have been conducted on the importance of road and power as facilitators and contributors to the economic development of countries (Calderon and Serven, 2008; Dang and Pheng, 2015). The findings in this research shows that online grocery businesses, especially those in the small and medium enterprises, where seriously hampered by poor road networks and

unstable power supply and this matches with previous literatures supporting the fact that poor road networks and unstable power supply undermines growth in the online grocery business and affects innovation. However, Olaseni and Alade (2012) highlighted the lack of sufficient literature that investigates and explains the impact of poor road networks and power supply on the service industry especially in developing countries. This occurs for two key reasons. The first is that the service industry in developing countries remains largely developing and as such most literature focus on business models, policies and technological issues (Aminu, 2013) and the second is that the infrastructural challenges of poor road network and unstable power supply are not major issues for developed countries which have a well-developed service industry and as such much of the relevant literature are focused on other issues (Newman, Rand and Tarp, 2013; Gurara, Klyvev, Mwase and Presbitero, 2018).

At the same time, Akhmetzhanoy and Lustoy (2013) point out the importance of good road networks and stable power supply to the service industry. They argue that infrastructure in general are vital "… political, economic and social processes." (p.110) that would lead to enlarged markets and productivity outputs. This is most applicable to developing countries such as Nigeria where the cost of delivery of the product is more than the cost of the product and this supports Kshetri (2008) who pointed out those deficiencies in road network and transportation infrastructure creates a barrier to the most basic processes that drive online shopping.

For the five online grocery businesses used for this study, it was noted that in addition to the problems associated with innovation management as pointed out in the findings and discussion, poor road networks and unstable power supply provided serious infrastructural barriers to business growth. In the case of poor road networks, it was a limiting factor to the growth of the online grocery businesses as it limited their coverage area of operations to specific locations which is the reason why they are located in certain urban towns in Nigeria. This tallies with the studies done by Zhuang and Lederer (2008) and Mkansi and Nsakanda (2019) who point out that the location and proximity of an online grocery store to its intended customers is significantly influenced by the road network. This means that the better the road network (which includes other transport facilities), the more likely that an online grocery business will be able expand its services as it is able to meet delivery times which increases reliability and value to the customer and vice versa

when the road network is poor (pot holes, traffic congestions etc). This is particularly problematic for the online grocery business because majority of them do not have readily available stock and therefore have to form partnerships with other supplies or go to the general market to get supplies before they can deliver to the customer and this means more possible delays due to poor road network.

When looking at power supply, the effect on business growth is also significant in multifaceted ways which all translate to reduced online business hours and reduced reliance on the online service process. As confirmed seen in the empirical review in chapter two and findings earlier in this chapter, power supply in Nigeria is erratic and inherently unstable and this often discourages innovation in the online grocery business. Again, as noted in the literature review, online shopping in Nigeria is dominated by multi-product businesses who due to their wide range or product offerings, generate more income and are able to conveniently deal with the additional cost of having a data storage and powering it using alternative power supply such as diesel generators and solar power and as such are better positioned to build bigger and better online systems. The dedicated online grocery businesses are, however, more specialised and do not generate as much revenue as the multi-product online shops and as such have fewer resources to invest in providing stable alternative power solutions to provide round the clock online services and also keep fresh produce in their optimal conditions. The research findings showed that all five online grocery businesses expended up to 25% of their expenses to provide electricity to power their systems for just ten hours a day and this was quite heavy for a small and medium enterprise that had very little profit margins. This is however mitigated by not having a full-fledged brick-and-mortar store and not having to stock up on all the required groceries, but this again had its drawbacks as it meant the businesses had to face the poor transport system which again added to costs which align with the research of Avery, Steenburgh, Deighton and Caravella (2012).

The challenges of poor road network and unstable electricity supply will have a negative impact on the online grocery businesses drive to embrace innovations for online services as the additional costs associated with transport and electricity make it a challenge in an infrastructure deficient environment such as Nigeria where even the most developed urban areas are also prone to the aforementioned infrastructural challenges.

5.4 Objective Three: To Investigate Customer Perception of Online Grocery Shopping

One of the challenges with this research was identifying customers who shopped for their groceries online in a frequency that would fall within the required parameters for this research. This is was so because of the socio-environmental nature in Nigeria. In developed countries, there are clear locations were shops can be located which is often incorporated into the town planning design and this means that most small and medium shops are located in specific areas. In developing countries like Nigeria, the reverse is the case. Small and medium grocery shops are located almost every few metres from office and residential buildings and this means that it is often faster and more convenient for customers to physically buy their produce without delays and incurring the additional cost that often comes with online shopping deliveries (Charleworth, 2009). This research also shows that while customers in Nigeria are generally accepting of online shopping, online grocery shopping is yet to be widely accepted. This occurs for a number of reasons that can be grouped into two categories. The first category has to do with perspectives associated with online shopping in general such as credit card/online payment fraud, identity theft, security concerns, state of the product on delivery among others (De Ruyter, Wetzels and Kleijnen, 2001; Ayo, Adewoye and Oni, 2011). The second category has to do with perspectives specific to online grocery shopping in Nigeria which primarily has to do with justification, ease of use of online systems, adaptability to mobile systems, unreliable prices and value in relation to brick-and-mortar grocery shopping. The specifics are key influences on customer perception to online grocery shopping in Nigeria and determine the degree of acceptance or rejection of online grocery shopping. The customers stressed that though they were users of online grocery shopping systems, they did not see it vital to their pattern of grocery shopping and see no need to increase patronage.

5.5 Objective Four: Recommend how innovations in the service industry can enhance growth in the online grocery business in Nigeria

Reviewing academic literature into the use of innovation to grow the online grocery business, it was noted that literature focusing on the specific use of forms and types of innovation (in the case of this study, process and incremental innovations) and their implementation in specific areas of the online service process to grow online grocery businesses is rare in general and non-existent in the case of Nigeria, rather, the focus of innovation in the online grocery business is on innovations

as a business model. Such lack of research into using process and incremental innovations to grow the online grocery business makes it difficult to present a discussion of this objective within the context of relevant literature.

As such, this objective has uniqueness as it sets the foundation for future research into the use of process and incremental innovations in innovation management to improve the marketing and order placement service systems of online grocery businesses in Nigeria and by extension develop the use of innovations in general to grow the service industry in Nigeria.

For this objective, variables found in this research were linked into an innovation management channel which focused on using process and incremental innovations to grow the services of online grocery businesses in Nigeria with the variables extracted from the interviews conducted in this research. The assessment criteria can incorporate into practice to firstly improve innovation knowledge and secondly allow businesses take appropriate measures to grow by embracing innovation management.

This aligns with the Innovation Diffusion Theory of Rogers (2003) who argued that the success of innovation management is underpinned by businesses clearly understanding the adopter categories within which they fall and responding accordingly. As seen from the responses, the online grocery businesses for this study fall in the early adopters' category when viewed within the context of the online grocery business in Nigeria. All the businesses used for the case study are have structures that have very opinionated leadership that determines the direction and focus of the business, rely almost exclusively on existing innovations and are comfortable but cautious in adopting new ideas. These as pointed out by Rogers (2003) are attributes of early adopters within which online grocery businesses in Nigeria fall. The Innovation Diffusion Theory also addresses the issue of the rate of adoption of innovation. Innovation adoption is influenced by various factors, some of which were looked at in this study which included internal determinants such as the innovation management structure, working relationship between key units, rate of adoption and compatibility issues; and external influences such as road and power issues and the customer perception to online grocery shopping in Nigeria. All these, as pointed out by Rogers (2003) influence growth.

Rogers (2003) position that the newness of innovation is relative to the adopter is also quite relevant as seen in this research. All the businesses sampled viewed the available innovations as 'new', regardless of if such innovation had already been in use in other countries for years. The ICT experts were however more cautious in identifying these innovations as new and this ties in with the IDT which premised the newness of innovation on three pivots; knowledge, persuasion and decision (earlier identified and discussed in chapter two). The ICT experts possessed greater knowledge about innovations that could be beneficial to the online grocery businesses, the online grocery businesses themselves did not however show that an innovation management structure was in place to enhance innovation knowledge and this was the first gap identified in the study that showed an area where adjustments could be made to promote the growth of online grocery businesses in Nigeria. The second gap that needed addressing had to do with persuasion. From the findings of the study, online grocery businesses in Nigeria seem to be faced to multiple external challenges. For the purpose of this study, two of these challenges were identified, road network and power supply. These challenges were determined to influence the acceptance or rejection of innovations. A high level of persuasion is therefore needed for online grocery businesses to embrace new innovations and, more importantly, put in place innovation management structures to grow the business. The last issue arising from the IDT is that of decision making. Rogers (2003) posited that decision making should be preceded by trial stages. This will allow stakeholders be familiar with the proposed changes before they become fully operational and would therefore increase the likelihood of acceptance. However, this study showed that decision making in online grocery businesses in Nigeria were often forced on the business. This was clearly identified from the interviews conducted with the representatives of the online grocery business and customers. Almost all the interviewees from the online grocery businesses admitted that they had little or no influence over what innovations were used by the business as such decisions were often taken by the business owner in isolation. This was also reflected in the responses from the customers who stated that they were sometimes discouraged by the new developments they met when attempting to make orders online. The importance of the IDT when it comes to decision making is reflected here. The IDT proposes a more integrated approach to decision making which reduces the risk of rejection.

5.6 Chapter Summary

Understanding the context of this study within the Nigerian socio-economic environment was quite tasking. The business environment in Nigeria is one of ironic contradictions. Nigeria has a large population which should translate to a large market, yet, most businesses in Nigeria find it hard to sell their goods and services. Nigeria has been ranked as having one of the fastest growing economies in the world, but has the poorest people. It has an internet penetration of over 70%, yet has poor internet services. Infrastructures and amenities that are taken for granted in other countries are unfortunately, stumbling blocks to business development in Nigeria and add to the cost of do business. These issues influence the business environment in Nigeria and affect how businesses adopt new technologies. Most businesses prefer to adopt pre-existing technologies and innovations that have proven successful elsewhere and it is upon this backdrop that the online grocery business in Nigeria is situated. Security and financial fraud are also factors that influence businesses in Nigeria. Nigerians are skeptical about where and how they source their groceries and as noted earlier in this study, prefer to be physically present when purchasing groceries. This may explain one of the reasons why online orders for non-grocery products has a bigger market base (but still underdeveloped when compared to other markets with similar populations and economic indices) than online grocery orders. Addressing these challenges require an innovate approach which online grocery businesses presently lack based on the findings of the study and it is only when an innovation management structure is put in place will growth be achieved.

The central theme for this work was innovation knowledge. The study looked at how this knowledge could be used to address issues within the investigate arena to achieve growth. In this case, innovation knowledge is of prime value and determinant to the growth of online grocery businesses in Nigeria. The findings of the study indicated that the online grocery businesses that had some form of innovation management, however unstructured, were better placed to achieve growth than businesses without any form of innovation management structure. In view of this, innovation management has an extrinsic value to online grocery businesses in Nigeria because without innovation management, the businesses would not achieve appreciable growth.

Online grocery businesses in Nigeria lack clear cut innovation management strategies and structures needed to drive growth and this could be seen in both the conflict between the IT and marketing units and the ambiguousness in the use of process and incremental innovations to

improve online services in particular and the business in general as seen in the first objective. This finding from the first objective was arrived at by interviewing IT experts/consultants who shared their experiences on how to set-up online businesses in general and the available innovations. This knowledge was then used to interrogate the innovation knowledge of the online grocery businesses through interviews with the IT and marketing units to investigate how innovation is sourced and applied to grow the online grocery business and improve online services.

This lack of clear-cut innovation management structures also means that the businesses are unable to effectively address the challenges of infrastructural deficits in the road network and power supply to improve the service as there are no systems to drive innovative solutions. This finding from the second objective was gotten by interviewing the IT experts/consultants who gave insight to the fact that despite the uniqueness and ease of online services, growth in online services was still tethered to poor infrastructures especially in road networks and electricity supply which hampered effectively utilization of online innovations. This was corroborated through interviews with the IT and marketing units in the online grocery businesses who averred that the nature of providing online services meant higher investments in power supply which was often a challenge. Coupled with this was the poor transportation network which limited the coverage area of the online grocers because they could only service areas where there was a level physical service delivery assurance to customers, and all these adds to the cost of doing business which is transferred to the customer. This second objective was further confirmed by the customers interviewed who though acknowledged the convenience of online grocery shopping, preferred physical grocery due to being able to physically inspect groceries before payment, get cheaper deals and also avoid unnecessary risks associated with online shopping such as credit card fraud, delay in delivery of products amongst other issues.

This further reflects in the perception of customers who view online services of grocery businesses as not well thought out and offering little advantages to differentiate it from traditional grocery shopping which gave rise to the findings in the third objective which was gotten from interviews with customers who had shopped for groceries online within the last six months of this research. The poor innovation management system meant that online grocery services did not often meet expectations of the customers and this reflected in the responses given by majority of the online

grocery shoppers who felt the online systems where too cumbersome/technical or not in tune with their needs.

This chapter linked the findings of the research with previous general literature related to the topic. Based on the data analysis, the research discovered that the assessment of innovation for business growth can be evaluated using four main dimensions, which are the level of innovation knowledge, extent of innovation know-how which are related to internal innovation management, external barriers which are independent of innovation management but have an impact of the service process and customer perspective that is usually shaped by the innovation management approaches of the online grocery businesses and this was used to arrive at the fourth objective.

The innovation ambiguity occurs when businesses do not have sufficient knowledge of what innovations are available to them and this arises from the absence of structured or defined processes for sourcing, acquiring and developing innovations which is done based on personal judgment and might lead to problems with effectively applying and integrating innovations to the existing business model due to differences between units on where the innovation is most needed and the form and type of innovation best suited to grow the business with some favouring a radical innovation approach and others an incremental approach. The other factors which are power supply and road network are external in nature but have a direct impact on the service industry and for the online grocery business, it influences the how businesses manage innovations as they have to take into consideration the impact these infrastructural challenges would have on operations. Customer perception is influenced by issues identified in core categories one, two and three and shapes their opinion of online grocery services as the more coordinated and easier-to-use the online services system, the more open they are to accepting it despite other reservations they might have.

There is a clear flaw in the innovation knowledge of online grocery businesses in Nigeria when it concerns sourcing, acquisition and development of innovations beyond its adoption as a business model. This might be because of financial constraints, expertise and training deficiencies. The ambiguity between creativity and innovation does not help the businesses in developing innovation management processes as this confusion creates an unbalanced structure which in turn creates application and know-how problems which manifest themselves as conflicts between units.

Innovations that are not scientifically sourced have a higher tendency of being misapplied as there is no formal innovation application process, that is, using a form and type that provides the best growth path for the online grocery business. The focus of this research was on process and incremental innovations, which the businesses were unfamiliar with, and their use in online marketing and online placement of orders. This was especially seen in the integration with mobile devices.

Also, poor road networks and unstable power supply were seen as key drawbacks towards embracing innovations in the online grocery business. While these infrastructural challenges were a general issue to online businesses that have tangible products to deliver to customers, online grocery businesses were particularly affected due to the fact there is a low level of acceptance by customers and the concomitant low revenue which made expanding the online services less attractive and the infrastructural challenges more pronounced.

Positing how innovation can be used to grow the online grocery business can be done by using the identified assessments to expound on how the gaps can be plugged and turned around to grow the online service which is the main contribution of this research. The next chapter focuses on the conclusion, recommendations and opportunities for future research.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Preamble

This research is unique as it aims to explore how innovation can be used to grow the online grocery business in Nigeria by investigating real and pressing innovation management conflicts arising from innovation knowledge, know-how and infrastructure and the impact these ultimately have on perception. These conflicts have emerged as a result of insufficient innovation sourcing, acquisition and development structures which led to conflicts in innovation application and know-how which is exacerbated by businesses failing to properly apply process and incremental innovations to key or strategic areas of their online services such as; marketing and placement of orders. Also, infrastructural challenges influence the degree to which businesses are able and willing to expand on the business. The issues of operational costs and unreliability leads to questions about the overall business model as business owners are bound to question the viability of such investments given the infrastructural challenges. Moreover, Customer perceptions were an important area for this research as it plays a critical role in the acceptance or rejection on innovations in the online grocery business in Nigeria. The nature of the grocery market in Nigeria entails that online grocery shopping will always be looked at with some skepticism by those who already patronize it and much more than those who are yet to get over their reservations or be given sufficient justifications to embrace it. After conducting 24 interviews divided into four classes and covering five online grocery businesses in Nigeria, the researcher was able to discuss the research's main objectives which are:

1. Identify some technological innovations available and investigate how they are applied to grow marketing and placement of orders in the online grocery business.
2. To investigate the infrastructural factors of road network and electricity supply and their impact on the growth of the service industry in Nigeria.
3. Investigate customer perception of the online grocery business.
4. To recommend how innovations in the service industry can enhance growth in the online grocery business in Nigeria.

The research methodology used for this research provided more information and understanding of how innovations are sourced and applied for online grocery businesses in Nigeria and the challenges and perceptions limiting its growth. The contribution of this innovation research is to serve as a pathway to finding solutions and providing some direction for innovation management in the services industry in Nigeria. The case study method is useful in developing realisations about the use of innovation management forms and types (or lack therefore) by online grocery businesses in Nigeria and how this unconsciously affects growth in the provision of services. It also provides insight as to how poor road networks and unstable power supply discourage further investment in the use of online technology for online grocery businesses and also the perception of customers who continue to question the need for greater dependence on online grocery shopping.

This chapter provides the conclusion for this research and gives a summarization of the overall picture of the research about exploring the reality of innovation as a factor for growth for online grocery businesses in Nigeria. Also, there would be a presentation of the contribution to knowledge and practice and explanation as to how the use of process and incremental innovations might be used to grow the online grocery business in Nigeria through improving specific aspects of the online service process. There will also be insights for opportunities into future research. To this end, this chapter is divided into seven sections. The first section is the preamble which introduces the chapter. The second section is the conclusion where the researcher provides a summary of the research output. The third section contains the recommendations while the fourth, fifth and sixth sections are the contributions to theory, practice and knowledge respectively which was developed by linking the outcomes with previous literature to enable and give direction to future research into innovation management in the service industry in Nigeria. The seventh section is the scope for further research while the eighth and ninth sections provides additional limitations, which were encountered in the course of the data collection, and chapter summary.

6.2 Conclusion

Innovation ambiguity and application was the first core category that was derived from the data analysis and this addressed the issues of innovation knowledge (sourcing, acquisition and development) and know-how (application and integration). The innovation ambiguity in online grocery businesses was defined in this research as it was exposed that online grocery businesses

in Nigeria suffer from acute shortage of knowledge about innovation management which leads to the misuse of creativity more frequently, even though creativity is a vital component of the innovation process as pointed out by Drucker (1979), Cook (1998) and Esra (2017), it might increase the problems associated with innovation management due to absence of innovation process structures which makes it prone to human bias.

As argued by Mehta, Chandani and Neeraja (2014), managers involved in innovation management processes do not differentiate between innovation and management as seen in this research and as is applicable to online grocery businesses in Nigeria. The high innovation ambiguity in innovation knowledge and know-how leaves the innovation processes to be controlled by personal judgments with little or no involvement of innovation forms and types which creates an uncoordinated growth path that leads to less conviction on the overall business model. The failure of services rises in proportion to this lack of coordination (Grossman and Helpman, 1992). The overreliance on creativity to drive business growth was criticized by Ettlie (1999) and Dugguh (2005) as this would increase ambiguity and lead to the use of innovation in ways that do not capture the reality of the market place and environmental peculiarities.

The innovation management drivers in online grocery businesses in Nigeria are primarily the business owners and to a lesser extent, the ICT people and this is because the business owners arrogate to themselves the monopoly of knowledge and creativity while the ICT people are seen as managers of the online technology and this creates an isolation or neglect of the marketing people and increases conflict.

Based on the responses from the respondents, there was uniformity in the absence of structured innovation knowledge regardless of the level of online dependence for service provision. It was acknowledged by the researcher that the relatively better funded businesses seemed to be more open to harnessing innovative techniques to improve online services than those who had less financial investment resources. However, both types businesses (well-funded and less funded) share the same innovation ambiguity with the primary difference being that the better funded businesses were more willing to invest in the online services process while the less funded

businesses are more likely to change the entire business model as they see it as unsustainable in the present socio-economic environment.

Following from a different angle, innovation know-how presents a major innovation management. The nature of the online grocery business is such that the online services are managed by the ICT people who have less stake when it comes to actual marketing of the products while the marketing people are more concerned with sales and targets and believe physical contact is a more reliable marketing strategy which they attribute to the general availability of grocery products in Nigeria and therefore requires a more robust form of marketing which the present online marketing algorithms do not address. This creates conflict between the ICT and marketing people on how best to apply innovations to specific areas of the online services since they have different objectives and motives and there is no proper innovation management structure that can harmonize these different positions as was seen in the data analysis for Innovation Application. The case study methodology exposed the deficiency in innovation applications within the businesses. None of the online grocery businesses made use of a definitive form of innovation beyond seeing the general business model as 'creative'. The business model for the online grocery businesses was copied from multi-product online shops which had better and more defined innovation management processes but which when applied to the online grocery businesses used in the case study, led to generally less than favourable outcomes and this had an impact on customer experience, purchase frequency and acceptance/rejection responses (Martin, Mortimer and Andrews, 2015; Lemon and Verhoef, 2016).

As examined earlier in the research, there are variations in the values of innovation users within the business which can be conflicting or misapplied as each unit has its own views of what innovation might be most beneficial to develop and grow the business. This research aligns with the studies of Song, Dyer and Thieme (2006) that innovation process should be led by the R&D and marketing departments and consolidated by the ICT departments as needed. Priorities vary between units and this is seen in this research that shows the absence of coordinated innovation management which reduces innovation performance. Across the five cases studied, ICT units are more concerned with maintaining the online service algorithms without actually introducing innovations that can assist the growth of the online grocery business while on the other hand, the

marketing units expect the top management and ICT unit to drive innovation even when such innovations are at variance with marketing needs. The marketers are essentially more focused on sales and pay less attention to the online services as they see it as a mere advertising medium and see online innovations as not its primary concern. The presence of a R&D unit would have helped bridge this disconnect and harmonise innovation management and improve innovation performance. Having inconsistent unit strategies and appraisal systems is expected to give rise to greater conflict regarding innovation management and lead to inappropriate use of innovation forms and types. Also, the consequences of leaving innovation management to the business owners would lead to an increase in biased use of innovation as growth is pegged to the pace of the business owner who is often not an expert in innovation management as is the case with the five businesses used for this case study.

The low or absent innovation knowledge and know-how processes exacerbates the possibility of rejecting sound innovation management strategies especially when they do not come from the business owners. This emphasis is being made due to the nature of such businesses in Nigeria as they primarily driven by the business owners and the structures within the business are designed to serve what the business owner dictates or decides is needed and this stifles innovation ideas from bottom-up as deduced from the ICT and marketing units respondents who shift the responsibility of innovation management to the top level management and/or business owners. As noted by Ardevol (2015) business owners as key drivers of innovation in an organization is quite welcome, but this must be supported by innovation management structures that depend less on individual creativity to drive business growth and focus more on sound innovation performance indicators to achieve growth. The ability of the innovation introducer's ability to convince the units on the viability of the innovation is critical as forcing such innovation without considering the innovation know-how of the ICT and marketing units will develop innovation application challenges where the units have opposing views between themselves and management but are unable to reconcile these differences as shown in figure 6.1:

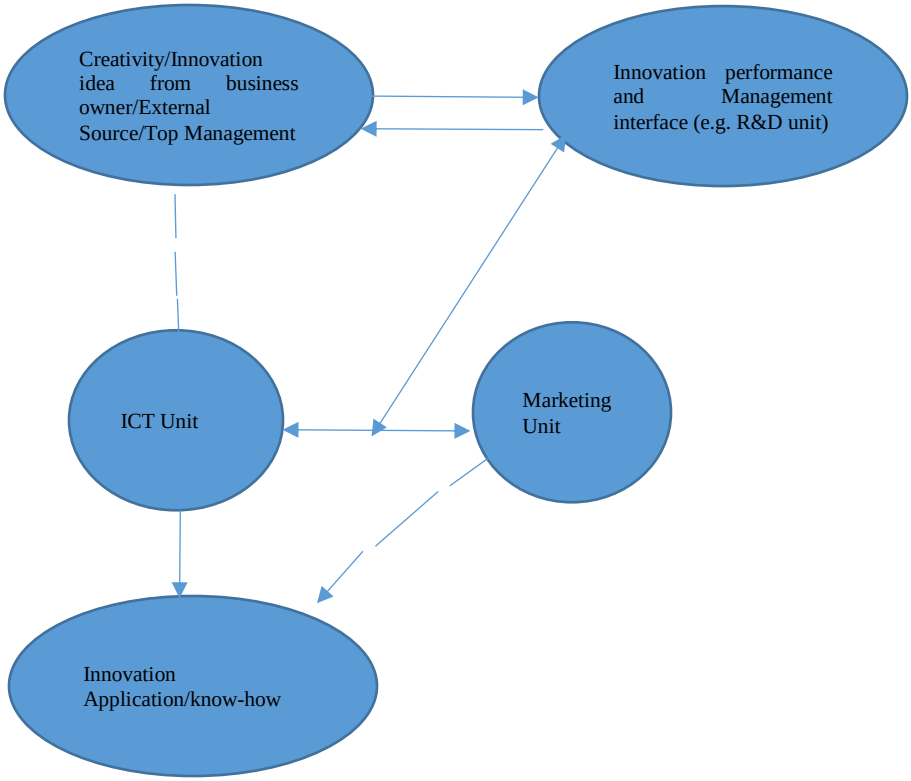

Figure 6.1: Proposed Innovation Management Structure (Author's Work, 2020)

Figure 6.1 shows the innovation management structure for this research. The broken lines and arrows show the innovation management structure presently used by the online grocery businesses in Nigeria while the solid arrows show the recommended structure to be used as developed by this researcher. The structure is made simple so that the businesses would not need to spend more or require drastic changes to the structure which may give rise to complications and conflict.

Infrastructural challenges also present challenges for innovation in the service industry. The twin issues of road network and power supply are essential to any business and impacts the level and degree to which innovations can be accepted by businesses. Countries with poor road network and unstable power supply tend to have less developed or fast-growing service industries. This is especially so with businesses that has tangible products at the end of the service delivery process. The five online grocery businesses used for the case study were all affected by the poor state of the aforementioned infrastructures. On one hand, the poor road network affected the product delivery times which gave rise to reliability issues and also restricted expansion as the businesses had to limit their services to certain areas which is a fraction of the potential serviceable population.

This also meant that the businesses where struggling within the same market location. On the other hand, the unstable power supply meant that the online services could not be fully harnessed as the businesses relied on generating their own individual power which increased operational cost and discouraged more extensive use of online service mediums since could not be powered on a continuous basis. However, it should be noted that these challenges can also serve as motivators for the businesses to source for innovations to combat these challenges, but the cost of doing so is often outside the reach or budget of small to medium scale businesses, a category which the online grocery business in Nigeria falls within. Bigger multi-product online businesses are better funded and can better provide innovations to face these infrastructural challenges since they are more diverse and have more service offerings than the online grocery businesses which have more difficulty in marketing their services since the customer does not view online grocery shopping as essential given the proliferation of grocery shops in Nigeria.

At this point, it is important to mention the customer perspective. From the respondents who where customers, it was seen that though they were open to online grocery shopping, they do not see it as a necessity and can be easily put off from patronizing the online grocery services if the feel that the order placement process was too cumbersome or they were not getting proper attention from the online marketing systems. While some of the respondents expressed a limited acceptance of online grocery shopping, others were yet to be fully convinced of its justification and relevance. All customers pointed out that choices of products were limited and most could be gotten at very near-by groceries shops at any time rather than waiting for delivery and paying an additional transport cost that constitutes around 25% of the cost of the goods ordered online. This less than accepting perspective of online grocery shopping can be categorized into two. The first has to do with the association of grocery products with simplicity. The online grocery shoppers do not see the need to access the internet to purchase products that can be easily gotten and as such, the absence of online marketing tools to capture or convince the customer of the advantage of shopping for groceries online reduces the impact of the overall business model. Also, because the online grocery businesses rely more on the online systems for advertisement purposes, other algorithms such as the order placement service as underdeveloped or prone to errors which discourages the customer and may lead to a rejection. Better developed and well-thought out online algorithms stand a better chance of acceptance and this links back the issues of innovation sourcing,

acquisition and development and innovation application which if not adequately addressed, leads to poor innovation performance. The second category has to do with the infrastructural challenges. Infrastructural challenges influence the customer perspective almost as much as the businesses themselves. With the knowledge of the infrastructural challenges, customers are less likely to depend on online shopping for some things as trivial as groceries which in their opinion is not worth going online for in Nigeria.

The research therefore indicates that online grocery shopping in Nigeria is not catching up as seen in multi-product online shopping, as there is less affinity towards online grocery shopping, and this is corroborated by the research. This indicates that there is a need to find innovative ways to ensure growth. It is important to take cognizance of the role of organizational management which might support or stifle innovation. The buck-passing represents a major reason why there seems to be conflicts between units on who bears responsibility for innovation management outside the overriding influence of the business owner and it is the responsibility of organizational management to manage these conflicts.

The link between the variables stated in this research enables the development of an innovation management channel that will hopefully be relevant to guide online grocery businesses to achieve growth through innovation using three variables which are level of innovation knowledge (or level of innovation ambiguity), level of innovation know-how (inter-unit integration and communication) and ability to mitigate external stimuli (road network and power challenges). This can be accommodated in practice to grow innovation management and allow businesses create hospitable conditions for future developments of the innovation management. The innovation management developed in this study which each business can adopt using the Innovation Diffusion Theory.

6.3 Recommendations

The recommendations for this research can be summarised into four broad areas which are; introducing an innovation management system, improving inter-unit cooperation and communication, using process and incremental innovations to improve online marketing and

online order placement algorithms and addressing infrastructural challenges studied in this research.

Regarding the introduction of an innovation management system, this research showed that the users of online innovations within the online grocery businesses were not involved in sourcing, acquiring and developing these innovations and this leads to application problems. To rectify this, an innovation or R&D unit must be introduced in the business where innovations that would be beneficial to the businesses can be properly scruitinised and modeled to suit the online service process. This will reduce the innovation ambiguity and overreliance on the creativity of the business owners who are often not experts and therefore have flawed innovation management skills. Doing this will lead to resolving two other problems identified in this research which are inter-unit cooperation and innovation application. The innovation management structure will incorporate the ICT and marketing units (and other units within the business) and ensure that innovations capture the input of these individual units for higher productivity and seamless innovation application using process and incremental innovations. As such, a recommendation is made for placing more investment in innovation management. This investment should be focused to support the R&D unit in ways that allow for improvements in the online service process and the overall business model. Also, the online marketing and order placement systems should be made mobile phone friendly as this is the gadget most Nigerians access the internet with. Simplifying these algorithms as well as others will make online grocery shopping more attractive to customers. Previous literature has shown that businesses in developed countries invest more in R&D and are therefore able to be both inventive and innovative to enhance business growth.

A key concern for establishing R&D units from the online grocery businesses perspective would be the cost of funding such unit given the relative size of the business. However, the medium and long term benefits should be the focus in this case. Furthermore, there are a lot of open source innovations which can be harnessed. The primary aim of the R&D unit in this case would be to subject these new innovations to rigorous testing to fit or amend them to fit into the value chain. Continuous innovation at an incremental pace would be best achieved by having the R&D unit in place. Funding for the unit can be achieved by allocating a percentage of profits to research. The benefit is that the businesses would always be at the forefront of innovation adoption and will have

a lower rejection rate since its sourced innovations are well tested before a decision is made to introduce them to the service process. The risks involved in this is that there might be delays in introducing new innovations which can contribute to growth due to the testing phase. However, this testing phase is necessary to ensure smooth and seamless applications which would be beneficial in the long run. Also, continuous sourcing would ensure that innovations are timely as the business experiences little delays in introducing new innovations. Customers who patronize the online grocery businesses would also be more receptive of innovations as they would be seamlessly applied in stages that do not disrupt their familiarity with the service process.

Improving inter-unit cooperation is vital. The study found that there were gaps between inter-unit operations which sometimes worked at cross purposes and had targets/priorities that were not in sync with the overall goal of the business. This can be addressed by ensuring regularly inter-unit head meetings especially on the implementation of new innovations. The benefit is that there will be a broader understanding and appreciation of what each unit wants to achieve, how best to achieve it and how other units can create a seamless network of cooperation. While meetings can sometimes be a drag in business especially when they occur too frequently, such meetings can be short and focused. They are also inexpensive and carry little to no risk or implementation challenges as meetings can be held using various meeting apps even when the members are not physically present at such meetings.

Having an identifiable innovation management structure would provide clarity towards the best innovation strategies suitable for the business. The study identified incremental innovation as best suited to the online grocery businesses in Nigeria. This is so because incremental innovation is less risky and capital intensive than other forms of innovation. Also, the businesses are able to gradually introduce changes to the system in such a way that it is acceptable to customers. The incremental innovations can be introduced to the key areas of business that require such intervention. The findings of this research showed that the selected areas, online placement of orders and online marketing, in the online grocery businesses surveyed required more innovative methods of conducting its services in those areas. The customers also identified online marketing and placement of orders that they would appreciate improvements. Incremental innovations are cost effective and can be done in phases to suit the financial ability of the businesses.

As for infrastructural challenges of road network and power supply, the online grocery businesses are recommended to have partnerships with sub-outlets or out-stations in locations that are difficult to access. This can be achieved by collaborating with existing brick-and-mortar grocery shops. As noted in earlier in this research, brick-and-mortar grocery shops are quite common in almost every street corner in Nigeria and this collaboration will reduce transport costs, improve delivery times and increase revenue for the online grocery businesses and the brick-and-mortar grocery shops. Incorporating these collaborators into the online marketing and online order placement systems of the grocery business would provide more options to customers. Also, to address the unstable power in Nigeria, online grocery businesses need to form databank clusters to minimize power costs to power their online and data storage systems. Doing this will free up funds which can be ploughed into innovation management and improving online service systems which would in turn lead to better services and customer satisfaction.

6.4 Contribution to Theory

In line with the positivist stance as pointed out by Brown and Eisenhardt (1997) theoretical contributions from case studies are complimentary to traditional research and are useful in under-explored areas of research. The contribution of this research to theory comes in four major areas. Firstly, earlier literature on online grocery services focused on inventions rather than innovations to grow the online business and studies till date have looked as 'newness' predominantly from the perspective of inventors rather than adopters (Slappendel, 1996; Bonner, 2010; Trier, 2011). This research expands on the understanding of inventions in the service industry by looking at how existing innovations can be sourced and applied rather than created. This captures the peculiarities of technology dependent nations like Nigeria where the service industry is primarily an adopter one. Following from this, the research explores how online grocery businesses source and apply innovations to their online services to achieve growth. The result sheds light on how online grocery services use online innovations to improve service with the goal of growing the business. Overall growth for the businesses is slow due to the absence of innovation management systems which should guide the sourcing, acquisition and application of online innovations so as to ensure growth. This absence of innovation structure has repercussive effects on other variables such as the infrastructure and customer perceptions.

Secondly, the research examines the role of innovation models from the perspective of the Innovation Diffusion Theory (Rogers, 2003). Straub (2009; Burgess, Sellitto, Cox, Buultjens and Bingley, 2017) had used the innovation diffusion theory to understand the conditions required for effective adoption of innovations, albeit, in the education sector. Their studies averred that management must put in place deliberate structures to drive and guide innovations in the workplace to enhance productivity (and invariably, growth). This research extends this further by applying the theory to the business environment by highlighting its importance and applicability to other sectors where the absence innovation management structures has negative effect on growth in the service industry.

Thirdly, contribution relates to the enhanced understanding of how infrastructural challenges, specifically, poor road networks and power supply, impact on growth in the service industry and how the absence of innovation management strategies makes it difficult to address these challenges are physical. Services are often seen as intangible and as such, there is the tendency to overlook or understate the effect the physical environment has on the processes leading up to the provision of the services. In this regard, this research contributes towards providing understanding as to how these infrastructural deficits impact on innovation and growth in the service industry in Nigeria. Given that most research on challenges in the service industry take cognizance of the role of infrastructure in service provision (Grant, 1996; Smith, Busi, Ball and Van Der Meer, 2008), this research takes it further by linking it to how they also impact on the innovation management process and influence the decision of the businesses to either accept or reject online innovations. Thus, it examines the determinant effects of poor infrastructure on innovation and growth in the provision of online services.

Fourthly, this research details the customer perception and reaction towards online services of online grocery businesses. It speaks to the twin issues of justification, ease of use and to a lesser extent, trust issues all within the context of how innovation management strategies, or lack of, influence the customers' willingness to accept and utilize online grocery services. While trust might have a positive ripple effect, attitude tends towards negativity and customers who develop a negative attitude towards online grocery shopping pass this negativity on to others and this leads

to the formation of the opinion that online grocery shopping is less than ideal and should be used only as a necessity.

6.5 Contribution to Practice

The findings of this research give rise to a number of practical implications. Firstly, the insights highlight the importance of innovation management structures to guide sourcing, acquisition and application of innovations. Businesses which neglect to put in place this structure often rely on individual creativity and are more prone to trial and error applications which may lead to devastating consequences resulting in collapse of the business. Knowing what, how, when and why in the use of innovations is vital to growth. Using the right model of innovation is also critical. As noted in this research, online grocery business is already a business model innovation and the goal is now to guide that model using process and incremental innovations which can be focused on the online services. The effect of the failure to manage this innovation process can lead to stagnation in growth.

Secondly, it is important that businesses that provide online services do not view their operations in isolation of the environment. It is vital that online businesses factor in challenges arising from infrastructural deficits and this is especially so in developing countries such as Nigeria where poor road networks and power supply have contributed to mitigate growth in all sectors. Most online businesses assume that the online business model itself is sufficient to negate these challenges and as such, fail to adopt innovations to specifically address these issues. This leads online businesses to assume that the online business model does not work for online grocery services.

Thirdly, groceries are everyday items which are often taken for granted and as such, customers often do not pay too much attention to alternative mediums through which they can be acquired. However, when these mediums are used and do not meet the expectations of the customers, it creates an attitude of negativity and influences the level of justification for its patronage. This can arise when the online grocery business does not make effective use of innovations to address online services and infrastructural challenges, two areas which also influence the customers' decision to accept, reject or become neutral to the service. Acceptance will naturally lead to growth while rejection or neutrality will lead to closure or stagnation. To ensure that customers build a positive

attitude towards online grocery services, it is vital that online grocery businesses are guided by innovation management strategies from the adoption to the service delivery stages. Just a few dissatisfied customers can threaten the entire business structure to a large extent.

6.6 Contribution to Knowledge

This section looks at the contribution of this research to knowledge in order to provide justification for this study. The major contribution of this research to knowledge, is the provision of insights to innovation management and mediums in online grocery businesses in Nigeria, the infrastructural factors that influence innovation management, and customer perspectives to online grocery shopping in Nigeria. In addition to that, the research also addresses the gap in academic literature by identifying innovation management flaws in the online grocery business in Nigeria. This was done through a thorough exploration of the loopholes or absences in innovation management which has affected the growth of online grocery businesses in Nigeria and has enabled the researcher suggest ways of addressing gaps in order to enhance innovation management. While most current research looks at product or business model innovations, this research focuses on innovation knowledge and know-how, using process and incremental innovations. It also looks at how poor road networks and unstable power supply affect the use of innovation by businesses to grow their services and how customers perceive these innovations. By doing so, this research would hopefully have helped develop understanding as to how innovation can be used to grow the service industry in Nigeria.

Using a narrower perspective, this research addresses issues raised by Leber, Ivanisevic and Buchmeister (2015). Leber *et al*. (2015) stated that the system of innovation management can be improved if there is a focus on integrating innovation forms and types into the service process,

> New knowledge is central to innovation. However, knowledge itself does not ensure profits. The value of knowledge lies on its effect on mainstream. Successful innovation requires linking knowledge to operating processes in an effective and efficient way… From the knowledge-based view or knowledge management perspective, novelty comes from knowledge creation whereas commercialization is accomplished by knowledge application… Thus, knowledge creation and application are two basic aspects of innovation. Knowledge creation is associated with that part of the innovation

> process through which new knowledge is introduced. Knowledge application is the process of putting knowledge into practice to realize the latent potential of knowledge. Innovation is a knowledge management process that extracts new value from a firm's knowledge assets (Leber *et al*., 2015:236).

This research takes the position of Leber *et al*. (2015) is represented in this research as it explores the innovation knowledge and application for growth in services among online grocery businesses in Nigeria and also looks at infrastructural challenges impeding this growth within the sub-sector. The four primary debates this research generates involve level of innovation knowledge (also seen as innovation ambiguity), level of innovation application knowledge, infrastructure challenges and customer perspectives.

The connection between innovation and growth in business led to the identification of factors that hamper the use of innovation to achieve growth; from innovation ambiguity and application to infrastructural challenges and this is captured by the Innovation Diffusion Theory and also in the works of O'Reilly and Tushman (2004) by introducing innovation management models that are specific to the service industry in Nigeria and in fact to an small and medium business seeking to grow its services using innovation. This research exposed the near absence of innovation management in the online grocery business in Nigeria and uses this knowledge to make suggestions as to how innovation can be properly structured and integrated into the business model. Using the Innovation Diffusion Theory as a base to analyse the holistic innovation management perspective and build scientific research might not be a novel or new approach to innovation studies in general, but within the context of the Nigeria service industry especially the small and medium businesses, it presents new insight into innovation research studies.

This research proposes a re-evaluation not of the business model, but of the service process in order to achieve growth. Bringing out this position is vital because arising from the interviews and interpretations made by the researcher, some of the online businesses are unable to differentiate between forms and types of innovation and as such, are prone to blaming the business model as flawed or problematic when what is required is an adjustment of the process to achieve growth and this can only come about when there is a proper innovation knowledge and know-how management structure which this research strongly proposes. This is derived from the multi-case

research which revealed some significant innovation lapses that stifle growth in online grocery businesses in Nigeria. Innovation ambiguity is seen as the foundational challenge facing the use of innovation to enhance growth as this leads to problems with innovation application in the service process. Innovation is driven by the business owners in most cases and there is no coherent innovation sourcing, acquisition and development structure and little or no input from experts. Using two specific online service algorithms, online marketing and online order placement, this research sort to explore how process and incremental innovations were used and it was discovered that arising from the innovation ambiguity, there were issues associated with innovation application in these areas and a distinct disconnect between the ICT and marketing units as a result of a lack of integration of service systems. Online marketing systems were near absent and was not thought to be necessary by the ICT units, however, the respondents who were customers felt a more interactive marketing algorithm would make using the online grocery services more attractive, a view shared by the marketing unit who felt they were being left out from the online service process. This extended to the online order placement algorithm which was seen as unreliable by about 60% of the customers and this tallied with the opinions of the ICT and marketing units whose defense was that they were alienated from the innovation sourcing, acquisition and development process, also, these online algorithms were not fully compatible with mobile devices which is what most online shoppers in Nigeria use. Further exploration reveals that the infrastructural challenges of poor road network and unstable power supply also contributed to the present state of the online grocery business in Nigeria. The poor road network limits the coverage area of the online grocery business as the key attraction of online shopping is the convenience of shopping and delivery and while other non-edible products can have the luxury of being delivered a few days after placement of orders, the nature of groceries requires quick deliveries which the poor road network in Nigeria works against and also raises issues of reliability. Also, the unstable power supply is a general problem in Nigeria and increases the cost of business. Online services are highly dependent on power, however, the online grocery businesses in Nigeria are in the small to medium business scale and are unable to invest massively in alternate power generation systems. The research shows that an average of 25% of the overhead costs went to powering the online systems and this often led to doubts about the sustainability of depending on the online business model and therefore often relegating it to a mere advertisement platform.

Arising from the data collected for this research, which centred on exploring the interrelation between innovation knowledge and application, infrastructural challenges and customer perspectives towards achieving growth for the online grocery business, this led to the development of a framework as shown in figure 6.2 and is based on the five stages of Innovation Diffusion Model as developed by Rogers (2003) but which have been adapted to three stages to suit this research and is based on the data collected in addition to the researcher's interpretation and understanding and is shown next.

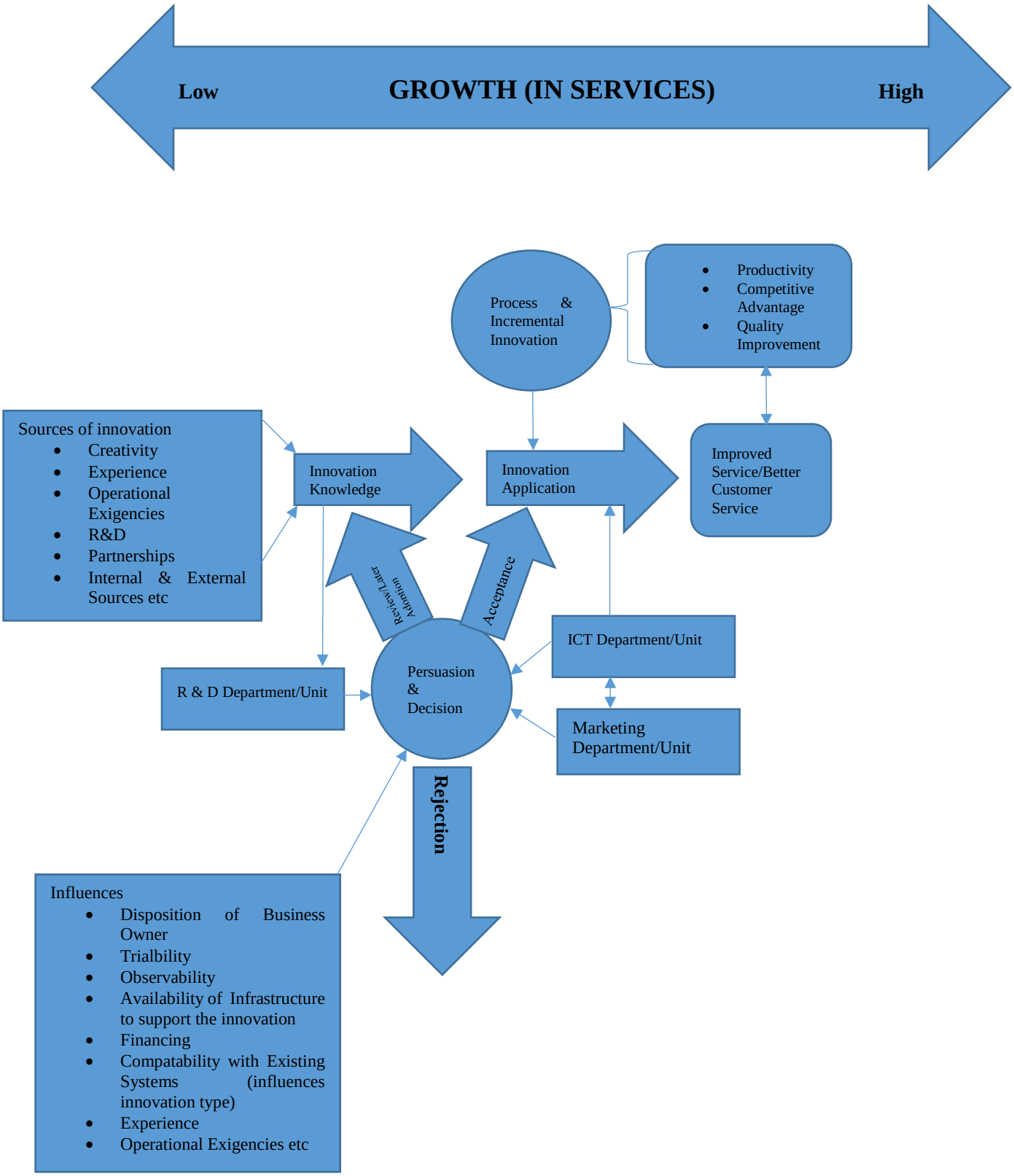

Fig. 6.2: Innovation Diffusion Model (Author's Work, 2020)

The three stages are innovation knowledge, persuasion and decision and application. These stages are subjected to varying influences and determine the growth in services for the online grocery businesses as explained next.

Stage One: Innovation Knowledge

At this stage, the business owners or managers have an initial low knowledge of innovation required for the business but have access to innovation knowledge in raw forms which are derived from various sources including creative ideas, previous experiences, collaborations and other sources. At this stage, the knowledge derived has not been processed and taking it straight to the application stage may lead to innovation ambiguity, internal conflicts and randomness which would have a negative impact on growth or if growth does occur, it would have been progress by error or a lucky shot. This is actually the present situation with online grocery businesses in Nigeria and one of the primary reasons why it has not achieved much growth. To avoid ambiguity, the innovation knowledge derived should be analysed by a Research and Development (R&D) Department or Unit within the business to determine if the knowledge is viable in its present form, requires adjustments or should be rejected. To properly explore the next course of action, the knowledge sourced is taken to the next stage which is Persuasion and Decision.

Stage Two: Persuasion and Decision

For this stage, a thorough analyses of the innovation is carried out with inputs from other Departments/Units to determine how the innovations will impact on their operations. Here, other factors that can influence the use of the innovation for the business, including infrastructural issues, are looked at. This will enable the business understand what is required and how challenges can be addressed. The pros and cons of the innovation are considered at this stage and a decision taken. If the innovation is considered relevant to the business but due to one or more reasons it cannot be applied in its present state, it is either reviewed against other knowledge gained or is delayed for application when the conditions are favourable. Either way, it forms a part of the innovation knowledge and the process moves back to stage one. If on the other hand the innovation is not thought to be viable, a decision is taken to reject the innovation. However, if the innovation is

deemed viable and ready to be applied, decisions on how it is to be applied and which type of innovation to be used is made, from there you can move to the next stage which is; innovation application

Stage Three: Innovation Application

For this stage, the decision taken at stage two as to the type of innovation to be used is applied. Given the nature of online grocery businesses in Nigeria, process and incremental innovations are highly recommended for two key reasons. Process innovation helps strengthen back-end operations and is best suited to intangible services. Since the path for growth for the online grocery business is to improve on its services and not the business model, it would need to focus on having a seamless integration of internal processes and structures. Incremental innovations also helps pace the innovations to avoid any risks taking and to allow for reviews at every point of the process. It is also suitable for incremental growth for a business environment such as Nigeria where there is a lot of uncertainty and fracture in the service industry coupled with the poor infrastructural facilities available which do not lend to radical or disruptive innovation. Doing this will lead to productivity, competitive advantage and quality improvement while also giving rise to better customer services which when taken together, will lead to growth for the business.

6.7 Scope for Further Research

Past researches have looked into innovation management and how to apply innovations to achieve growth. However, the focus has always been on innovation as a business model. There have been few studies that actually focus on innovation management in Nigeria due to gaps in understanding between innovation processes and business growth.

This research was conducted to explore innovation knowledge and application in the context of online services of online groceries businesses. Nevertheless, and despite the value of this research to online grocery businesses in Nigeria, it will, hopefully, be useful to assess innovation management in other businesses in the service industry in Nigeria. It is noteworthy to observe that although some other studies have looked into the use of innovation to enhance business growth, the value of this research can be seen in its exploratory insight which can lead to a review of

businesses to accommodate innovation management. Also, while this research is unique in that it focuses on using process and incremental innovations to grow online services, other forms and types can be explored.

Also, as noted in the limitations to this research, it took place within the COVID-19 pandemic and as such, the researcher noticed an upward trend in online grocery shopping and as such, there will be need to research into how the pandemic has affected online grocery shopping in particular and the service industry in general to investigate how businesses are adopting innovations.

6.8 Further Research Limitations

This section talks about the limitations encountered in the course of this research. One of the major limitations that was faced by the researcher, was getting access to online grocery businesses. While online shops are quite common, those specializing in groceries are rare and most are not registered companies which make their business illegal and therefore not suitable for this study. Also, considering that most online grocery businesses were unclear about innovation management, some potential participants expressed reservations and either refused to participate or pulled out midway in the interview with some expressing confidentiality reasons. Some of these businesses also did not have any discernable organisational structures which made it impossible to identify respondents from various units as for some, the business owner doubled as the marketing manager and ICT manager and as such, responses would have been invalid. The researcher contacted more than 12 online grocery businesses located in Lagos and Abuja before getting the 5 businesses that met the necessary criteria of being a registered online grocery business with an identifiable organizational structure. Also, getting them to allow access to some of their customers was a challenge due to customer confidentiality issues. This was however overcome by developing an anonymous online interview questionnaire which the online grocery businesses were allowed to suggest to willing customers. To prevent the businesses from tampering with the responses, the feedbacks were sent directly to the researcher online.

Furthermore, the data collection of the research (March, 2020 to May, 2020) fell within the period of the COVID-19 pandemic which necessitated a lockdown in Lagos and Abuja and this made interstate and intrastate travel practically impossible and as such severely limited physical

meetings with the respondents. The researcher overcame this limitation by conducting sending the interview questions to some of the respondents via email and then following up with phone calls. The online grocery businesses that participated in this research naturally declined to share internal data and as such, the researcher placed emphasis on the respondents' viewpoints to explore the existing innovation management process or more appropriately, it's near absence, and this added greater value and insight to the research. Majority of the respondents who are ICT experts and managers in the online grocery businesses used for the case studies were in unison that while the overall business model was an innovation, there was little or no structures to drive innovation management leading to gaps and differences in practical application of innovation in the service process of online grocery businesses in Nigeria.

Also, time, mobility and resources constraints meant the researcher could not proceed a step further to verify findings using quantitative study, this however opens up opportunity for future research.

6.9 Chapter Summary

This research has explored the gaps and challenges that might affect the use of innovation to grow the online grocery business in Nigeria. The insight derived from the research suggested that the introduction and use of innovation management, specifically, process and incremental innovations, rather than reliance on creativity, in the online service process is one way by which innovation can be used to grow the business. Furthermore, this research explored how the infrastructural challenges of poor road networks and unstable power supply can affect the growth of online grocery businesses in Nigeria as well as customer perspectives towards online grocery shopping. The integration of these challenges along with the dependence on creativity is because of the weakness in innovation knowledge.

Though the findings capture the situational service environment of online grocery businesses in Nigeria, it can be translated to the general service industry in Nigeria, who share similar characteristics with the grocery business operating within the same business environment. Given the development status of developing countries like Nigeria, having innovation knowledge and know-how processes are vital in other to achieve the needed growth.

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APPENDICES

INTERVIEW GUIDE

Interview guide for Online Grocery ICT Managers

I appreciate your making out time for this interview. This interview is firstly for academic purposes and secondly to explore the use of innovation to grow online grocery businesses in Nigeria. The questions are designed to gain as much knowledge from your experiences and allow you contribute freely to the research. There are no right or wrong answers to any of the questions and you are free to decline to answer any question you find uncomfortable.

Your participation is voluntary and depending on the amount of knowledge and information you wish to share; the interview should take between 30-45 minutes. If you permit, I would like to record the interview session so as to be able to capture your comments and also take jottings. For those responding to these interview questions via email, your written responses will also be presented as stated. Your identity and contributions will be treated with utmost confidentiality.

There will be follow up questions (if necessary) via emails, phone calls and/or Whatsapp video call.
Do you have any questions or reservations so far? If yes, kindly state them before proceeding to Sections A and B. If no, proceed directly to Sections A and B.

SECTION A: Personal Information

1. Age
2. Occupation/Designation in the Company
3. Gender

SECTION B: Standard Survey Questions (for Online Grocery ICT Managers)

1. How long have you worked as an ICT manager for the online grocery business?
2. Does your company have a research and development unit?
3. How do you source/acquire technologies which you apply to the online service aspect of the business?
4. Since you started working, what new innovations have you introduced to the online aspect of the business and have these improved services?
5. Which aspects of the business process have you introduced these innovations?
6. What are some of the challenges you have encountered when introducing new innovations to the business as an ICT manager?
7. How would you describe the synergy between online marketing and online placement of orders?
8. Do you think the online marketing and order placement can be improved? If yes, how? If no, why not?

9. Do you consider your use of technology as radically changing your online service process?
10. What infrastructural challenges most affects the online grocery business?
11. Do you have any other information to provide that is related to the interview?

Interview Guide for Online Grocery Marketing Manager

I appreciate your making out time for this interview. This interview is firstly for academic purposes and secondly to explore the use of innovation to grow online grocery businesses in Nigeria. The questions are designed to gain as much knowledge from your experiences and allow you contribute freely to the research. There are no right or wrong answers to any of the questions and you are free to decline to answer any question you find uncomfortable.

Your participation is voluntary and depending on the amount of knowledge and information you wish to share; the interview should take between 30-45 minutes. If you permit, I would like to record the interview session so as to be able to capture your comments and also take jottings. For those responding to these interview questions via email, your written responses will also be presented as stated. Your identity and contributions will be treated with utmost confidentiality.

There will be follow up questions (if necessary) via emails, phone calls and/or Whatsapp video call.

Do you have any questions or reservations so far? If yes, kindly state them before proceeding to Sections A and B. If no, proceed directly to Sections A and B.

SECTION A: Personal Information

1. Age
2. Occupation/Designation in the Company
3. Gender

SECTION B: Survey Questions (for Online Grocery Marketing Managers)

1. How long have you worked as an online marketing manager for an online grocery business?
2. How effective is your online marketing platform/algorithm?
3. What online marketing innovations have you incorporated into the system? (e.g. chatbots, suggestions for similar items etc)
4. Is there a synergy between your online marketing and order placement platforms/algorithms?
5. How often do you introduce new technologies to your platforms?
6. As an online grocery business, what infrastructural challenges do you face while carrying out your business?
7. What prospects do you see for the growth of online grocery businesses in Nigeria?
8. Do you consider your use of technology as radically changing your service process?
9. Do you have any other information to provide that is related to the interview?

Interview Guide for ICT Experts

I appreciate your making out time for this interview. This interview is firstly for academic purposes and secondly to explore the use of innovation to grow online grocery businesses in Nigeria. The questions are designed to gain as much knowledge from your experiences and allow you contribute freely to the research. There are no right or wrong answers to any of the questions and you are free to decline to answer any question you find uncomfortable.

Your participation is voluntary and depending on the amount of knowledge and information you wish to share; the interview should take between 30-45 minutes. If you permit, I would like to record the interview session so as to be able to capture your comments and also take jottings. For those responding to these interview questions via email, your written responses will also be presented as stated. Your identity and contributions will be treated with utmost confidentiality.

There will be follow up questions (if necessary) via emails, phone calls and/or Whatsapp video call.

Do you have any questions or reservations so far? If yes, kindly state them before proceeding to Sections A and B. If no, proceed directly to Sections A and B.

SECTION A: Personal Information

1. Age
2. Occupation/Designation in the Company
3. Gender

SECTION B: Standard Survey Questions (for ICT Experts)

1. How long have you worked in the business side of the ICT industry?
2. Have you been involved in setting up online businesses in Nigeria or anywhere else?
3. What are some of the challenges you have encountered?
4. What is your opinion of the service industry in Nigeria?
5. Online business is obviously technology dependent, what are some of the technology available to online businesses in Nigeria?
6. From your experience as an ICT expert, how are new online technologies sourced by businesses?
7. Do you think online businesses in Nigeria have sufficient knowledge of available online technologies? And what are the reasons for your response?
8. Innovation is a critical component of online businesses, which aspects of the online business do you think would benefit most from innovation?
9. In your opinion, do you think innovation in the online grocery business in Nigeria should be made radically or incrementally? What is the reason for your answer?

   I don't think the online grocery business in Nigeria has been fully embraced. So any new innovation should be gradual or incremental.
10. Are you consulted by online grocery companies when they want to develop their online platforms?
11. What are the infrastructural challenges facing the service industry in Nigeria?
12. Do you have any other information to provide that is related to the interview?

Interview Guide for Customers

ONLINE GROCERY SERVICES IN NIGERIA

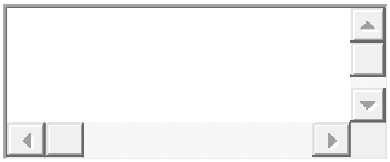
This is a educational research survey that is designed to gather information from online grocery shoppers in Nigeria on their online grocery shopping service experiences. There are no right or wrong answers and the insights provided will be used to address the issue of using process and incremental innovations to enhance growth in the online grocery business in Nigeria. All information provided will be used for educational and research purposes only and any personal information provided will be kept confidential.

1. For how long have you been buying your groceries online?

Your answer

2. How often do you make online grocery purchases and when was the last time you made an online purchase?

Your answer



3. Give example some grocery products you regularly purchase online (not more than 3 examples).

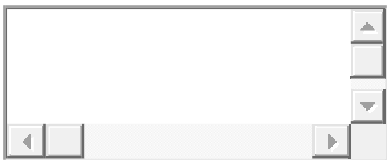
Your answer

4. Do you have your online grocery purchases delivered to you or do you pick them up?

Your answer

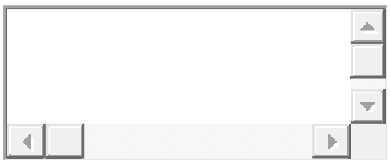
5. Does purchasing your groceries online provide a viable alternative to the normal grocery shopping? Give reason(s) for your answer.

Your answer



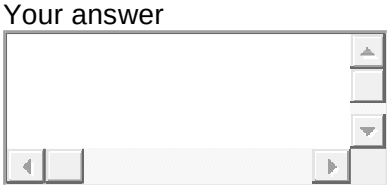
6. What aspect of online grocery service do you find most convenient to use? (e.g. order placement system, payment options etc)

Your answer



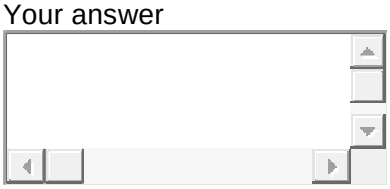
7. What aspect of online grocery service do you find most cumbersome to use? (e.g. order placement system, payment options etc)

Your answer



8. Does your preferred online grocery shop use online interactive marketing systems? (e.g. chatbots) and do you make use of them. Give reason(s) for your answer.

Your answer



9. How would you rate the online grocery shop order placement system? (Convenient or inconvenient)

Your answer

10. Since you started using the online grocery service, have you noticed any changes in the marketing and placement of orders systems of the online grocery shop and did the changes (if any) improve your customer service experience?

Your answer

11. Would you describe the changes in question 10 as radical or having no significant impact on your online grocery shopping experience?

Your answer

12. Please give your age, occupation and gender.

Your answer

13. What in your opinion do you think are the major obstacles to the growth of online grocery shopping in Nigeria?

Your answer

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