STRATEGIC CAPABILITIES, INNOVATION STRATEGY AND THE PERFORMANCE OF FOOD AND BEVERAGE SMALL AND MEDIUM ENTERPRISES

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STRATEGIC CAPABILITIES, INNOVATION STRATEGY AND THE PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES

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ABSTRACT

The main objective of this study is to examine the mediating role of innovation strategy on the relationship between strategic capabilities and the performance of Small and Medium Enterprises (SMEs) in the Food and Beverage (F&B) industry. Strategic capabilities, as a construct in this study, consist of top management capability, technological capability, learning capability and relational capability. Equally in the construct are innovation strategy and SMEs performance. After reviewing the available relevant literature on strategic capabilities and innovation strategy, a conceptual framework was developed based on the *Resource Based View (RBV) and Dynamic Capability Theory (DCT)*. Based on the model developed, a questionnaire was constructed and personally administered at random to collect the data from 229 respondents in the study area. *Algorithm and bootstrapping techniques of Partial Least Squared Structural Equation Model* (Smart PLS-3.0) was used to test the developed hypotheses of the study. The statistical results of the test supported most of the relationship hypothesized for the study. Top management and technological capabilities positively and significantly relates to F&B SMEs performance. Similarly, top management, technological, learning and relational capabilities significantly and positively related to SMEs innovation strategy. Innovation strategy positively impacted on performance. However, no significant relationship between learning capability, relational capability and SMEs performance was established. Moreover, significant mediation effect was established for all the four hypotheses. Consequently, the significant positive impacts of top management, technological, learning and relational capabilities postulate that these variables are valuable in influencing performance directly and indirectly through innovation strategy. On this note, F&B SMEs‟ managers are encouraged to develop and maintain these strategic capabilities for outstanding performance. The results of this research have contributed significantly to the body of existing literature, provided a guide to managers and policies makers, and proffered suggestion for future research based on limitation of the study.

Keywords: strategic capabilities, innovation strategy, SMEs performance

ABSTRAK

Objektif utama kajian ini adalah untuk mengkaji peranan pengantara strategi inovasi dalam hubungan antara keupayaan strategik dan prestasi industri Makanan dan Minuman (M&M) dalam Perusahaan Kecil dan Sederhana (PKS) di Nigeria. Keupayaan strategik yang dibangunkan dalam kajian ini terdiri daripada keupayaan pengurusan atasan, keupayaan teknologi, kemampuan pembelajaran dan keupayaan perhubungan. Strategi inovasi dan prestasi PKS turut dibangunkan. Selepas mengkaji sorotan karya berkaitan keupayaan strategik dan strategi inovasi, satu kerangka konsep telah dibangunkan berdasarkan Teori Pandangan Berasaskan Sumber *(RBV)* dan Keupayaan Dinamik *(DCT)*. Berdasarkan model yang dibangunkan, borang soal selidik dirangka dan ditadbir secara kendiri untuk mengumpul data secara rawak daripada 229 orang responden di kawasan kajian. Kaedah algoritma dan butstrap Pemodelan Persamaan Berstruktur Kuasa Dua Terkecil Separa (Smart PLS-3.0) digunakan untuk menguji hipotesis kajian. Keputusan ujian statistik menyokong kebanyakan hipotesis yang disarankan dalam kajian. Pengurusan atasan dan keupayaan teknologi mempunyai kaitan yang positif dan signifikan dengan prestasi PKS. Begitu juga dengan pengurusan atasan, keupayaan teknologi, keupayaan pembelajaran dan keupayaan perhubungan mempunyai perkaitan yang positif dan signifikan dengan strategi inovasi PKS. Strategi inovasi memberi kesan positif terhadap prestasi. Walau bagaimanapun, tiada hubungan yang signifikan antara keupayaan pembelajaran, keupayaan hubungan dan prestasi PKS. Selain itu, kesan pengantaraan yang signifikan telah dilihat bagi keempat-empat hipotesis. Oleh demikian, kesan positif yang signifikan bagi pengurusan tertinggi, keupayaan teknologi, keupayaan pembelajaran dan keupayaan perhubungan memperlihatkan bahawa pemboleh ubah adalah bernilai dalam mempengaruhi prestasi secara langsung dan tidak langsung melalui strategi inovasi. Dalam hal ini, pengurus PKS digalakkan untuk membangunkan dan mengekalkan keupayaan strategik demi mencapai prestasi yang cemerlang. Dapatan penyelidikan ini menyumbang secara signifikan kepada sorotan karya sedia ada dan memberi panduan kepada pengurus dan pembuat dasar, serta menyediakan cadangan untuk kajian pada masa hadapan berdasarkan batasan kajian.

Kata kunci: keupayaan strategik, strategi inovasi, prestasi PK

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LIST OF ABBREVIATIONS

ADB	African Development Bank
ATPC	African Trade Policy Center
AVE	Average Variance Extracted
BCG	Boston Consulting Group
BERD	Business enterprises research and development spending
BSC	Balanced Scorecards
CAMA	Company and Allied Matter Act
CBN	Central bank of Nigeria
CEO	Chief executive officer
CMD	Centre for Management Development
CMV	Common Method Variance
CR	Composite Reliability
DCT	Dynamic Capability Theory
DV	Dependent Variable
EEP	Entrepreneurship education program
ERGP	Economic Recovery and Growth Plan
EU	European Union
F&B	Food and Beverage
FCT	Federal Capital Territory
FIIR	Federal institute of industrial research
FP	Firm Performance
GDP	Gross Domestic Product
GII	Global Innovation Index
ICT	Information and Communication Technology
IDC	Industrial Development Centre
ITF	Industrial Training Fund
IPR	Intellectual Property Right
IS	Innovation Strategy
IV	Independent Variables
LC	Learning Capability
MAN	Manufacturing Association of Nigeria
MC	Top Management Capability

MOSTI	Malaysian Ministry of Science, Technology and Innovation
MSMEs	Micro Small and Medium Enterprises
MV	Mediating Variable
NACRDB Bank	Nigerian Agricultural, Cooperative and Rural Development
NOTAP	National Office for Technology Acquisitions and Promotion
NBCI	Nigerian Bank for Commerce and Industry
NBS	National Bureau of Statistic
NDE	National Directorate of Employment
NEEDS	National Economic Empowerment and Development Strategy
NERFUND	National Economic Reconstruction Fund
NIDB	National Industrial Development Bank
NIRP	National Industrial Revolutions Plan
NITDA	National Information Technology Development Agency
NLC	Nigerian Labour Congress
NSB	National Science Board
NSE	Nigerian Stock Exchange
NSRC	National Science Research Council (Malaysia)
OECD	Organization for Economic and Cooperative Development
OYA	Othman Yeop Abdallah Graduate School of Business
PRODA	Project Development Agency
PLS	Partial Least Square
PLS-SEM	Partial Least Square-Structural Equation Modeling
RC	Relational Capability
R&D	Research and Development
RMRDC	Raw Material Research and Development Council
ROA	Return on Assets
ROE	Return on Equity
ROS	Return on Sales
SAP	Structural Adjustment Program
SMEEIS	Small and Medium Enterprise Equity Investment Scheme
SMEDAN Nigeria	Small and Medium Enterprises Development Agency of
SMEs	Small and Medium Enterprises

SON	Standard Organization of Nigeria
SPSS	Statistical Package for Social Science
SSICS	Small Scale Industry Credit Scheme
SSM	Second tier Security Market
STI	Science, Technology and Innovation Policy
S&P	Standard and Poor
TC	Technological Capability
TQM	Total Quality Management
UAE	United Arab Emirate
UK	United Kingdom
UNCTAD	United Nation Committee on Trade and Development
US	United State of America
UUM	Universiti Utara Malaysia
VRIN	Valuable, Rare, Inimitable, Non-substitutable
WTO	World Trade Organization
YOUWIN	Youth Enterprise with Innovation in Nigeria

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The impacts of small and medium enterprises (SMEs) on economic growth have been sufficiently outlined in the management and economics literature and recognized by many governments as strategic avenue for economic transformation (Al-Ansari, Bederr, and Chen, 2015, Eniola and Entebang, 2015, Atsu, and Cornelius, 2014, Rosli and Hanafi, 2013). SMEs have been identified as indispensable instruments in the course of industrialization by both the developed, emerging and developing economies (Shamsudeen, Keat, and Hassan, 2016, Aminu and Shariff, 2015, Atsu and Cornelius, 2014, Minai, Ibrahim, and Kheng, 2012). Apart from enhancing output and per capita income, SMEs bring about opportunities for employment and promote effective exploitation of home-grown resources which are considered fundamental to the growth and development of an economy (Aminu and Shariff, 2015, Kofan Mata, and Shehu, 2014, Ogujiuba, Ohuche, and Adenuga, 2004).

SMEs are generally regarded as drivers of economic growth and industrial development of both developing and industrialized economies (June, Kheng, and Mahmood, 2013, SMEDAN, 2013, Nguyen, et al., 2008). Most Asian economies such as Japan, Korea, Malaysia, Singapore, India, Thailand, China, Vietnam use SMEs as instrument for technological development and industrial growth (Eniola, et al., 2014, Nguyen, Alam and Prajogo, 2008, Chen, 2006). Specifically, in Malaysia, SMEs account for 97.3% of industrial activities, and contribute more than 31% to

GDP (Musa and Chinniah, 2016). Similarly in the UK SMEs constitute 99% of industrial activities and contribute about 50% to GDP (Shieffield., 2013).

In China, SMEs subsector accounted for more than 80% of employment in urban area, contributing up to 50% to fiscal tax revenue and 60% to national GDP (Sham, 2014). Equally, in Kenya SMEs dominated the commercial and industrial activities by 90% and contributing up to 45% to the country"s GDP (Katua, 2014). Generally, SMEs in African continent have accounted for over 80% of employment generation to the African populace in the industrial sectors and constituted about 50% of the continent gross domestic product (GDP) (Akeyewale, 2018). Hence, similar transformation process could be simulated in Nigeria if the supporting environment was created.

However, various studies have shown that SMEs sector in Nigeria has not achieved the expected target, thus their contribution to the country GDP and economic growth falls below expectations (SMEDAN, 2012, Ogujiuba et al., 2004). Although the sector formed a substantial part of the industrial and commercial landscape in the country; contributing more than 90% of commercial and industrials activities but accounting for only 7.27% contribution to export and 48.47% to GDP in norminal terms, while it is less than 10% in real term (Shamsudeen, 2017, Kofan Mata and Shehu, 2014, SMEDAN, 2012). SMEs in Nigeria formed an exciting and vital part of the economy and are regarded as a possible solution to most of the socio-economic problems of the country (Eniola, 2014, SMEDAN, 2012, Onugu, 2005).

Equally, manufacturing is a crucial sector that plays an important role in the growth of an economy (Nawaz, Hassan and Shaukat, 2014). Thus, special interest to this sector stems out of the fact that it is a potential engine for economic development, an effective mechanism for creating skilled jobs, and a valuable avenue for positive spillover effects (Tybout, 2004). In Malaysia, the sector makes a significant contribution to economic growth of the country (AbdulHamid and Tasmin, 2013). In Kenya, manufacturing SMEs subsector provides substantial part of employment generated by industrial sectors and contributes more than 13% to the country GDP (Katua, 2014). However, in Nigeria only 9% of GDP and less than 1% of the total export is being contributed by the manufacturing sector (ERGP, 2017).

Nevertheless, F&B manufacturing SMEs today faced intense global competition and increasing customer demands for highly qualitative products and services, fast response and reliable deliveries times as well as new product functions (Malik, Teal and Baptist, 2006). In such a rapidly changing environment, innovation is considered as the prime strategic competitive factor F&B manufacturing SMEs (Kamboj and Rahman, 2017, Abereijo, et al., 2009). Thus to enhance the innovativeness of F&B manufacturing SMEs, the Nigeria‟s government has developed an industrial technological and innovation strategy to help firms develop the capacity to replicate the widely- known available industrial technologies and extend capacity by adapting new techniques to meet up the country‟s peculiar requirements (Daily Trust, 2017, MAN, 2017b NIRP, 2014).

Furthermore, Nigerian government in its quest to achieve its target for sustainable economic growth and development known as vision 2020 has established many

programs and policies to promote creativity and innovation to enhance the performance of the industrial sectors (ERGP, 2017, NIRP, 2014, Vision, 20:2020, 2009). In this regard, a number of technology-based universities and colleges, Business Development Center, (BDC), Industrial Training Fund (ITF), Nigerian Machine Tool Industry, National Information and Technology Development Agency (NITDA), National Office for Technology Acquisition and Promotion (NOTAP) have been established to facilitate and spur technological development in the country (Oyewale, et al., 2013, Onipede, 2010).

Most of these policies were aimed at inspiring local production through changes in the tariff regimes, quota, tax motivations, ban on some foreign product and creating supportive business environment (Osuagwu, Eberechi, Ndugbu, Osondu and Ayegba, 2016). However, the resultant effects of these measures escalate the production cost of most domestic producers which makes the price of their product uncompetitive in relation to foreign product (MAN, 2017, SMEDAN, 2012). The situation forced numerous F&B manufacturing SMEs out of operation in the last two decades especially in the northern part of Nigeria where the rate of the closure is very high; Kano and Kaduna are the notable example of the incident (Osuagwu, et al., 2016).

Subsequently however, the innovativeness in Nigeria‟s F&B industrial sector remained constrained mainly by low technological capacity, non-functional infrastructure, mediocre managerial practice, low commitment to R&D, costly patenty and unfriendly business environment (ERGP, 2017, Salisu, et al., 2017, Yauri, 2012); thus the ability of F&B manufacturing SMEs to innovate mostly remains unexploited (Olughor, 2015). However, Atsu and Cornelius, (2014) urged

that the delinquent accompanying the Nigerian firms low level of technological innovation was apparently not lack of effective policies, but commitment to expedite the creation of supportive atmosphere for innovation. For instance the FIIRO (Federal Institute of Industrial Research) has repeatedly protested over inadequate funds which made inventions from most of the important industrial research difficult (Aworawo, 2011).

Both developing and developed economies of all types nowadays promote innovation in their course of achieving economic and social development. It now absolutely understood that innovation is not only feasible and essential to technology sectors and high-tech companies, but inevitable to all the realms of the economy. Consequently, economies are boldly concentrating their commitments on the creations and maintenance of vibrant and dynamic innovation system and networks (GII, 2019). Consequently, business firms, governments, unions and researchers have become keenly interested on continuous innovation, to find effective means for growth and to ensure sustainability (Turulja and Bajgoric, 2019, OECD, 2007).

The only persistent business purpose in this technology driven ecosystem is to create distinctive values to stakeholders (Chen and Kitsis, 2017, Santos and Brito, 2012). Hence to create beneficial values to stakeholders, business firms must efficiently and effectively innovate in this intense competitive environment or else their rivals will render them irrelevant in the system (Damanpour, Walker, and Avellaneda, 2009). Moreover, the advancement of current technology driven competitors has compressed the duration to obsolescence in all industries (Kocak, Carsrud, and Oflazoglu, 2017). In this rapidly changing environment innovation is consider

inevitable for survival and growth (Briganti and Samson, 2019, Saunila, 2016). SMEs firms are commonly described as risky, flexible and reactive, being able to achieve profit from a flexible and quicker adjustment to environmental dynamism as a result of simplified organizational hierarchy and quick decision making to support innovation (Terziovski, 2010).

However, in line with the growing strategic importance in the past two decades, firm‟s innovation toolkit has significantly expanded with innovative concepts such as design thinking and open innovation (Fernandes, Ferreira, and Peris-Ortiz, 2019) creating new avenues to help firms raise their innovation performance (Leavy, 2019) and competitive position (Chen and Kitsis, 2017). In this situation, innovation presents an opportunities for SMEs entrepreneurs to improve their market position and performance in the Schumpeterian logic (Expósito, Fernández-Serrano, and Liñán, 2019). Hence, innovation nowadays is the major management buzzwords in both private and public organizations. To efficiently innovate however, business firms must craft effective innovation strategy (Kafetzopoulos and Skalkos, 2019, Hilman and Kaliappen, 2015, OECD, 2007). Therefore, effective innovation strategy represents an opportunity for Nigerian F&B SMEs to improve their competitive position and corporate performance.

Innovation strategy has been identified as an effective strategy that enhances firm‟s ability in tackling the challenges and uncertainty in the operating business environment (Leal Rodríguez, et al., 2015, Olughor, 2015, Saunila, 2014, Nybakk, 2012, Loewe and Chen, 2007). Through innovation strategy firms improve its capacity in exploiting opportunities and managing environmental threats (Matzler, et

al., 2013, Nybakk, et al., 2012) and achieve competitive advantage (Kaliappen and Hilman, 2017, Brem, Maier, and Wimschneider, 2016).

Innovative strategy facilitates firm‟s felexibility to identify and explore opportunities ahead of competitors (Bennett and Smith, 2002, Damanpour and Gopalakrishnan, 2001, Gatigno and Xuereb, 1997), hence easily adjust to the changing operating environment and customers‟ demand which in turn becomes a source of sustainable competitive edge (Leal Rodríguez et al., 2015, Teece and Pisano, 1994). Therefore, innovation has been considered as a major determinant of firm‟s survival and growth, thus a firm unmindful to this reality of innovativeness is clearing its path to grave (Kheng, Mahmood, and Beris, 2013). However, to develop effective innovation strategy, innovative firm invest substantially in understanding market environment, technology and service dynamism (Engel, Dirlea, Dyer, and Graff, 2015).

Most innovative business firms are dedicated to R&D and are aggressively proactive to develop new technologies and other capabilities to design administrative, product or process innovation strategies so as to effectively satisfy the market needs and demand than competitors (Pufal, et al., 2014, Zhou et al., 2005, Hitt and Hoskisson, 1990). Essentially, innovation strategy enables the creation of more economic value with minimal resources, thus it is considered as the major driver in improving SMEs productivity and growth (Productivity Commission, 2015, Pufal et al., 2014, Nybakk and Jenssen 2012).

However, the success of SMEs firm‟s innovative activities is contingent upon its crucial capabilities that ssupport one another, which consist of managerial and

technological capabilities (Zawislak, et al., 2012). For this reason of achieving a defensible competitive edge, innovative SMEs effectively select and adopt a diverse and distinctive sets of capabilities that help provide exceptional benefits to the market (Acar and Acar, 2012). Therefore, successful conception and implementation of firm‟s strategies depend on the robustness of its strategic capabilities (Parnell and Brady, 2019, Parnell, 2018, Peris-Ortiz, Devece-Carañana, and Navarro-Garcia, 2018, Simon, Kumar, Schoeman, Moffat, and Power, 2011, Größler, 2010, Salavou, 2005, Bennett and Smith, 2002, Amlt and Schoemaker, 1993).

Therefore, strategic organizational capability has been described as the firm‟s ability to strategically combine its operational resources and capabilities with business processes in a distinctive and efficient manner to accomplish objectives (Huikkola and Kohtamäki, 2017). Größler, (2010) designated strategic capabilities as the success determinant factors of a firm which support its corporate strategy and helps to succeed in the market place. Strategic capabilities signify distinctive resources entrenched in the firm, whose role is to upsurge the productivity of other resources at the disposal of the firm to achieve better performance (Makadok, 2001). Thus, unlike ordinary physical resources; capabilities denote firm‟s capacity to deploy its assets and increase their potential to enhance performance (Acar and Zehir, 2009, Mahoney, 1995).

Based on the issues raised affecting the performance of Nigerian F&B SMEs and the literature reviewed, this study considers top management capability (MC), technological capability (TC), learning capability (LC) and relational capability (RC) as crucial capabilities to influence the innovation strategy and the performance of

SMEs in Nigeria. MC, TC, LC and are consider strategic capabilities rather than organizational capabilities in this study because, the former represent deployment of capabilities to confront both internal and external threat and exploit opportunities to achieve sustainable growth in competitive and changing environment. Strategic capabilities are sophisticated bundles of accumulated knowledge and skills that enable firms to synchronize internal and external operational activities effectively and utilize resources proficiently (Assudani, 2008, Teece, et al., 1997).

Firm‟s successful deployment of innovative strategy to enhance performance depends on competent top management (Garcés-Galdeano, et al., 2016, Pufal, et al., 2015), effective technological capability (Kocak, Carsrud, and Oflazoglu, 2017, Gathogo and Ragui, 2014), learning capability (Peris-Ortiz, Devece-Carañana, and Navarro-Garcia, 2018, Mansoor and Ratna, 2014), and relational capability (Aloini, Pellegrini, Lazzarotti, and Manzini, 2015, Schweitzer, 2014). Therefore, firm‟s ability to strategically identify, organize, reconfigure and combine these resources determines its chances to achieve desired competitive performance (Pucci, et al., 2017, Acar and Zehir, 2010, Grewal and Slotegraaf, 2007).

Studying strategic capabilities was not limited to this studies (Parnell and Brady, 2019, Alan et al., 2017, Rodriguez, et al., 2013, Simon, et al., 2011, Sussan and Johnson, 2003, Kippenberger, 1998). Numerous studies have examined the role of strategic organizational capabilities (MC, TC, LC, RC) and the performance of business firms; (Wang and Dass, 2017, Garcés-Galdeano, et al., 2016, Serna, Vega and Martínez 2016, Hayton 2015, Pufal et al., 2015, Reichert and Zawislak, 2014,

Nafei 2014, Nohe, et al., 2013, Chen, et al., 2012, Teece, 2010, Ainin et al., 2010, Acar and Zehir, 2009, Becker, 2008, Hitt and Hoskisson, 1990).

However, these extant studies examined only one of the above variable or in conjunction with other variables outside this combination. Due to the complixity of strategic organizational capabilities, evaluating a single capability may not provide comprehensive explanation of firm performance (Parnell and Brady, 2019, Parnell, 2018, Simon, et al., 2011, Größler, 2010). Therefore, the current study examined the combined influence of MC, TC, LC RC on the performance of manufacturing SMEs in Nigeria through mediating role of innovation strategy. This was informed by the extant literature (Salisu, Abu Bakar, and Abdul Rani, 2017, Lubango, 2015, Oyelaran-Oyeyinka and Adebowale, 2012, Yauri, 2012, Radwan and Pellegrini, 2010).

Government and the society are nowadays demanding that innovation in business model, product, processes and services from organizations be accompanied by the consideration and responsibility to sustainable development (Kneipp, Gomes, Bichueti, Frizzo, and Perlin, 2019). Furthermore, Hall and Wagner, (2012) sought for a study analyzing firm‟s capabilities for sustainable development of innovation and entrepreneurship. In the same vein, Lattuch (2019) recommended for quantitative analyses of innovation strategy and performances of SMEs. Equally, Nybakk and Jenssen, (2012) suggested for a study to examined the influence of innovation strategy on firm‟s capabilities.

Even though prior studies have established a significant relationship between MC, TC, LC, RC and innovativeness of various firms, however the role of innovation strategy on the relationship between MC, TC, LC, RC and the performance of SMEs is not yet clear. Therefore, based on the resource based view (RBV) which entails the development and deployment of valuable, uncommon, unique and non-substitutable resource; and the dynamic capability theory (DCT) which postulates the need for firms to reconfigure and implement new or modified capabilities for sustainable competitive advantage in a changing operating environment; the mediating role of innovation strategy on the relationship between MC, TC, LC, RC and the performance of Nigerian F&B manufacturing SMEs was investigated.

1.2 Statement of Research Problem

The performance of food and beverage (F&B) manufacturing small and medium enterprises (SMEs) in Nigeria has become an issue of grave concern to governments, academics and industry players (ERGP, 2017, NBS, 2016). The market structure of Nigerian F&B sub-sector is oligopolistic in nature with 15% of the industrial actors (large local and multinational companies) controlling 90% of the total sales volume, while SMEs constitutes 85% of the total players, but control only 10% of the total market sale volume (Fairtrade, 2018). Manufacturing sector in Nigeria accounts for 78.62% of men employment in industrial sector and 18.98% of female employment (NBS, 2014). The food and beverage (F&B) sub-sector represent more than 51% of the total activities of the manufacturing sector.

However, the contribution of F&B to employment, export and GDP is less proportionate to its size (NBS, 2017). Chemical and pharmaceutical manufacturing

sub-sector has the higher engagement of employees and paid employment constituting 40.05% of the total employment in manufacturing sector. While F&B sub-sector, account for 10.46% of the total employment in the Nigerian manufacturing sector (NBS, 2014). Accordingly, the sectorial growth of F&B declined significantly to negative throughout the year 2015 and 2016. F&B recorded -0.82; -5.90; -8.87; -5.63 and -11.12; -5.53; -5.75 and -2.65 percents growth rate for the 1st, 2nd, 3rd and 4th quarters of 2015 and 2016 respectively. Figure 1.1 below represents the trends of the sectorial growth from 2014-2016.

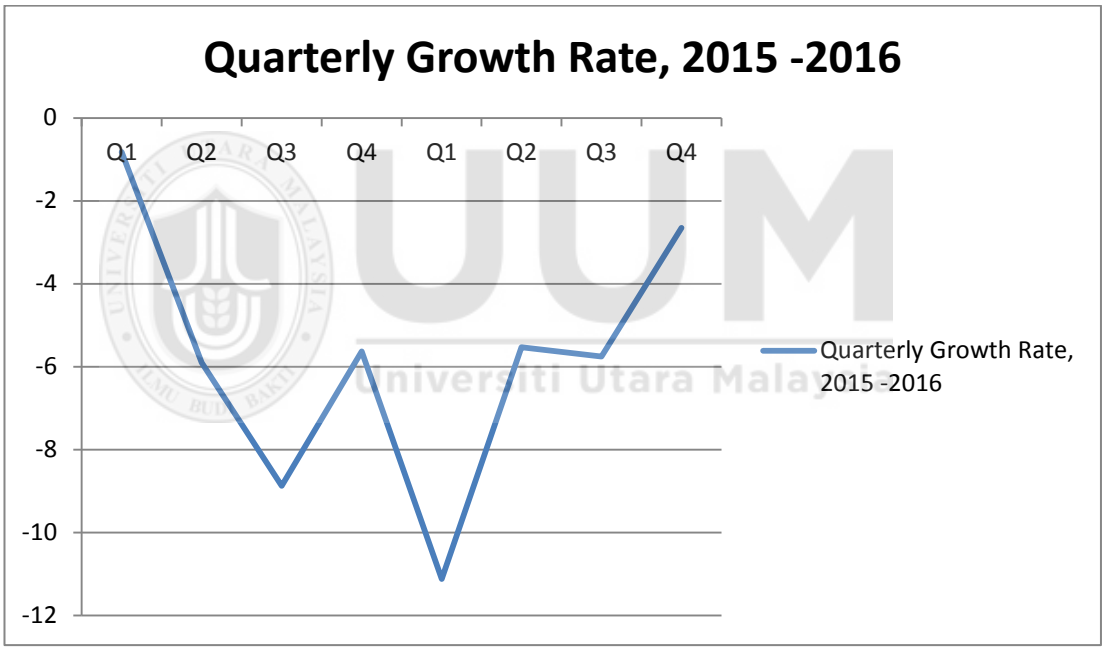

Figure 1.1
Quarterly Real Growth of Nigerian F&B Manufacturing Sector 2015-2016

(Source: NBS, 2017)

The under performance of the Nigerian F&B manufacturing SMEs has been ascribed to their failure to innovate (ERGP, 2017, NIRP, 2014). The innovation system in Nigeria is not well-developed as that of its counterparts in African (GII, 2015, Radwan and Pellegrini, 2010). The patent system in Nigeria undermines invention

and innovative activities (Akeyewale, 2018, Yauri, 2012). Lack of linkage between research institutions and private firms affects commercialization of result and weakens the turning of inventions into innovation (GII, 2015, Oyelaran-Oyeyinka et al., 2012). Lack of technological capabilities and managerial skills in SMEs (Asante, Kissi and Badu, 2018, Aminu and Shariff, 2016), insufficient private and public investment in R&D (GII, 2015, Lubango, 2015).

The global innovation index (GII) of the year 2015 ranked Nigeria far below its African and Asian counterparts in term of innovativeness. Specifically, Nigeria was ranked 128 below its African counterpart such Uganda 111, Ghana 108, Senegal 84, Morocco 78 and South Africa 60 in term of innovation achievement in 2015. Similarly, Asian countries such as Malaysia was ranked 32, Cyprus 34, Sri Lanka 85 and Indonesia 97 all performed excellently better than Nigeria (GII, 2015). In 2018 South Africa, Kenya and Mauritius appears to be the most three innovative countries from the sub-Saharan countries of Africa, while Nigeria falls in the below development expectation category (GII, 2019).

Nevertheless, innovation has been considered a necessary requirement for the existence and thriving in today‟s changing business environment (Turulja and Bajgoric, 2019, Kafetzopoulos and Skalkos, 2019, Kheng, Mahmood, and Beris, 2013), therefore, innovation is crucial nowadays than any other factors for survival and growth (Raghuvanshi, et al., 2019, Muddaha and Kheng, 2016) and competitive advantage (Aziz and Samad, 2016). This has also been underscored by the literature on diffusion of innovation (Rogers, 2004, Rogers, 2002). However, SMEs have

generally recognized the role of innovation, but lack the strategy to successfully accomplish their innovative goals (Abu Bakar and Ahmad, 2012).

Accordingly, the promotion of cognizant innovation and technological strategies are the key to the enhancement of F&B SMEs performance (SMEDAN and NBS, 2013, OECD, 2007). Thus, conscious innovation strategy is critical to innovation successes and competitive advantage (Guo, 2019, Kaliappen and Hilman, 2017, Sharmelly, 2017; Taghizadeh, et al., 2016; Ndubisi, et al., 2015, Nybakk and Jenssen, 2012, Akman and Yilmaz, 2008, Jenssen and Randøy, 2002, Zahra and Das, 1993) and firm‟s survival (Ulubeyli, Kazaz, and Sahin, 2018). Innovation strategy has provided SMEs firms with a new variety of alternative strategy to drive growth by staying flexible and responsive to environmental demands and changes (Peris-Ortiz, et al., 2018, MAN, 2016, Ndubisi, eta al., 2015).

Innovation strategy empowers firms to develop uniqueness from their competitors and generates wealth (Zahra and George, 2002). This demonstrates the importance of developing effective strategy for successful and sustainable innovation process in SMEs firms (Hilman and Kaliappen, 2015, Abu Bakar and Ahmad, 2012). Arabshahi and Fazlollahtabar, (2019), Akman and Yilmaz, (2008) and Lawson and Samson, (2001) undercore the view that without effective innovation strategy, enhancing innovation capability and achieving innovation success are impossible. Through innovation strategy, enterprises identify, acquire, operate and transform a given technology to suit a particular operational, managerial and business activities that help the firm to innovate (Alexe and Alexe, 2016, Zawislak, Alves, et al. 2012).

Thus, firm‟s strategy to innovate plays a significant role in the attainment of superior benefits to stakeholders (AbdulHamid and Tasmin, 2013). Salavou, (2005) and Dougherty and Hardy, (1996) urged that the development and sustainability of firms innovation activities depends on its resources, alliance structure, problem-solving process and business innovation strategy. Consequently, innovation strategy plays an important tactical role in the firm's efforts to gain market competitive advantages which in turn improve performance (Aini, Chen, Musadieq, and Handayani, 2013).

Innovation strategy enhances effectiveness (Duhaylongsod and De Giovanni, 2018), facilitates innovation process and serves as mechanism through which firms respond to the market challennges and improves competitive advantage (Auken, Madrid-Guijarro and Garcia-Pérez-de-Lema, 2008). It also determines the firm‟s success in future (Assink, 2006), thus, considered as the best strategy for achieving continuous product and process innovation (Nijhof, Krabbendam, and Looise, 2002). Hence business firm strives to develop their innovative strategy in order to achieve new output target, improve profit and better performance (Bukhamsin, 2015).

Nevertheless, the conception and the implementation of effective and efficient innovation strategy is contingent upon firm‟s strategic organizational capabilities (Norris and Ciesielska, 2019, Amlt and Schoemaker, 1993). Therefore, to promote innovation and drive firm‟s growth and competitiveness, managers must be bold enough to develop and improve their firm‟s capabilities (Oluwatobi, 2015, Ma, 2002, Matthyssens and Vandenbempt, 1998, Prahalad and Hamel, 1994, Teece, 1992). Thus, top management capability (MC), technological capability (TC), learning

capability (LC) and relational capability (RC) are essential capabilities that can help F&B SMEs achieve sustainable innovation and competitive performance.

MC has been identified as an essential factor that facilitates creativity and firm‟s innovative process (Minh, Badir, Ngoc, and Afsar, 2017, Farrokhian and Soleimani, 2015). Various empirical research have demonstrated the significant influence of MC on innovation activities (Minh, et al., 2017, Ruiz-jiménez and Fuentes-fuentes 2015, Pufal et al. 2015, Goodale, et al., 2011). and performance (Ahmed and Mohamed, 2017, Shigang and Guozhi, 2016, Hayton 2015, Sreckovic 2015, Davis et al., 2010, Birkinshaw and Goddard, 2009). Nevertheless, mediocre management is the most common feature of small and medium enterprises in Nigeria (SMEDAN and NBS, 2013).

Managerial inefficiency play a central role in gross underperformance of Nigerian manufacturing SMEs (MAN, 2017). Limited entrepreneurial awareness and efficacy as well as ineffective business planning are some of the major constraint to SMEs in Nigeria (Shamsudeen, 2017). Misappropriation of resources and lacks of strategic orientations are noticeable constraints in Nigeria business firms, especially SMEs (Aminu, 2015). Shamsudeen (2017) and Sanusi, (2003) identified that low entrepreneurial capacity and managerial skills are major factors affecting SMEs performance. Nigerian SMEs proprietors and managers mostly prepared operating on limited openness, thus employing unskilled or semi-skilled labor. This seriously affect the productivity, confine expansion and impedes their competitiveness (NIRP, 2014, Sanusi, 2003).

Most SMEs in Nigeria do not maintain proper record of transactions and accounts. Consequently, no effective planning and control on the operation of SMEs (Shamsudeen, Keat, and Hassan, 2016, Aminu and Shariff, 2016). Accordingly, lacks of appropriate educational qualification and inadequate global business exposure constrains the ability of Nigerian F&B SMEs to seize business opportunities for growth and expansion (Sanusi, 2003). However, lack of substantial information on the role of top management capability on the performance of Nigerian F&B SMEs exist. Therefore, based on the isuue raised and the suggestion of Shamsudeen, (2017) for research to consider evaluating the role of top management capability on the performance of Nigerian F&B SMEs, MC was adopted in this study.

Technological capability (TC) enhances firm‟s competence in fashioning innovation strategy that allows firms to achieve differential performance in reaction to the customer demand and other market challenges (Rugui and Gathogo, 2014, Lestari, Thoyib, Zain, and Santoso, 2013). However, obsolete technologies and techniques remains a major bottleneck to Nigerian SMEs (SMEDAN and NBS, 2013). Aminu and Shariff, (2016) identified lacks of technological capability as the major factor constraining the technological development of SMEs in Nigeria.

The Nigerian industrial sector is littered by apparent dearth of technology entrepreneurship, which lead to low productive capacity and minimal value additions (Monday and Festa, 2011), which resulted in low capacity for the creation and increasing level of wealth and employment (Adeodun, Daniyan, Omohimoria, and Afolobi, 2015). SMEs managers in Nigeria hesitate to develop and adopt new

technologies because of lack of the capability and personnel to properly operate and maintain them (Ajonbadi, 2015).

Numerous empirical studies have linked the concepts of technological capability to innovation outcome across different organizational and cultural setting (Alvarez and Iske, 2015, Pednekar, 2015, Iliopoulos, et al., 2012) and performance (Navimipour and Soltani, 2016, Nakola, Buigut, and Kipchirchir, 2015, Reichert and Zawislak, 2014, Chantanaphant, et al., 2013). Nevertheless, a dearth of empirical information exists on the role of TC on F&B SMEs innovation strategy and performance. Limited previous studies concentrated on firms in technology, electronics, plastic, professional services industries. Hence TC is adopted as an independent variable in this study based on the suggestion of Shamsudeen, (2017).

Learning efficiency is another problem constraining the innovativeness and performance of SMEs in Nigeria (MAN, 2017, Olughor, 2015). Managerial commitment, openness and experimentation for learning were not given more attention in by Nigerian SMEs (Aminu and Shariff, 2016). Consequently, Nigerian government demonstrated commitment to enhance the absorptive capacity of the industrial sector to learn, assimilate and exploit modern techniques and knowledge to enhance performance (MAN, 2017).

Learning capability (LC) is the mechanism that helps firm‟s turn resources into valuable, inimitable, rare and non-substitutable through experience (Acar and Zehir, 2009). Thus learning is an essential firm‟s resources to improve innovativeness and sustainable competitive advantage (Verma, Singh and Rao, 2014, Mat and Razak,

2011). The effectiveness of innovation strategy for productivity and growth is determined by firm‟s ability in creating new technologies and greater commitment in knowledge creation and usage (OECD, 2007).

Various empirical studies have demonstrated the significant role of learning on the firm‟s innovation process (Serna, Vega and Martínez, 2016, Kiziloglu, 2015 Aini et al., 2013) and overall firms performance (Pucci, et al., 2017, Hailekiros and Renyong, 2016, Kocoglu and Ince, 2011). Specifically, the impacts of LC have been examined in various field including healthcare, (Salas-Vallina, et al., 2017), constructions (Manley and Chen, 2015), service and education (Camps, et al., 2011, Limpibunterng and Johri, 2009), software (Hakala and Kohtamäki, 2011), and Military (Visser, 2016). However, limited literature on learning capability and innovation strategy of F&B SMEs in manufacturing sectors exist. Therefore, LC is adopted in this study as an independent variable.

Small and medium enterprises performs important role of linkages (Eniola, 2014). However, the effects of both the forward and the backward linkages in Nigerian F&B manufacturing sectors have not visibly manifested. The scope of collaboration particularly backward integration in Nigerian F&B manufacturing sector is limited as a result of over reliance on foreign inputs, just as the forward integration due to the SMEs inability to provide inputs to larger industries (Usman, 2015). The fact that the ratio of inputs intakes was recorded at 60:40 between local and foreign source, however, due to the low value of the local manufacturing activities, its contribution to industrial upgrading is minimal (NBS, 2017, NBS, 2014). Consequently, the service sectors like ICT, trade and financial services in Nigeria grown independent of

local manufacturing industry (Usman, 2015).

However, it has been established that relationship and collaboration with relevant partners provide firms with advantage to access market, information, technologies and resource to facilitate the accomplishment of strategic firm‟s goals of economic of scale (Rajasekar and Fouts, 2009, Theoharakis, et al., 2009). Extensive empirical studies have demonstrated the significance influence of relational capability (RC) on firms‟s innovativeness and performance (Silvestri and Veltri, 2017, Shou, et al., 2017, Aloini, et al., 2015, Schweitzer, 2014).

The impacts of collaboration with partners on the performance of organization is noticeable in various sectors. For instance in aviation industry (Rajasekar and Fouts, 2009), biotechnology (Baum, et al., 2000), information and communication technology (Ritala, et al., 2008) library collection (Harper and Norelli, 2007), forestry (Henttonen and Lehtimäki, 2017) and financial service (Ulbrich and Borman, 2017). However, limited is known of the impacts of RC on F&B SMEs innovativeness. Consequently, base on the challenges of F&B SMEs innovation in Nigeria, and the suggestion of Mamédio et al., (2019), RC is adopted in this study as one of the independent variables.

Several previous studies have demonstrated the influence of innovation on the relationship of firm‟s business process, capabilities and strategies with performance (Obeidat 2016, Yusr 2016, Hemmati and Hosseini 2016, Khan and Terziovski, 2014, Setyanti, et al., 2013, Moghaddam et al., 2013). Nevertheless, the adoption of mediating role of innovation strategy was informed by the significant positive effects

of these strategic organizational capabilities (MC, TC, LC, RC) on the innovation strategy as well as the performance (Wang and Dass, 2017, Pucci, et al., 2017, Hilman and Kaliappen, 2015, Hayton, 2015, Reichert and Zawislak, 2014, Atak, 2011) based on the Hayes, (2009) and Baron and Kenny, (1986) views for the introduction of mediator variable on the relationship. Most importantly also the suggestion of Nybakk and Jenssen, (2012).

However, the use of innovation strategy as a mediator is not limited to this study, but several other previous studies (Turulja and Bajgoric, 2019, Segarra-ciprés and Boullusar, 2018; Taghizadeh, et al., 2016). Nonetheless, most of these studies examined the mediating effects of innovation startegy on other factors such as "Access, Dialogue Tranferency and Risk on the market performance of firms", "external knowledge search for Innovation", and "environmental turbulence and performance". Consequently, literature on the mediating role of the strategy for sustainable innovation and competitive performance of SMEs firms is quite limited.

From the extant literature reviewed, there is limited studies on the mediating effect of innovation strategy on the relationship between MC, TC, LC, RC and the performance F&B SMEs. Accordingly, available existing studies were conducted mostly on large firms and from construction, service, forestry and military. Similarly, the existing limited empirical studies on MC, TC, LC, and RC have been conducted in Asian emerging and western developed economies (Wang and Dass, 2017, Pucci, et al., 2017, Hayton, 2015, Reichert and Zawislak, 2014, Atak, 2011, Rajasekar and Fouts, 2009), whereas limited literature from developing country of Africa like Nigeria exists.

Furthermore, another essential issue identified is that most of the previous studies reviewed used established survey instruments (Ahmed and Mohamed, 2017, Silvestri and Veltri, 2017, Serna, Vega and Martínez, 2016, Lo, Stepicheva, and Peng, 2016, Hayton 2015, Schweitzer, 2014, Pansari, 2005), this warrants the need to re-justify the reliability and validity of these instruments and evaluate their applicability in different cultural set-up. Therefore, this study examined the mediating role of innovation strategy on the relationship between MC, TC, LC, RC and the performance of F&B SMEs in Nigeria to fill in these essential gaps.

1.3 Research Questions

From the foregoing statement of the research problem the following questions were to drive the study.

1. Is top management capability significantly related to the performance of Nigerian F&B manufacturing SMEs?
2. Is technological capability significantly related to the performance of Nigerian F&B manufacturing SMEs?
3. Is there any significant relationship between learning capability and the performance of Nigerian manufacturing SMEs?
4. Is relational capability significantly related to the performance of Nigerian F&B manufacturing SMEs?
5. Is there any significant relationship betweent top management capability and the innovation strategy of Nigerian F&B manufacturing SMEs?
6. Does technological capability significantly relate to the innovation strategy of Nigerian F&B manufacturing SMEs?

7. Does learning capability significantly relate to the innovation strategy of Nigerian F&B manufacturing SMEs?
8. Does relational capability significantly relate to the innovation strategy of Nigerian F&B manufacturing SMEs?
9. Does innovation strategy significantly relate to the performance of Nigerian F&B manufacturing SMEs?
10. Does innovation strategy mediate the the relationship between MC, TC, LC, RC and the performance of Nigerian F&B manufacturing SMEs?

1.4 Objectives of the Study

The aim of this study is to determine the level of innovativeness in Nigerian F&B sub-sector, and examine the mediating role of innovation strategy on the relationship between strategic organizational capabilitiess and the performance of F&B manufacturing SMEs in Nigeria. To achieve this the following specific objectives guide the study:

1. To examine the significant relationship between top management capability and the performance of Nigerian F&B manufacturing SMEs.
2. To examine the significant relationship between the technological capability and the performance of Nigerian F&B manufacturing SMEs.
3. To examine the significant relationship between learning capability and the performance of Nigerian F&B manufacturing SMEs.
4. To examine the significant relationship between relational capability and the performance of Nigerian F&B manufacturing SMEs.
5. To examine the significant relationship between top management capability and the innovation strategy of Nigerian F&B manufacturing SMEs.

6. To determine the significant relationship between technological capability and the innovation strategy of Nigerian F&B manufacturing SMEs.
7. To determine the significant relationship between learning capability and the innovation strategy of Nigerian F&B manufacturing SMEs.
8. To determine the significant relationship between relational capability and the innovation strategy of Nigerian F&B manufacturing SMEs.
9. To determine the significant relationship between innovation strategy and the performance of Nigerian F&B manufacturing SMEs.
10. To determine the mediating role of innovation strategy on the relationship between MC, TC, LC RC and the performance of Nigerian F&B manufacturing SMEs.

1.5 Significance of the Study

A study "entrepreneurial awareness, entrepreneurial self-efficacy, viable business plan and performance" by Shamsudeen, (2017), sought for studies on firm"s strategic resources such as managerial capability, individual disposition, networking, learning, dynamic and other SMEs operational capabilities to augment the finding of his study. Equally, Chantanaphant, et al., (2013) suggested for an empirical examination of other strategic capabilities on the performance of SMEs. This study is therefore significant by providing empricial findings that filled in these gaps. Similarly, this study is significant due to the fact that; studies that examined empirically the combined effects of strategic capabilities (MC, TC, LC, RC) on the innovation strategy and the performance of F&B manufacturing SMEs are quite limited, thus, this study is timely and valuable which provided literature that filled in this gap.

Furthermore, conducting this empirical research has also provided a comprehensive understanding of the relationship between MC, TC, LC, RC and the performance of F&B SMEs in Nigeria. Equally, the study has contributed to the pool of theoretical knowledge by combining the resource-based view (RBV) and dynamic capability theory (DCT), a rare approach in examining the roles of SMEs strategic capabilities. Explicitly, the study demonstrates how MC, TC, LC and RC as VRIN resources helps F&B manufacturing SMEs create sustainable competitive advantage and superior performance in its industry. The study demonstrates how F&B SMEs managers recognize and consider the role of these strategic capabilities on the decision of how to enter and stand in the market. RBV Postulated that effective development and utilization of strategic organizational resources help firms to grow, diversify and effectively maintain competitive position (Barney, 1991).

DCT on the other hand, postulates how firms need to reconfigure and develop operational capabilities to achieve and sustain competitive advantage in changing business environment. The study revealed how MC, TC, LC, RC and innovation strategy as a dynamic capabilities helps SMEs to survive and maintain competitive position in a rapidly changing environment. The DCT provides a valuable conceptual bases for the understanding of the firm‟s competitiveness, and the procedures through which firms‟ formed, reconfigured and integrate their strategic resources and capabilities to respond effectively to the changing market demand (Eisenhardt and Martin, 2000).

Therefore, F&B SMEs that effectively configured it strategic capabilities such as top management, technological, learning and relational capabilities can effectively

outperform competitors in rapidly changing market environment. These capabilities can enable F&B SMEs firms to effeciently coordinate its affairs, identify, acquire and exploit new technologies as well as access and organize new knowledge that can assist reinforce and expand its market position.

This study has equally created and expanded the existing literature by empirically testing the mediating effects of innovation strategy on the relationship between MC, TC, LC, RC and the performance of F&B manufacturing SMEs. Likewise, this study is one among the limited empirical researches that covered a specific F&B manufacturing SMEs sector. It is also one among the few studies that represents the entire three geopololitical zones of northern Nigeria. Furthermore, the findings of this study have equally unlocked what precisely enhances the innovation strategy and the productivity of the F&B manufacturing SMEs in Nigeria. Therefore, the conclusions drawn in this study would provide several managerial and practical benefits if properly applied by the Nigerian managers and policy makers in the course of revamping the persistent low performance of F&B manufacturing SMEs sectors in the country.

Furthermore, the findings of this study would be beneficial to individuals and organizations interested in the promotion and development of F&B SMEs locally and globally in designing and executing policies concerning F&B manufacturing SMEs in particular and SMEs in general. It would also provide owner/managers of F&B manufacturing SMEs with what techniques to be employed to effectively exploit opportunities. Additionally, the study would greatly promote the growth of Nigerian F&B manufacturing SMEs, especially in identifying and implementing strategies for

achieving excellent performance and sustainable competitive advantage in the rapidly changing operating environment. Equally, the study would serve as a reference document to scholars to expand the body of knowledge and academic understanding on the variables under study.

1.6 Scope of the Study

This survey research has specifically concentrated on the performance of food and beverages (F&B) manufacturing SMEs sub-sector of the Nigerian economy. Accordingly, the concept of strategic capabilities is so complex consisting of numerous elements. Thus, this study examined the influence of top management capability, technological capability, learning capability and relational capability on F&B SMEs performance. The study has equally dwelled on the mediating role of innovation strategy on the relationship between MC, TC, LC, RC and the performance of Nigerian F&B manufacturing SMEs. The study was conducted in northern Nigeria through survey questionnaire design. Precisely, the survey questionnaires were administered personally to the owners/managers of F&B manufacturing SMEs located in Bauchi, Kano and Niger states. This is due the fact that owner/managers are in better position to know adequately the strategic activities and information concerning the operation of their enterprises.

F&B account for the greatest number of activities in Nigerian manufacturing sector, specifically, it took up to 51.74% of the total activities and the contribution of this sector to GDP. While textiles apparel and footwear contribute 18.02%, follow by cement and oil refining with 6.23% and 5.70% respectively (NBS, 2017, Usman, 2015). Therefore, the F&B sector was selected for this study. This sub-sector is

believed to be sufficiently enough to carried on a survey research of this nature. Similarly concentrating on a single sub-sector would possibily reduce the chance of biases in data gathered because of the identical characteristics of object under study (Creswell, 2014).

The northern part of Nigeria was selected in this study because of the belief that the region has been for long period known in term of trading and industrial undertakings (Aminu, 2015). Most of the previous studies conducted on SMEs operating in northern Nigeria however, Shamsudeen, (2017), Ibrabim, (2016), Aminu, (2015), Mukhtar, (2014) largely concentrated on SMEs operating in north-western Nigeria. Ibrabim, (2016) sought for study that cover more Nigerian geographical set up. However empirical studies on SMEs that thoroughly cover the whole three geo-political zone of northern Nigeria is quite limited. This study therefore, covered all the three (3) geopolitical zones of northern Nigeria. Cresswell, (2012) opined that a study is worthwhile if it covers wider phenomenon or examines the phenomenon more comprehensively, methodologically and systematically than the previous studies.

Bauchi state is one of the fast-growing states in north-eastern Nigeria and was selected to represent the zone. There is no doubt of the presence of substantial number of SMEs in this state. The report of SMEDAN, (2013) shows that Bauchi state has the greatest number of F&B manufacturing SMEs compare to other five states from the north-eastern zone of Nigeria. Furthermore, Bauchi state is the only state in this geo-political zone that is least affected by insecurity perpetrated by Boko Haram in the last eight (8) years. Equally Kano state was selected to represent north-

western Nigeria. Fortunately Kano has the largest number of F&B manufacturing SMEs accounting to about 50 percent of SMEs operating in the geo-political zone (SMEDAN, 2012). Similarly, the state is second to the best-industrialized states in the whole country and the leader of industrial and trading activities among the 19 northern states, thus the term " center of commerce" has become the well-known name of Kano state in the entire country.

Moreover, Niger state was selected from north-central. The strategic nature of the state in term of proximity to source of power, as the country main source of power is located in the state, this may be advantegeous particularly for manufacturing firms. Equally, Niger state has the greatest concentration of F&B manufacturing SMEs in the geo-political zone (SMEDAN, 2012), and its has also been considered as the economic hub of the region with substantial trading and industrial undertakings in Minna the administrative headquarter of the state. Niger state shares boundries with the Nigerian federal capital territory Abuja, this makes the state to have substantial presence of trading and industrial undertakings mostly by SMEs. Precisely, these three (3) states of northern Nigeria were considered appropriate for this study because of the anticipation that the respondent will willingly agree to participate in the study and provide the required information or data.

1.7 Definitions of Terms

Numerous important terms were used in this study, thus it is considered essential to define these terms for clarification. All the definitions here were adapted from previous studies.

1. Strategic capabilities are sophisticated bundles of accumulated knowledge and skills that enable firms to synchronize operational activities effectively and utilize resources proficiently (Assudani, 2008, Teece, et al., 1997).
2. SMEs as defined by SMEDAN, (2013) are those business firms with total value of assets without land and building between 500 million naira and five (5) million naira, with employment capacity ranging from ten employees to not more than 200 employees.
3. SMEs Performance: Aminu and Shariff, (2015) defined SMEs performance as the ability of SMEs to generate benefits to all the stakeholders like shareholder, customers, employees, government and the society.
4. Top Management Capability: Top management capability has been described as the knowledge, experience, routines and the skills top management employed to coordinate firm‟s transaction, operation, development and other capabilities efficiently (Pufal et al., 2014).
5. Technological Capability: Technological capability has been defined as a firm‟s ability to design and develop new product, process, to upgrade the knowledge and skills relating to operating environment in distinctive manner, and transform the skills and knowledge into better design and instructions to generate superior performance (Wang, Lo, Zhang, and Xue, 2006).
6. Learning Capability: This refers to the culture, practice and commitments that facilitate firm‟s knowledge acquisation process to support essential operational strategies (Hailekiros and Renyong, 2016).
7. Relational Capability: Pham, et al., (2017) defined relational capability as the "firm‟s capability to create, develop and manage business relationship and

collaboration with relevant partners to connect their resources and achieve specified goals".

8. Innovation Strategy has been described as a conscious innovative techniques and plan adopted to guide the firm"s respond to the changing environmental demands (Ndubisi, Nybakk and Jenssen, 2012, Kumar, Boesso, Favotto, and Menini, 2012).

1.8 Structure of the Thesis

The thesis consists of five (5) chapters. Chapter one presents the background of the study by highlighting the roles and challenges of SMEs in Nigeria, the role of MC, TC, LC, RC in influencing innovation strategy and the performance of F&B manufacturing SMEs in Nigeria. Consequently, issues relating to this relationship were identified, questions were raised which motivate the researcher to conduct this study. The scope of the study was clearly spelt out in this chapter. Similarly, the importance of the study was fully elaborated, and various terms used in the study was clearly defined.

In chapter two, relevant literature were critically reviewed. Specifically, the concept of SMEs, overview of Nigerian manufacturing sector, the performance of F&B sub-sector in Nigeria, the concept of performance, management capability, technological capability, learning capability, relational capability and innovation strategy. Similarly, the relationship between the idenpendents variables and the mediating and dependent variables were reviewed and hypotheses developed in this section. Chapter three oulines the methodology adopted. Precisely, the research design, operational definition, measurement, population, sample size, sampling techniques,

procedure for data collection, reliability and validity, data analysis technique, unit of analysis and the pilot study were substantially elaborated in this chapter.

Chapter four specifically focuses on the survey results which comprise the response rate, respondents profile, evaluation of outliers, normality and multicollinearity tests. The none response bias, reliability and validity, common method variance, the assessment of coefficient of determination, effect size, predictive relevance and the hypotheses test were also presented in this chapter. Chapter five contains the discussion of the major findings, the implications of the study consisting of the practical, theoretical and methodological. It also presents the limitations and suggestions for future studies and the conclusion of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The aim of this survey research is to investigate the mediating effect of innovation strategy on the relationship between MC, TC, LC RC and the performance of food and beverage (F&B) manufacturing SMEs. The subject of this study was F&B manufacturing SMEs performance in Nigeria. Therefore, the review of the literature focuses on the concepts of SMEs, the overview of Nigerian manufacturing SMEs, Nigerian F&B, and the concept of performance measurement. Specifically, the concepts of top management capability, technological capability, learning capability, and relational capability were substantially reviewed. Similarly, the concept of innovation strategy and its relationship with MC, TC, CL, RC and firm‟s performance was critically reviewed.

2.2 The Concepts of SMEs in Nigeria

SMEs are significant mechanism in the path to industrial and economic transformation. They have been considered in both developing and developed economies as an effective facilitator in the process of economic turnaround (Aminu, 2015, Eniola, 2014). Apart from enhancing income, SMEs create substantial employment opportunities and increase the volume of industrial and commercial outputs (Keizer, Dijkstra and Halman, 2002), and promote efficient application of local resources which are essential to the economic growth and development (Ogujiuba et al., 2004). SMEs firms serve as a significant and crucial part of the Nigerian economy and have been identified as a prospective solution to most of the

socio-economic probems affecting the country (Yahaya, Geidam, and Usman, 2015, Eniola, 2014, SMEDAN, 2012).

Therefore, the establishment and promotion of SMEs have been recognized as an essential economic strategy for the creation of wealth and jobs opportunities (Aminu, 2015, Alasadi and Eniola, 2014, Abdelrahim, 2008). It has been observed that the involvement of government in supporting SMEs has provided not only successful occupational alternatives but has impressively enhanced the marketing, entrepreneurial and other operational capabilitiesof many micro, small and medium enterprises (MSMEs) entrepreneurs (SMEDAN, 2012). Many Asian countries (China, India, Japan, Korea, Malaysia and Thailand) have used SMEs as an instrument for the development of indusrial sectors and technological capabilities (Nguyen et al., 2008, Chen, 2006). It has been observed that in both the developing and developed economies, SMEs sub-sector served as the driver of economic growth and development (Eniola, 2014). Therefore, it is anticipated that similar process of this transformation could be simulated in Nigeria if the supporting environment is created.

In Nigeria SMEs formed a substantial part of the industrial and commercial landscape, contributing more than 90% of commercial and industrials activities and accounting for only 48.47% contribution to GDP and 7.27% to export (Kofan Mata and Shehu, 2014, SMEDAN and NBS, 2013). However, the activities of this sector is largely dominated by products, factors and dependent process from foreign countries (SMEDAN, 2012). Various studies have revealed that Nigerian SMEs sector did not achieve the expected target, thus their contribution to the GDP and economic growth

fall below expectations (SMEDAN, 2013, Ogujiuba et al., 2004). Consequently, the Nigerian government in its quest to achieve its target for sustaninable economic growth and development known as vision 2020 has established many programs and policies to promote creativity and innovativeness to enhance the performance of the industials sectors (2020, 2009).

Programs such as the National Directorate of Employment (NDE), NIDB (Nigerian Industrial Development Bank), NBCI (Nigerian Bank for Commerce Industries) Business Development Centers (BDC), NERFUND (National Economic Reconstruction Fund) Family Economic Advancement Program (FEAP); Small Scale Industry Credits Scheme (SSICS); SMEEIS, SMEDAN (Small and Medium Enterprises Development Agency of Nigeria), Nigerian Information and Technology Development Agency (NITDA), Nigeria Agricultural Cooperative and Rural Development Bank; Youth Enterprise With Innovation in Nigeria (YouWIN) and Entrepreneurship Education Program have been instituted.

The definition of SMEs has been a debatable issue, depending on the needs and perspective of the individual or organization defining it. Even in a single country, a different institution has adopted different definitions depending on its focus. A survey of literature on SMEs suggested the following most commonly used criteria in defining SMEs: number of employees, start-up capital, annual turnover, the form of ownership, and the nature of technology employed (Aminu, 2015, Onogu, 2005, Sanusi, 2003).

Onugu (2005) opined that business enterprises employing less than three hundred people are generally considered worldwide as SMEs. He further noted that the number of the workforce was considered relevant not only for intervention but also for the government's interest in poverty eradication, job creation, and sustainable livelihood. In Nigeria, as in many other developing economies, with the introduction of the micro small and medium enterprises policies (MSMEs) by SMEDAN, the delinquent in classifying micro, small and medium enterprises has been addressed. The SMEDAN classification uses two criteria of employment capacity and the value of assets to define MSMEs as shown in the Table 2.1 below.

Table 2.1
Definitions of Nigerian SMEs

Business Category	**Number of fulltime Employees**	**Value of Assets (million in naira excluding land and building)**
Micro	1 – 9	1 – 4
Small	10 - 49	5 – 49
Medium	50 - 199	50 – 500

Source: (SMEDAN, 2013)

2.2.1 Overview of Nigerian Manufacturing Industry

Manufacturing is a crucial sector that plays an important role in the process of economic growth and development (Nawaz, Hassan and Shaukat, 2014), the Director Economic and Statistic (MAN) Ambrose Oruche while speaking in a campaign to promote the patronage of made in Nigerian goods reaffirmed that the development of any country largely depends on building a vibrant manufacturing sector (MAN, 2016). In Malaysia, the manufacturing sector makes a significant contribution to economic growth of the country (AbdulHamid and Tasmin, 2013). Tybout, (2004), urged that devoting special interest to this sector is borne out of the fact that it is a

potential engine for economic development, an effective provider of skilled jobs and a valuable avenue of positive spillover effects.

However in developing countries of Africa, manufacturing is usually small sector in terms of contribution to total output and employment, while the growth of the sector has widely been considered critical for economic growth and development (Soderbom and Teal, 2002). Manufacturing in African continent are accountable for less than 10% contribution to the continent gross domestic product (GDP), which is averagely less than the figure recorded in other developing region of the world (Akeyewale, 2018). Thus creation of continental free trade in Africa was aimed to provide succor to failing manufacturing performance and leads to creation of more jobs and reduce poverty (Akeyewale, 2018, ATPC, 2017).

Manufacturing SMEs today's faced intense global competition and increasing customer demands for high-quality products and services which are also characterized by the need for fast response, reliable deliveries times and new product functions (Malik, Teal and Baptist, 2006). In such a rapidly changing environment, innovation is considered as the prime strategic factor for these manufacturing SMEs competitiveness (Abereijo, Adegbite, Ilori, Adeniyi, and Aderemi, 2009). Thus to improve the innovativeness of manufacturing firms, the Nigerian government has developed an industrial innovation strategy that helps industrial firms develop the ability to imitate the commonly known existing manufacturing technology and extend their capacity in assimilating new technologies to efficiently and constanly innovate to satisfy the peculiar needs of the country (NIRP, 2014).

To achieve the above goals, many laws and policies were promulgated to promote economic independence and development since the year 1970s. However, some of the policies detrimentally affect the industrial activities (MAN, 2016). For instance, the indigenization and nationalization policy and the Nigerian Enterprises Promotion Decrees of 1972 and 1977 had brought a shift in the ownership of the majority of firms from foreign investors to Nigerian, thus squeezing and driving away foreign capital inflows (NIRP, 2014). Furthermore, insufficient local raw materials, suspension of Export Expansion Grant (EEG) certificate, unbearable cost of power, counterfeiting and smuggling as well threat from D8 countries as a result of multilateral trades agreement inhibit the performance of manufacturing sector in Nigeria (MAN, 2017b).

Consequently, the industrial and commercial landscape of the country is dominated by imported foreign goods (Bloch, Makarem, Yunusa, Papachristodoulou and Crighton, 2015). Hence the Nigerian dependency culture created by globalization the product of the World Trade Organization (WTO) 1996 has made Nigeria an economy which only consumes without producing, thus the country kept importing most of the consumable goods at the detriment of its local manufacturing firm‟s outputs (Aluko, Akinola and Fatokun, 2004). The situation has made most of the Nigerian citizens develop a preference for foreign goods. Consequently the locally manufactured products lost patronage, thus entrenching and compounding the problem of capacity utilization of the country manufacturing firms (Aluko et al., 2004). While it has been generally acknowledged that the performance of manufacturing firms is positively related to their capacity utilization, as the capacity

utilization is optimum, the higher the level of their performance (Soderbom and Teal, 2002).

Therefore, Sola, Obamuyi, Adekunjo and Ogunleye (2013) urged that to reverse the poor performance of Nigerian manufacturing firm, the important strategy is to increase investment in research, enhance capacity utilization, acquire new technologies to boost local production, promote export, and ensure relative exchange rate. Consequently, to accelerate the expansion of the productive capacity of firms in the industrial sector, the federal government of Nigeria has launched a National Industrial Revolution Plan (NIRP) to help firms in the sector provide imports substituted product, improve export, create jobs, generate wealth, diversify the economy and broaden the revenue base of government (NIRP, 2014). However, the problem facing Nigerian manufacturing firms in their desires to keep in pace with development in the global business environment among others include the inadequate fund to acquire the new technologies, lack of technical skill and improper choice of technology (Mefuna and Abe, 2015).

Nevertheless, the federal government of Nigeria, according to the minister of trade industry and investment Mr. Olusegun Aganga has developed strategies to address the existing infrastructural problem to improve the productive capacity and diversify the economic base of the country through the implementation of the National Industrial Revolution Plan. The objective of this plan is to take the country out of factor or raw material market to an active value-added manufacturing economy. This means that the days of exporting raw materials and jobs are over so as to build on the country competitive advantage and turn the large numbers of population advantage

into productive advantage (NIRP, 2014). On this note, the Nigerian government under the President Mohammadu Buhari led administration is determined to enhance the productivity of manufacturing sector by intensifying effort toward implementation of the 60-Day National Action Plan for Ease of Doing Business (EODB) which aims at taken the country out of numerous constraints befalling the manufacturing sector (MAN, 2017b).

Nevertheless, hitherto from 1999, manufacturing sector has been one of the most growing sectors. The sector grew from 1999 and 2009 by an average of 7.9% (5th fastest) and between 2010 and 2014 by an average of 16.9%, while the contribution to GDP grew from 6.5% in 2010 to 9.2% in 2014 (NBS, 2014). In 2016, the growth of the Nigerian manufacturing sector drastically dropped to negative 4.23% as a result of the compounded problem such as depreciation in the exchange rate and higher energy cost facing the sector over the years (MAN, 2016, NBS, 2016). However, these statistical data fail to explain clearly why the country is not moving significantly toward value-added activity, industrial-technological upgrading, diffusion, and linkages with other economies (Usman, 2015).

Consequently, in May, 2017, the federal government has expressed commitment to turn around the fortunes of industrial sectors by inaugurating Nigeria Industrial Policy and Competitive Advisory Council assigned with the responsibility of supporting the industrial development goals in an attempt to increasing the contribution of the manufacturing sector to the GDP of the country by 25% percent over the period of five years (MAN, 2017b). Manufacturing sector contributed about 10% to Nigeria‟s economic output before oil boom in the 1970s, however, increase

in revenues from oil caused a decline of the sector share contribution to the GDP of the country (NBS, 2016, Aluko et al., 2004).

Though, the sector was the penultimate in contributing to the country GDP growth, accounting for not more than 5 percent on average 1999-2014 (Mefuna and Abe, 2015). The decline in crude oil prices in the recent year has forced onto the country some economic crises, which lead the governments to the creation of Economic Recovery and Growth Plan (ERGP) in the year 2017. The plan aimed to stimulate the productive sector of the economy by introducing government support through utilization of available limited foreign exchange to finance the importation of industrial inputs (ERGP, 2017).

The Nigerian manufacturing sector is divided into 13 sub-sector/activities comprising; food and beverage, textile, apparel and footwear, electrical and electronic, oil refining, cement, rubber and plastic product, chemical and pharmaceuticals product, metal iron and steel, pulp, paper and paper product and non-metallic product (Usman, 2015, NBS, 2014). However, the substantial performance of the sector has been accounted by the food and beverages subsector, although other subsectors have also contributed significantly (NBS, 2014). The contribution of food and beverage sub-sector to the total manufacturing output stood at 50.44%, textiles, leather, and footwear accounted for 18.82%, while cement contributed 6.46%, oil refining accounts for 5.92% while other manufacturing activities contribute 4.90% (Usman, 2015, NBS, 2014).

2.3.2 The Performance of Nigerian Food and Beverage Manufacturing Sector

Manufacturing sector in Nigeria contributed 9.5% to the GDP in 2015. Equally, the sector between 2010 and 2015 grew at an annual average growth rate of 13.3% more than double growth (4.8) recorded by GDP. Nevertheless, the size of Nigerian manufacturing sector remains small compared with other countries such as Morocco (18%), South Africa (13%), Indonesia (21%) and Mexico (18%) (ERGP, 2017). Under capacity operation, limited contribution to GDP, minimal industrial value addition, lacks of linkage and collaboration, invisible R&D, limited employment, lack of global orientation and unaffordable cost of production are the major impediment to the operation of Nigerian industrial sector (NBS, 2017, ERGP, 2017, Madu, 2016). Conventionally, the Nigerian manufacturing sector is largely dominated by micro, small and medium enterprises that are supposed to create jobs (ERGP, 2017).

The Nigerian economy remains consumption driven, highly import dependent and mono oil producing state. Oil constitute more than 95% of the country‟s exports and earning from foreign exchange while less than 1% of the total export is being contributed by the manufacturing sector (ERGP, 2017). Manufacturing sector in Nigeria accounts for 78.62% of men employment in industrial sector and 18.98% of female employment (NBS, 2014). The food and beverage (F&B) sub-sector represent more than 51% of the total activities of the manufacturing sector. However, the contribution of F&B to employment, export and GDP is less proportionate to its size (NBS, 2017). Chemical and pharmaceutical manufacturing sub-sector has the higher engagement of employees and paid employment constituting 40.05% of the

total employment in manufacturing sector. While F&B sub-sector, account for 10.46% of the total employment in the manufacturing sector (NBS, 2014).

Food and Beverage (F&B) manufacturing sector is considered the most significant sector in various economies of the world in terms of contribution to economic outputs and creation of employment (Kafetzopoulos and Skalkos, 2019). Generally, F&B firms plays significant role in the global digital marketing arena and developing effective interactive advertising campaigns (Montgomery and Chester, 2009). In Greece F&B sector contributes up to 7.2 percent to the country‟s gross value additions and formed more than 15 percent of the total employment (Eurostat, 2016). Accordingly, in its ninth national economic plan, Malaysian government identified F&B manufacturing sector as the most growing sector of the economy (Abidin, Sobry, and Nadzri, 2012).

The market structure of Nigerian F&B sub-sector is oligopolistic in nature with 15% of the industrial actors (large local and multinational companies) controlling 90% of the total sales volume, while SMEs constitutes 85% of the total players, but control only 10% of the total market sale volume (Fairtrade, 2018). Direct foreign investment (DFI) in Nigerian F&B is majorly in soft drinks and beer producing enterprises. The beer and soft drinks enterprises invest more than £1bn in capital expenditure annually, with machinery and equipment taken up to 60% of the investment (Fairtrade, 2018). Multinational businesses such as Nestle, Guinness, Heineken, Cadbury and Coca-Cola have established operations in the country‟s F&B sector many years ago. Local companies are majorly concentrated in the wheat flour, rice processing, poultry, meat, confectionary and bakery. Most recently, there has

been remarkable expansion in the biscuit, pasta, fruit juice, milk, yoghurt and water packaging (MAN, 2017).

In Nigeria, F&B manufacturing sector remained the largest subsector in term of share price quotation and capital based (Idris and Bala, 2015). Among the various subsector in F&B sector according to NBS, (2014); sugar manufacturing constitutes the most and account for the higher percentage (27%) of growth in not only F&B subsector, but the whole manufacturing sector. The second largest subsector was bread production which contributes about 22% to the F&B sub-sector and account for 13.5% of the total manufacturing output. Rice production and processing represent 12% of the total F&B manufacturing output. While, biscuits production constitutes 8.21% of the total output of F&B manufacturing sub-sector (Usman, 2015, NBS, 2014).

However, the scope of backward integration by F&B manufacturing firms in Nigeria is limited as a result of over reliance on foreign inputs, just as the forward integration due to the SMEs inability to provides inputs to other industries (Usman, 2015). The fact that the ratio of inputs intakes was recorded at 60:40 between local and foreign source, however, due to the low value of the local manufacturing activities, its contribution to industrial upgrading is minimal (NBS, 2017, NBS, 2014). As a result of this, the service sectors like ICT, trade and financial services in Nigeria grown independent of local manufacturing industry (Usman, 2015).

The global innovation indexed of the year 2015 ranked Nigeria far below its African and Asian counterparts in term of innovativeness. Specifically, Nigeria was ranked

128 below its African counterpart such Uganda 111, Ghana 108, Senegal 84, Morocco 78 and South Africa 60 in term of innovation achievement in 2015. Similarly, Asian countries such as Malaysia was ranked 32, Cyprus 34, Sri Lanka 85 and Indonesia 97 all performed better than Nigeria (GII, 2015). In 2018 South Africa, Kenya and Mauritius appears to be the most three innovative countries from sub-Saharan countries of Africa, while Nigeria falls in the below development expectation category (GII, 2019).

Numerous factors such lacks of innovation strategy, non-functional infrastructure, corruption, weak private sector, inadequate industrial support by government, dumping of foreign goods and the effects of globalization as well as the status quo of oil producing country affects the performance of F&B manufacturing firms in particular and the industrialization in general (ERGP, 2017, Usman, 2015, NIRP, 2014).

The investment of Nigerian F&B sub-sector on imports of ingredients and packaging technology in 2017 has improved from £228 million to £262 million presenting 15% increased (Fairtrade, 2018). However, the performance outcomes of Nigerian public and private organizations in R&D with 2% of expenditure proportion to GDP over the years was invisible compare to it fairs such as South Africa, Egypt and Kenya, as well as Asian counterparts such as Sri Lanka, Thailand and Indonesia. Similarly, university and industry collaboration in R&D and innovation linkages in Nigeria is not well develop and coordinated like other middle income earners economies such as Ghana, Kenya, South Africa, Uganda, Malaysia, Senegal, Saudi Arabia among others (GII, 2015).

Nevertheless, it has been established that the only strategic objective of business firms nowadays in this technology driven environment is to create unique values to stakeholders (Chen and Kitsis, 2017, Santos and Brito, 2012). Therefore to create beneficial values to stakeholders, business firms must efficiently and effectively innovate in this intense competitive environment or else their rivals will render them irrelevant in the system (Damanpour, et al., 2009). Likewise, the advancement in technology driven competitors has compressed the duration to obsolescence in all industries (Kocak, Carsrud, and Oflazoglu, 2017). Hence in this rapidly changing environment innovation is consider inevitable for survival and growth (Briganti and Samson, 2019, Saunila, 2016). Both developing and developed economies of all types nowadays promote innovation in their course of achieving economic and social development.

SMEs firms are generally described as risky, flexible and reactive, being able to achieve profit from a flexible and quicker adjustment to environmental dynamism as a result of simplified organizational hierarchy and quick decision making to support innovation (Terziovski, 2010). Hence, Nigerian government and F&B manufacturing SMEs must recognize that innovation is not only feasible and essential to technology sectors and high-tech companies, but inevitable to all the realms of the economy. Government and corporate bodies are boldly concentrating their commitments on the creations and maintenance of vibrant and dynamic innovation system and networks (GII, 2019).

Consequently, business firms, governments, unions and researchers have become keenly interested on continuous innovation, to find effective means for growth and to ensure sustainability (Turulja and Bajgoric, 2019, OECD, 2007). Thus, innovation strategy is the hallmark for not only survival, but growth and dominance. It is the life blood of business enterprises, particularly those that want to survive and succeed. Numerous extant literatures established that innovation strategy is critical in firms survival (Turulja and Bajgoric, 2019, Kafetzopoulos and Skalkos, 2019, Kheng, et al., 2013). Innovation enhances competitive advantage (Kaliappen and Hilman, 2017, Aziz and Samad, 2016).

However, extant studies and several government policies and programs have outlined some number of factors as the contributing elements to the low level of F&B SMEs innovative performance in Nigeria. These include; inadequate and non-functional infrastructure, limited technology utilization, unfavourable legal framework, poor management and accounting practices, low human capital development, poor business partnership/alliance culture and absence of linkage support programs (Akanbi 2016, Aminu 2015, Adeodu, Daniyan et al. 2015 and SMEDAN and NBS 2013, Onugu 2005).

Mediocre management is the most common feature of small and medium enterprises in Nigeria (SMEDAN and NBS, 2013). Managerial inefficiency play a central role in gross underperformance of Nigerian manufacturing SMEs (MAN, 2017). Limited entrepreneurial awareness and efficacy as well as ineffective business planning are some of the major constraint to SMEs in Nigeria (Shamsudeen, 2017). Misappropriation of resources and lacks of strategic orientations are noticeable

constraints in Nigeria business firms, especially SMEs (Aminu, 2015). Shamsueen (2017) and Sanusi, (2003) identified low entrepreneurial capacity and managerial skills as the major factors affecting SMEs performance in Nigeria.

Most Nigerian SMEs proprietors and managers prepared operating on limited openness, thus employing unskilled or semi-skilled labor. This seriously affect the productivity, confine expansion and impedes their competitiveness (NIRP, 2014, Sanusi, 2003). Greatest number of SMEs in Nigeria do not maintain proper record of transactions and accounts. Consequently, no effective planning and control on the operation of SMEs (Shamsudeen, Keat, and Hassan, 2016, Aminu and Shariff, 2016). Accordingly, lacks of appropriate educational qualification and inadequate global business exposure constrains the ability of Nigerian F&B manufacturing SMEs to seize business opportunities for growth and expansion (Sanusi, 2003).

Accordingly, obsolete technologies and techniques remains a major bottleneck to Nigerian SMEs (SMEDAN and NBS, 2013). Aminu and Shariff, (2016) identified lacks of technological capability as the major factor constraining the technological development of SMEs in Nigeria. SMEs managers in Nigeria hesitate to develop and adopt new technologies because of lack of the capability and personnel to properly operate and maintain them (Adeodun, et al., 2015). Consequently, the Nigerian industrial sector is littered by apparent dearth of technology entrepreneurship which lead to the low productive capacity and minimal value additions (Monday and Festa, 2011), which resulted in low capacity for the creation and increasing level of wealth and employment by manufacturing SMEs (Adeodun, et al., 2015).

Learning efficiency is another problem constraining the innovativeness and performance of F&B manufacturing SMEs in Nigeria (MAN, 2017, Olughor, 2015). Managerial commitment, openness and experimentation for learning were not given more attention by Nigerian F&B SMEs (Aminu and Shariff, 2016). Consequently, Nigerian government demonstrated commitment to enhance the absorptive capacity of the industrial sector to learn, assimilate and exploit modern techniques and knowledge to enhance innovativeness and performance (MAN, 2017). OECD, (2007) maintained that, the effectiveness of innovation strategy for productivity and growth is determined by firm‟s ability in creating new technologies and greater commitment in knowledge creation and usage.

Similarly, SMEs performs important role of linkages (Eniola, 2014). However, the effects of both the forward and the backward linkages in Nigerian F&B manufacturing sectors have not visibly manifested. The latitude of alliance particularly backward integration in Nigerian F&B manufacturing sector is limited as a result of over reliance on foreign inputs, just as the forward integration due to the inability to provide inputs to other industries (Usman, 2015). Although the ratio of inputs intakes was recorded at 60:40 between local and foreign source, however, due to the low value of the local manufacturing activities, its impact to industrial advancement is negligible (NBS, 2017, NBS, 2014). As a result of this, the service sectors like ICT, trade and financial services in Nigeria grown autonomous to the local manufacturing industry (Usman, 2015).

2.3.3 Importance of F&B Manufacturing SMEs in the Nigerian Economy

Due to their nature, size and capacity of operations, F&B SMEs require comparatively minimal capital investment to start, thus operating at a quite high labor to capital ratio; they also need simple technology and managerial skills which are indeed available in the Nigerian society. Therefore, the extent to which a nation harnesses the opportunities provided by F&B SMEs may largely depend on the supporting environment created by the government. F&B SMEs have remained instrumental catalyst of change and pivotal economic substances in industrialized economies as they are in the developing countries (Eniola, 2014).

F&B manufacturing SMEs contribute to the economic growth of Nigeria by utilizing the local resource, creation of employment, revenue generation and enhancement of local technology in the production process as well as mitigating the rate and effects of rural-urban migration (Adeodun et al., 2015, Aminu and Shariff, 2015). Equally, SMEs perform numerous functions that go beyond the provision of employment, they support the progress of other sectors and offer linkage to the development of large enterprises (Sanusi, 2003). SMEs contribute significantly to the improving living standards and aid reasonable formation of local capital. They also drive the competition and innovation in developing economies (SMEDAN and NBS, 2013).

Generally, SMEs are considered as the catalyst for fast-tracking the fulfillment of extensive socio-economic objectives, which include a reduction in poverty level, generation of employment, wealth creation, among other (Adeodun, Daniyan, Omohimoria, and Afolobi, 2015). It is evidently clear that SMEs have played a catalytic role in the economic transformation of Nigeria. According to SMEDAN and

NBS (2013), SMEs have contributed significantly to the economic transformation of Nigeria. Specifically, the roles played include reasonable contribution of the sector to the country‟s GDP, provision of employment; improve export, increase local value addition and technological innovation (SMEDAN, 2012).

2.2.4 Challenges of F&B Manufacturing SMEs in Nigeria

The fact that Nigerian F&B manufacturing SMEs did not achieve the anticipated impact on the country‟s economic growth despite the efforts of various administrations and governments to provide support, thus creates a reason of disquiet to all stakeholders. This underlines the notion of prevailing fundamental problems which defy the success and survival of F&B manufacturing SMEs that previously have neither been attended nor been wholesomely tackled (Onugu, 2005).

The reviews of various government‟s initiatives, schemes, programs and policies promoting and supporting SMEs in Nigeria revealed that access to finance is the main constraint to the growth and productivity of F&B SMEs in Nigeria. However, this does not mean, it was the only major constraints. Many factors have been outlined as the contributing elements to the low level of F&B SMEs performance in Nigeria. These include; inadequate and non-functional infrastructure, limited technology utilization, unfavourable legal framework, poor management and accounting practices, low human capital development, poor business partnership/alliance culture and absence of linkage support programs (Akanbi 2016, Aminu 2015, Adeodu, Daniyan et al. 2015 and SMEDAN and NBS 2013, Onugu 2005).

Mediocre management is the most common feature of small and medium enterprises in Nigeria (SMEDAN and NBS, 2013). Managerial inefficiency play a central role in gross underperformance of Nigerian manufacturing SMEs (MAN, 2017). Limited entrepreneurial awareness and efficacy as well as ineffective business planning are some of the major constraint to SMEs in Nigeria (Shamsudeen, 2017). Misappropriation of resources and strategic orientations are noticeable constraints in Nigeria business firms, especially SMEs (Aminu, 2015). Sanusi, (2003) identified that low entrepreneurial capacity and managerial skills are major factors affecting SMEs performance.

Nigerian SMEs proprietors and managers prepare operating on limited openness, thus employing unskilled or semi-skilled labor. This seriously affect the productivity, confine expansion and impedes competitiveness (Sanusi, 2003). Most SMEs in Nigeria do not maintain proper record of transactions and accounts. Consequently, no effective planning and control on the operation of SMEs (Shamsudeen, Keat, and Hassan, 2016, Aminu and Shariff, 2016). Accordingly, lacks of appropriate educational qualification and inadequate global business exposure constrains the ability of Nigerian F&B SMEs to seize business opportunities for growth and expansion (Sanusi, 2003).

MC has been identified as an essential factor that facilitates creativity and firm‟s innovative process (Minh, Badir, Ngoc, and Afsar, 2017, Farrokhian and Soleimani, 2015). However, lack of substantial information on the role of top management capability Therefore, based on the isuue raised and the suggestion of Shamsudeen,

(2017) for research to consider evaluating the role of top management capability on the performance of Nigerian F&B SMEs, MC was adopted in this study.

Technological capability (TC) enhances firm‟s competence in fashioning innovation strategy that allows firms to achieve differential performance in reaction to the customer demand and other market challenges (Rugui and Gathogo, 2014, Lestari, Thoyib, Zain, and Santoso, 2013). However, obsolete technologies and techniques remains a major bottleneck to Nigerian SMEs (SMEDAN and NBS, 2013). Aminu and Shariff, (2016) identified lacks of technological capability as the major factor constraining the technological development of SMEs in Nigeria. SMEs managers in Nigeria hesitate to develop and adopt new technologies because of lack of the capability and personnel to properly operate and maintain them.

Consequently, the Nigerian industrial sector is littered by apparent dearth of technology entrepreneurship, which lead to low productive capacity and minimal value additions (Monday and Festa, 2011), which resulted in low capacity for the creation and increasing level of wealth and employment (Adeodun, Daniyan, Omohimoria, and Afolobi, 2015). Nevertheless, a dearth of empirical information exists on the role of TC on F&B SMEs innovation strategy and performance. Limited previous studies concentrated on firms in technology, electronics, plastic, professional services industries. Hence TC is adopted as an independent variable in this study based on the suggestion of Oyelaran-Oyeyinka and Abiola Adebowale, (2012) and Shamsudeen, (2017).

Learning efficiency is another problem constraining the innovativeness and performance of SMEs in Nigeria (MAN, 2017, Olughor, 2015). Managerial commitment, openness and experimentation for learning were not given more attention in by Nigerian SMEs (Aminu and Shariff, 2016). Consequently, Nigerian government demonstrated commitment to enhance the absorptive capacity of the industrial sector to learn, assimilate and exploit modern techniques and knowledge to enhance performance (MAN, 2017).

Learning capability (LC) is the mechanism that helps firm‟s turn resources into valuable, inimitable, rare and non-substitutable through experience (Acar and Zehir, 2009). Thus learning is an essential firm‟s resources to improve innovativeness and sustainable competitive advantage (Verma, Singh and Rao, 2014, Mat and Razak, 2011). The effectiveness of innovation strategy for productivity and growth is determined by firm‟s ability in creating new technologies and greater commitment in knowledge creation and usage (OECD, 2007). However, limited literature on learning capability and innovation strategy of F&B SMEs in manufacturing sectors exist. Therefore, LC was investigated in this study as an independent variable.

Small and medium enterprises performs important role of linkages (Eniola, 2014). However, the effects of both the forward and the backward linkages in Nigerian F&B manufacturing sectors have not visibly manifested. The scope of collaboration particularly backward integration in Nigerian F&B manufacturing sector is limited as a result of over reliance on foreign inputs, just as the forward integration due to the inability to provide inputs to other industries (Usman, 2015). The fact that the ratio of inputs intakes was recorded at 60:40 between local and foreign source, however,

due to the low value of the local manufacturing activities, its contribution to industrial upgrading is minimal (NBS, 2017, NBS, 2014). As a result of this, the service sectors like ICT, trade and financial services in Nigeria grown independent of local manufacturing industry (Usman, 2015).

However, it has been established that relationship and collaboration with relevant partners provide firms with advantage to access market, information, technologies and resource to facilitate the accomplishment of strategic firm‟s goals of economic of scale (Rajasekar and Fouts, 2009, Theoharakis, et al., 2009). Hence, RC was examined as independent variable in this study.

2.3 The Concept of SMEs Performance

SMEs performance has been studied by numerous researchers as a dependent variable (Al-Ansari, et al., 2015, Aminu, 2015, Shehu, 2014). Other studies dwell on examining the indicators of SMEs performance, in which several variables were identified and recognized as the factors determining SMEs performance (Biju, Bhasi and Mahhu, 2014, Chong, 2008, Moullin, 2007). Aminu and Shariff, (2015) described SMEs performance as how SMEs business provide benefits to the firm‟s stakeholder like share holders, customers, employees, government and even the society.

Performance indicates how efficient and effective the management team manages the firm resources (Moullin, 2007). It has also been postulated as the process of quantifying business firm actions in terms of the attainment of its objectives (Taticchi, Balachandran, Botarelli and Cagnazzo, 2008). Firm attains its objective if

the needs of stakeholders have been satisfied more than that of rivals. Performance can either be measured by monetary and non-monetary variables (Chong, 2008), economic and non-economic variable (Leitao and Franco, 2008) and can also be measured quantitatively or qualitatively (Biju, Bhasi and Mahhu, 2014).

2.3.1 SMEs Performance Measurement

Performance measurement provides the financial, customer, product, processes and innovation and learning information required to evaluate the magnitude to which a firm provides value and achieves superiority (Moullin, 2007). Abouzeedan (2011) proposes a performance measurement model that focuses not only on the firm‟s internal environment but also external environment through parameters such as the age and size of the firm, market share in its sector and technology intake measured by the contributions of the firm‟s to innovation activities.

SMEs performance can equally be measured by subjective performance indicators, where the perception of top management on firm‟s performance is considered very reliable to how actually the firm performed as revealed by the objective measures (Moullin, 2007). In a study, the grounded theory approach of measuring performance Chong, (2008) after thorough analysis of interviews with five managers of SMEs on how performance is being measured, revealed that managers mostly use a mixture of approach that syndicates the financial and non-financial factors to assess performance against the firm‟s predetermined goals over time.

Consequently, the times perspective for evaluating performance means that performance and benefits or utilities are measured against a predetermined standard

i.e. against the firm‟s short-term or long-term plan. The short-term financial indicators are turnover, net profit, return on investment and profit per employee, while the long-term financial measures include growth in revenue and growth in the number of the employee. The short-term non-financial measures include customer satisfaction, customer referral, customer waiting time and employee turnover, while the long-term nonfinancial measures are market share and growth rate (Chong, 2008).

2.3.2 Variables of Measuring Firm Performance

Tangen, (2003) urged that firm performance can be evaluated from either objectives perspective, i.e. using bookkeeping records from autonomous sources, or subjective perspectives where the evaluation process depends on manager‟s perception of actual firm‟s performance. In addition to the above, there exists a hybrid performance model that combines both subjective and objective variables to ensure that performance is comprehensively measured (Getz and Carlsen, 2000). Although objectives performance indicator has become favorite on the bases of objectivity, easiness, and relevance of the sample homogeneity (Wesson and De Figueiredo, 2001), however, over-dependence on this measure may lead to the neglect of some significant non-financial indicators (Leitao and Franco, 2008). Hence, the subjective variables, on the other hand, present an alternative measurement process free of the problem related to the use of objective variables (Boachie-Mensah and Issau, 2015).

In another sense, Chong, (2008) postulated that firm‟s performance can also be measured using the financial or non-financial variables. The financial variable consists of gross profit and turnover, while the non-financial variable focuses on

items such as delivery time, rate of customers referral, customer satisfaction, employees turnover and customer waiting time. Acknowledging the problem associated with depending solely on any of the financial or non-financial variables, SMEs managers and researchers have been adopting a combined method consisting of both the financial and non-financial indicators (Chong, 2008). Accounting performance indicators such as firm‟s return on equity (ROE), return on assets (ROA), return on sale (ROS) and sales volume are also widely used performance measurement variables in fields of management and entrepreneurship (Zahra and Garvis, 2000, Zahra, 1996, Chandler and Hanks, 1993).

Consequently, Coombs and Bierly (2006), measured firm performance on six variables which include return on sale, return on asset, economic value added, return on equity, market value and market value added. Similarly, Brouthers, Nakos and Dimitratos (2014) used return on investment, profitability, and overall performance. On the other hand, Gathungu, Aiko and Machuki, (2014), developed and operationalized the use of non-monetary performance measures such as customer satisfaction, learning, and growth, business process, social and environmental factors.

Similarly, Santos and Brito (2012) tested the performance measurement model based on subjective variables that consist of six variables on the first-order: profitability, growth, social benefit, customer satisfaction, employee satisfaction, and environmental performance while the second-order financial variable influences firms growth and profitability, thus related with the first-order non-financial variables. Therefore, the increasing importance of sustaining stakeholder‟s needs has

led to the development of the Balanced Scorecard (BSC) which emphasizes the use of both financial and non-financial measures (Kaplan and Norton, 1992), which pay attention to satisfying the needs of various stakeholders (Wasike, Ambula and Kariuki, 2016).

Nevertheless, Amatucci, Pizarro, and Friedlander, (2013) maintained that the number of small business entrepreneurs that are not only limiting the goals of their venture to economic or environmental or social but consciously striking to establish balance among the three important forms of capital including economic, human and environmental. Equally, Minai and Lucky, (2011) opined that due to the distinctive nature of SMEs firms, and the uniqueness of the owner/manager motives in managing and organizing their operation in line with their established objectives, adopting single dimension of performance might not provide comprehensive performance measure. Therefore, this study used both the financial and non-financial indicators covering the interest of identified stakeholders to measure the performance of manufacturing SMEs in Nigeria. Various scholars agreed that using both dimensions of performance is essential to measuring small firms performance (Shamsudeen, 2017, Vij and Bedi, 2016, Aminu, 2015, Sobri Minai and Lucky, 2011, Muhammad, 2009).

2.4 The Concepts of Strategic Capabilities

The concept of strategic resources in strategic management includes the physical resources, capabilities, firms practices, firm attributes, information, and knowledge possesses by the firm which allow the firm develop and implement strategies to improve and maintain efficiency and effectiveness (Barney, 1991). The resource-

based view RBV takes the perspective that firm‟s absolutely inimitable and valuable resources provide important means for achieving sustainable competitive benefit and better performance (Hart, 1995). Capabilities are essential firm‟s strategic assets (Parnell and Brady, 2019, Park et al., 2019, Amlt and Schoemaker, 1993). It is apparent that a firm needs to develop a variety of capabilities and competencies to achieve more than average returns and competitive advantage (Song, Nason and Benedetto, 2008). Hence firm‟s inimitable capabilities in terms of technological, managerial, learning and relational abilities are vital sources of differentiation which led to achieving and sustaining competitive advantage.

The advocates of strategic organizational capabilities maintained that instead of physical resources it is the strategic capabilities that enhance effective and efficient deployment of resources which enable firms to achieve outstanding performance (Teece, et al., 1997, Amlt and Schoemaker, 1993). Therefore, firm‟s ability to strategically identify, organize, reconfigure and combine these capabilities determines its chances to achieve desire competitive position (Pucci, Nosi, and Zanni, 2017, Acar and Zehir, 2010, Teece, et al., 1997).

To design and implement innovative strategy efficiently however, SMEs firms need to have their capabilities balanced (Pufal, et al, 2014, Ambrosini and Bowman, 2009, Davies and Brady, 2000, Teece, et al., 1997, Amlt and Schoemaker, 1993). Therefore, capabilities are what matter to successful business firms rather than organizational structure and managerial styles (Hall, Sarkani, and Mazzuchi, 2011). Barney, Ketchen, and Wright, (2011) attributed the failure of many projects and businesses to lack of essential capabilities, which Amlt and Schoemaker, (1993)

described as strategic firm‟s assets. Strategic capabilities play crucial role in enhancing the survival and competitiveness of SMEs firms (Garengo and Bernardi, 2007).

Achieving sustainable growth strategy involves striking a balance in exploiting current resources/capabilities and the development of new ones (Wernerfelt, 1984). SMEs needs strategic organizational capabilities and resource to achieve and maintain competitiveness (Park et al., 2019, Man, Lau, and Chan, 2002) and effectively accomplish objectives (Kaur and Bains, 2013) in this dynamic competitive environment (Park et al., 2019). Managerial, technological, entrepreneurial, experience and knowledge are essential determinants of firm‟s performance (Zainol and Al Mamun, 2018). Therefore, top management capability (MC), technological capability (TC), learning capability (LC) and relational capability (RC) are consider SMEs strategic capabilities that enhance innovation strategy to achieve and sustain superior competitive performance.

2.4.1 Top Management Capability

Top management capability (MC) has been identified as a critical resource in the development of SMEs firm‟s technological infrastructure and service (Worch, Kabinga, Eberhard, and Truffer, 2012) and sustainability in changing environment (Alcalde-heras, et al., 2019). Innovation decision making at strategic level is a function that requires specific knowledge and skills (Kesting and Ulhøi, 2010). Acar and Zehir, (2009) and Celuch, Kasouf, and Peruvemba, (2002) described MC as consisting top management ability to lead, visionary and planning. Similarly, MC has been described as the ability of top management to effectively transform the

outcomes of technological development into systematic and operational process and outcomes (Zawislak et al., 2012).

Top management analyses economic trends, competitions, products, and idea for exploiting environmental business opportunities to conceive and develop strategic plan for sustainable and competitive operation (Daft and Macintosh, 1984). Therefore, MC is an essential and effective machanism guiding the strategic and operational decision of a firm to enhance service delivery (Halac, 2015, Haleblian and Finkelstein, 1993, Finkelstein, 1992). Strategic decision in modern enterprises comprises two major activities: formulation and implementation of policies. The formulation entails top manager‟s ability to develop right strategies given a firm‟s resource and path dependency limitations, whereas the implementation tasks involve manager‟s dexterity to execute strategies and activities that suit the competitive operating environment and effectively satisfy the desires and expectations of all stakeholder (Davis, Bell, Payne and Kreiser, 2010).

Nevertheless, Farrokhian and Soleimani, (2015) urged that effective MC through resourcefulness, knowledge management, innovativeness fashioned an operating environment that stimulate and make use of employees inventiveness to accomplish tasks. Hence to ensure successful and continue operation, SMEs top managers should effectively utilize valuable information and exploit the cognitive abilities of its human resource (Milana and Maldaon, 2015). Management capability is an essential factor that influences effective utilization of firm‟s resource and growth (Mazzarol, Reboud, and Soutar, 2009). Thus MC plays a significant role in creating innovative human resource policies that help combine human capital and physical resource to

achieve sustainable competitive advantage (Garcés-Galdeano, García-Olaverri, and Emilio, 2016). Kraus and Ferrell, (2016) maintain that firm‟s MC considerably influences competitive position and performance.

Therefore, Pufal, Zawislak, Alves and Tello-Gamarra, (2014) advocated that for an SMEs firm to be a systematic entity that effectively and efficiently accomplished its established goals, it resources, activities and capabilities must be rightly balanced through effective coordination. To accomplish these goals, Lazonick and Prencipe (2005) recognize three essential tasks, entrusted on top level management that facilitate the achievement of firm‟s predetermines goal. Strategic formation and control as one of the essential tasks which conferred on manager the authority and incentive to commit firm‟s resources toward exploiting market opportunities and guarding against the threats. Another important task is intergration, which postulates manager‟s ability to pool together firm‟s knowledge and skills to support continued learning. Lastly, among the strategic tasks is commitment of firm‟s resource, which ensures that managers allocate adequate resource to support the firm‟s cumulative innovative and operational peocess.

Ahmed, (1998), described MC of an innovative SMEs to typically involve managers ability to conduct accurate market and environmental analysis, effective customer relations, and ensuring that firm‟s activities and innovation process is fully supported at all levels of the organization. Hence through MC, firms can identify and develop a new strategy for efficiency and stability when applying new technology, method and knowledge to tackle environmental changes (Pufal, et al., 2014). Zawislak et al., (2012) opined that through MC SMEs can effectively identify, acquire and intergrate

operational capabilities and combine with the firm‟s materials and human resources to accomplish task. Top management capability increases the chances of the firms to successfully explore and exploit market opportunities (Garcés-Galdeano, García-Olaverri, and Emilio, 2016). This underscores the views of the rational industry venture capitalist which assert that; only three things exist to think about while choosing a business venture to support- this is management, management and management, thus firms are encouraged to look for competent managers that are capable of leading the enterprise (Campbell, 2005).

Furthermore, MC helps firm in developing essential capacities to enhance successful completion of a project and strategy (Ahmed and Mohamed, 2017). Lazonick, (1992) posits that MC helps managers to ensure proficient utilization of firm‟s resources and develop the ability to predict shortcomings. It also influences firm‟s strategic orientation and facilitates the physical distribution of product within and outside the enterprises (Sandberg, 2007). Usually, MC helps SMEs firms to develop efficient communication process, enhance output and efficiency (Zawislak et al., 2012). Hence, competent management capability enables firms to effectively design and redesign internal structures and strategies that facilitate adjustment to the changing business environment through which better operational performance is achieved (Garcés-Galdeano, García-Olaverri, and Emilio, 2016).

Hussain, Ismail and Shah, (2015) urged that SMEs firms generally depend on the resourcefulness and ability of owner-manager, hence the skills and capabilities of these owner-manager are essential to their success and perpetual existence. Tamkin (2004), postulates that various strategies are available to firm‟s management to create

differential performance. These involve designing strategies to enhace employess commitment, train and develop knowledge and skills. However, effective implementation of these strategies depends upon the firm‟s background, operating environment, operational characteristics and strategic orientation.

Top management entrepreneurial capability is critical to innovation (Makhdoom, et al., 2019) and creation of differential performance (Helfat and Peteraf, 2014). MC help SMEs firms to sustain a smooth flow of information, enhance outputs to reach higher rates of efficiency in the attainment of overall firm‟s objectives (Zawislak et al., 2012). Hence, collecting relavant information from both the external and internal sources facilitates manager‟s understanding of environmental challenges and enhance the accomplishment of firm‟s goals. Coordination of firm‟s information system facilitate the manager‟s capability to understand the dynamic operating environment which improves employees productivity and profitability (Zhang, 2007).

Consequently, Pufal et al., (2014) demonstrate that the extant role of MC is more than regular planning and control, it also ensures that firm‟s maintain stability and flexibility so that innovation activities flourish. It has been generally maintained that technological capabilities are not the only factors that determine firm‟s innovativeness, but also the managerial capability to effectively allocate resources to achieve superior performance. Although much-dedicated R&D determining firm‟s innovativeness, however, it was not the only factors, but also the supportive environment to the overall innovation system created by management (Rammer, Czarnitzki, and Spielkamp, 2009).

In view of the above, innovation is considered as an outcome of visionary, logical resource allocation and coordinated tasks, activities and processes, thus firms that logically manage its innovation activities and establish an enabling operational structure that supports innovation achieve sustainable competitive position (Bullinger, Bannert and Brunswicker, 2007). Although allocation of firm‟s scarce resources to tentative innovation activities is a scary task to most firm managers, however, they must commit substantial resources to achieve greater performance (Klingebiel and Rammer, 2014). Nevertheless, strategic management philosophy, postulated that top level managers have to choose from the external sourcing of technologies or to internally develop the technologies, decide the level at which to invest in R&D; to cooperate or to contend with competitors; and identify the method that is distinctive now and will be fevourable to the firm in future (Morone, 1989, Antoniou and Ansoff, 2004, Pufal et al., 2015).

2.4.2 Technological Capability

Technological capability (TC) comprises the firm‟s ability in coordinating physical, learning, activities, skills, knowledge bases and values that create efficient operational capabilities to enhance productivity. Generally, with effective TC SMEs can be capable of identifying, adapting, operating, assimilating and maintaining operating capabilities (Ahmad et al., 2014). Through TC SMEs firms develop new product, process and technological skill to react to the environmental changes (Zandhessami, Parvinchi and Molaei, 2012). Bergek, et al., (2008) demonstrate that TC comprises the strategies and activities of a firm; the activities consist of R&D in product development, patenting, and problem solving, whereas the strategies

comprise management ability and strategy for sourcing and utilization of technology.

Accordingly, Sobanke, Ilori and Adegbite (2012) viewed TC as the aggregates of firm‟s specific efforts and strategies in choosing, implementing, accepting, augmenting and refining operating technologies. Similarly, Cerulli, (2014) posit that TC demonstrates firm‟s ability in obtaining, harmonizing and improving operational capabilities to enhance marketing success and innovativeness. TC has also been considered as an operational ability expressed in the firm‟s system of activities, comprises tangible resources, tacit knowledge and skills bases, managerial coordination of learning, motivation, and morals that generate outstanding benefits to the firm (Ahmad et al., 2014). Equally, TC has been described as the sets of operational capabilities whose essential purposes are directed towards value creation management at firm‟s level and enhance various technological activities (Panda and Ramanathan, (1996).

Consequently, the development process of SMEs TC has been postulated to be path dependent process that starts with learning by practice and followed by learning by assimilation all directed at enhancing efficient application of new technologies to improve productivity and performance (Ray, 2008). Therefore, SMEs firms accumulate and develop technological capability in a sequential period of time usually through experience. Halac, (2015) urged that TC demonstrated SMEs ability to exploit diverse technical resource. Hence, SMEs that develop effective TC prospectively create invention and effectively develop superior competitive edge (Joseph, Julius and Olugbenga, 2014).

In general term SMEs in technological oriented industry like manufacturing are challenged by the need to frequently update their techniques and develop an innovative method or fail to develop important technical knowledge that helps them to maintain competitive advantage (Chang and Luo, 2010). Conventionally therefore, an effective TC improves SMEs effiency by creating production capabilities that enable the firms to reach superior differential performance in reacting to the customer needs and other environmental demands (Lestari et al., 2013). Song, Nason, and Di Benedetto, (2008) outlined the TC that enables the business firm to improve production process efficiencies and ultimately reduce its operation costs and increase its competitiveness include financial management, cost control, technology development, logistics, manufacturing, and all processes with an internal emphasis.

Technological capability of firm is necessary to help the achievement of business and environmental goals (Li, Chen, Chew, and Teo, 2014). Consequently, TC is an essential component of SMEs capabilities thus needs to be totally considered by manufacturing SMEs as its significantly influences the productivity of firms (Ahmad et al., 2014). TC helps SMEs enhance operational process and reduce cost of production (Ainin et al., 2010), improve efficiency, help develop effective firm‟s structure to upgrade process and product, acquire skills and technological knowledge rapidly (Chantanaphant et al., 2012). Wang, Lo, Zhang, and Xue, (2006) maintained that TC empowers firms in developing a distinctive and hard to imitate knowledge, skills, assets, resources or capabilities which creates superior performance.

Hence, Guifu and Hongjia, (2009) categorized technological capability into technological acquiring capability (TAC), technological upgrading capability (TUC)

and technological operating capability (TOC). TAC refers to the SMEs ability to obtain, digest and improves new knowledge and techniques from either formal and informal internal and external sources. TOC defines the SMEs capability to operate, use and sustain manufacturing equipment and facilities. TUC describes the capability of SMEs to significantly expand its technologies, process and product contingent upon its capacities, market demand and environmental changes (Chantanaphant, Nabi and Dornberger, 2013).

Gathogo and Ragui (2014) posit that although capital is essential for superior performance and increase the competitiveness of the firm, its technological capability was also found to be very significant, though most SMEs are manually driven firm in Kenya. They further recommended that higher learning institutions should be used as a center for technology-driven information incubation, dissemination, and implementation by the SMEs. This may be why the Singaporean government launched a program known as GET-UP (Growing enterprises through technology upgrading) to integrate technological transfer and maximize the industrial impact of public sector research on the technological capabilities, innovativeness and growth objectives of business firms (Hang, Wong, Ho and Ruan, 2014). Consequently, technological advancement resulting from R&D is the most crucial factor enhancing productivity and growth of most business firm (Ray, 2008).

Technological capability is an essential capability that creates effective combination of relavant capabilities to help SMEs develop absolutely inimitable abilities and distinctive competitive advantage (Voudouris, et al., 2012). However, TC requires business firms to be open-minded enough to keep in pace with technological

development, continuously amass beneficial knowledge and effectively deploy the current technology (Wang, Lo, Zhang, and Xue, 2006). Hence, effective combination of relavant capabilities and resource determines the strength of SMEs technological capability (Halac, 2015). This study presumes that these dimensions may have a significant influence on firm‟s innovation and performance. Bergek et al., (2008) uphold that TC of a firm comprises the technology utilization strategy, technology sourcing, R&D, patenting, and management activities.

Technological introduction strategy entails the firm to either cooperate or contend with competitors in introducing new product or technologies. It simply implies the strategy adopted by an SMEs to pursue and develop the best new technological capability or introduce new product to the market by either being the first mover or follower (Bergek et al., 2008). Theoretically, pioneering is the first mover to introduce new technologies or product into the industry or market, practically however, pioneering refers to the first business to explore a given technology, concepts or product (Cleff and Rennings, 2011). Hence, the decision on how to enter new market is critical to firm‟s survival, growth, and development.

This is due to the fact that overestimation of SMEs strategic capabilities in utilization of the new technologies or entering markets can risk it future, while underestimation on the other hand can constrain the ability of the firms to exploit available opportunities for growth (Alcantar and Ngwenyama, 2015). Therefore, Franco, Sarkar, Agarwal and Echambadi (2009) opined that first mover advantage depends on firm‟s technological abilities; this means that pioneering is only beneficial to

firms that are technologically strong, while pioneers with ineffective technological capabilities hardly survive in all the market responder and non entrant.

Technological development strategy designates how SMEs internally through R&D activities or externally by licences, alliance, acquisition or join venture acquire or develop essential technological capabilities. Pisano, (2015) maintains that capability theory is significant in developing distinctive technological sourcing strategy. However, Bergek et al., (2008) contended that the theory does not clearly outline which sources among is preferred amongst the internal and external sources. According to (Ngamkroeckjoti, Speece, and Dimmitt, 2005), four important issues exist in determining technological sourcing strategy, comprising what technologies to develop, the cost and appropriateness of current technologies in attaining business goals, whether to be pioneers in those technologies, and whether to protect or share new technological capability developed with other partners. Principally SMEs can develop it technological capability internally through research and development or collaborate with external sources.

Consequently, internal R&D enables SMEs to develop important rudimentary knowledge and skills and supporting technological capability which enhances strategy to innovate. Generally, through research and development SMEs can boost the knowledge of their employees, invite, absorb and retain talented expert, discover and acquire external knowledge, and enhance innovativeness (NSB, 2012). Therefore, SMEs that engage in R&D are considered as reservoir of knowledge which assist to develop and introduce new technologies frequently (Moncada-paternò-castello and Grassano, 2014). However, SMEs firms in most instances are

the beneficial recipient of R&D spillover generated from the knowledge and R&D activities of research agencies and large corporation (Acs, David, and Feldman, 1994). Conversely, engaging in R&D actitivities may be beneficial to the survival and growth of SMEs especially in this dynamic and competitive environment. Thus, investment in R&D is critical to evolving efficient innovation system and economic growth (Shevelova and Plaskon, 2017).

Generally, R&D investment is an imperative factor advancing SMEs firms commitment to innovation particularly through logical generation and commercialization of business idea (BERD, 2011). The role of research and development in firms‟s innovation and business process and performance have been generally recognized, thus nowadays apart from private sector participation in R&D activities, many countries have adequately enhance the favorability of their operating business environment and policies concerning R&D activities, including subsidy on R&D activities and creating global competitiveness so as to attract multinational companies to invest in R&D (Shapiro and Taylor, 2013). R&D plays significant role in enhancing firm‟s innovation strategy (Segarra-ciprés and Bou-llusar, 2018).

External technological collaboration has been designated to represent inter-firm effort to accomplish common goal through information and resources sharing (Tsasis, 2009). Firms engage in technological collaboration in recognition that developing technological capability or achieving firm‟s objective alone is challenging if not impossible (Snavely and Tracy, 2002). Hence, collaboration involves firms working together with different partners to achieve collective goal by pooling joint effort and resources (Guo and Acar, 2005). Collaboration in

technologically oriented industries has become necessary particularly, in condition of rapid technological change, complex product design and high cost of developing new product (Ju, Chen, Li, and Lee, 2005).

Equally, Sompong, Igel, and Smith, (2014) urged that firms engage in technological collaboration to reap the advantage of establishing mutual prospect of exploiting technological opportunities and managerial skills that are considered to have helpful impacts on both individual firm‟s and partner‟s performance. The common areas of collaboration are in technology transfer, R&D, licensing agreement and engineering alliance. Technological collaboration is created essentially in the supply chain undertakings and typically includes sharing information, skills, and knowledge (Das, Sen, and Sengupta, 2003).

Through strategic technological collaboration, firms transfer patented knowledge and pool of unique resource as well as employees skills into collaborative R&D project, which sometime leads to the development of technological capability with extensive product application that produces market payouts for all partners (Todeva and Knoke, 2005). Therefore, to sustain innovativeness and higher competitive edge in today‟s rapidly changing environment, firms must develop R&D collaboration with various research institutions to reap the benefit of combined partner‟s competencies and knowledge to develop new joint-technological capabilities (Belderbos, Cassiman, Faems, Leten, and Van Looy, 2013).

Accordingly, developing R&D partnership with other institutions allows firms to minimize the cost burden of R&D and share the risk of failure with co-partners, thus

enhance efficiency of participant‟s innovation process (Briggs, 2015). Consequently collaboration in R&D leads to the development of joint-innovative solutions (Natalicchio, Petruzzelli, and Garavelli, 2017). Internal R&D and external knowledge sourcing plays significant role in enhancing firm‟s innovation strategy (Segarra-ciprés and Bou-llusar, 2018).

2.4.3 Learning Capability

Technological progress frequently changes the frontiers for substituting human with mechanical processes which however requires increasing skills to operate the state-of-the-art machine (Kesting and Ulhøi, 2010). Consequently, to survive and remain competitive in the turbulence business environment, the challenge ahead of managers is more than helping the firms to learn and increase its knowledge, but to be dedicated and learn effectively . Therefore, the ability of SMEs firms to obtain and explore knowledge and techniques from outside and within the firm is essential to achieving sustainable competitive advantage (Cegarra-Navarro, Sanchez-Vidal, and Cegarra-Leiva, 2011, Bierly, Damanpour, and Santoro, 2009).

Determining consumer preferences are not easy in this rapid changing technological environment, however, through learning SMEs firms can effectively develop way to innovate better or new products, services and even create new ventures (Park et al., 2019). Learning create opportunity for decision to be made by firms with full understanding of the numerous factors related with processes and market which establish the stage for creating accepted customer value that lead to superior performance (Martinette and Obenchain-leeson, 2012). However, learning does not happen suddenly, rather some environmental and managerial actions are required to

ensure the firm is rightly designed to develop effective learning capability (Zahra, Abdelgawad and Tsang, 2011, Goh and Richards, 1997).

Learning capability enables SMEs firms to adapt rapidly and perform better under changing market condition (Manley and Chen, 2015, Bhatnagar, 2006). Alegre and Chiva, (2008) postulated that to enhance employees job satisfaction, SMEs must create and develop learning capability. Thus, Kofman and Senge (1993) suggested that without learning capability, transformation cannot be achieved in a firm. Learning capability demonstrated the extent of readiness to which a firm considers learning as important and thus dedicated not only to promote the process of learning but also to create and strengthen the process of learning in the firm (Pilar Jerez Gómez, Lorente, and Cabrera, 2004, Sinkula, Baker and Noordewier, 1997).

Firm‟s learning capability expedites the process of its marketing intelligence gathering, assimilation and sharing of entrepreneurial and customers information to perfectly become a firm driven by market and entreprenueral orientation (Huang and Wang, 2011). Thus, Mat and Razak, (2011) urged that an SME that wisely develops the ability to learn enhances the success of its technological development and innovation process. Akgun, Lynn, and Byrne, (2006) maintained that acquiring and implementing new knowledge and skills greatly enhances the firm‟s successful new product development. This is because, it is only through learning that; strategic information that can help firms outperform its competitors and achieve superior performance is created (Atak, 2011). Therefore, the level and efficiency at which the firm learns are determined by its culture as they interact with market information, behaviors and actions (Verma, Singh and Rao, 2014, Sinkula et al., 1997).

Learning capability demonstrates the firm ability to systematized learning into its culture to drive in and inspires teamwork, knowledge acquisition process and alliance, which creates firms‟ value (Kaplan, Ogut, Mehmet, and Asli, 2014). It is the culture developed by learning business enterprises with the goal of fashioning a valuable culture, to promote a valued outcome by increasing employee‟s skill (Verma, Singh, and Rao, 2014) and thus the ability to learning becomes a pre-requisite to improving innovativeness and sustainable competitive advantage (Verma, Singh and Rao, 2014, Mat and Razak, 2011). LC is the machinery that turns firm‟s resources into valuable, inimitable, rare and non-substitutable through experience (Acar and Zehir, 2009).

The aim of learning is to improve firm‟s work processes and discover breakthrough in product development (Goh, 2003, Goh and Richards, 1997). Therefore, the major fundamental issues in contemporary innovation theory are that firm‟s innovation processes rarely depend on its internal resources alone, rather required knowledge, technical solutions, skills, equipment and methods from outside (Liao and Wu, 2010). It is therefore believed that knowledge generated by the firms through collaborative R&D helps develop a superior product and improve the effectiveness of production process, which can be translated into the successful marketing of the new products (Rammer et al., 2009). Consequently, Verma, Singh, and Rao, (2014) urged that managers must develop learning culture to encourage employees to reason differently and create innovative ideas to improve innovation activities.

Equally, learning capability has been described as a posture that firm demonstrated to obtain and absorb knowledge and skills to contest the established behaviour towards operating technologies, market and major practices and procedure (Mahmoud and Yusif, 2012). It is an avenue through which firm strategizes to gain and maintain a sustainable competitive advantage by encouraging employees to acquire knew knowledge (Goh, 2003, Baker and Sinkula, 1999). LC consists of both formal and informal processes, resources and structures developed by the firm in the process of acquiring, sharing, and utilization of knowledge and skills (Alegre and Chiva, 2008, DiBella, Nevis and Gould, 1996). Therefore, developing personal and organizational learning capability is nowadays a strategic activities in creating other valuables organizational capabilities (Moon and Lee, 2015, Clements, 2010).

However, it has been established that the culture, behavior and commitment of a firm determine the efficiency at which firms learn (Verma, Singh and Rao, 2014, Calantone, Cavusgil and Zhao 2002, Sinkula et al., 1997). Pilar Jerez Gómez, Lorente, and Cabrera, (2004) stressed that learning capability comprises system of thinking, learning commitment, openness and experimentation and the transfer and integration of knowledge. Organizational support for learning, absorptive capability, individual learning and sharing, the nature of the knowledge source and work environment, learning equilibrium and personal relationship determine firm‟s learning capability (Peansupap and Walker, 2009).

Therefore, for a firm to learn effectively; it mission and purpose must be clear, management commitment and empowerment must exist, experimentation highly encouraged and rewarded, articulated system of knowledge transfer established and

group problem solving and teamwork supported (Goh and Richards, 1997). Thus the complexity of learning capability makes it a firm‟s resource that is perfectly inimitable in explaining performance heterogeneity (Manley and Chen, 2015).

Chiva, Alegre, and Lapiedra, (2007) identified experimentation, external interaction, risk taking, dialogue and participative decision making as critical factors influencing firm‟s learning capability. Experimentation described the extent of compassionate to which suggestions and new ideas are attended and treated in the organization (Chiva et al., 2007). Nevis et al., (1995) demonstrated that experimentation as a learning process involves firm‟s trying new concepts, design, ideas and being curious of how things work (Alegre and Chiva, 2008). External interaction exhibit firm‟s ability to relate and connect with external partners such as suppliers, competitors, government, customers (Alegre and Chiva, 2009). Bapuji and Crossan, (2004) emphasize that external partner plays significant role in firm‟s learning process.

Furthermore, risk taking demonstrates the firm‟s level of acceptance to uncertainty and errors (Chiva et al., 2007). Pablo, Sitkin, and Jemison, (1996) drive further to show that failure is an indispensable requirement for effective firm‟s learning. Firm‟s with risk taking ability exhibit willingness in tolerating high levels of uncertainty and concentrate on greater opportunity (Pablo, Sitkin, and Jemison, 1996). On the other hand dialogue entails continued mutual inquiry into the process, assumption and uncertainties that make up the day to day experience (Chiva et al., 2007). Dialogue is considered as a process through which firms and individual learning are connected, thus it is very essential to the success of the firm‟s learning (Alegre and Chiva, 2008). Consequently, dialogue is what creates both firms and individual learning

through creating meaning to an ideas or concepts which lead to the comprehension (Oswick, Anthony, Keenoy, Mangham, and Grant, 2000).

While participative decision making refers to the extent to which firm‟s engages employees in operational decision making (Chiva et al., 2007). Firms employ participative decision making so as to drive the benefits from the motivational effects of increased employee involvement, organizational commitment and job satisfaction (Scott-Ladd and Chan, 2004). Learning is generally considered as individual phenomenon, thus firms learn through individuals within the firm (Lapiedra, Alegre, Smithson, and Chiva, 2004).

Equally, learning is considered to be a social phenomenon, thus groups and communities play significant role in learning (Alegre and Chiva, 2009). Therefore, participative decision making promote team learning through which members contributes significantly to capacity development of one another to achieve improved performance (Scott-Ladd and Chan, 2004). Participative decision making is essential element in firm‟s competition to attract and maintain the best talents of human capital, and demonstrated the ongoing democratization of the firm‟s affairs (Kesting and Ulhøi, 2010).

Generally, industry competitiveness makes firm‟s develop greater enthusiasm in learning to acquire knowledge and skills (Chiva, Alegre, and Lapiedra, 2007), which in turn lead to effective innovation and better performance (Julian and Weerawardena, 2003). Thus, firm learning is an imperative means of achieving viable competitive advantage that is not substitutable and inimitable, although other

firms may try to imitate the firm learning practice, however, the complex nature of firm‟s learning practice means it is very challenging to develop the same of this strategic valuable resources or capability (Farrell, Oczkowski and Kharabsheh, 2008).

In whatever case, the innovation process of a firm is a complex one that requires the utilization of both technological and scientific knowledge as well as appropriate adaptation process to a particular situation of company‟s activity. Thus, Mavondo, Chimhanzi and Stewart (2005) urged that firm managers must view learning as an exploration process. This stresses the need for the development of R&D, technical and strategic abilities and learning capability (Abereijo et al., 2009). Thus, learning capability plays a significant role in creation of participatory, creative and dialogue-based environment that supports organizational learning (Mallén, Chiva, Alegre, and Guinot, 2015).

Therefore, most innovating firms develop a complex networks of relationships with suppliers, customers, competitors, research institutes and many more, which provide a solution to most of the firm‟s technical and financial problems that accompany an attempt to innovate (Oyewale, Adeyemo and Ogunley, 2013). These processes of interrelationship have led to a wide range of innovation models based on shared learning between the firm and its wider environment (Abereijo et al., 2009). Hence, learning capability is the machinery that helps turn resources into operationally valuable, rare, absolutely inimitable and non-substitutable abilities through experiences and repetition (Acar and Zehir, 2009). Continuous learning plays a vital

role in improving firm‟s innovation process, it is thus imperative to develop the ability for constant learning in the firms (Ajayi and Morton, 2015).

Hence implementing any strategic capability would not result in a higher performance without effective capability to spreading the acceptance of the system value and believes within the firm (Zhou et al., 2005). Thus spreading and the acceptance of those strong belief and value systems is the function of effective learning capability. In contrast to the notion that SMEs do not pay much concern on human capital development, Hooi and Ngui, (2014) reaffirmed that SMEs adopt a human resource practice that emphasizes human capital development. It is on this regards that the Director-General MAN Mr. Segun Ajayi-Kadir reassured the determination of their association to embark on a strategic plan that would drive members to march into innovation and creation of differentiation through modern mindset (MAN, 2017a).

From the literature review therefore, this study believes that learning capability is an essential factor that would help manufacturing SMEs particularly in a developing economy like Nigeria to develop systematic values and belief that promote creativity and innovativeness to enhance performance.

2.4.4 Relational Capability

Collaboration of business firms with research institutions, competitors, suppliers, customers and governments is visible phenomenon in today‟s operating business environment (Rajasekar and Fouts, 2009, Harper and Norelli, 2007, Beckett, 2005, Gulati, Nohria, and Zaheer, 2000). The effect of global competition is delicate to

business enterprises, particularly SMEs; therefore, most SMEs with global outlooks resort to establishing effective relationship with relevant individual, groups and organizations. This is because of the fact that SMEs in most cases do not have the ability to independently provide all the resources and capabilities required to achieve greater competitive advantage in this rapidly changing environment (Malik, 2012, Chan and Wong, 1994). Thus, external ties facilitate sharing of strategic resources and information which help guide strategic moves, that may help small business prevent ineffective strategic decisions (Sok, Snell, Lee, and Sok, 2017).

To cope with the environmental challenges and global competitiveness, strategic collaboration like open innovation, supply chain, value chain, virtual enterprises and extended enterprises have become the order of the day (Brekalo, Albers, and Delfmann, 2013, Choi, Hise, Bagozzi, and Fadil, 2010). The major tendencies driving the enterprises from emerging economies to engage in collaborative relationship is willingness to learn and acquire partner‟s production, marketing and managerial skill and knowledge (Mamédio, Rocha, Szczepanik, and Kato, 2019, Lo, Stepicheva, and Peng, 2016). Bougrain and Haudeville, (2002) and Barratt, (2004) maintained that SMEs firms develop greater relationship with relevant market participants and react favorably to opportunities created by public, economic policies and other environmental changes. Thus, inter-firm relationships has been considered as a significant firm‟s resources, hence the ability to nurture them is a key to managerial skill (Kanter, 1994).

The constraints of skills, technologies, resource and finance as well as limited market are the prevalent characteristic of SMEs (Saunila, 2016). However, SMEs are

flexible in structure, dynamic in strategies, with informal and reactive mindset (Hudson, Smart and Bourne, 2001). Therefore, Gronum, (2015) opined that purposive SMEs develop relational capability (RC) to connect and obtain the required physical resources, skills, knowledge and capabilities to ehance operational process and achive sustainable competitive advantage. This view was underscored by Oxford Economies, (2013) that SMEs firms access technical knowledge from a variety of external sources to enhance their technological capabilities and innovation process. SMEs relate with other institution to achieve short-term strategy like R&D and long-term strategy beyond the current activities and practical learning (Bjerregaard, 2009).

RC has been described as a specific capability of developing long-term inter-firm collaboration with two or more markets participants to share resource, capabilities and knowledge so as to develop capacity to enhance competitive position (Kiprotich, Kemboi, and Kiprop, 2015, Walter, Auer, and Ritter, 2006). Hence RC allows SMEs to access technologies, resource, information, knowledge and capabilities that can improve market competitive position and performance (Ireland, Hitt, and Vaidyanath, 2002), and expedite the exchange of tacit knowledge (Collins and Hitt, 2006). This is definitely crucial to SMEs with inadequate capabilities and scarce resources (Baum, Calabrese, and Silverman, 2000). However, it has been recognized that beneficial inter-firm relationship is built upon economic rule that honor technological transfer (Bougrain and Haudeville, 2002).

Nevertheless, relational capability enhances firm‟s learning advantage to access market, information, technologies, resource to facilitate the accomplishment of

strategic firm‟s goals of economic of scale (Gulati, Nohria, and Zaheer, 2000). Generally, RC helps develop collaboration that helps spread technologies rapidly, penetrates new market, and speedily accesses knowledge and skills to form the market groundbreaker (Khalil, 2019, Mamédio, et al., 2019, Soosay, Hyland, and Ferrer, 2008, Lorange, 1991). Kolk, Eagar, Boulton, and Mira, (2018) and Lawson and Samson, (2001) urged that strategic relationship with suppliers, customers, industry associate, competitors, research institution and other relevant stakeholders enable the firms acquire missing inputs that cannot be independently provided.

Equally, through RC SMEs improve strategic collaboration which help tackle the challenges of resource limitation and develop superior competitive advantage not only in the niche market but also to compete with the major competitor favorably (Lee, Lim, and Tan, 2000) and established a beneficial network portfolio of custmers connectivity (Rocca, Perna, Sabatini, and Baraldi, 2019). Relationship capability provides support to SMEs in weak areas, create understanding of the environmental cultures and problems that would help identify unexploited opportunities for growth and development (Eschker, Gold, and Lane, 2017). Thus Lee, Lim, and Tan, (2000), postulated that through relationship SMEs firms cannot only explore the niches market ignored by the major contenders, but also to infiltrate the main markets conquered by the main competitors.

Consequently, RC is not only a capability for SME to strengthen its competitive position, but also helps SME to guard the aggressive competitive actions of the major competitors (Lee, Lim, and Tan, 2000). SMEs engage in strategic relationship in order to learn and develop production, managerial and marketing abilities (Lo,

Stepicheva, and Peng, 2016), which expedite creativeness and innovativeness (Silvestri and Veltri, 2017, Schweitzer, 2014). Hence, Chung, Luo, and Wagner, (2006) posit that the ability of SMEs to interact with outsiders to learn, develop and share knowledge and experience to adapt rapidly is at this time essential requirement for effective innovation, survival and growth in today‟s competitive operating environment.

Pansari, (2005) maintained that RC is an indispensable survival capability like diversification and integration strategies. Thus ostensible weak external relationship among SMEs restricts the development of their marketing know-how and innovativeness which can greatly affect the development of the sectors (Alonso and Bressan, 2014). Consequently, inter-firm relational capability is essential mechanism that spurs firms success through promoting market focus, enhancing learning, sharing risk and cost, exchanging technologies and experience, encouraging networking between firm, industry participant and relevant bodies and enhances production efficiency (Dunlap-Hinkler, Kotabe, and Mudammbi, 2010).

To develop strategy for achieving successful innovation, SMEs now engage not only locally, but in global strategic collaboration and relationship (Welbourne and Pardo-del-Val, 2009). However, Li and Nguyen, (2017) urged that to successfully exploit information from relevant partners, firms must effectively consider the market size and volatility, knowledge sharing, intellectual property right, strategic partner selection, spillover effects, collaboration cost, collaboration strategy, opportunism, trust and commitment as well as economies of scale. Commitment and trust are essential factor in inter-firm relationship (Hasaballah et al., 2019, Saleh, Ali, Quazi,

and Blackman, 2019). Another considerations are environmental influences, enabling, enhancing and contractual factors (Braziotis and Tannock, 2011).

Similarly, the level at which SMEs firm is organized and its capacity to engage in collective decision/action are essential in forging effective relationship with external partners (Bonger and Christian, 2013). Firms habitually link idea or resource generated through association with group of partners in the value chain, however, it‟s extremely problematic to generate valuable resources without appropriate stimulus (Loewe and Chen, 2007). Thus, instead of looking at what new opportunities to pursue, firm must direct its strategy on identifying unmet market needs, overturning obsolete assumptions, understand and take advantage of environmental changes, leverage core competences distinctively and do several of these tasks simultaneously (Loewe and Chen, 2007).

Furthermore, management commitment is considered as the major driver of firm‟s intensity in inter-firm relationship (Sandberg, 2007). However, most commonly constraints encountered recently by SMEs in the process of relationship with strategic partners are complex procedure for cooperation, lack of competent employees, lack of commitment, and inadequate prepared partners to provide the counseling and training supports (Türkeş, 2018). Equally the importance of legitimacy has been justified throughout the collaborative process including inter-firm relationship, partners selection and framing the partnership, as well as the development of the collaboration (Huybrechts and Nicholls, 2013), internal and external alignment are essential factors in relationship (Bhattacharjee, Prakash, and Mohanty, 2015).

The skills and knowledge of SMEs managers whose day-to-day operation of the firm depends upon is constraints by lack of appropriate professional advice, which affects the decision to relate and source external resources mainly due to the fear of possible loss of control (Cassar and Holmes, 2003). In this regards, Lapiedra, Alegre, Smithson, and Chiva, (2004) posit that active inter-firms relationship starts when firms develop skills, structures and process to lessen interpersonal and organizational differences in order to create substantial values and benefit from the relationship. This is because excessive network relationship creates information redundancy in the firm and the replicate requires intensive investment, thus firms encounter problems in information coordination and benefits negotiation, which result in in additional cost and less investment on innovation and consequently poor or low improvement in productivity (Li, Fan, and Yang, 2019).

Therefore, excessive relationships require effective coordination, communication and control (Lapiedra, and Chiva, 2004). However, effective management of inter-firm relationship depends on effective management of five level of integration which includes; strategic, operational, tactical, interpersonal and cultural integrations (Kanter, 1994). Integrative ability plays significant role in enhancing the benefits of inter-firm relationship particularly with effective information technology system (Lapiedra, et al., 2004).

2.5 Relationship between MC, TC, LC RC and the Performance

This section critically evaluates previous empirical literature relevant to the relationship between the four independent variables of the study (MC, TC, LC, RC) and the dependent variable (SMEs performance).

2.5.1 Top Management Capability and Firm Performance

Effective management is essential in all types of firm (Burgoyne, Hirsh, and Williams, 2004), however to create much division of labor and specialize networking is difficult with most SMEs until certain size is reached. Consequently, SMEs managements embedded itself with huge work, which leads to ineffectiveness to exploit business opportunities (Arnold and Thuriaux, 1997). Though, technological development has provided assistance in team development, knowledge sharing, efficiency, and effectiveness, however, promoting team development, knowledge sharing, and innovation depends on the top management capability in instituting open communication and trust (Hermano and Martín-cruz 2016, Namada, et al., 2014, Anantatmula, 2010). Therefore, the success of SMEs performance largely depends on the competencies of their top management (Alasadi and Abdelrahim, 2008, Karami, Rowley and Analoui, 2006, Hudson, Lean and Smart, 2001).

Firms with managers that have developed proactive and risk-taking behavior of engaging in innovative activities are in a better position to compete favorably in this fast-changing business environment (Davis et al., 2010). Thus, top manager‟s capabilities play a significant role in determining the outcomes of firm‟s activities and strategies, even if situation limits the scope of their strategic choice (Yun, 2007). These demonstrated that not only firm‟s operating environments but also top

managers play crucial role in achieving better performance. Ahmed and Mohamed, (2017) opined that top management supports significantly and positively influences firm‟s success and efficiency. Hence Birkinshaw and Goddard, (2009) urged that firms management helps create a distinctive, valuable and hard to copy competitive advantage capability at the market place.

Several studies have been conducted on the links between MC and performance of business firms. For example, Wang and Dass, (2017) in their longitudinal study conducted on 335 US companies drawn from standard and poor database found that management pioneering in innovation activities positively affects company financial performance. While Davis, Bell, Payne and Kreiser (2010) reported that entrepreneurial orientation with the influence of the managerial power of top management plays a significant role in improving the performance of SMEs in the US, consequently, the interface between entrepreneurial and managerial influence commands a significant impact on the firm‟s success. Although the study has established the moderating role of top management power on firm‟s performance, nevertheless the sample drawn for the study was not industry specific, therefore generalizability of the finding may be difficult. Similarly, Lucky and Sobri, (2013) in their study established that entrepreneurial capacity significantly affects performance of both service and manufacturing small firms in Malaysia.

Similarly, Hayton (2015) in his survey of 2500 English SMEs in the UK reveals that top-level management leadership and entrepreneurial abilities positively relate to firm‟s turnover, productivity and growth. While Jia, Wang, Zhao and Yu, (2014) in their research on 248 Chinese enterprises titled “Exploring the relationship between

entrepreneurial orientation and corporate performance: The role of competency of the chief executive in entrepreneurial-oriented corporations" found that top-level management competency significantly influences company performance. Although the response rate (92 percent) in the study was impressive; however, the sample was drawn from both service, manufacturing, financial industry and high-tech enterprises. Therefore data obtained may likely suffer from industry bias.

The study conducted by Ismail, (2013) on 228 Malaysian SMEs reported that, the truth worthiness in top-level management positively affects the performance and competive position of firms engaging in the international operation. In addition, the study demonstrated that managerial commitment is essential for SMEs pursuing international business. The study used a mail to deliver the questionnaire and phone call was also used in order to facilitate increase in the response rate. Nonetheless, the study covers all industries in the Malaysian SMEs sub-sector, thus, the possibility of industry"s biases of data may be high. In the same vein, Mbizi, Hove, Thondhlana and Kakava (2013) in their study conducted on 30 manufacturing SMEs in Malaysia found that managerial attribute is the most significant factor that positively affects SMEs performance. The study used both qualitative (structured interview) and quantitative (questionnaire) approaches to data collection, thus this mixed method may likely lead to have an accurate and reliable findings.

Pufal, Zawislak, Reichert and Alves (2015) carried a survey study on 1331 Brazilian manufacturing firms. The data of the study was collected through a questionnaire on 5 Likert type scale and analyzed using Pearson correlation. The results of the analyses indicate that professional firms have developed set of management

capabilities, which have significantly influenced their performance than that of family companies. Similarly, Garcés-Galdeano, García-Olaverri, and Emilio, (2016) in their study conducted to investigate the causes of heterogeneous performance and linking productivity with management capability observed in Spanish family firms. The study apart from establishing a positive relationship between management capability and performance of family firms, also reaffirms that management capability plays a significant role in enhancing innovative human resource policies that help combine human capital to achieve sustainable competitive advantage.

Ince, Keskin, Karakose and Gozukara (2015) conducted a research on 207 firms in Turkey and found that top-level management leadership styles significantly influence firms learning capability. Specifically, participative leadership positively affects firm performance. Like most of the studies the sample of the study was drawn from various industrial sectors, thus industry variability may affect the reliability of the data collected. While the results of a study by Sreckovic (2015) indicate that firm management interpersonal and relational capabilities are positively significant to the performance of architectural firms, while managerial capabilities positively affect the performance of real estate companies in Austria, Switzerland and Germany. Similarly, the findings of a study conducted by Waweru (2015) reveal that top management‟s ability to participate in supply chain significantly improves the Kenyan firm's performance.

An empirical study conducted on Chinese construction firms by Shigang and Guozhi (2016) found that management capability is positively related to growth in profit, and such a capability increased firm working efficiency and hence led to the achievement

of better financial performance. The research was industry specific; therefore the tendency for biases of data may be limited. Similarly, Artur, Brito and Sauan (2016) in their study on 124 Brazilian packaging firms using multiple linear regression techniques reported a strong positive link between effective management practices and firm‟s profitability, growth in revenue and productivity; however, the study failed to confirm it proposed Practice-based View, thus upholds the RBV theory. Firm with proficient managerial skills effectively exploit business resources and opportunities in Germay (Lattuch, 2019).

From the above reviewed literature, it is obvious that MC is an essential construct in innovation and technological strategy literature that positively influences firms operational process and performance (Setyanti et al., 2016, Halac, 2015). Zawislak, et al., (2012) postulated that MC enables SMEs manager to excellently exalt authority to direct firm resources towards tackling business threats and exploring opportunities to achieve and maintain a smooth operation to attain a high rate of efficiency in the accomplishment of firms objectives. Many extant literature that examine the relationship of MC and SMEs performance demonstrated that MC is valuable firm capability that influences performance (Setyanti, et al., 2016, Jia, Wang, Zhao, and Yu, 2014, Davis, Bell, Payne, and Kreiser, 2010, Mbizi et al., 2013). Hence this study hypothesize that:

H1: MC is positively relate to the performance of F&B manufacturing SMEs in Nigeria.

2.5.2 Technological Capability and Firm Performance

Improve technologies empower firm to innovate product that enhance performance (Rodriguez, Wise, and Martinez, 2013). Thus, technological capability (TC) plays a crucial role in helping a firm to perpetually survive the market hostility and turbulences, thus manufacturing companies must evaluate their level of TC and upgrade to a higher level for improving customer satisfaction and overall performance, while those companies that are yet to implement any to consider having one before unwanted event happened (Ahmad, et al., 2014). Therefore, TC is an important strategic capability that enables firms to achieve a competitive advantage within its industry (Navimipour and Soltani, 2016, Chantanaphant, Nabi and Dornberger, 2013).

The firm technological abilities developed out of internal R&D helps to exploit the acquired knowledge in developing new products, thereby enhancing its economies of scale (Coombs and Bierly, 2006, Chesbrough and Crowther, 2006). The technological base of a firm consists of techniques, knowledge, system, structure, procedure and product design and specification (Nguyen, 2005). Therefore, from the resource-based view, firm technological capabilities promote firms‟ competitive advantage thereby improving the overall performance (Ahmad, Othman and Mad Lazim, 2014). However, Reichert and Zawislak, (2014) maintained that survival of firms in low technological industries does not primarily depend on technological capability, but ability to maintain better operational level than competitors.

Many studies have been conducted on the relationship between TC and the performance of SMEs firms. For example, Ahmad et al. (2014) conducted a

theoretical study on technological capability and performance of manufacturing companies in Malaysia and urged that TC is an important strategy in both the production and operation sectors. Ainin et al., (2010) in their study on firms in professional service industry of Malaysian economy shows that both e-business, technological capability and innovativeness positively affects business performance. However, amongst these technological capabilities is the most powerful factor that affects the performance of business firms.

While an empirical study conducted by Chantanaphant et al., (2012) in their study reports that technological capability positively influences export performance of SMEs in Thailand plastic industry. However, the study suggested that TC alone cannot sustain the better performance of the SMEs, thus future studies should consider investigating the impacts of other capabilities. However, TC is essential capability in firm‟s innovation strategy (Krishnan, 2012). Nakola, Buigut, and Kipchirchir (2015) conducted a study on 335 SMEs in Kenya, data collected were analyzed using descriptive statistics such as percentage, mean and frequency distribution. The result of the inferential statistics indicated that customer orientation and TC have significant positive effect on SME performance and they conclude that through customer orientation and TC SMEs can achieve sustainable competitive advantage and also a higher level of performance.

Similarly, the result of a study conducted by Madu, (2016) on technology and the performance of manufacturing companies in Nigeria using statistical techniques (SPSS software) shows a strong positive relationship between firm‟s technology and performance. Consequently, the study recommended business owners and managers

to embark on a thorough environmental study, be creative and innovative to move into a technological trend that will help meet up the present market challenges.

Ozigbo (2013) in his study on service firms in Nigeria reported that firms culture and technology have strong significant impacts on the overall improvement of firm performance. While the findings of a study conducted by Pratono (2016) on Indonesian SMEs shows that technological factors influences managerial decision-making processes under an opportunity based paradigm, most SME managers lack the capability to deal with high technological turbulence. However, Rosa et al. (2011) found that in the US firm product ideation novelty is significantly enhanced by a technological orientation regardless of the level of market turbulence.

Reichert and Zawislak (2014) reported that, although it is not possible to affirm the existence of a positive relation between technological capability and firm performance of Brazilian firms as the majority of firms are low and medium-technological oriented, however, the firms in lower technological intensity industries performed above average though they invested below average in technological capability. Rezazadeh, et al., (2016) reported that firm‟s technological positively influence the performance of SMEs in Iran.

Batra, Sharma, Dixit, Vohra and Gupta (2015) in their study carried out in India reported that TC is an essential tactical mechanism that empowers manufacturing SMEs to soften the industry hostile condition, thus enabling technologically oriented firms to innovate and perform better. Similarly, Shan and Jolly (2013) conducted a survey on Chinese companies and found that different technological capabilities such

as linkage capability, production capability, investment capability influence firm performance through mediation of product innovation. Solberg and Olsson (2010) in their study reported that technological orientation of Norwegian ICT companies positively correlated with their export performance. Voudouris et al. (2012) advocated that in Greek SMEs technological capability is a powerful determinant of effective technology investment and this strategic technology investment has a direct significant influence on firm performance.

It is therefore understandable from the foregoing literature reviewed that TC is a vital constituent of SMEs operating capabilities which needs to be absolutely employed by manufacturing SMEs as it significantly improves overall productivity (Ahmad et al., 2014). Technological capability allows SMEs firms to minimize cost enhance effectiveness, develop new knowledge rapidly and improve products and business processes (Chantanaphant et al., 2012). A substantial number of empirical studies that examine the relationship of TC and performance of SMEs firms have revealed that TC significantly influences firm‟s performance. Therefore this study hypothesizes that:

H2: TC is positively relate to the performance of F&B manufacturing SMEs in Nigeria.

2.5.3 Learning Capability and Firm Performance

Learning capability has been described as a strategic resource which helps firms to perform better than competitors and efficiently achieve its business goal (Atak, 2011). Pucci, Nosi, and Zanni, (2017) demonstrated that learning enhances SMEs capacity to better identify and handle emerging market challenges quickly and with

minimal cost than competitors. Therefore, a firm with strong learning capability easily recognizes, acquires and assimilates external knowledge, develops its internal capabilities, and have better performance than those firms that have less capacity to learn (Maroye et al., 2017, Coombs and Bierly, 2006). Lewrick, Omar, Raeside, and Sailer (2011) opined that without the ability to acquire and share knowledge, the performances of business firms tend to be low.

To sustain competitiveness, firms that develop technological advantage must formulate a system of knowledge creation that built and sustain its reservoir of knowledge (Kippenberger, 1998). Firms sustain growth at the international market through effective learning (Rodriguez, et al., 2013). Effective learning facilitate firm‟s adaptive and innovation (Dimitriades, 2005). Equally, learning indirectly affects firm‟s performance by improving the quality of its marketing behaviors and also influences performance by facilitating the type of generative knowledge that brings about new invention in operating system and process (Salas-Vallina, et al., 2017, Baker and Sinkula, 1999).

Previous studies emphasize that knowledge is nowadays a more viable sources of competitive advantage than the physical resources (Alegre and Chiva, 2013). Therefore, the ability to create, nurture and use to enhance competitive advantage depends on the capacity of the firm‟s to make, utilize and diffuse the appropriate knowledge throughout the firm (Hailekiros and Renyong, 2016). Thus LC empowers SMEs to develop and maintain vibrant core competencies (Collins and Hitt, 2006). Baker and Sinkula, (1999) maintained that generative learning help firms develop

flexible business strategies, create core competency and achieve disruptive innovation.

There are numerous empirical studies conducted on the relationship between learning and the performance of SMEs. For instance the research conducted by Nybakk (2012) on 241 firms in wood industry of Norway using structural equation modeling reported that learning positively affects SMEs innovation process in customary manufacturing industry, while learning was also found to positively influence firm‟s financial performance. The study has reviewed relevant literature and the methodological process seemed to be reliable, for instance, the use of phone call to facilitate the processing of the mail survey may be beneficial. Similarly, Calantone et al., (2002) found a significant link between US SMEs learning and performance indicators such as new product development, market share, and productivity.

While Hassan, (2014) in his study conducted on SMEs in Malaysia reveals that dynamic learning significantly influence manufacturing SMEs performance. He further urged that the dimension of dynamic learning and technology application in systematic learning demonstrates a significant influence on the performance of manufacturing SMEs. Also, Karagouni and Papadopoulos (2007) conducted a survey study on Greek and Cyprus furniture enterprises and report that learning improves innovative performance of SMEs firms. Similarly, Mahmoud and Yusif (2012) found that learning significantly enhances the influence of market orientation on the performance of SMEs firms in Ghana.

Mallén, Chiva, Alegre, and Guinot, (2015), in their empirical survey on Spanish firms reported that learning capability enhances the effects of altruistic leadership behavior on firm‟s performance. While Serna, Vega and Martínez (2016) conducted a personally delivered survey study on the top-level management of 350 SMEs in Mexico. Data collected were analyzed using EQS software. The result of the study reveals that learning is an essential factor in improving firm innovation and performance. Similarly in a cross-fertilization study of firms learning and RBV conducted on 249 chief executive in Australia by Paladino (2007) reported that firms learning is positively related to market orientation, which in turn positively impacted on various firm performance outcomes including customer value. While the study of Lam, Poon, and Chin, (2006), conducted in Hong Kong reveals that learning capability significantly influences firm‟s total quality management.

Similarly, the study of Kocoglu and Ince (2011) conducted in Turkey reveals that a strong positive relationship between firms learning with total quality management (TQM) and firm performance exist and that innovation positively affects the firm performance. Kaplan, Ogut, Mehmet and Asli (2014) in their empirical survey on Turkey firms reported that learning and intra-firms knowledge sharing correlates positively to SMEs financial performance. Salavou (2005) in her study from Greece found that firm learning that is being enhanced by strong customer and technology orientations constitutes an important firms capability in creating a unique new product for the market. Visser, (2013) found that British army develop a moderate LC that is reasonable, however not absolutely related to the variances in the battlefield performance of German and Britain army in the world war II.

The result of an interview survey study carried out by Hailekiros and Renyong (2016) on 243 Ethiopians manufacturing SMEs using SPSS V20 and Amos V20 statistical software indicates that LC has strong positive effect on both technological innovation capability and firm performance. While Islam and Sulaiman (2011) reported that firms learning contributed significantly to firm‟s innovativeness, which in turn positively affects firm performance. Similarly, Ugurlu and Kurt (2016) in their study established a significant positive relationship between firm‟s learning and the Turkish manufacturing SMEs product innovation performance.

Furthermore, the study conducted by Zahid and Ali (2011) on banking firms in Pakistan revealed a significant positive relationship between learning, innovativeness and firm performance. While Eshlaghy and Maatofi (2011) in their study on 82 small business in Tehran Iran reported that learning has significant positive effects on innovation performance of SMEs, while innovation significantly affects firm‟s profitability, sale and return on investment. Although a sample size of 81 respondents was used in the study, the sampling frame has not been mentioned or indicated in the study.

Accordingly Salas-Vallina, López-Cabrales, Alegre, and Fernández, (2017) in their study on Spain healthcare organizations reported that learning capability enhances the relationship that exists between transformational leadership and employees satisfaction. Equally, Limpibunterng and Johri, (2009) in their study on Telecom service providers postulate that learning capability positively influences the effects of leadership tasks on firm performance. Goh, Elliott, and Quon, (2012) and Prieto and Revilla, (2006) in their separate studies reported that learning capability positively

affects both firm‟s financial and no-financial performance in Canada and Spain respectively.

The above literature reviewed have identified a firm learning capability as an important source of achieving and sustaining competitiveness and it is one of the firm VRIN resources. The complex nature of learning makes it very difficult for competitors to create strategically the same valuable resources (Farrell, Oczkowski, and Kharabsheh, 2008). Firm learning capability effectively aids firm‟s intelligence in collecting, diffusing and circulating new information, thus becomes an innovative and market oriented entity (Huang and Wang, 2011). According to Mat and Razak, (2011) SMEs firm learning ability improves the success of their technological activities and overall performance. Thus this study hypothesizes that:

H3: LC is positively related to the performance of F&B manufacturing SMEs in Nigeria.

2.5.4 Relational Capability and Firm Performance

The underperformance of SMEs in Nigeria has been accredited to lack of innovation (Salisu, Abu Bakar, and Abdul Rani, 2017), however, it has been advocated that to improve the capacity of SMEs to innovate and enhance performance, they must develop strategy for vertical and horizontal relationship (Olughor, 2015). It has been established that relational capability (RC) is nowadays an essential key for SMEs successful development of new product (Lai and Woodside, 2015). Hence, Bastida, Marimon, and Tanganelli, (2017) stresses the need for SMEs to strategically relate with other partners to access resources and knowledge for improve performance.

Raghuvanshi, Agrawal, and Ghosh, (2019) emphasize the significant role of collaboration of firms with academic institutions and government. It is therefore essential for SMEs to develop effective relational capability to access relevant information and acquire better technologies that would help expand the existing market and penetrate new one. Thus RC is an inimitable essential capability in developing competitive advantage (Kumar and Banerjee, 2014).

However, inter-firm relationship is beneficial if the firms have effective absorptive capacity (Rafique, Hameed, and Agha, 2018, Miguélez and Moreno, 2015). Kim, Zhan, and Krishna Erramilli, (2011) conclude that the performance of joint venture firm is driven by the complementary resources of strategic partner firms in conjunctions with effective absorptive capacity of the recipient firms. Obayi, Koh, Oglethorpe, and Ebrahimi, (2016) also confirmed that relational capability enhance firm‟s performance with effective absorptive capacity. Absorptive capacity demonstrates SMEs capacity to identify, adapt and exploit external knowledge and resources to create new value (Zahra and George, 2002).

In this regards, Kim et al., (2011) profess that complementary external resources provide synergistic opportunity for value creation, however, achieving this may be challenging and insufficient for creating new and more value for the firms. Thus, it requires a capability to effectively understand, redeploy and apply the pool of complementary external resources (Jansen, Van Den Bosch, and Volberda, 2005). This capability according to Kim et al., (2011) is the exhibition of firm‟s absorptive capacity to transform the pool of external resources into valuable performance.

Another important factor that makes external relationship beneficial to firm is integrative capability. Mavondo and Matanda, (2015) stressed that integrative capability enables SMEs firms to transmit the benefits of resources and information from relationship partners into superior performance. Correspondingly, Li and Nguyen, (2017) urged that to successfully exploit information and resources from relevant external partners, firms must effectively consider the market size and volatility, knowledge sharing, intellectual property right, strategic partner selection, spillover effects, collaboration cost, collaboration strategy, opportunism, trust and commitment as well as economies of scale. Equally, Rungsithong, Meyer, and Roath, (2017) established that trust facilitates the effectiveness of firm‟s relational capability.

Nevertheless, RC enhances the process of delivering both product and process innovation of firms in high technology industry, hence high-tech SMEs must concentrate on collaborating with strategic associates in the value chain, so as to effectively innovate new process and product to achieve competitive advantage (Yu, Nguyen, and Chen, 2016). Kandemir, Yaprak, and Cavusgil, (2006) in their study on US firms reveal that inter-firm relationship affects firm‟s network performance which in turn enhances market performance. Lee, Lee, and Pennings, (2001) in their study conducted on technological start-up firms in Korea indicate that interactions of firm‟s collaboration and internal capabilities significantly affect performance.

In their study on US manufacturing firms, Lado, Paulraj, and Chen, (2011) found that relational capability significantly influences customer service and firm‟s financial performance. Yu and Huo, (2018) in a study on Chinese manufacturing firms found

that relational capability considerably impacted on firm‟s internal, customers and suppliers quality integration which significantly and positively enhances performance. In their empirical survey on Spanish firms, Nieto and Santamaría, (2007) reported that relationship with customers, suppliers and R&D institutions has positively and significantly influenced firm‟s innovation performance. The findings of a qualitative study carried out by Soosay, et al., (2008) on 23 firms in Australia show that relationship with partners impacted on firm‟s performance and capability to innovate.

Accordingly, the ability to interact with relevant partners allows Indians SMEs to learn and integrate operational capabilities to improve innovation process (Sharma and Ghosh Choudhury, 2014). The study conducted by Muange and Maru, (2015) on retails enterprise in Kenya reveals that marketing, procurement-suppliers, manufacturing, technological collaboration significantly and positively affect firms performance. Hietajärvi, Aaltonen, and Haapasalo, (2017) carried out a study on 414 project manager in Finland and reported that relational capability is the most influential firm‟s capabilities in the entire project life span. Similarly, relational capability positively impacted on Australian firm‟s relationship portfolio performance (Luvison and de Man, 2015).

Conversely, Ritala, Hallikas, and Sissonen, (2008) conducted a study in Finland and found that relationship with competitors relates to the performance of ICT firms. Rungsithong, Meyer, and Roath, (2017) in their study on Thai partnership project confirmed that relational capability positively impacted directly on their operational performance. Effective external relationship enhance US firm‟s performance (Park,

Misra, Reddy, and Jaber, 2019). Vachon and Klassen, (2008) in their study on north American manufacturers reveal that collaboration with suppliers has positive influence, while relationship with customers generates mixed outcomes. Specifically, the study demonstrates that relationship with suppliers positively relates to process performance, while collaboration with customers is positively related to product performance.

Walter, Auer, and Ritter, (2006) in their study on US organizations indicate that inter-firm relationship significantly enhances the correlation between entrepreneurial orientation and firms performance. Similarly, Zaheer and Bell, (2005) in a study conducted in Canada show that firm‟s relational capability positively affects performance. Equally, Sompong, Igel, and Smith, (2014) in their study conducted in Thailand found that collaboration positively influences performance through technological activities, market potential, financial benefits and opportunity accessibility. Rajasekar and Fouts, (2009) reveal that relationship with partners has significantly and positively affected the passenger load factor, revenue passenger mile and market share of domestic airline in Canada.

Similarly, a study conducted in China by Malik, (2012) reported that the return on asset (ROA) of first mover is significantly and positively improved through relationship with strategic partners. However, Ritala, Hallikas, and Sissonen, (2008) in their study in Finland demonstrated that firms must recognize and take into consideration the risk of too much relationship with direct competitors. Relational capability enables firms convert knowledge and information from customers into specific market demands which affects the cost optimization, use of technology,

financial performance and customer value creation which signifies firm‟s competitiveness (Sánchez-Gutiérrez, Cabanelas, Lampón, and González-Alvarado, 2018).

Obayi, Koh, Oglethorpe, and Ebrahimi, (2016) in their survey in the UK reported that relational capability impacted positively on firms‟ adaptive operational strategies and retail firm‟s performance. The outcomes of a survey carried on Vietnamese firms by Pham, Monkhouse, and Barnes, (2017) indicate that relational capability influences and support marketing capabilities and performance. Ziggers and Henseler, (2009) in their study on Netherland firms found that inter-firm relationship directly creates superior financial performance and also indirectly through supply base enhances buyers financial performance.

In a study on Jordains manufacturing firms, Akroush, (2012) reported that RC has direct significant positive relationship with product innovation quality which in turn positively affects new product customer and financial performance. Equally, the result of an empirical study conducted on Chinese third-party firms by Shou, Shao, and Chen, (2017) reveals that relational capability significantly and positively affects the performance of third-party logistic provider. Based on the foregoing empirical evidences this study hypothesizes that:

H4: RC is positively related to the performance of F&B manufacturing SMEs in Nigeria.

2.6 The Concept of Innovation Strategy

Innovation has been viewed as a resilient strategic competitive capability for SMEs engaging in international business (Neely, Filippini, Forza, Vinelli, and Hii, 2001) where competition and high growing demand for better quality product, enhance product utility, reliable deliveries and prompt reponse time are the order of the day (Nybakk and Jenssen, 2012, Abereijo, Adegbite, Ilori, Adeniyi and Aderemi, 2009). Firms engage in innovation to respond to the changes in managerial and technological knowledge, customer‟s expectation, industry competition and top management aspiration to achieve distinctive competencies in improving firm‟s performance (Damanpour, Walker, and Avellaneda, 2009). Consequently, in this environment where consumer preference, operationl skills, and market condition change rapidly, developing effective innovation strategy is necessary so as to survive and succeed (Yusr, 2016, Iddris, 2016). Hence innovation strategy is a cognizant firm plan that help identifies, formalizes and facilitates the commitment to innovation (Nybakk and Jenssen, 2012).

Through innovation, enterprises provide solution to the problem of technology, skill and acceptable price level (Lattuch, Pech, Riemenschneider, and Weigert, 2013). Firm that places innovation on higher priority on its corporate agenda makes superior financial performance (Turulja and Bajgoric, 2019, Dobni, Klassen, and Nelson, 2015). However, Griffiths and Kickul (2008) urged that although there should be no entrepreneurial and innovation policy of the „one size fits all‟ type of firm, there are however certain measures that can encourage and support the success of innovation process. The effectiveness of these measures needs to be specified base on the environmental and institutional context which include; a combination of the

economic, political and legal, as well as cultural factors that directly influence entrepreneurial behavior towards innovative activities in an economy. Therefore, innovation strategy has become an important catalyst for value creation of firms in almost every industries (Dobni, Klassen, and Nelson, 2015, Hitt, et al., 1996).

According to Ferraresi, Quandt, Santos and Frega (2012) innovation means the process of transforming idea or knowledge into tangible or intangible value through the implementation of the new or improved process. This process encompasses a variety of technological, marketing, organizing and financial activities to realize its potential; therefore, innovative strategy portrays the readiness and tendency to achieve the desired innovation as demonstrated by the firm in its behaviours, strategies, activities, and processes (Namusonge, Muturi and Olaniran, 2016). This is in line with Schumpeterian innovative theory, where new products or changes in product lines, developing new process of R&D, introducing new methods of production, developing new systems as well as implementing new procedures are considered the resultant effect of firm innovative strategy (Namusonge, Muturi and Olaniran, 2016).

In addition to the above, innovation has been described as an art of identifying and implementing or adopting new procedure, process, product or service within a group, a firm or wider society in order to improve performance (Abu Bakar and Ahmad, 2012, Rogers, 1976). Therefore, according to Edwards, Delbridge and Munday (2001) innovation is not just about a craft; it is about systems, competence and at times luck and unexpected discovery. Thus, firms creativity and innovation lead to improvement in the quality, and enhance quantity of product, cost efficiency, reduce

materials losses, enhance sale volume, and employees motivation and facilitate efficient production (Farrokhian and Soleimani, 2015). Through innovation strategy, enterprises identify, acquire, operate and transform a given technology to suit a particular operational, managerial and business activities that help the firm to innovate (Alexe and Alexe, 2016, Zawislak, Alves, et al. 2012).

Meier, Fadel, Wälchli, Kobe and Johns (2004) considered innovation strategy as the coordination of firm's strategies, resources, processes, methods, tools, and culture to facilitate the success of innovation activities and overall company performance. Lawson and Samson (2001) describe innovation as the firm‟s activities to convert ideas and knowledge into valuable new products, effective processes, and systems for overall benefits of the firm‟s stakeholders. Thus, firm‟s strategy to innovate plays a significant role in the attainment of superior benefits to stakeholders (AbdulHamid and Tasmin, 2013). Salavou, (2005) and Dougherty and Hardy, (1996) urged that the development and sustainability of firms innovation activities depends on its resources, alliance structure, problem-solving process and business innovation strategy.

Consequently, innovation enhances the firm product performance ahead of those provided by competitors in terms of superior quality and features as well as speed and cost efficiencies (Abu Bakar and Ahmad, 2012). Hence business firm strives to develop their innovative strategy in order to achieve new output target, improve profit and better performance (Bukhamsin, 2015). Innovation strategy plays an important tactical role in the firm's efforts to gain market competitive advantages which in turn improve performance (Aini, Chen, Musadieq, and Handayani, 2013).

Though, it has been observed that most SMEs managers, particularly in Malaysian manufacturing industry, have recognized the significant role of innovation; however they are yet to have definite strategies that manage knowledge and encourage creativity and innovation (Abu Bakar and Ahmad, 2012).

Innovation strategy enhances effectiveness (Duhaylongsod and De Giovanni, 2018), facilitates the process and serves as mechanism through which firms respond to the market challennges and improves competitive advantage (Auken, Madrid-Guijarro and Garcia-Pérez-de-Lema, 2008), it also determines the firm‟s success in future (Assink, 2006). Hence considered as the best strategy for achieving continuous product and process innovation (Nijhof, Krabbendam, and Looise, 2002). It enables business firms achieve high profit and growth and provides the bases to develop the right innovations at right price and quality in the face of changing market and competitive condition (Buergin, 2006). It equally, influences firm financial and non-financial performance through improving the capability to create new product and process which leads the firm to innovate more efficiently than the competitor (Jiménez-Jiménez and Sanz-Valle, 2011), thus without innovation strategy, failure is inevitable in dynamic environment (Hamel, 2002).

Therefore, to survive the intense competition in the operating environment and satisfy the changing customer taste and preference manufacturing SMEs must effectively develop an operational capabilities that support successful innovation process to enhance performance (Al-janabi, 2016). This according to Buergin (2006) includes; financial, procurement, market, human resource, collaboration, technological, management and learning capabilities. Nisula and Kianto (2013)

conceptualize innovation strategy as firms revitalization process comprising strategic competence, leadership, collaboration, learning and knowledge management.

Accordingly, Neely, Filippini, Forza, Vinelli, and Hii, (2001) posit that innovation strategy comprises innovation culture: that is the firm‟s culture that promotes innovation by encouraging and supporting innovation; internal processes capability: that is the SMEs ability to combine important information, skills, knowledge and other resource from various sources and ensure cooperation that leads to innovation; and the capability to understand environment: the capability to recognize and study the business environment in order to be familiar with technological and market development.

Innovation strategy of a firm describes its plan to develop product or new process to effectively attain to the market and organizational needs and apply appropriate technologies to produce improved or new products; identify, develop and implement new product and process technologies that meet up the future needs; and the tactics to respond to technological development and unexpected opportunities created by the environmental changes (Adler and Sbenbar, 1990). According to Slater, Mohr and Sengupta (2014) firm‟s innovation strategy comprises; firms design and culture, the product and process development and launching strategies. Therefore the process of firm innovation involves developing and refining ideas into a valuable product (Azubuike, 2013). Thus, innovation is specifically regarded as an indispensable part of competitive strategy firmly surrounded by the firm‟s assets, organizations and processes.

Hence, resources qualities and availability play an important role in the company‟s innovative strategy, therefore to foster innovation, SMEs need an effective mechanism and decision-making process that encourages open search behaviors to exploit all innovation opportunities (Kumar, Boesso, Favotto and Menini, 2012). However, according to evolutionary growth theory, SMEs as economic actors are inhibited by an inadequate variety of procedure and skill learned; and that the development of the new procedure and new business model is risky, require too much time and costly for SMEs to endure (Gronum, 2015). Nevertheless, innovation strategy facilitates firms ability to acquire technologies and skills to produce product at acceptable price (Lattuch, et al., 2013).

Innovation has been considered as a crucial instrument for achieving growth strategies in new markets, expanding the current market share and improving the firm‟s competitive advantage in its industry (Azubuike, 2013). Thus, developing an innovative strategy to enhance firms‟ growth activities is an effective means of achieving productivity, growth objectives, and other competitive advantages (Dalotă, 2011). Nonetheless firm entrepreneurial orientation plays a significant role in firm innovativeness (Madhoushi, Sadati, Delavari, Mehdivand and Mihandost, 2011), thus innovative SMEs that effectively minimize risk do perform better in turbulent environments (Kraus, Rigtering, Hughes and Hosman, 2012).

Consequently, Baldwin and Johnson (1996) opined that innovative firm grows faster than firms that do not engage in innovation not only as a result of a determined emphasis on technological advancement, rather because of commitment on employees, markets, and management practice and abilities. He further demonstrated

that innovative firms usually pay more attention to each of these areas and invest significantly in marketing and training than non-innovative firms. However, innovative firms operate in a system where institutional and economic environment influence the interaction of the firm‟s innovation process and performance. This environment whether conceptualized as innovation systems plays an important role in the relationships between firm‟s access to external knowledge and its dynamic learning abilities (Frietsch and Schmoch, 2006, Cooke, 2001).

Nevertheless, the strategy adopted to innovate has been the hallmark of a technological-oriented firm in order to ensure growth in the dynamic business environment (Oyewale, Adeyemo and Ogunley, 2013). In such an ever-changing environment, innovation is considered to be a vital strategic issue for the competitiveness of manufacturing SMEs. However, one of the fundamental issues in contemporary innovation theory is that firm‟s innovation processes rarely depend on its internal resources alone, rather required knowledge, technical solutions, skills, equipment and methods from outside (Abereijo et al., 2009). Thus, firm‟s innovation strategy relates to a multiplicity of both internal and external factors (Bullinger, Bannert, and Brunswicker, 2007).

Whereas innovation is an intricate concept, Adelekan, (2016) identifies five strategic areas that facilitate the strategy of business to innovate: opportunistic behavior; leadership; learning; cultural change and alliance. Hence most innovating firms develop complex networks of relationships with suppliers, customers, competitors, research institutes and many more, which provide a solution to most of the firm‟s technical and financial problems which accompanied any attempt to innovate

(Oyewale et al., 2013). These processes of interrelationship have led to a wide range of innovation models based on shared learning between the firm and its wider environment (Abereijo et al., 2009). This was underscored by the diffusion of innovation theory (Rogers, 2004, Valente and Rogers, 1995).

Therefore, the process of innovation is considered as a complex one that requires the utilization of both technological and scientific knowledge as well as appropriate adaptation process to a particular situation of company‟s activity (Rogers, 1976). This stresses the need for the development of R&D, technical team and strategic abilities and learning capability (STI, 2011). Oluwajoba, Oluwagbemiga, Taiwo, Kehinde, and Akinade, (2007) opined that specialized skills and knowledge, science and engineering educational background, technological capabilities acquired through incessant investments on training and R&D, as well as knowledge develop from partners and other research centers are vital in improving innovation process in SMEs.

However, unclear definition of strategy, ineffective collaboration, lack of knowledge and guidelines and inadequate communication within the firms were identified as the major constraints to successful implementation of innovation strategy (Olivo, Landaeta Guzmán, Colomo-palacios, and Stantchev, 2016). Nevertheless, effective arrangement of organizational functions and structure, stimulating sustainable organizational culture and designing efficient process facilitate the success of firm‟s innovation strategy (Sharmelly, 2017). The background differentiation of firms such as size, age, and sectoral distribution may relatively influence the innovation strategy

and performance of SMEs firms. It was advocated that large firms are more prospective in innovative activities than small firms (Terziovski, 2010).

Accordingly, due to the contextual differences various firms may adopt different innovation strategy (Ndubisi, Capel, and Ndubisi, 2015) and peculiar features that are specific to firms may also influence innovation strategy and performance of such firms (Carbonell and Escudero, 2010). Specifically, startup firm may be more innovative than matured firms because innovation would serve as a strategy to penetrate into the market/industry (Oke, Walumbwa, and Myers, 2012). Equally, businesses from developing country may be different in innovative strategy from firms in developed, developing and emerging economies mainly due to peculiar environmental, economic and technological factors. Srivastava, (2015) maintained that while firms in developing countries focuses on outstanding innovative solution; firms from developed economies are looking for the "state of art" solutions to create excellent and ingenuity as the driver of their innovation strategy.

Strategy regulates the arrangement of firm‟s resources, process, product and system to effectively adapt to operating environment (Akman and Yilmaz, 2008). Thus, innovation strategy entails collection of activities that enable firm achieves differentiation at marketplace. A firm that develops well-articulated innovation strategy can be successful than those that do not possess any strategy (O‟Regan, Ghobadian, and Gallear, 2006). Innovation strategy is a directional framework that makes a firm to reason why innovation, thus provides filtering processes through which strategic role and innovation idea must pass, in this way defined the tactical mission of the innovation (Kalay and Gary, 2015). It enables top management of the

firm to collect and evaluate information, so as to understand the activities of competitors and efficiently deploy resources in R&D (Oke et al., 2012).

Business entrepreneurs explore innovation strategy to grab an opportunity, gather financial resources, develop management abilities, and assumed calculated risks to introduce new products, and processes (Oluwajoba et al., 2007). Thus Egbetokun, Siyanbola, and Adeniyi, (2010) explored the kinds of innovation that are obtainable in SMEs in developing economies and resolved that SMEs decide on to pursue innovations that best suit their strategies and resources. Generally, firm‟s innovation strategy takes many forms (Bessant and Tidd, 2007). A wider framework apart from that of product and process innovations, OECD classifies innovation into four key areas: process, product, organizational, and marketing innovations (OECD/Eurostat, 2005).

Equally, Damanpour and Gopalakrishnan, (2001), classified innovation strategy into administrative and technical innovation, where technical innovation comprises the new process and products or services; administrative innovations consist of new policies, procedure, and firms structure. Ndubisi, Capel, and Ndubisi, (2015) operationalize innovation strategy into the process, product and administrative innovation. Similarly, Nybakk and Jenssen, (2012) described innovation strategy as consisting of processes, products, business system and the extent of investment in research and development. Therefore, this study adopted the process, product and administrative innovation strategy from Ndubisi, Capel, and Ndubisi, (2015), rooted in Song and Xie, (2000) and Hurley and Hult, (1998).

SMEs sector in Nigeria is challenged by low production technologies, inadequately skilled managers, low collaboration and innovativeness (Singhry, 2015), obsolete technology, poor management practice, thus cannot cope with current global challenges (Adeodun et al., 2015, SMEDAN and NBS, 2013). Ndubisi, Capel, and Ndubisi, (2015) and Nybakk and Jenssen, (2012) maintained that to achieve efficient operation, develop a market focus venture and engage successfully in global market, firms should consider administrative, process and product innovation. It is therefore, presumes that these innovation strategies would mediate the relationship between strategic organizational capabilities and the performance of manufacturing SMEs in Nigeria.

Product innovations represent a substantial change in goods or services (Ajayi and Morton, 2015). Neely, et al., (2001) consider product innovation as the development and launching of new goods or services that are effective in the marketplace. Product innovation is one of the crucial strategic activities that enable firms to achieve and maintain a superior competitive advantage (Paladino, 2007). Product innovation strategy guides the firm‟s new product development process, production of high-quality product, efficient and effective delivery time and discovering of a new market (Kok and Biemans, 2009) and ensures effective responses to competitive environment (Calisir, Altin Gumussoy, and Guzelsoy, 2013).

Accordingly, product innovation strategy involves R&D, technical design, organization and profitable activities in marketing the SMEs new or modified product (Alegre and Chiva, 2009). Therefore, effective product innovation strategy helps firms to achieve, sustain and increase market share of their product (Baker and Sinkula, 2009), and it has been acknowledged as fundamental factor for achieving

long-term firms success (Reid and Brady, 2012). Besides these, product innovation strategy helps achieve success in a highly competitive market, frequently changing consumer preference, technological development and shorter product life span (Shan and Jolly, 2013).

Therefore, product innovation process is a very strategic activity in an industrial firms, thus designing new product is a collective activity which requires planning of the manufacturing process, factory layout, the distribution channels and sales activities (Löfsten, 2014). Hence firm leveraging product innovations have structural and cultural foundations of both the market and new product development orientations (Reid and Brady, 2012).

Process innovation has been described as the adoption of new or improved technique of production and delivery of service (Neely, et al., 2001). It involves changes in the manner of producing product or services; anything that changes the way to get the work done, the design of activities and the execution process of creating and delivering new product or value (Oke, Burke, and Myers, 2007, Assink, 2006). Equally, process innovations represent an important change in firm‟s production and delivery method or techniques (Ajayi and Morton, 2015). Yu, Nguyen, and Chen, (2016) postulate that process innovation involves re-engineering the business process thus implied the upgrading of the internal operations and capacities. Hence process innovation plays a significant role in improving productivity especially when the firm comes under threat (Cohen and Levinthal, 1990).

Consequently, enterprises concentrate solely on process innovation to achieve minimum production cost and effective utilization of resources, as this present comparatively lower risk and greater tangible outcomes to management (Zhang, 2007). Whereas process innovation influences cost reduction and utilization of limited resources, it enables the firm to improve product innovation hence achieve product differentiation (Damanpour and Gopalakrishnan, 2001). It enables the firm to improve and maintain their performance by reacting effectively to the pressure from the operating environment (Sisaye and Birnberg, 2010). Therefore, process innovation has been considered as a tactical technique to introduce changes and a new method of arranging work structures and procedure as well as roles and group behaviors (Damanpour and Gopalakrishnan, 2001). It is a continuous process that is developed over a period of time as the changes in either internal or external environment surface (Sisaye and Birnberg, 2010).

Administrative innovation involves the effective use of firm"s human and material resources to accomplish task (Neely, et al., 2001). Thus, administrative innovation becomes part of business life in today"s changing operating environment, as firms are no longer competing in innovation per se but overall firms commitment to transmit innovation activities into competitiveness (Lin and Chen, 2007). Administrative innovation strategy facilitates changes management in firm"s structure and administrative process that are indirectly related to the basic activities of the firm (Carmen and José, 2008). Hence administrative innovation encompasses adaptation and changes in the manner firm manage its tasks, authority, staffing, reward system, resource allocation and structures (Damanpour and Aravind, 2011, Damanpour and Gopalakrishnan, 2001).

It involves all changes that enable the implementation of new methods, procedures in the firm‟s day to day management (Ajayi and Morton, 2015) and enhances the relationship between the firm and external bodies which in turn improves performance and enhances firm value (Camisón and Villar-López, 2012). Therefore administrative innovation strategy involves the implementation of the new method in the firms practices, structure and external relations which often enhance performance by reducing transaction and administrative cost, enhances productivity by improving works satisfaction, facilitates sourcing of external knowledge and reduces cost of supplies (Birkinshaw, Hamel, and Mol, 2008, Damanpour and Gopalakrishnan, 2001). It impacts directly on firms members and the wider society (Sisaye and Birnberg, 2010). It also leads to substantial improvement in firm efficiency.

Usually, administrative innovation is designed to improve accounting system and internal control, administrative processes, firms structures and departmental coordination (Sisaye and Birnberg, 2010). Thus administrative innovation enhance firm‟s performance and productivity (Mol and Birkinshaw, 2009). However, societal and firms culture and chief executive leadership behavior as well as mutually share vision influence firm‟s administrative innovation (Elenkov, Judge, and Wright, 2005, Pearce and Ensley, 2004). The fact that innovation helps achieve differentiation, however, such differentiation is been created and sustained by firms structure which in turn requires incessant modification and imaginative problem-solving to guarantee effective process of product development (Zahra and Covin, 1994b).

Thus, the combination of different units inspires administrative innovation, hence firm that is preoccupied with product innovation also tends to be greatly devoted to administrative innovation (Zahra and Covin, 1994b). Lin and Chen, (2007) opined that in both radical and incremental innovation, administrative innovation emerged to be the most important factor in explaining firm performance. Some of the good examples of administrative innovation include management by objective, job rotation, zero-based budgeting and flextime (Wilson, Ramamurthy, and Nystrom, 1999) and balance-score card (Kaplan, 2010).

Based on the foregoing discussion, innovation strategy is adopted as an intervening variable on the relationship between MC, TC, LC, RC and the performance of SMEs in Nigeria. Innovation has been used as mediating variable by several studies (Hemmati and Hosseini, 2016, Obeidat, 2016, Yusr, 2016, Leal-Rodríguez, Eldridge, Roldán, Leal-Millán and Ortega-Gutiérrez, 2015, Ozkaya, 2011, Vincent, Bharadwaj and Challagalla, 2005).

2.7 Relationship between MC, TC, LC, RC and Innovation Strategy

The relationship between the four strategic organizational capabilities (MC, TC, LC RC) adopted in this study and the mediating variable (innovation strategy) has been critically reviewed in this subsection.

2.7.1 Top Management Capability and Innovation Strategy

Ruiz-jiménez and Fuentes-fuentes (2015), opined that firm‟s innovative process is more than the mechanical process of transforming inputs into outputs; it involves the interaction of so many elements from within and outside the firm. Thus, the process

requires not just machinery and product development capability, but also the skillful management to direct the firm towards absorbing new ideas and channeling resources toward the market needs (Bullinger, Bannert, and Brunswicker, 2007). Equally, it has been established that innovation is not an outcome of technological capabilities alone, but also firm‟s managerial capabilities to effectively allocate and direct resources toward innovative activities and achieving better performance (Garcés-Galdeano, García-Olaverri, and Emilio, 2016, Pufal, Zawislak, Reichert and Alves, 2015).

Achieving successful innovation requires the coordination of all the efforts of firm‟s stakeholders and the integration of activities of all specialize functional units, as well as the application of knowledge domains (Bundy, 2002, Henry, 2001, Teece, 1996). This important function solely depends on the ability of the top level managements who are responsible for the formulation and execution of policies and strategies. Therefore, the role of firm top management is fundamental in firm‟s imagination, innovation and ability of the management which creates an entity that promotes and utilizes employee creativity to accomplish its objectives (Minh, Badir, Ngoc, and Afsar, 2017, Farrokhian and Soleimani, 2015). MC is also important capability in identifying and exploiting opportunities and decision making that affect innovation process and add value to the performance of firms (Lewrick et al., 2011, Elenkov and Manev, 2005).

Decision making on innovation activities at strategic level is a function that requires specific effective knowledge and skills (Kesting and Ulhøi, 2010). Therefore developing innovation strategy in most firms involves an explicit task and challenges

that demand obvious management support (Borjesson, Elmquist, and Hooge, 2014). Thus, management capabilities play an important role in establishing an overriding logic in the firm that takes solid form in procedures, routines, and capabilities which affect implementation of tactical strategies and the exploration of new alternatives for sustainable innovation and growth (Kor and Mesko, 2013). Top manager‟s attitude toward innovation affects all phases of innovation strategy more than the environmental factors and demographic characteristics of the top managers, thus top manager‟s ability hold prominent role in developing effective innovation strategy (Damanpour and Schneider, 2006).

Top management plays a significant role in the development of new ideas for product innovations and provision of the resources required for all entrepreneurial action (Minh, Badir, Ngoc and Afsar, 2017, Goodale, Kuratko, Hornsby, and Covin, 2011, and Lehtimaki, 1991). It supports and encourages firm internal knowledge sharing and inspires employees readiness to acquire, donate and share information and knowledge with coworkers (Szczepańska-Woszczyna, 2015, Borjesson et al., 2014). This is achieved when management recognizes that firms reward only secure temporary compliance, while participatory decision making develops a sense of belonging among employee which resulted in a total commitment to firm‟s objective (Lin, 2007), and enhances firm‟s innovativeness (Hurley and Hult, 1998).

Moreover, the readiness of a firm‟s management to allocate resources and champion activities toward the development of new administrative techniques, products, technologies, and processes in accordance with market opportunities enhances successful firm innovation process (Hitt and Hoskisson, 1990). In this regard,

Lazonick and Prencipe (2005) identify some vital tasks performed by firm‟s top manager to facilitate the innovation process. One ot these tasks is firm‟s strategic control, that is the power of top manager to commit resource to confront market threats and opportunities. Another important task is the firms integration that brings together human and material resources to support operational activities and cumulative learning . The last essential tasks is financial commitments that empower managers to allocate firm‟s financial resource to develop, support and sustain innovative activities.

Various studies have examined the relationship between MC and firms/SMEs innovative process. For example in their suvery "Assessing capabilities for innovation: The case of Iranian Kalleh meat product company" using SPSS, Farrokhian and Soleimani (2015) found that top management participation and teamwork ability have significant positive effects on firm‟s innovation activities. However, the finding of this study may be difficult to generalize as it was conducted on only one company and uses a cross-sectional data. On the other hand, Minh, Badir, Ngoc, and Afsar, (2017) in their study conducted on Vietnams telecommunication firms reported that top management competences positively affect subordinate learning and innovativeness.

Similarly, Maes, Sels and De Winne (2005) in their survey on Belgium newly established firms reported that human resource management capability has a strong positive effect on firm‟s innovation. In a study on German firms, Michaelis, Stegmaier and Sonntag (2009) found that leadership style and trust in SMEs top managers positively relate to innovation process, departmental affiliation and

controlling individual difference. However, these relationships are mediated by the employee‟s emotional commitment to change. An empirical study on 205 SMEs from Spanish technological sector using regression technique conducted by Ruiz-jiménez and Fuentes-fuentes (2015) reported that MC have a significant influence on both product and process innovation. However, these positive relationships exist only when there is gender balance in the management team.

The study conducted by Urgal, Quintás and Arévalo-Tomé (2013) on 9432 firms across different sectors of Spanish economy reveals that the association between MC, firm‟s innovativeness and innovation outcomes is moderated by innovation. However, this may be as a result of chosen only R&D expenditure to represent management commitment, neglecting important factors such as working climate, leadership style, firms structure and culture which may have a positive influence on the SMEs firm‟s innovation activities. Nevertheless, in their study on US firms, Damanpour and Schneider (2006), reported that top management‟s attitude toward innovation affects all phases of innovation strategy more than the environmental factors and demographic characteristics of the top managers, thus top manager‟s attitude hold prominent role in developing innovation strategy.

The findings of a study on the effect of manager‟s commitment on Columbian firms innovation and export performance using ordinal and logistic regression model conducted by Martins, Gomez-Araujo and Vaillant (2015) reveals that manager‟s commitment to innovation is an important factor that boosts firm‟s exports, as well as increasing sales abroad, and in turn the export propensity increases the desire for involvement of owner-managers to innovate. Pufal et al. (2015) carried out a

research on 1331 firms accross industrial sector of Brazilian economy to examine the relationship between management capability and innovation performance through correlational analysis. The study reported that top management of professional firm has developed a bundle of capabilities which significantly influence their innovativeness, however management activities positively impacted on innovation performance of family companies.

Similarly, a study conducted on Jordan firms by Al Shaar, Khattab, Alkaied and Manna (2015) to determine the effect of top management support on innovation using structural equation modeling (SEM) found that top management significantly affects the combined action of firm structure and information technology, while the synergy between the firm‟s structure and information technology affects firm‟s product and process innovation. While Ahmed and Mohamed, (2017), in their study on Pakistan firms reveal that management supportive ability significantly and positively influences firm‟s project success and efficiency.

Therefore, the extant literature above postulates the importance of MC in firm‟s innovation activities. Durmusoglu (2009) in a theoretical analyses demonstrates that the capability of top management on information technology infrastructure enhances the process of firm‟s new product development and reduces the cycle time, cost and process quality of new product development. Consequently, this study hypothesizes that:

H5: MC positively relates to the innovation strategy of F&B manufacturing SMEs‟ in Nigeria.

2.7.2 Technological Capability and Innovation Strategy

Innovation is not only limited to generation of new knowledge, it is contextually broader relative to R&D and commercialization of the outcomes of R&D into market value to pursue economic objective, thus require the cultivation and development of technological capability (Fang, Dickson, and Wang, 2016). Chantanaphant, Nabi and Dornberger, (2012) postulate that TC enables firms to develop knowledge and capabilities to enhance operational and cost efficiencies, foster inter-firm capability in collaboration, and enhance products and processes innovation capabilities. TC allows SMEs firms to effectively identify, acquire and exploit new technologies to adequately respond to the changing ecosystem (Akroush, 2012). Thus TC a is crucial innovation drivers in dynamic environment (Park, Misra, Reddy, and Jaber, 2019).

The strategy adopted by a firm to introduce a new process, products, and administrative techniques successfully requires technological knowledge, that is the ability to combine the knowledge acquired into valuable new products, process and the development of complementary abilities to facilitate the production and distribution of those products (Nerkar and Roberts, 2004). TC is a significant strategic operational capability that enables SMEs to achieve a competitive benefit in its area of operation (Chantanaphant, Nabi and Dornberger, 2013). Therefore firms that developed superior TC achieve greater efficiency in innovations pioneering, process and superior differentiation by innovating products and process that respond adequately to the rapidly changing market demand (Tsai, 2004).

Firm‟s technological capability has been viewed as the skills and knowledge required to identify, select, operate, adapt, sustain, improve and develop new technologies

(Albaladejo and Romijn, 2000). The desire to develop this capability has obliged from purposive determinations aimed at integrating, adapting and transforming current technologies to develop innovative process (Oluwajoba et al., 2007).

Numerous empirical research have investigated the relationship between firm‟s technological capability and innovation performance. For instance, Alvarez and Iske (2015) conducted a survey on 142 Dutch LMT SMEs using a censoring model which is believed to have allowed for an unobserved heterogeneity of variables under study. The finding of the study reveals that firm‟s technological and marketing capabilities are two important factors in influencing product innovation of SMEs in Netherland. However, the study advocated that product innovations basically depend upon firm‟s adaptive technological capability.

While Oxford Economics, (2013) conducted an integrated and nationwide profiling study on 2,028 SMEs from manufacturing, professional, technical and service sector in the UK to determine the effect of technological capability on innovation; the study found that firm‟s TC is a valuable resource, however, SMEs access valuable information from customers and suppliers. Similarly, Carmen and José (2008) in a study on Spanish and French meseum reported that market orientation positively relates to the firm‟s social and economic performance, however, this significant relationship was explained by firm‟s innovation and technological activities. TC is an essential factor in Indians firm‟s innovation strategy (Krishnan, 2012).

Diez and Martin (2003) reported that positive influence of the technological capability on the innovation activities of companies in Thailand, Malaysia and

Singapore. Salavou (2005) in a study on Greece firms found that TC is more significant than customer orientation in elucidating the newness of the product to the target market, thus it enhances the ability of SMEs to produce different product. Pednekar (2015) in a study conducted on Indian SMEs firms reported that technology plays a significant role in value creation of high tech firms.

Shan and Jolly (2013) investigated the role of technological capability and innovation strategy on the performance of 215 Chinese firms from the electronics industry. The study found that various technological innovation capabilities such as collaboration, investment, and production capabilities have significant positive impacts on firm‟s product innovation. Similarly, the study of Iliopoulos, Theodorakopoulou, and Lazaridis, (2012) in their study from Poland, Spain, Netherland and Greece reported that technological capability is a major factor affecting the adoption of product innovation strategy. Based on the literature reviewed above, this study hypothesizes that:

H6: TC positively relates to innovation strategy of F&B manufacturing SMEs‟ in Nigeria.

2.7.3 Learning Capability and Innovation Strategy

The major fundamental issues in contemporary innovation theory are that firm‟s innovation processes rarely depend on its internal resources alone, rather required knowledge, technical solutions, skills, equipment and methods from outside (Liao and Wu, 2010). Kheng, Mahmood, and Beris, (2013) maintained that product, process and administrative innovations nowadays are not necessarily routed in firm‟s R&D laboratories, but largely the outcomes of human mind and creativity based in

tacit knowledge. Intellectual capital is critical to firm‟s competitive advantage and performance (Tovstiga and Tulugurova, 2009). Therefore, the role of learning capability in creating knowledge and developing SMEs intellectual capital is the hallmark in the attaintment of superior competitive advantage.

Firm‟s ability in acquiring and applying knowledge into innovation process is crucial to achieving competitive advantage (Bierly, Damanpour, and Santoro, 2009). Through learning firm generally develops important skills and knowledge required internally or externally to identify, acquire, adapt and maintain capabilities that improve competitive position (Prahalad and Hamel, 1994). These acquired skills and knowledge thus enable the firm to evaluate, perfectly understand and explore environmental opportunities (Cohen and Levinthal, 1990). Firm‟s capability to acquire appropriate technical knowledge and develop the ability to convert the knowledge into a valuable new product, and the complementary manufacturing, and marketing capabilities can successfully satisfy the needs of their customers (Lewrick et al., 2011, Nerkar and Roberts, 2004).

Learning as a firm‟s culture has significant effects on innovativeness (Hurley and Hult, 1998). Similarly, learning has been confirmed to be an effective determinant of performance for firm‟s adopting business model that focuses on new product development (Pucci, Nosi, and Zanni, 2017). Therefore, learning indirectly affects firm‟s productivity through effective marketing activities and directly improves performance by expediting the generation of knowledge that brings about new invention in firm‟s system, products and procedures (Mansoor and Ratna, 2014, Baker and Sinkula, 1999). Thus, internal exploration capability of a firm as indicated

by the firm‟s R&D investment, enables SMEs to create and use relevant knowledge (Penner-Hahn and Shaver, 2005), while this knowledge plays an important role in improving speed and flexibility in innovation process of the firm (Cegarra-Navarro et al., 2012).

Accordingly, Kalmuk and Acar, (2015) maintained that learning significantly enhances innovation activities; thus innovative firms use knowledge both from within and outside the firms to create a new product (Onağ, Tepeci, and Başalp, 2014, Artz, Norman, Hatfield, and Cardinal, 2010). This underscores the recent theory of open innovation which postulates the need for using idea and knowledge from both internal source and external sources to raise the number of innovations the firms can possibly capitalize upon (Chesbrough and Crowther, 2006). Therefore, learning capability enables the firm to develop effective innovation strategy through acquisition and dissemination of information within and outside the firm so as to build the firms memory and create a shared vision (Mansoor and Ratna, 2014, Slater and Narver, 1995).

There are many studies conducted to examine the effect of learning on firm‟s innovation activities. For instance, the study conducted on 272 firms in Pakistan banking sector using SPSS by Kiziloglu (2015) reported a positive relationship between firms learning and innovation activities. Though the study has specified it sample size it declined to reveal the sample frame from which the sample was drawn, similarly relevant literature was reviewed, however the literature lacks currency. In the same vein Tohidi, Seyedaliakbar, and Mandegari, (2012) in their study reveal that LC significantly and positively affects Iranian ceramic tile firm‟s innovation process.

The results of a study carried out on 563 respondent from the hospital in the middle region of Taiwan by Fang, Chang and Chen (2011) show that firms learning positively and significantly relate to firm‟s innovation. Furthermore, Karagouni and Papadopoulos (2007) conducted a survey study on Greece and Cyprus furniture firms and found that learning enhances innovation performance of a firm. Equally, the research conducted on 350 Mexican SMEs by Serna, Vega and Martínez (2016) reported that learning is major factor in improving the firm innovation process and performance. Furthermore, Mahmoud, Blankson, Owusu-Frimpong, Nwankwo, and Trang, (2016) in their study revealed that learning significantly impacted on the innovation of banking business in Ghana.

Likewise, Calantone, Cavusgil and Zhao (2002) in their study of US firms titled "learning, firm innovation capability, and firm performance" found that learning is a critical factor in firm‟s innovation process. They clearly stated that learning influences firm innovativeness, thus urged, that firms committed to learning must understand fully the new technologies, customers, competitors, and other factor in the environment. This could be achieve through learning capability. Similarly, Ejdys (2014) in his study in Poland substantiated the presence of positive link between learning and the innovation activities of business companies.

Aini, Chen, Musadieq and Handayani (2013) conducted an empirical study on 228 of SMEs in Kediri, Java East of Indonesia and analyzed the data using SEM. The result reveals that learning has a substantial positive influence on SMEs innovation, while information technology significantly affects the SMEs learning and innovation.

Similarly, the results of correlational study conducted by Saki, Shakiba and Savari (2013) on a group of 132 managers and expert from University of Tehran Iran show that a firms learning positively relates to the firm‟s innovation dimension such as process innovation, product innovation, and administrative innovation.

Yoh (2009) investigated the impact of learning on firm‟s innovation and innovation capability of 154 manufacturing SMEs in textile and non-textile of Korean economy. The empirical result shows that learning has a significant positive effect on company innovation process and innovation capability. Specifically, the innovation and innovation capability of textile manufacturing firms were influenced by the shared vision and commitment to learning, while that of non-textile companies were influenced by open-mindedness and shared vision. In the same vein Keskin (2006) conducted a survey on 157 managers using SEM found that learning activities of the small business in Turkey positively influence their innovative process and mediate the relationship between the firm‟s market-orientation and innovativeness which in turn influence firm‟s performance.

Furthermore, the results of a study conducted on Brasil firm by Perin and Sampaio (2003) show that learning has a strong positive relationship with innovation. In addition to above, the study conducted by Sanz-Valle, Naranjo-Valencia, Jimenez-Jimenez and Perez-Caballero (2011) on 451 firms from Spain found that firms learning is positively related to firm‟s technical innovation and that firm‟s culture raises both firm learning and technical innovation, similarly, it can also serve as a barrier. However, based on the finding, the study suggested that for a firm to enhance

innovation none of a flexibility focus or an external focus is sufficient, but both of the two are necessary to depict firms culture.

The above literature reviewed have demonstrated that LC helps firm develop and build learning into its culture to drive in and inspire teamwork, knowledge sharing process, experimentation, risk taking and alliance, which enhance firms value (Kaplan, Ogut, Mehmet, and Asli, 2014). As a culture performed by learning business enterprises with the goal of fashioning and promoting a valued outcome by increasing employee‟s competence (Verma, Singh, and Rao, 2014), thus learning capability becomes a pre-requisite to improving firm‟s innovativeness and sustainable competitive advantage (Verma, Singh and Rao, 2014). Therefore this study hypothesizes that:

H7: LC positively relates to the innovation strategy of F&B manufacturing SMEs‟ in Nigeria.

2.7.4 Relational Capability and Innovation Strategy

Generally, innovation process requires technological collaboration from various subsystems, supplier and user to provide complementary resource, technologies and information to be successful. Collaboration is essential to the success of all forms of innovation (Park et al., 2019, Makhdoom, Li, and Asim, 2019, Peris-Ortiz, Devece-Carañana, and Navarro-Garcia, 2018). Teece, (1996) urged that all relevant units in the firm such as production, marketing, R&D and members of the supply chain must be kept informed and vigorously engaged if the product and process innovation is to be commercially beneficial and successful at the market place.

John Aurik, the managing and the chairman board of directors at the A.T. Kearney maintained that providing supports for innovation and enthusiastically driving and fashioning innovative culture are two different things. Thus, as a strategy for achieving sustainable surge of passion and enthusiasm in innovations; governments and managers must encourage collaboration to advance innovative ideas across the firms and innovation ecosystem (GII, 2015). Collaboration between private and public stakeholders in United Arab Emirate (UAE) where SMEs entrepreneurs‟ plays active role is significantly driving the diversification of the economy through innovations.

Chandrajit Banerjee Director General of Confederation of Indian Industry, identify innovation as prominent driver in all economic activities and considered critical in policies formulation by both developed and developing economies (GII, 2015). However, John Aurik, the managing and the chairman board of directors at the A.T. Kearney postulated that, various countries and regional leagues develop economic growth and development strategies; however, the domineering passion toward innovation has never been top on the agenda. Nevertheless, innovation strategy has been established to be hallmark for achieving sustainable growth in this changing and competitive business environment (Turulja and Bajgoric, 2019, Kafetzopoulos and Skalkos, 2019). Countries like UAE have provided a framework through its National Innovation Strategy Plan 2014 that has significantly allow innovations to flourish in the economy, as stated by Othman Sultan Chief Executive Officer du (GII, 2015).

Thus relationship with strategic partners is essential not only to the survival, but also to the growth of the firms (Albesher, 2012, Lewrick et al., 2011). Theoharakis, Sajtos, and Hooley, (2009) and Pittaway, Robertson, et al, (2004), demonstrated that strategic relationship with diverse partners brings about various categories of innovation. Outsourcing of resources through relationship with external partners plays a significant roles in innovation strategy (Peris-Ortiz, et al., 2018, Chen and Yuan, 2007, Jerez-Gómez, Céspedes-Lorente, and Valle-Cabrera, 2005).

The extant literature on innovation demonstrated that the pattern of SMEs innovation follows what has been described as "Chesbrough, (2003) open innovation theory" which permits firms to make use of what has been called "open innovation model" through which organizations derive inputs from external bodies to sustain and improve innovation process (Kumar, Boesso, Favotto, and Menini, 2012). SMEs firms engage in relationship with relevant market participants in order to acquire and integrate related activities like research, skills, information technology and marketing skills to attain superior competitive advantage (Capaldo, 2007, Bititci, Martinez, Albores, and Parung, 2004). Peris-Ortiz, Devece-Carañana, and Navarro-Garcia, (2018) reported that firm‟s employees with strong relationship with customers, suppliers and allied enterprises positively influence product and service innovation.

Relationship with external agencies is an essential capability that exert substantial role in successful accomplishment of innovation activities (Schilling and Phelps, 2007, Stach, 2006). The significant effects of RC is frequently noticeable in minimizing transaction cost, and effective innovation bargaining power, and improve customer satisfaction (Katua, 2014, Scheel, 2002), reduced delivery time and

integrated research (Arboníes and Moso, 2002), enhance economies of scale (Lin and Chen, 2007). RC facilitates transfer of knowledge, service and collaborative product development (Ziggers and Henseler, 2009), accessing essential resources and exchange of techniques, process and method drives changes and facilitate innovation (Ricciardi, 2014).

Successful SMEs open up the commercialization of their innovation process, by actively relating with external bodies, and outsourced from specialist, which enable them arguments their weakness and achieve competitive innovation activities (Henttonen and Lehtimäki, 2017). Loewe and Chen, (2007) posit that although R&D are essential to innovation, however other partners within and outside the firm are crucial to achieving innovative competitive advantage. Loukil, (2018) in a study conducted on the businesses from 22 European countries using linear regression reveals that relationship of business firms and public sector research institutions significantly increases the volumes of innovations activities in the study area. The study further demonstrated that relationship with foreign firms is advantageous to the innovation of local business. Jenssen and Nybakk, (2009) found that firm‟s collaboration with external R&D organization and involvement in courses and conference has exhibit significant positive impacts on SMEs product, process and market innovation (Jenssen and Nybakk, 2009).

Thus, the exploitation of external resources, techniques and knowledge significantly influence firm‟s innovation performance (Saunila, Pekkola, and Ukko, 2014). Successful operation of SMEs particularly manufacturing firms in less develop economies does not largely depends on their independent resource, abilities and

expertise, but on their ability to create and maintain strategic relationship with resourceful partners (Salisu and Abu Bakar, 2018, Wang et al., 2011, Ghauri, et al., 2003, Humphrey and Schmitz, 1995). Consequently as part of supply chain management to enhance cost efficiency, product quality and achieve sustainable competitive position, manufacturing SMEs recourse to strategic relationship with customers and supplier (Malik, 2012, Love and Gunasekaran, 1999).

It has been established that relationship with research institutions significantly leads to radical innovation (Caner and Tyler, 2013, Liyanage, 1995), equally relationship with customers enhance the successful delivery of incremental innovation (Nieto and Santamaría, 2007, Biemans, 1991). Das, Sen, and Sengupta, (2003) found marketing and technological relational capability create value to the firm‟s shareholders that are related to the creation of intellectual capital. The study of Shakeel, Kannan, Brah, and Hassan (2017), on Pakistanese firms reveal that relationship with buyer and suppliers significantly and positively affects firm‟s innovation activities. Whereas relationship with consultants and suppliers improve the process of Spanish firm‟s new product innovation (Nieto and Santamaría, 2007, Baiman and Rajan, 2002).

Jenssen and Aasheim, (2010) in their study on Norwegian firms reveal that relationship with external market participants significantly influences small firm‟s product innovation development. Wang et al., (2011) in their survey on Taiwan high-tech firms found that strategic relationship in both downstream, upstream and horizontal have differential effects on new product development. In a study on Jordian firms, Akroush, (2012) reported that RC has direct significant positive relationship with product innovation quality. The study of Caner and Tyler, (2013)

biopharmaceutical firms reveals that relationship in R&D has significantly and positively affects product innovation in US pharmaceutical industry. Relationship with external partners was found to mediates the relationship of technology strategy and firm‟s innovation performance in Italian economy (Aloini, Pellegrini, Lazzarotti, and Manzini, 2015).

Anning-Dorson, Hinson, Amidu, and Nyamekye, (2018) conducted a study on service firms from emerging economy of Ghana and reported that customer relational capability empower firm to create strong customers participation. Hence the firms exploited the customer‟s competencies to expand the outcomes of their innovation process which in turn enhance their performance significantly. However, Bititci, Martinez, Albores, and Parung, (2004) opined that relationship for collaborative sake is inadequate, but should create differential value to the firm; if SMEs firms are to sphere their competitive advantage to improve innovative performance.

The study of Ryzkova, (2015) on Sweden firm confirms the significant positive influence of customers relationship capability on firm‟s innovation performance. Specifically, interaction with customers online positively influences firm‟s innovation output. Kolk, Eagar, Boulton, and Mira, (2018) established that collaboration is essential for European firms to achieve breakthrough innovation nowadays. They further demonstrates the importance of relationship with many partners with different capabilities and cultures in managing and providing solutions to the complexity and grand challenges of operating environment. Equally, Cheng, Chen, and Huang, (2014) demonstrated in their study on Taiwanese firms that

relational capability enhance manufacturing firms relational value base and innovation performance. Therefore this study hypothesis that:

H8: RC positively relates to the innovation strategy of F&B manufacturing SMEs‟ in Nigeria.

2.8 Innovation Strategy and Firm Performance

Innovation helps SMEs firms to expand its market, productivity, and improve revenue stream (Shefer and Frenkel, 2005). Zahra, et al., (2000) opined that innovation allow SMEs to provide a wide range of distinctive product to the market which in turn influence financial performance. It also influences the economic progress and is considered as an effective strategy through which firm‟s competitive advantage is sustained (Keizer, Dijkstra and Halman, 2002). Leal-Rodríguez, Eldridge, Roldán, Leal-Millán, and Ortega-Gutiérrez, (2015) substantiate that innovation strategy enables firms to effectively deal with the dynamic and turbulent environment and facilitate the attainment of sustainable competitive advantage.

Several studies have been conducted to determine the relationship of innovation strategy and performance of business firms. For example, the survey conducted on 133 SMEs through purposive and convenience sampling techniques by Mohutsiwa (2012 urged that to influence their performance, the South African SMEs need to be proactive, take risks and be innovative. Equally, in their study on initial public offering firms of Germany, Bessler and Bittelmeyer (2006) revealed that all the three components of product innovation have significant positive effects on firm‟s sale. Taghizadeh, et al., (2016) reported that innovation strategy significantly and positively enhances the performance of Malaysian telecommunication firms.

Innovation strategy positively affects Taiwanese firm‟s performance (Tsai, Chou, and Chen, 2008).

Saunila, (2014a) reported that innovation positively relates to both financial and operational performance of Finnish SMEs. In the same vein Ciriaci et al. (2015) investigated the correlation of innovation and job creation in 3304 Spanish firms and reported that all things being equal, innovative SMEs recorded extraordinary increase in employment generation more than the SMEs that do not innovate. Stirringly further, amongst those SMEs that create jobs annually, only innovative SMEs firms maintained a substantial increase in employment more than those that do not innovate. While non-innovative SMEs tend to decline faster in term of financial performance than innovative SMEs.

An empirical result of a study conducted by Dadfar et al., (2013) on the "relationship between firm‟s innovativeness, product platform development, and performance of pharmaceutical manufacturing SMEs in Iran" shows that innovation, technology and product platform positively relate to performance of firms. While Moghaddam, Imani, Erteza and Setayesh (2013) in their correlational study conducted on 190 Iranian small business managers using SEM-PLS statistical tools reported a significant positive association between innovation, market orientation, and financial performance of SMEs. Equally, Akroush, (2012) in his study on Jordian firms reported that product innovation quality positively affects new product customer satisfaction and firm‟s financial performance. Similarly, Oke, Burke, and Myers, (2007) found that incremental innovations are related to growth in sales turnover the UK SMEs.

The study conducted on 870 Malaysian manufacturing and service SMEs by Ismail, Zaidi, WanOmar, Soehod, Senin and Akhtar (2010) reveals that, though SMEs are mindful of the innovation and its importance to firms performance and growth; however, they are unable to concentrate on innovation processes as much as possible to improve competitive position. While a study conducted on 432 Ethiopian textile and leather product manufacturing firms using structural equation modeling techniques by Beyene, Shi and Wu (2016) reveals that innovation is positively correlated with product performance of Ethiopian firms. However, this positive relationship between innovation strategy and firm‟s innovation performance was moderated by the effect of firm size and the form of ownership.

In support to the above, the study of Raymond, Bergeron and Croteau (2013) conducted on 309 Canadian manufacturing SMEs found that firm‟s innovation associated positively with the firm‟s growth and productivity, the results however, emphasized paradoxically the effects of IT integration on the performance. While IT integration was not seen to facilitate the innovation of manufacturing firms in terms of growth. Similarly, Kalay and Gary (2015) conducted a research on 132 managers from 66 Turkey manufacturing firms and their study reveals that innovation strategy, innovation culture, and firms structure significantly increased the innovation performance of SMEs. While the findings of a study on Portugal manufacturing firms by Marques and Ferreira (2009) show that process innovation and R&D expenditure are effective strategy that define improvement in firm performance and superior competitive edge. Equally, Mbizi, et al., (2013) found that innovation is one of the major elements that enhance Zimbabwe SMEs competitive advantage.

Nada and Ali (2015) conducted a study on 89 “Danish and Turkish SMEs to examine the correlational relationship between firm‟s service value creation and service innovation”. The result of the study reveals a robust association between innovation strategy and value creation capabilities of SMEs such as managerial capability, strategic capability, adaptive capability and operational capability. Similarly, the study of Panayides, (2006) revealed that innovativeness positively influences the quality and performance of logistics service provider in Hong Kong. While, Camisón and Villar-López, (2012) in their study on Spanish industrial firms, postulated that both product and process innovation enable firms to achieve superior performance.

Furthermore, Olughor (2015) carried out a survey study on 200 experts from six (6) SMEs firms in Nigeria. The survey found a high correlation between the firm‟s process, product, market and administration innovation strategy, while these innovation strategies positively influence performance. However, Baba, (2012) found that Ghanian financial institutions that adopt only administrative innovation enjoy superior growth in market share than combining both technological, administrative and service innovation. Conversely, Lin and Chen, (2007) in a study on Taiwanese SMEs reported a weak relation of firm‟s innovation and sales volume, however, administrative innovation emerged to be a significant factor in explaining firm‟s sale reasonably than technological innovations. Whereas, Price, Stoica and Boncella (2013) established that innovation is an essential element that influences the the performance outcomes of family and non-family SMEs in the US.

Rosli and Sidek (2013) in their study on Malaysian firms reported a significant effect of process and product innovation on performance of SMEs; however, product innovation impacted greatly than process innovation. Similarly, a study on Turkish firms by Atalay, Anafarta and Sarvan (2013) reported that product and process innovation has substantial positive effect on the performance of SMEs firms. Furthermore, Hilman and Kaliappen, (2015) in their study on hospitality SMEs in Malaysia reported that both process and product/service innovations positively affect performance, however, process innovation has a relatively greater influence on performance. Turulja and Bajgoric, (2019) in their study on Bosnian firms confirmed that both product and process innovation are crucial to achieving better firm‟s performance.

The result of an empirical study conducted on 2,165 firms in Taiwan electronics industry by Huang (2014) indicates that innovation depth, breath, and speed relate positively with firm performance, while innovation depth increases the intensity of firm‟s external cooperation, which leads to superior market performance. Suliyanto and Rahab (2012) in a empirical study on Indonesian firms reported that firm‟s innovativeness significantly affects business process and performance, however, to improve performance, SMEs must adequately support their innovative and learning process. Similarly, the results of a study conducted on Spanish firms by Auken, et al., (2008) show that innovation positively impacted on the performance of SMEs in both high and low tech sector and that innovation significantly improve the competitiveness of high tech more than that of the firms in low tech industry.

While in another study on Malaysian firms, Yusr (2016) confirmed that innovation enhances total quality management practices which in turn improve innovation performance. Whereas the electronic survey conducted on 320 firms in ICT industry of Malaysian economy by Islam and Sulaiman (2011) reported that learning contributes to innovation process which positively impacted on the performance of SMEs. Similarly, Aini, Chen, Musadieq and Handayani (2013) conducted a study on 228 SMEs in Kediri of East Java, Indonesia using structural equation model found that innovativeness has significant positive effects on firm performance. Furthermore, Vincent, Bharadwaj, and Challagalla (2005) in their survey on confirmed that innovation positively influences firms performance. Innovation strategy exerts significant positive influence on the suppliers‟ integration and firm‟s operational performance in France (Duhaylongsod and De Giovanni, 2019).

Keskin (2006) conducted a survey on 157 managers of small-sized-firms in Turkey and reported that firm innovativeness positively affects the performance of Turkish SMEs. While the study of Nybakk and Jenssen (2012) conducted on 241 CEOs of enterprises in Norwegian wood industry reveals that innovation strategy and firm innovative working climate enhance the financial performance of manufacturing companies. Similarly, the study of Zahid and Ali (2011) which covers 171 employees in Pakistan banking sector revealed that a significant positive relationship between learning orientation, innovativeness, and firm performance exist.

It is therefore apparent from the foregoing literature that innovation strategy has significant relationship with firm‟s performance. Hilman and Kaliappen, (2015), Mbizi, et al., (2013) and Nybakk, et al., (2012) postulated that innovation is an

essential strategy that improves business process and competitive advantage of SMEs. Hence, it is necessary for SMEs to proactively take innovative risk to enhance performance (Mohutsiwa, 2012). Therefore, this study hypothesizes that:

H9: Innovation strategy positively relates to the performance of F&B manufacturing SMEs in Nigeria.

2.9 The Mediating Role of Innovation Strategy

Innovation strategy facilitates the accomplishment of SMEs long-term objective such as success, survival and competitive edge. Ozkaya, (2011) maintains that developing innovation strategy is necessary for firms operating in this dynamic environment, where customer‟s need, taste and preference change rapidly, quick delivery, rapid changing technologies and shorter product life-span (Yusr, 2016). Therefore, to remain competitive in this hostile environment SMEs must develop innovative strategy to survive (AbdulHamid and Tasmin, 2013, Ozkaya, 2011). Kaliappen and Hilman, (2017) and Al-janabi, (2016) urged that for SMEs to stand in this competitive environment and effectively adjust to the rapid changes in market demand, it must develop effective innovation strategy.

Several studies have confirmed the mediating role of innovation strategy (Segarra-ciprés and Bou-llusar, 2018; Taghizadeh, et al., 2016). For instance, the study conducted on 194 Iranian managers, experts and supervisors of software developer firms using SEM by Hemmati and Hosseini (2016) have established that firm‟s innovation mediates the link between knowledge management and their performance. Similarly, Vincent, et al., (2005) in his meta-analysis reported that product innovation mediates the association of environmental factors and the

financial performance of the firms. While the study of Obeidat (2016) on Jordian telecommunication firms substantiated that innovation partially mediates the correlation between strategic orientation and performance of firms.

Khan and Terziovski (2014) in their study on Australian firms reported that innovation mediates the links between structural, human and relational capital and the performance of SME. Similiarly, a study on firms in Singapore Lee and Wong (2009) established that collaborative innovation and process innovation mediate the the links btween innovation process and performance. While Arias Perez, et al., (2015) in study conducted on Colombian firms found a partial mediation role of product innovation on the relationship of process innovation and performance of firms. A study on Spanish firms by Leal-Rodríguez et al., (2015) reported that innovation mediate the influence of unlearning on the performance of all categories of firms.

Study conducted by Yusr (2016) on Malaysian firms has confirmed the mediating role of innovation capability on the correlation of TQM and performance of SMEs. Equally, a study carried on Spanish industrial firms by Galende, Perdomo-Ortiz and Gonzalez-benito (2009) reveal that the correlation between TQM and technological innovation is mediated by business innovation. Furthermore, Moghaddam et al. (2013) in their survey on Iranian small entrepreneurs found that innovation mediates the relationship of knowledge management and financial performance of SMEs.

Whereas a study on Indonesian small firms by Setyanti, et al., (2013) reported that the relationship between entreprepreneurial orientation, management capability and

SMEs performance is significantly mediated by innovation capability. Nawaz, Hassan and Shaukat (2014) in their study on Pakistanian manufacturing firms indicated that the association of knowledge management with firm‟s performance was mediated by innovation. In the same vein Ozkaya (2011) in his study on US and Chinese firms reported that the positive link between market, knowledge and innovation was mediated by innovativeness.

The foregoing literature reviewed have demonstrated that innovation strategy is essential for SMEs operating in this dynamic environment, where cutomer need and preference change rapidly, quick delivery, rapid changing technologies and shorter product life-span (Yusr, 2016). Therefore, to remain competitive in this hostile environment SMEs must develop innovative strategy to survive (AbdulHamid and Tasmin, 2013, Ozkaya, 2011). Kaliappen and Hilman, (2017) and Al-janabi, (2016) urged that effective innovation strategy is necessary for SMEs to sustain and improve competitiveness in rapidly changing environment. Consequently this study hypothesized that:

H10: Innovation strategy mediates the relationships between MC, TC, LC RC and the performance of F&B manufacturing SMEs in Nigeria.

2.10 Recapitulation of the Hypotheses Developed

Developing a comprehensive and clear set of hypotheses makes the outline of the research design much easier and optimal (Hamlin, 2000). Based on the research framework developed and presented in figure 2.1, ten (10) hypotheses were established for this study. To statistically achieve objectives 1-4 of this study which aimed at examining the relationship of the independent variables and the dependent

variables, hypotheses (H1-H4) were developed. While hypotheses (H5-H8) were developed to empirically evaluate and achieve objectives five to eight which are devoted to measuring the relationship between the four independent variables (MC, TC, LC, RC) and the mediating variable (IS). Similarly, hypotheses (H9) were developed to statistically examine the links between the mediating variable (IS) and the dependent variable.

Finally the last hypotheses (H10) was developed based on the last objectives of this study which aimed to evaluate the mediating role of innovation strategy on the relationship between MC, TC, LC, RC and the performance of F&B manufacturing SMEs. In nutshell, the study tested the following hypotheses:

H1: MC is positively relates to the performance of F&B manufacturing SMEs in Nigeria.

H2: TC is positively relates to the performance of F&B manufacturing SMEs in Nigeria.

H3: LC is positively relates to the performance of F&B manufacturing SMEs in Nigeria.

H4: RC is positively relates to the performance of F&B manufacturing SMEs in Nigeria.

H5: MC positively relates to the innovation strategy of F&B manufacturing SMEs‟ in Nigeria.

H6: TC positively relates to the innovation strategy of F&B manufacturing SMEs‟ in Nigeria.

H7: LC positively relates to the innovation strategy of F&B manufacturing SMEs‟ in Nigeria.

H8: RC positively relates to the innovation strategy of F&B manufacturing SMEs‟ in Nigeria.

H9: Innovation strategy positively relates to the performance of F&B manufacturing SMEs in Nigeria.

H10: Innovation strategy mediates the relationships between MC, TC, LC RC and the performance of F&B manufacturing SMEs in Nigeria.

2.11 The Underpinning Theories

An important issue in modern business management today largely focuses on how firms can generate and achieve differential performance. Although several theoretical approaches for studying available firm competencies, strategies or resources and performance such as dynamic capability theory (DCT), learning theory, knowledge-based theory, competency theory, pecking order theory, contingency theory, resource-based theory (RBV) etc do exist.

However, the aim of this study is to confirm the ability of the variables understudy to improve SMEs performance. Hence this, couple with the dynamic nature of today‟s operating business environment where skills, capabilities, knowledge and techniques frequently become obsolete; RBV and DCT are considered appropriate due to their leading transitory nature to the achieving competitive firm‟s performance in a changing market environment (Barney, 1991, Teece, et al., 1997). This study therefore, adopts the RBV and DCT to explain the relationship between the strategic capabilities (MC, TC, LC, RC) with F&B manufacturing SMEs innovation strategy and performance, because all the two theories postulate the importance of firm‟s capabilities in achieving and sustaining superior performance.

RBV claims that that effective deployment of firm‟s strategic resources allows firms to grow, differentiate and effectively sustain competitive position in the market (Halawi et al., 2005, Barney, 1991). Thus, MC, TC, LC, and RC as F&B SMEs resources are considered as valuable, rare, inimitable and non-subtitutable (VRIN) that would help create sustainable competitive position. Equally, DCT maintained that through reconfiguring capabilities firms established a concrete foundation for achieving sustainable competitive advantage in changing environment (Ambrosini and Bowman, 2009, Eisenhardt and Martin, 2000, Teece, et al., 1997).

2.11.1 The Resource Based Views

The resource-based view (RBV) is a well-known theory in strategic management research that has been viewed from three important perspectives. Firstly, the RBV integrates customary strategies concerning the firm‟s unique competencies and capabilities and provides value-added theoretical propositions that are testable within the divergence strategic literature. Secondly, the RBV is adopted comfortably within the framework of firms economic theory. Thirdly, the RBV is complementary to industrial firm exploration (Mahoney and Pandian, 1992).

Consequently, RBV theory is one of the most dominated theories used in the evaluation of firm‟s performance in economics and management research. The historical development of the RBV has been traced back to the write-up of Penrose (1959) that emphasized the significance of unique resources in enhancing firm competitive position and performance (Rugman and Verbeke, 2002). Penrose (1959) postulates that effective utilization of strategic resources help firms to grow,

diversify and effectively maintain competitive position (Barney, 1991). Thus, Kor and Mahoney (2004) maintain that Penrose (1959) theory provides an important strategy for effective management of firm‟s tangible and intangible resources which facilitate the accomplishment of firms objectives, competitive advantage and provide an instrumental correlation between firm‟s resources and the exploration of industrious prospects for growth and innovation.

However, RBV became an influential theory in studying firm performance in the area of strategic management after the work of Chandler (1990) and Barney (1991). The theory demonstrated that firm competitive advantage is determined by its ability to deploy the available bundle of scarce valuable resources both tangible and intangible (Barney, 1991; Wernerfelt, 1995). Therefore, in today‟s competitive business environment, firm‟s sustainable competitive advantage is influenced by its ability to build and exploit its core competencies (Halawi, Aronson and McCarthy, 2005).

The concept of firms resources in strategic management includes the physical resources, capabilities, firms practices, firm attributes, information, and knowledge possesses by the firm which supports the firm in developing and implementing strategies to improve and maintain efficiency and effectiveness (Barney, 1991). Thus, RBV theory takes the perspective that firm‟s absolutely inimitable and valuable resources provide important means for achieving sustainable competitive benefit and better performance (Hart, 1995). Therefore, from RBV point of view, a firm‟s strategic asset or resources is described as operationally valuable, generally rare, absolutely inimitable and currently non-substitutable (Halawi et al., 2005).

It is apparent that a firm needs to develop a variety of capabilities and competencies to achieve more than average returns and competitive advantage (Song, Nason and Benedetto, 2008). Hence firm‟s inimitable capabilities in terms of technological and managerial, learning and relational abilities are vital sources of differentiation which led to achieving and sustaining competitive advantage. Thus, RBV theory provides strategic management researchers and practitioners with a framework that helps better recognize the challenges in developing business strategy, for that reason plays a substantial role in the strategic management of the firms (Dunford, Snell and Wright, 2001).

According to Barney (1991), firm‟s resources from RBV at a firms level comprises absolutely inimitable, difficult to substitute, specifically rare and valuable abilities which enhance firm‟s performance and competitiveness as anticipated of strategic capabilities. Therfore in this study, MC, TC, LC and RC are considered as valuables, rare, inimitable and non-substitutable (VRIN) resources that drive F&B manufacturing SMEs to the attaintment of superior competitive advantage and better performance.

Firm‟s competitive advantage stems out of the managers rational and discretionary decision to develop and deploy certain resources and capabilities to face intra-firm‟s conflict, complexity and environmental uncertainty (Amlt and Schoemaker, 1993). Thus, MC is an essential resource that guides the firm‟s strategic action, direction, and influence the process of value creation (Finkelstein, 1992), and performance (Kraus and Ferrell, 2016). Top management capability is an important strategic

resource for SMEs firm operating in this competitive environment to satisfy the expectation and desires of of its stakeholders (Davis, Bell, Payne and Kreiser, 2010). Hence Birkinshaw and Goddard, (2009) maintained that firm‟s management is responsible for a unique, valuable and hard to copy competitive position at the market place.

The effectiveness of innovation process depends on the interpersonal relations ability of managers or team leaders, as members who perceived risk in innovation are mostly dependent on the opinion of group leaders on the innovation (Rogers, 1976), thus influence the acceptability of the new idea (Rogers, 2002). Therefore, the success of SMEs performance largely rest on the competencies of their top management (Alasadi and Abdelrahim, 2008, Karami, Rowley and Analoui, 2006, Hudson, Lean and Smart, 2001). Various studies (Garces-Galdeano, 2016, Durmusuglu, 2009, Sanberg, 2007) have investigated firm‟s MC from the RVB perspective. However, limited studies that examine SMEs performance from RBV exist.

Technological capabilities promote the exploitation of firm‟s technical skill particularly where the firm‟s structure, culture, and system of reward support the process (Coombs and Bierly, 2006). TC is a VRIN resource that empowers the firms to achieve a competitive advantage within its industry (Navimipour and Soltani, 2016, Chantanaphant, Nabi and Dornberger, 2013). Ainin et al., (2010), substantiated that TC helps firm achieve cost efficiency and improve operation process, enhance firm‟s efficiency in developing new techniques and knowledge, upgrade operational process, product and structure (Chantanaphant et al., 2012). Therefore, from the

resource-based view, technological capability promote firms‟ competitive advantage thereby improving their performance (Ahmad, Othman and Mad Lazim, 2014). Kocak, et al., (2017), Cerulli, (2014), Poteli, (2009) and Zhou et al., (2005) studies TC from the perspective of RBV. However, limited is known on SMEs performance.

Learning capability is the machinery that turns firm‟s resources into valuable, inimitable, rare and non-substitutable through experience (Acar and Zehir, 2009). LC inspires teamwork, facilitates knowledge sharing process and alliance, which creates firms‟ value (Kaplan, Ogut, Mehmet, and Asli, 2014), and promotes a value outcome by increasing employee‟s skills (Verma, Singh, and Rao, 2014). Thus LC is considered as a necessary factor to improve innovativeness and sustainable competitive advantage (Verma, Singh and Rao, 2014, Mat and Razak, 2011). LC has been described as a VRIN resource which enables firms to perform better than competitors and efficiently achieve its business goal (Atak, 2011). It enhances the capability of the firms to quickly identify and respond to market challenges with minimum effort (Pucci, Nosi, and Zanni, 2017). Consequently, this study operationalized and examined LC from RBV perspectives.

SMEs firms through RC develop relationship with relevant market participants which help to acquire and integrate related firm‟s activities like research, skills, information technology and marketing skills to attain superior competitive advantage (Capaldo, 2007, Bititci, Martinez, Albores, and Parung, 2004). Peris-Ortiz, Devece-Carañana, and Navarro-Garcia, (2018) maintained that firms with strong relationship with customers, suppliers and allied enterprises enhance product service innovation.

RC is an essential capability that exerts substantial role in successful accomplishment of innovation activities (Schilling and Phelps, 2007, Stach, 2006).

RC allows SMEs to open up the commercialization of their innovation process, by actively relating with external partners and outsourced from the specialist, which enables them augment their weak resources and achieve competitive advantage (Henttonen and Lehtimäki, 2017). Interpersonal relationship among the individuals or firms engaging in innovation process significantly influences the implementation of innovative ideas (Rogers, 1976, Valente and Rogers, 1995, Rogers, 2002, Rogers, 2004). Thus exchanging information is central to the success of innovation strategies, as employees or customer share their subjective personal experience to understand the meaning and benefits of the innovation (Rogers, 2004).

Innovation strategy has been designated as a critical factor for achieving sustainable financial performance and competive advantage (Nybakk, 2012). Hence SMEs firm vigorously try to develop their innovation strategy in order to achieve new output target, improve earnings and better performance (Bukhamsin, 2015). Innovation strategy as a firm‟s VRIN resource plays an essential starring role in the firm's efforts to achieve and maintain market competitive advantages which in turns improve performance (Aini, Chen, Musadieq, and Handayani, 2013). Damanpour, Walker, and Avellaneda, (2009) urged that the use of RBV to evaluate the influence of innovation strategy at firm‟s level underscores the complementary role of various types of innovation and their joint effects on firm‟s performance.

Product innovation strategy is a critical strategic undertakings that support firms to succeed and maintain a superior competitive edge (Paladino, 2007). It facilitates the firm‟s new product development process, production of high-quality product, efficient and effective delivery time and discovering of a new market (Kok and Biemans, 2009) and ensures effective responses to competitive environment (Calisir, Altin Gumussoy, and Guzelsoy, 2013). Similarly, process innovation influences cost reduction and utilization of limited resources, which enables the firm to improve product innovation and achieve product differentiation (Damanpour and Gopalakrishnan, 2001). Consequently, firm improve and maintain better performance and react effectively to the changes from the external environment (Sisaye and Birnberg, 2010).

On the other hand administrative innovation involves the implementation of new methods, procedures in the firm (Ajayi and Morton, 2015) to enhance firm‟s operation which in turn improves performance, enhances firm value and competitiveness (Camisón and Villar-López, 2012). However, innovation outcome of whatever types and rate that effectively affects firm‟s performance are the function of the firm‟s competencies in resources allocation, operation, market, employees and technology (Siguaw, Simpson, and Enz, 2006).

Due to the VRIN nature of the resources employed, this study was underpinned by RBV theory, as manufacturing SMEs defensible competitive advantage is contingent upon a package of these valuable resources (MC, TC, LC, RC and innovation strategy). The extant literature on RBV is mostly used in studying large firm‟s performance and in developed and emerging economics (Halawi, Aronson and

McCarthy, 2005, Kor and Mahoney 2004, Rugman and Verbeke, 2002, Barney 1991, Chandler 1990, Penrose 1959). Rogers, (2004) opined that pioneering innovation is generally featured in large-sized firms with high technological orientation and global perspective.

However, innovation strategy is not only essential but also necessary for SMEs survival in this dynamic and competitive global business environment (Ndubisi, et al., 2015, Hilman and Kaliappen, 2015, Kheng, et al., 2013). Firm‟s achieve competitive advantage through implementation of strategies like innovation strategy to exploit internal strengths to respond to the environmental opportunities and neutralize external threats (Barney, 1991). Therefore studying F&B manufacturing SMEs performance in a developing economy like Nigeria would provide valuable information that expands the body of existing literature on firm‟s strategic capabilities, innovation strategy and performance based on RBV.

2.11.2 The Dynamic Capability Theory

Dynamic capability theory (DCT) emphasizes that firms operational capabilities cannot stayed relevant over a long period of time, more especially in a rapidly changing technological and learned customer‟s environment. Business firms must constantly make a decision on how to reconfigure and renew the existing capabilities into more relevant and efficient one (Chen, Fung, and Yuen, 2019). DCT allow firms to integrate, develop and reconfigure external and internal capabilities to address the effects of rapidly changing operating environments (Teece, et al., 1997). Through DCT firms learned and generate systematic behavior to modified it way of executing

tasks so that firm become effective in achieving sustainable superior performance in changing environment (Chen, et al, 2019).

The development of the concept of DCT by Teece and Pisano, (1994) marked the beginning of a new perspective of strategic capabilities that grew out of the recognition that an extended model is required to describe how firms can achieve sustainable competitive edge under changing condition (MacInerney-May, 2011). This underscores the facts that the manifestation effects of changes in the prevailing theories such as RBV (Barney, 1991, Penrose, 1959) are not substantial in elucidating the occurrence and sustainability of factors determining competitive position, particularly under circumstances of changing customer needs and technologies (MacInerney-May, 2011).

Consequently, firm‟s capabilities that help to identify and adjust to those environmental changes by evolving new capabilities is the concrete foundation for achieving sustainable competitive edge (Ambrosini and Bowman, 2009, Eisenhardt and Martin, 2000, Teece, et al., 1997). The aim of DCT is to clarify by what means and why some business enterprises develop competitive advantage under rapidly changing condition (Teece, Pisano, and Shuen, 1997). Thus, DCT is determined to bridging the hole created by other theories in explaining how a certain competitive advantage is maintained under steady operating environments, but fall to clarify how these competitive benefits were achieved at the first instance and how this can be sustained in changing operating conditions (MacInerney-May, 2011).

Therefore, dynamic capability has been described as an ability of a firm to reconfigure the sources of its capabilities so as to efficiently respond to the changes in its area of operation (Giniuniene and Jurksiene, 2015, Masteika and Čepinskis, 2015). Ambrosini and Bowman, (2009) demonstrated that DCT concentrated on firm‟s purposeful changes of its resource base. It enable firms to integrate, develop and reconfigure required external and internal capabilities to address the effects of rapidly changing operating environments to sustain competitive performance (Teece, et al., 1997).

Unlike the RBV theory which assumed that firm growth and competitiveness are functions of the exceptional resources held and used by the individual business firm (Barney, 1991). However, DCT considers the unique firm‟s ability to obtain, redesign and assimilate the knowledge from within and outside sources to meet up the challenges of fast-changing environments (Teece, et al. 2007, Teece et al., 1997). Developing capabilities are essential to business enterprises, because like any other firms intangible assets, they are valuable, rare, absolutely inimitable and difficult to substitute (Barney, 1991). These attributes, however, only make capabilities a vital basis of competitive advantage, while practically; capabilities only produce better performance and competitive advantage when top management decisions are aligned with firm‟s strategies and objectives (Castellaneta, 2016).

In RBV managers and practitioners recognize and consider some critical questions: such as what product markets/industries should our firm enter and how can we stand in this market or industry? A dynamic capabilities view on the other hand requires managers to consider other different question such as what capabilities should our

firm develop to achieve a competitive advantage? Therefore, reconfiguring capabilities is an essential strategic task, just as significant as superior performance or as decisions on which markets to enter and other strategic decisions (Teece, et al., 1997, Teece and Pisano, 1994).

Usually, as firms compete in developing a product, they also compete in creating firm‟s strategic, operational and technological capabilities that offer a distinctive advantage in these markets, thus, decisions on the product market entry and firm‟s position and the capabilities development are closely linked (MacInerney-May, 2011). Commitment to developing capabilities creates strategic alternatives for competition in the product markets (Hung, Yang, Lien, Mclean and Kuo, 2010). Specifically, dynamic capability theory helps identify and explore the choices available to businesses and the effects of those choices under different competitive conditions (MacInerney-May, 2011).

The dynamic capabilities theory analyzes the sources and approaches to achieving superior performance by firms operating in rapidly changing technological environments (Ambrosini, Bowman and Collier, 2009). Thus, achieving competitive advantage depends on different processes and ability of reconfiguring the source of firm's strategic resources (Masteika and Čepinskis, 2015, Teece, et al., 1997). Therefore, the underlined framework for dynamic capability suggests that achieving better firm performance in a rapidly changing environment depends largely on the firm‟s ability in refining its internal, technological, managerial and operational processes (Ambroini et al., 2009, Teece, et al.1997).

The firm‟s internal resources consist of the bundles of knowledge and skills brought by the manager and employee into the operation process (Lin, Su, and Higgins, 2015). Ultimately, the firm‟s capability base is improved through internal learning, investments in R&D, experimentations, adjustment to process, products and firm‟s training (Oluwajoba, Oluwagbemiga, Taiwo, Kehinde, and Akinade, 2007). Therefore developing dynamic capability is essentially related to firm‟s managerial, technological, marketing and other operational capabilities (Mavondo and Matanda, 2015). Hence, top management, technological, learning and relational capabilities, and innovation strategy in this study are considered essential dynamic capabilities that help F&B manufacturing SMEs firms achieve and maintain competitive position in a rapidly changing environments.

The term innovation strategy is concerned with the action plan for executing new process and product as well as the manner in which production is organized and managed (Ndubisi, Capel, and Ndubisi, 2015). Thus it is considered as part of the firm‟s dynamic capability (Briznik and Hisrich, 2014). Its importance stems from the fact that it has been acknowledged for contributing to dynamic capability and competitive advantages of firms, as it enhances the firm‟s ability to continually recognize, evaluate, and respond to technological changes (Ozkaya, 2011). Innovation has been considered to continually remain the important driver of firm‟s competitive advantage and higher performance (Willetts, 2014). Successful firm‟s innovation produces positive results on customer satisfaction and competitive advantage which in turn leads to better returns on investment (Simpson, Siguaw and Enz, 2006).

Since the early days, Teece, et al. (1997) and Teece, et al., (1994) link the concept of DCT to the Schumpeterian domain of innovation based competition. Through dynamic capabilities firms are expected to develop new assets and competencies such as product and process development abilities (Mckelvie and Davidsson, 2009), which form the basis for innovation approaches (Pavlou and El Sawy, 2006, Zahra, Sapienz and Davidsson, 2006). Thus, DCT appears to direct the efficacy of firm‟s innovation process by managing operation time, direction, and costs of developing resource and capabilities (Zott, 2003).

Nevertheless, the model of dynamic capability theory is built on firm‟s specific abilities such as managerial, technical, learning and knowledge system (Dess, Lumpkin and Eisner, 2010), which increase firm‟s ability to successfully innovate (Giniuniene and Jurksiene, 2015). However, to ascertain the needs for reconfiguration, firms must be capable to identify prospects and coercions emanating from the changing operating environment and relate this situation to their internal ability and strategies (Teece, 2007, Barreto, 2010).

Achieving sustainable growth strategy involves striking a balance in exploiting current resources/capabilities and the development of new ones (Wernerfelt, 1984). SMEs needs strategic organizational capabilities and resource to achieve and maintain competitiveness (Park et al., 2019, Man, Lau, and Chan, 2002) and effectively accomplish objectives (Kaur and Bains, 2013) in this dynamic competitive environment (Park et al., 2019). Managerial, technological, entrepreneurial, experience and knowledge are essential determinants of firm‟s performance (Zainol and Al Mamun, 2018).

Thus to actively respond, firms must have the coordinating capability (MC); technically capable to employ the state of art (TC); demonstrate the capability to generate knowledge from both within and outside (LC) and share these information and knowledge within and all relevants partners (RC) outside the firm (Eisenhardt and Martin, 2000). Learning capability is a crucial resources facilitating the development of essential capabilities that enhance firms‟ growth, survival and competitiveness (Adelowo, Ilori, Siyanbola, and Oluwale, 2015). Akgun et al., (2006) claimed that firms develop distinctive capabilities for learning through previous experience, which helps them to line up with their environment.

Therefore, learning and relational capabilities as dynamic capabilities help the firm to create a vibrant learning environment that facilitates innovation (Giniuniene and Jurksiene, 2015). Consequently, through learning and inter-firms relationship, SMEs develop capabilities to redefine and assimilate the newly created capabilities into the prevailing configured capabilities to implement appropriate actions and changes (Barreto, 2010, Teece, 2007, Eisenhardt and Martin, 2000). The above discussion therefore postulates the importance of firm‟s management, technological, learning and relational capabilities as dynamic capabilities in explaining F&B manufacturing SMEs innovation strategy and performance.

However, innovation activities are more challenging (Marques and Ferreira, 2009), particularly in turbulent business environment, innovation activity is mutually difficult and vital in ensuring survival and sustainability (Droge, Calantone and Harmancioglu, 2008). Nevertheless, through strategic organizational capabilities

firm‟s develop business model and strategies to achieve competitive advantage in a rapidly changing environment (Teece, 2007). Equally, Lawson and Samson, (2001) maintained that DCT is the most appropriate theory for studying firm‟s innovation. Therefore, the relationship between MC, TC, LC, RC and innovation strategy and the links between innovation strategy and performance in this study was also underpinned by the dynamic capability view. Hilman and Kaliappen, (2015) maintained that innovation strategy is essential firm‟s capability that can be examined from DCT perspective.

2.12 The Conceptual Framework

The framework presents the graphical portray of the conceptual ideas based on literature which motivates and guides the study. Generally, a research framework postulates the conceptual basis to succeed with the study, and represent a logical design comprise of activities and process that show the connections and relationship of the study variables which is essential in carrying a survey research or problem-solving process (Sekara and Bougie, 2010, Creswell, 2014). Equally Awang (2012), postulated that theoretical framework facilitates the development of relevant hypotheses for the research. Consequently, the framework of this study was developed based on the suggestions by several previous studies reviewed in this study (Shamsudeen 2017, Pham, et al., 2017, Ndubisi et al., 2015, (Nybakk and Jenssen, 2012, Acar et al., 2009).

The RBV and DCT discussed above have form the bases for the development of the conceptual framework for this study. RBV entails the presence of valuable and rare firm resources which cannot be contended by competitors‟ overtime. Therefore firm

resource must be exceptionally developed (Kor and Mahoney, 2004). This theory perceived firm‟s specific resources and capabilities as assets that drive firm‟s strategies and competitiness (Halawi et al., 2005).

Dynamic capability theory is an expansion of RBV that considered a firm as an entity consisting of physical resources, skills, and knowledge operating in a rapidly changing environment. Thus, the resource, skills, and knowledge over time become obsolete (Teece et al., 1997). However, through DCT, firms can reconfigure and develop new capabilities to develop innovation strategy, sustain and improve competitive position (Barreto, 2010, Teece, 2007, Eisenhardt and Martin, 2000).

Various scholars (Song, et al., 2008, Halawi et al., 2005, Kor and Mahoney 2004, Rugman and Verbeke, 2002, Teece, Pisano, and Shuen, 1997) have extended the concept of the RBV theory by linking the theory to innovation and industry condition and have observed that superior firm‟s performance is continually derived from possession of exceptional and hard-to-imitate skills, assets, resource and capabilities. Thus, RBV and DCT are considered appropriate theories in this study to explain the role of MC, TC, LC and RC in predicting innovation strategy and F&B firm‟s performance. Figure 2.1 demonstrates the conceptual framework of this study.

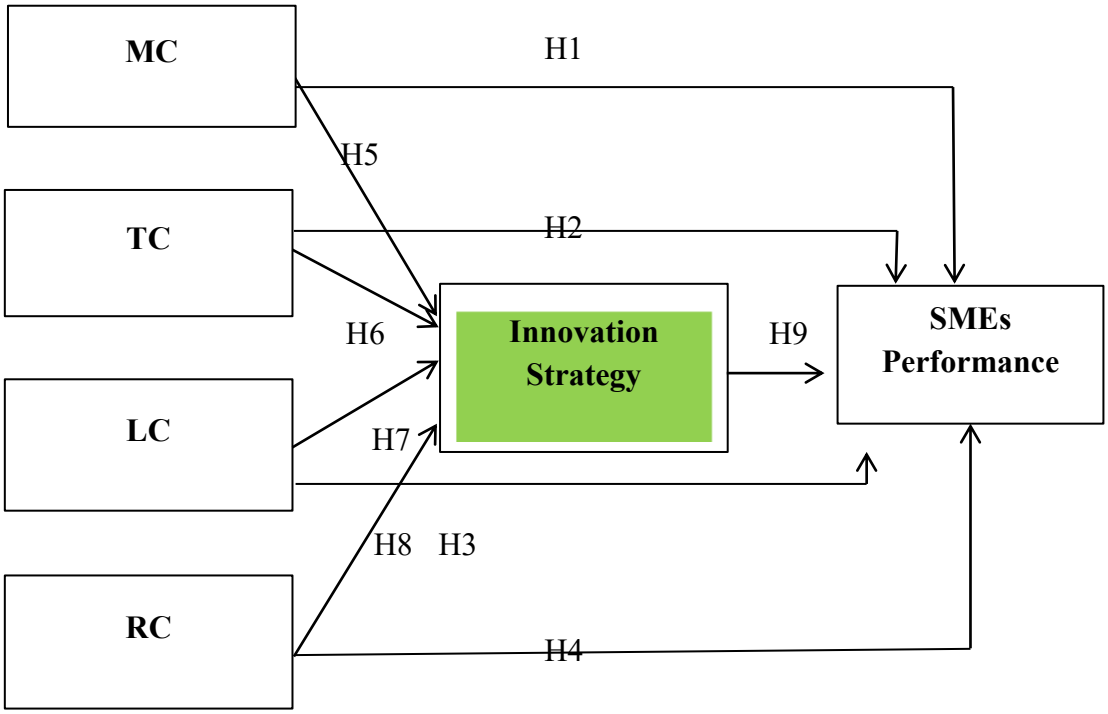

Figure 2.1:
Conceptual framework

Top management capability (MC) is an essential firms capability as demonstrated by various studies (Halac, 2015, Pufal et al, 2014, Setyanti et al., 2013). Several studies have postulated the strategic role of SMEs MC (Jia, Wang, Zhao, and Yu, 2014, Setyanti., 2013, Sandberg, 2007, Lazonick and Prencipe, 2005). MC is the firm‟s most valuable, non-subtituble, rare and higly inimitable (VRIN) resources used to examine SMEs performance and operational processes (Wang and Dass, 2017, Hayton, 2015, Yun, 2007). Hence MC has been adopted as an independent variable which designates management ability to effectively design and redesign internal structures and strategies that facilitate adjustment to the changing business environment through which better competitive performance is achieved (Garcés-Galdeano, García-Olaverri, and Emilio, 2016).

Technological capability (TC) has been established to be one of the firm VRIN resources that enhancee performance and better competitive position (Zawislak, et al., 2014, Halac, 2015, Bergek et al., 2008). Bergek et al., (2008) described TC as a primary source of creating competitive advantage over firm‟s competitors, as the combination of these technological resource endowed firm with absolutely different and inimitable capabilities. Technological capability is an inimitable sets of operational abilities that significantly influences firm‟s performance (Ainin et al., 2010). Therefore, this study adopted TC as one of the independent variables.

Numerous studies have recognized the importance of learning capability (LC) in influencing firm performance. Firms learning capability is an important VRIN resource that helps in achieving and sustaining competitive advantage, because of its rareness and non-substitutable nature. LC has been studied as a valuable SMEs firms resources (Serna, Vega, and Martinez, 2016, Aminu, 2015, Mahmoud and Yusif, 2012; Suliyanto and Rahab, 2012, Sinkula, 1999). Consequently, LC is a unique and distinctive resource that helps SMEs firms to develop knowledge, technologies, practice, and procedures which enable firms to strategize effectively to achieve and sustain superior competitive position (Aminu, 2015, Mahmoud and Yusif, 2012, Baker and Sinkula, 1999). Therefore, LC is adopted in this study as an independent variable that designates the pledge and ability of SMEs firms to develop new knowledge and technique to improve operation process (Farrell, et al., 2008).

Several empirical studies have established the significance effects of RC on firms‟s innovativeness and performance (Silvestri and Veltri, 2017, Yu, Nguyen, and Chen, 2016, Schweitzer, 2014, Caner and Tyler, 2013, Kumar, Boesso, Favotto, and Menini, 2012, Dunlap-Hinkler, Kotabe, and Mudammbi, 2010, Nieto and

Santamaría, 2007). Nieto and Santamaría, (2007) reported that RC enables SMEs develop relationship with customers, suppliers and R&D institutions which positively and significantly influence firm‟s innovation performance. RC enhances the process of delivering both product and process innovation of firms in high technological industry, hence high-tech SMEs must concentrate on collaborating with strategic associates in the value chain, so as to effectively innovate new process and product to achieve competitive advantage (Yu, Nguyen, and Chen, 2016).

Various studies have established the mediating effect of innovation strategy (Yusr, 2016, Al-janabi, 2016, Nada and Ali, 2015, Setyanti et al., 2013, Lestari et al., 2013). Mbizi, et al., (2013) postulated that firm‟s innovative activities are fundamental elements which help SMEs achieve and remain competitive, thus, there exists a robust relationship between innovation and SMEs performance and competitiveness. Nada and Ali (2015) maintain that firm‟s innovation strategy influence its utility and value creation ability such as marketing, managerial, strategic, adaptive manufacturing and operational capabilitie. Hence SMEs innovation strategy is adopted in this study as the mediator between strategic organizational capabilities (MC, TC, LC, RC) and the performance of F&B manufacturing SMEs in Nigeria.

2.13 Summary of the Chapter

The extant literature reviewed show that achieving superior performance and sustainable competitive advantage is a functions of effective MC, TC, LC RC as well as an articulated innovation strategy. Consequently, in this chapter the concept of SMEs, the importance and challenges of SMEs in Nigeria, the overview of Nigerian manufacturing industry and the performance of Nigerian F&B manufacturing SMEs

were critically reviewed. Similarly, the concepts of SMEs performance, top management capability, technological capability, learning capability, relational capability and innovation strategy were also reviewed. Furthermore, the relationship between MC, TC, LC, RC and performance, as well as innovation strategy was substantially reviewed. Finaly the underpinning theory, the conceptual framework as well as the summary of the hypotheses was also presented in this chapter. The subsequent chapter presents the methodology adopted for this study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The preceding chapter critically reviewed the relevant literature on the guiding variables of this study which include SMEs performance, top management capability, technological capability, learning capability, relational capability and innovation strategy. Consequently, to ensure the credibility of the study, this chapter presents the research methodology. Specifically, the research design, the operational definition and measurement of the study variables were elaborated. Equally, the study population, sample size and sampling techniques, instruments, and strategy for data collection, procedures for data collection and data analysis technique have been reviewed and specified. Furthermore, the unit of analysis as well as the steps in conducting the pilot study has been explained in this chapter.

3.2 Research Design

Research design postulates the entire process for gathering and analyzing the data required for the study. Hence, research design has been described as a blueprint developed based on the questions raised that facilitate the development of research measurement, procedure for collections and analyses of data in the study (Sekaran and Bougie, 2013). It involves designing and development of research questions, data collection procedure, and analysis as well as the process of summarizing and interpreting the result (Lewis, 2015). The essence of stating clearly all the information regarding the process of sample and sampling method, instrument measurement, and data collection technique and procedure in the research is to

enable other researchers to independently verify the study so as to accept or decline the original research findings (Tayie, 2005).

Generally, research design is categorized into eight (8) types which comprises; experimental design, survey design (questionnaire and interviews), ethnographic design, correlational design, action research design, grounded theory, mixed method design and narrative research design (Creswell, 2014). It involves the utilization of both observation and documented information (Zikmund, 2000). Therefore, due to the nature of the phenomenon under study, a survey method was employed. Designing a universally accepted survey is challenging in this 21st century where the targeted respondents for a survey prefer to respond to different types of survey (Dillman et al., 2009). However, survey questionnaire method is commonly used in management research (Ajayi, 2016, Aminu, 2015, Shehu and Mahmood, 2014, Nybakk, 2012). The survey questionnaire can be descriptive or inferential/analytical (Creswell, 2014).

Descriptive survey design has been described as a logical process which involves describing the exact background, characteristic, behavior and features of the phenomenon under study, hence Orodho, (2009) opined that descriptive statistic aimed to answer the; how, which, why, who, where and when of the variables to study. The inferential survey involves describing and explaining why certain conditions exist (Tayie, 2005), thus it establishes the links between the variables of the study (Hopkins, 2008). Therefore for the purpose of this study, both the descriptive and inferential survey research design was adopted based on previous

research (Ajayi, 2016, Shehu and Mahmood, 2014, Nybakk, 2012, Hung et al., 2010).

The survey method involves using a structure and quantitative questionnaire (Shigang and Guozhi, 2016), where numbers scale are used on the research measurement to represent the view of the respondents about the phenomenon being studied (Creswell, 2014). Christian, Dillman, and Smyth, (2007) asserted that using the symbol in form of visual figures enhances the respondent curiosity in the survey. The survey method is generally employed where the study is attempting to examine immeasurable items, or where the researcher cannot control the predicting variable to define its effect on the variable under study, but can manipulate the survey measurement (Creswell, 2014).

Survey design enables the researcher to study numerous variables such as demographic, attitude, intention, motives, outcomes and so on and the data can be analyzed through multivariate statistic (Tayie, 2005). Thus the survey technique like questionnaires enables the researcher to collect quantitative data on many types of research question that can be analyzed using descriptive and inferential statistics (Creswell, 2014, Hair, Black, Babin, and Anderson, 2010). Questionnaire method has been believed to be the most widely accepted, and an appropriate method in collecting primary data in management research (Hair, Black, Babin, and Anderson, 2010). Therefore, survey questionnaire was adopted in this study.

Awang, (2012) described a questionnaire as a formatted sets of questions that sought the views of the targeted respondants within a defined alternative. Thus questionnaire

as an instrument for data collection has been justified to be a well-organized data collection strategy particularly where the researcher knows precisely the requirement and how to measure the study variables (Creswell, 2014, Sekaran and Bougie, 2013). Equally, the method is effective in minimizing the research cost and time, and gives the respondents a chance to fill the questionnaire without interference, consequently, the outcomes from a study questionnaire reflects the true idea and knowledge of the respondents (Awang, 2012, Tayie, 2005).

Generally survey questionnaires were administered electronically via internet, postage mailing or personally delivered to the respondents (Creswell, 2014). Hence, the survey questionnaire of this study has been administered personally to the owner/manager of food and beverage manufacturing SMEs. This has enabled the researcher to collect the primary data from the owner-managers of Nigerian F&B manufacturing SMEs for the purpose of assessing the mediating effect of innovation strategy on the relationship between MC, TC, LC, RC and their performance. The questionnaire of this study is divided into two sections. Section **A** contains questions regarding the variables of the study, while section **B** covers the demographic information of the respondent, this is in line with the view of (Tayie, 2005). See Appendix A

3.3 Operational Definition of the Study Variables

The operational definition of a construct entails observing the behavioral dimensions, properties and facets represented by the concept so as to decode them into quantifiable indicators (Awang, 2012, Sekaran and Bougie, 2013). Defining study constructs therefore involves describing vividly the procedure to measure the

variables of the study quantitatively (Hair, Sarstedt, Ringle, and Mena, 2012). Dess and Robinson, (1984) postulated that defining survey constructs plays a major role in designing a well articulated study questionnaire in entrepreneurship and management research. Consequently, all of the variables in this study have been adequatey defined from the contextual perspective of this study to facilitate the measurement of the study variable.

The literature reviewed was used to derive the definition of SMEs performance in this survey study. It indicates organizational achievement in terms of financial and operational outcomes. The financial performance includes return on investment, profitability, and sales growth, while the non-financial performance includes customers satisfaction, employees satisfaction, and dutiful to government and the society. Therefore, SMEs performance in this study refers to the SMEs management ability to enhance the growth, profitability, customers and employees satisfaction, environmental and social responsibilities.

Top management capability (MC) in this study is defined and operationalized as the ability of F&B SMEs top management to effectively exhibit technical, coordination and leadership abilities to perfectly understand and adjust to the changing requirements of the operating environment to facilitate efficient product, process and administrative innovation strategies and achieve high profitability, market growth, customer‟s and employee‟s satisfaction as well as improve social and environmental performances. MC has been adopted in this study from a previous work of Acar and Zehir, 2009. Consequently, the construct has been measured with eight (8) items adapted from Halac, (2015).

Technological capability (TC) in this study is described as the F&B SMEs capability to explore, aquire, refine and operate new technologies, skills and technique to effectively develop differentiated , administrative, process and product innovation strategies that improve the satisfaction of the customers and employees, increases profitability, expand market and effectively support the firm‟s environmental and social responsibilities. TC was adopted in this study from Wang et al., (2006) and measured with 11 items adapted from Halac, (2015) rooted in Wang et al., (2006).

Learning capability (LC) in this study was adapted and measured with 7 items from Hailekiros and Renyond (2016). Therefore, in this study, LC is operationally defined as the F&B SMEs ability to acquire, transform, absorb and transfer new knowledge to help develop effective routines, practice and procedure to improve product, process and administrative innovations and competitive position which ultimately leads to better performance in profitability, market growth, improve customer value, motivate employees to stay and perform, and boosts the firm‟s social and environmental considerations.

Equally, relational capability (RC) was operationalized in this study as the F&B SMEs capability to establish and manage beneficial relationship with relevant partners so as access valuable resource and information the business cannot independently provide to effectively strategize in product, process and administrative innovations which facilitate the attaintment of superior profit margin, advancing the growth rate, boosting environmental and social concern and enhances the customers and employees satisfaction. All the 9 measurement items of RC was adapted from Pham, et al., (2017).

Innovation strategy in this study refers to the F&B SMEs conscious action plan and techniques employ to guides the transformation of new resources, idea and knowledge into valuable administrative, product or process innovations to directly and/or with top management, technological, learning and relational capabilities improve profitability, enlarge market, increase customers and employees wellbeing as well as environmental and social performances. Innovation strategy (IS) construct was measured as a uni-dimension with fifteen (15) items adapted from Ndubisi, Capel, and Ndubisi, (2015), Song and Xie, (2000) and Hurley and Hult, (1998).

3.4 Measurement of the Study Variables

A construct in a study can be measured objectively or by using subjective measures. Even though a correlation between subjective and objective measures has been established, however, numerous studies in management and entrepreneurship field used subjective indicators (Aminu, 2015, Tae and Sung, 2015, Bukhamsin, 2015, Setyanti, et al., 2013, Nybakk and Jenssen, 2012, Morgan and Strong, 2003). Rosli and Hanafi, (2013) justified that subjective measures are used mainly because of non-availability of the objective data particularly in SMEs firms. Hence, a researcher can use indirect approach to measure the construct through proxy variables (Hair, Tomas, Ringle, and Sarstedt, 2017). Accordingly, subjective indicators have been used to measure all the constructs of this study. All the items to measure a construct were adapted from the extant literature.

A construct can be measured with a single item or multiple of items. A single item measurement describes a situation where a construct is being measured with only one indicator. While multiple measurements as the name implies involve several

indicators to measure a given construct (Hair, et al., 2017). However, for the purpose of this study, all the constructs were measured with multiple items. The rationality of adopting multiple items against the single items is the fact that multiple measures would be more accurate, though not free of error, however, it is likely to represent the diverse dimension of the concept (Hair, Tomas, Ringle, and Sarstedt, 2017). This research model comprises six (6) constructs: MC, TC, LC, RC, innovation strategy (IS) and F&B SMEs performance.

All items in the constructs mentioned above are measured on a Likert scale. Due to the nature of the respondents and the information required in social science, the Likert scale has been considered most appropriate for a study of this nature (Alreck and Settle, 1995), where objective data are not readily available (Rosli and Hanafi, 2013). There are many types of Likert scale; three, four, five, seven-point and more Likert scale. Specifically, a five-point Likert scale has been used ranging from 1 to 5 for all the constructs in this study (1 = Strongly disagree; 2 = Disagree; 3 = Neither agree nor disagree (Neutral); 4 = Agree; 5 = Strongly agree).

Dawes, (2008) maintained that five point Likert Scales is prospective to generate better outputs comapared to higher rating scales. Numerous studies have used five points Likert scale (Akanbi, 2016, Gronum, 2015, Al-Ansari et al., Leal-Rodriguezez et al., 2015, Nybakk, et al., 2012 and Islam and Sulaiman, 2011). Using figures such as 1-5 to measure the responses of the respondents may be good for this study. This was informed by the assertion by Christian, Dillman, and Smyth, (2007) that using visual language in form of digit increases respondent interest in the survey format.

3.4.1 Measurement of Firm Performance

Firm performance in this study is measured with a six (6) subjective measures that covered the interest of most of the stake holders adapted from Santos and Brito, (2012). Several studies have demonstrated the applicability of this measurement in evaluating SMEs performance (Mathivathanan, Govindan, and Haq, 2017, Tarutė and Gatautis, 2014). Amatucci, Pizarro, and Friedlander, (2013) maintained that small business entrepreneurs are no longer limiting the goals of their venture to only economic, environmental or social, but are consciously striking to establish a balance among the three important forms of capital including economic, human and environmental. This is also in consonance with the view of Damanpour, Walker, and Avellaneda, (2009) that evaluating the effect of innovation on firm‟s performance should contain multiple items that cover the interest of all stakeholders. Chen and Kitsis, (2017), maintained that in addition to economics performance, firms nowadays are increasingly accountable for the social and environmental impacts of their operation.

Table 3.1:
Measurement of SMEs Performance

S/No.	Survey Items
1	Over the last 3 years, our firms have being recording acceptable growth rate.
2	Our firms profitability have improved within the last 3 years.
3	Over the last 3 years, the satisfaction levels of our employees have improved.
4	Within the past 3 years, the satisfaction levels of our customers have improved.
5	Over the last 3 years, our firms‟ social performance has improved.
6	Within the past 3 years, our firms‟ performance in environmental protection has improved.

Santos and Brito, (2012) found the reliability coefficient to be more than the acceptable level of 0.70 (Hair et al., 2010).

3.4.2 Measurement of Top Management Capability

Top management capability has been adopted in this study from a previous work by Halac, (2015). Consequently, the construct is measured with eight (8) items adapted from Halac, (2015) Acar and Zehir, (2009), Celuch, et al., (2002).

Table 3.2:
Measurement of Top Management Capability

S/No.	Items of Survey
1	Our firm‟s top team management has adequate knowledge about our principal area of operation.
2	Our firm‟s top management has the necessary technical capabilities required to operate in the industry.
3	Our firm‟s top management has an affectionate relations with our suppliers and customers.
4	Our firm‟s top management has the right leadership abilities to operate in the fast changing situation.
5	Our firm‟s top management has the abilities of understanding the environmental changes.
6	Our firm‟s top management maintains cordial employee‟s relationship.
7	Our firm‟s top management shares firm‟s vision with all stakeholders.
8	Our firm‟s top management has the capabilities required for strategic planning.

Halac, (2015) found the reliability of this construct to be 0.958, therefore this study considered this construct as reliable (Hair et al., 2010).

3.4.3 Measurement of Technological Capability

The technological capability was originally adapted in this study from Halac, (2015) roote in Wang et al., (2006) and was measured with eleven (11) items form Halac, (2015). In testing the reliability Halac, (2015) found the Alpha coefficient to be 0.963 which is sufficiently acceptable (Hair et al., 2010).

Table 3.3:
Measurement of Technological Capability

S/No.	Items of Survey
1	Our firm is one of the pioneers in the industry to create technology standard.
2	Our firm is one of the pioneers in our industry to upgrade technology standard.
3	Our firm has competitive and commanding technology strategy.
4	Our firm has robust technological skills in several fields of operation.
5	Our firm leads in technology innovation in the industry we operate.
6	Our firm is competent in applying innovative technology to problem solving.
7	Our firm has the monitoring capacity to accurately predict changes in technological environment.
8	Our firm has strong abilities to integrate internal and external technological resources.
9	Our firm has the capacity to attract and inspire talented experts.
10	Our firm makes sufficient investment in R&D activities.
11	Our firm improves technical skills through continuous training programs.

3.4.4 Measurement of Learning Capability

LC in this study was originally conceptualized based on the suggestion from the work of Shamsudeen (2017) and was measured with seven (7) items from Hailekiros and Renyong (2016), Onağ, et al, (2014), Chiva, et al., (2007) Jerez-Gómez, et al., (2005).

Table 3.4:
Measurement of Learning Capability

S/No.	Items of Survey
1	Our firm is determined to share knowledge among employees.
2	Our firm encourages participative decision making.
3	Our firm management is committed to supporting effective learning.
4	Our firm is commited to dialogue.
5	Our firm inspires experimentation and openness,
6	Our firm always strives toward internal knowledge transfer
7	Our firm inspires employee to take risk.

Hailekiros and Renyong, (2016) established that the construct has more than 0.70 reliability coefficient which favorably acceptable (Hair et al., 2010).

3.4.5 Measurement of Relational Capability

Relational capability is measured with six (9) items adapted from Pham et al., (2017), Theoharakis, et al., (2009), and Walter, et al., (2006).

Table 3.5:
Measurement of Relational Capability

S/No.	Items of Survey
1	Our firm has the capability to create relationship with new relevants partners.
2	Our firm has the ability to maintain relationship with existing partners.
3	Our firm has the capability to develop mutual trust with strategic partners.
4	Our firm has the ability to develop matual goals and commitment with strategic partners.
5	Our firm has the capability to build on the strength of our strategic partners.
6	Our firm has developed the capacity to effectively communicate with elevant partners.
7	Our firm has the ability to engage with partners collectively in problem solving .
8	Our firm has the capacity to achieve target while negotiating with relevant partners.
9	Our firm has the capability to achieve win-win with relevants partners.

Pham et al., (2017) found the construct to be reliable with Alpha coefficient greater than 0.70 (Hair et al., 2010).

3.4.6 Measurement of Innovation Strategy

Innovation strategy was adopted in this study based on the issue raised in this study, the claims of Abu Bakar and Ahmad, (2012) and suggestion from Segarra-ciprés and Bou-llusar, (2018) and Rezazadeh, et al., (2016), Nybakk and Jenssen, (2012. The construct of innovation strategy was measured uni-dimensional with fifteen (15) items adapted from Ndubisi, Capel, and Ndubisi, (2015), Song and Xie, (2000) and Hurley and Hult, (1998). It has been observed that the synergy between the types of innovation significantly affects the firm‟s ability to introduce and provide values to its customers and achieve its multiples objectives (Damanpour, Walker, and

Avellaneda, 2009). Guo, (2019), sought for broader perspective of the evaluation of innovation strategy. Equally, this is in line with Carrión, Nitzl, and Roldán, (2017).

Table 3.6:
Measurement of Innovation Strategy

S/No.	Items of Survey
1	Over the last 3 years, our firm has relentlessly set its operating system to global standard
2	To increase productivity, our firm has constantly updated its work practice over the last 3 years.
3	Over the last 3 years, our firm has been regularly using technology in improving the quality of our product.
4	Over the last 3 years, our firm has been investing adequately in developing new operating system.
5	Over the last 3 years, our firm has been regularly training its employees on new technology.
6	Over the last 3 years, our firm has presented numerous new product to the market
7	Over the last 3 years, our firm has been modifying its products.
8	Over the last 3 years, our firm has been regularly searching for new products.
9	Over the last 3 years, our firm has introduces many new product than competitors.
10	Over the last 3 years, the new products we have been introducing has cause substantial changes in the industry.
11	Over the last 3 years our firm has been regularly introducing new ways of managing affairs.
12	Over the last 3 years, our firm has been investing substantially in updating administrative technique.
13	Over the last 3 years, our firm has been empowering employees to come up with new things.
14	Over the last 3 years, our management has been regularly searching for new administrative system.
15	Over the last 3 years, our administrative system has served as a benchmark to competitors.

Ndubisi, Capel, and Ndubisi, (2015) found the reliability coefficients of these construct to be more than acceptable alpha of 0.70 (Hair et al., 2010).

3.5 Population of the Study

The importance of raising a question in a research is to provide solutions to the challenging phenomenon that is crucial to the group of the object referred to as population of study. Therefore, according to Creswell (2014), population in a research refers to the homogenous group of individuals, objects, events or items that a researcher can identify and study. Accordingly a population in a study represents

the list of all elements or entities on which the investigator studies and concludes (Z. Awang, 2012). Hence, for a study to be carried out successfully, the population of the study must be identified to enable the researcher select the appropriate sample size (Sekara and Bougie, 2010).

It is observed that identifying the right sources of survey research in developing economies is commonly associated with challenges (Shakeel, Kannan, Brah, and Hassan, 2017). However, this study was able to identify and gather the list of F&B manufacturing SMEs operating in the study area. Therefore, the population of this study covers the F&B manufacturing SMEs operating in Bauchi, Kano and Niger states of northern Nigeria. Table 3.7 presents the population of this study.

Table 3.7:
Population of study

State	**Bauchi**	**Kano**	**Niger**	**Total**
Population	83	601	178	**862**

Source (MAN, 2018)

Food and beverage (F&B) manufacturing enterprises operating in these three (3) states must belong to the categories classified by SMEDAN, (2013) as SMEs business operating in Nigeria. SMEs in Nigeria were categorized into micro, small and medium enterprises. Micro businesses are those enterprises whose aggregate values of assets (without land and building) are less than five million naira (USD) and a labor force not up to ten employees. Small businesses are those enterprises whose aggregate assets (without land and building) are not less than five million naira (USD) and not more than fourty nine million naira with a total labour force between ten and forty nine.

Equally, medium enterprises are those businesses with aggregate assets value (without land and building) of fifty million naira and not more than N500 million (USD) with workforce range from 50 to 199 (SMEDAN, 2013). Therefore, F&B manufacturing enterprises whose total assets is not less than five million naira (excluding building and land) and employed at least ten (10) people to those enterprise whose business assets (excluding building and land) is not more than five hundred million naira and have employed not more than two hundred people have constituted the population of this study.

Northern Nigeria has 19 states, and has the highest number of states, compared to southern part of the country that has 17 states. The 19 states of northern Nigeria was also divided into three (3) geopolitical zone; north-central, north-west and north-east. Therefore, the region under study was segmented into three (3) cluster based on the geopolitical arrangement. Accordingly, one (1) state was randomly selected from each zone to represent the zone in this study. Consequently, Bauchi, Kano and Niger states were selected. Bauchi state was selected to represent the north-eastern part, while Niger state is selected from the north central and Kano state represents the north-western states of northern Nigeria. Various studies have used cluster (Aminu, 2015, Shamsudeen, 2017).

Bauchi state is a fast-growing state in north-eastern Nigeria with noticeable commercial activities in the region; therefore there is no doubt about the presence of SMEs in this state. Kano state is known in the whole country as the center of commerce and is the second most industrialized state in Nigeria. Also, it is known as the economic pillar of the entire northern region. Niger state is the most attractive

state among the 19 state of northern Nigeria for tourism and its proximity to federal capital territory Abuja coupled with its proximity to source of energy makes it attractive to many SMEs operators. Therefore, the concentration of SMEs in Kano and reasonable availability in the other two (2) states (SMEDAN, 2012) makes them suitable for this study. Specifically, these northern states were selected based on the belief that data would be available, accessibility of the respondents and the willingness of the respondents to participate in the study (Shehu, 2014).

3.6 Sample Size

It has been generally established that studying the entire population is almost difficult if not impossible (Sekara and Bougie, 2010, Tayie, 2005), mainly due to the constraints of time and resource and the effect of the large sample on the quality of measurement (Tayie, 2005). To address this issue, therefore, within the target population, the researcher can select an appropriate number of elements as a sample for the study (Creswell, 2014). Thus a sample which is a subset of the entire object under study is normally selected for examination (Awang, 2012). The sample in a research has been described as a representative of the target population that the research wants to investigate and make a generalization (Creswell, 2014). Nevertheless, the main reason for studying sample instead of the whole population are cost constraint, time constraint, manpower constraint and precision of measurement (Awang, 2012).

However, to minimize the chance of high rate of sampling errors, a moderate sample is essential, this underscores the necessity to have an appropriate sample size. Therefore, Salkind, (2006) urged that selecting appropriate sample size is crucial for

any research because a too small sample size is not worthwhile to serve as representative of the study population as it may result into type I error which is the likelihood to erroneously decline a particular outcome. Accordingly, what constitutes an appropriate sample size is the most controversial issue (Tayie, 2005), diverse views generally exist on which sample size is suitable for quantitative analysis.

Consequently, a range of method used to determine an appropriate sample size exists particularly for a study involving factor analysis. For instance, Hair et al., (2012) suggested that as a requirement to run a factor analysis, the sample size must not be less than five times of the total number of variable intended to be analyzed. Similarly, to select the sample size of a study, a rule of thumb can also be applied. In this method, the researcher selects as large sample as possible from the population so as to minimize the potential error of sample been different from the population (Creswell, 2014).

Furthermore, there is also many other scientific methods such as G-power method, Dillan‟s formula and Krejcie and Morgan schedule. This research therefore, used the Krajcie and Morgan schedule to determine the sample size. Krejcie and Morgan table has been identified as an efficient technique of determining appropriate sample size to represent a given population (Krejcie and Morgan, 1970). Various studies in similar environment have successfully used this technique (Boachie-Mensah and Issau, 2015, Singhry, 2015, Shehu and Mahmood, 2014), equally in other different cultural set up (Pratono, 2016, Boohene and Williams, 2012). The samples of this study is food and beverage manufacturing SMEs selected from the entire population

of the sub-sector operating in Bauchi, Kano and Niger states of Nigeria as shown in table 3.8.

Table 3.8:
Determination of Dispropotionate Sample Size

Cluster	Population	Sample Size	Percentage
Bauchi	83	65	18
Kano	601	201	54
Niger	178	105	28
TOTAL	**862**	**371**	**100**

(Source: SMEDAN, 2012)

Using the Krejcie and Morgan, (1970) sampling schedule, the sample size for this study is found to be 265 F&B manufacturing SMEs selected from the 862 list of MAN membership (F&B manufacturing sub-sectors) from the study area. However, to avoid or minimize the sample size error and problem of non-response, the sample size was increased by 40% (Salkind, 2006). Hence the sample size were increased to 371 SMEs (265 + 106 = 371). Hair, Tomas, Ringle, and Sarstedt, (2017) suggested that researcher can run an individual G-power analyses to ensure that minimum sample size required for a particular analysis is achieved. Consequently G-power analysis was used to verify the adequacy of sample size determined for the study.

Determination of appropriate sample size is essential to the successful conducts of all research (Salkind, 2006). This signifies the importance of developing suitable sample size so as to minimize sampling errors, and achieve cost, time and effort effeciencies (Sekara and Bougie, 2010, Tayie, 2005). Various studies have established that G-power analysis is an effective statistical techniques for determination of an appropriate sample size for scientific examination study (Hair, et al., 2017, Malakmohammadi, 2011, Faul, Erdfelder, Lang, and Buchner, 2007). Hair, Sarstedt, Ringle, and Mena, (2012) advocated that G-power analysis can be used to determine

the required sample size in a study. Hence through G-power analysis the issue of inadequate sample size is avoided.

Numerous studies have employed G-Power analysis to determine the worthiness of the sample size in their study (Shamsudeen, 2017). Therefore to confirm whether the sample size of this study has met up the minimum sample requirement to run a research study containing four (4) predicting variables, a priori G-power analysis was run and a total number of 129 subjects was required (See figure 3.1). Hence, the sample size of 265 determines through Krajcie and Morgan, (1970) is more than the minimum required sample, thus appropriates for this study.

However, it is visible from the table 3.8 above that using the sample frame adopted in this study, the sample size to be drawn from some of the states will outrightly be larger compared to others with a small number of SMEs. Explicitly, Kano which has the highest concentration of F&B manufacturing SMEs would have a large samples than Bauchi and Niger states. Nevertheless, to minimize the wide disparity of the sample size between the three (3) cluster, the study adopted disproportionate allotment of a sample size to the individual cluster. Sekara and Bougie, (2010) and Tayie, (2005) posit that disproportionate sampling can be used when a particular cluster/strata may have too large or small sample size.

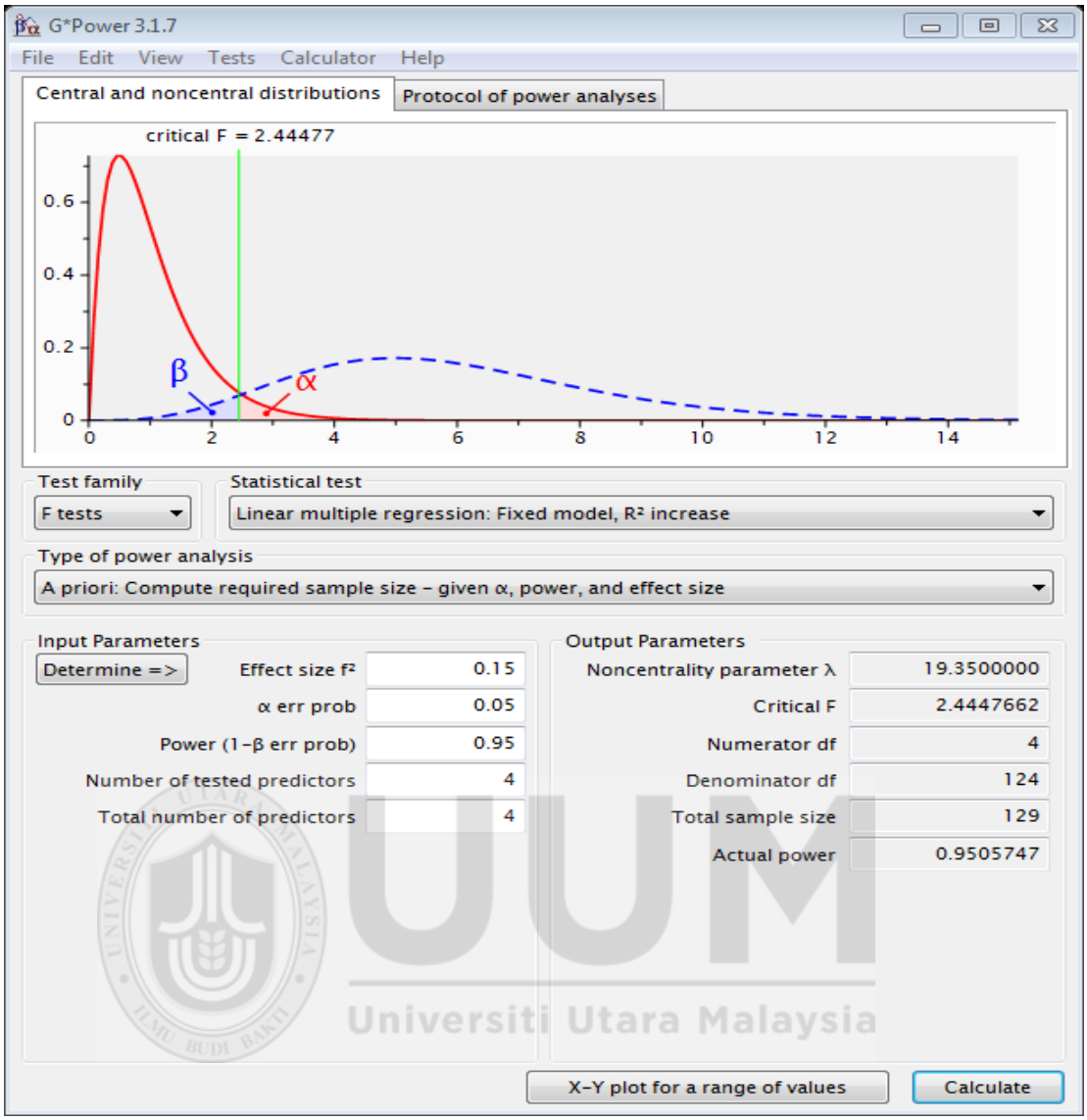

Figure 3.1:
G-Power Analysis

3.7 Sampling Techniques

As clearly mentioned above a sample population was used to represent the entire population of this study. However, Tayie, (2005) urged that to study a sample and make generalization about the total population, the sample must be selected through probability techniques. Therefore, a cluster sampling technique was employed in this study to determine the sample size. A cluster sampling is a probability sampling

technique that is relevant where the study covers a wide geographical area and/or the population are heterogeneous (Awang, 2012). Hence in cluster sampling, the identified geographical area of the study is divided into various clusters and data or information is collected from each group/cluster to indicate the opinion of the whole geographical area (Dudovskiy, 2016).

In social science research cluster sampling is the technique that makes the sample from the population to adequately represent the entire population in relation to the characteristic that the researcher intends to measure (Sekaran and Bougie, 2013). Therefore in this study, the area (northern Nigeria) was divided into three (3) clusters based on the existing three geopolitical zone in the region. Equally, three (3) states were selected, one from each of the three clusters. This is in line with previous studies by (Shamsudeen, 2017, Aminu, 2015) where the target population was divided according to the location of the sample. Breaking down the samples into cluster makes it easier for the researcher to identify the group and locate the target sample (Creswell, 2014), save time and cost and cover large sample size as well as facilitates the accessibility of the sample element (Dudovskiy, 2016).

As a probability sampling method, the elements of the study were selected randomly within each cluster (Awang, 2012, Sekaran and Bougie, 2013). Hence the sample of this study was randomly selected from each cluster based on the individual cluster sample size (Sekaran and Bougie, 2013). Specifically, samples were selected using a simple random sampling technique. In this regard, a computer function known as MS Excel 2010 was used to generate numbers, from which samples for each cluster were randomly selected in a pool. This is in line with with previous study conducted by

Beneke, Blampied, Dewar, and Soriano, (2016), Aminu, (2015, and Olusola and Moruf, (2013).

Simple random sampling is advantageous as a representative group is easily accessible, it does not require detail knowledge of the population; validity can also be statistically inferred, and it also eliminates the possibility of classification error (Tayie, 2005). Thus using the sampling frame of 862 MAN, 2018 list of memebership of F&B manufacturing SMEs, 371 questionnaires were personally administered randomly to owners/managers in these enterprises. This is because of the fact that owner/manager possesses more and accurate knowledge and information regarding their firm‟s strategies and overall conditions of the business affairs (Zahra and Covin, 1995).

3.8 Procedure for Data Collection

Generally in a survey research, the questionnaires are administered through mail, electronic or personal delivery and collection method (Creswell, 2014). However, it was observed that the main challenge in any study of this type is the ability of the researcher to distribute and retrieve the questionnaires at an appreciable level (Asika, 1991). Thus to overcome this challenge, delivery and collection method was adopted in this study. Asika, (1991) believes that delivery and collection method is an effective data collection strategy. Personal administration of questionnaire helps the researcher to retrieve all completed questionnaires on time, it also gives rooms to the respondent to seek for clarification when the needs arise and provide the researcher with a chance to introduce the research topic and motivate the respondents to offer

their forthright views, it also assures the anonymity of the respondents (Sekaran and Bougie, 2013).

Notwithstanding, to build up the confidence of the respondents in this study, an official covering letter introducing the researcher and the purpose of the study was collected from the Othman Yeop Abdullah Graduate School of Business (OYAGSB). Consequently, this letter was used to facilitate the confidence and the establishment of a cordial relationship between the researcher and the respondents.

3.9 Reliability and Validity Test of the Study Instruments

Devoid of reliability and validity of the instrument, the outcome of a research is valueless, turns out to be fictions and lacks it utility (Morse, Barrett, Mayan, Olson and Spiers, 2002), hence an adequate attention must be given to the issues of reliability and validity of the instrument in whatever research method (Golofshani, 2003). Consequently, in the pursuance of the trustworthiness of the survey items included in the instrument, the issue of reliability and validity comes in (Fisher and King, 2010, Golofshani, 2003). Hence to ensure the goodness of the survey items adapted the validity and reliability tests were conducted on the items and data from the study.

3.9.1 Reliability Test

All the items adapted to measure a construct must be rightly capable of measuring the variables that are to be measured. Reliability test determines the stability and the consistency of how the adapted instrument measures the concepts it intended to measure (Sekaran and Bougie, 2013, Awang, 2012, Gray, 2004, Golofshani, 2003).

The reliability indicates the extent to which the outcomes of an instrument are consistent and stable across various items of the scale (Sekara and Bougie, 2010). Therefore, reliability of an instrument is met if the outcomes and conclusions of one study can be replicated by another study with the same case study (Gray, 2004). Reliability of a research instrument, particularly internal consistency can be estimated using the coefficient score produced from the study or Cronbach alpha (Yu, 2012). However, reliability analysis base on internal consistency could eliminate important item and decline the validity of the index (Diamantopoulos and Siguaw, 2006).

Generally, the assumption of tau-equivalence (all indicators are equal) reliability restricted the use of Cronbach‟s alpha and making an attempt to maximize it can earnestly compromise the reliability (Raykov, 2007). Distinctively however, composite reliability prioritizes indicators based on their individual reliability which makes it appropriate for PLS-SEM (Hair, Sarstedt, Ringle, and Mena, 2012). Hence Rigdon (2012) postulated that researcher can employ PLS path modeling technique as an openly composite-based technique to provide a weighted value of the observed variable indicators (Rigdon, 2014). Whatever the case, it should be noted that Cronbach alpha is sensitive to the number of items in the scale and mostly have the habit of underestimating the internal consistency reliability, while on the other hand composite reliability tends to overrate the internal consistency of the instrument (Hair, Tomas, Ringle, and Sarstedt, 2017).

Consequently, to test the reliability of the instruments adapted in this study both the Cronbach‟s alpha and composite reliability were used to determine the internal

consistency of the measurement and scale adapted. Cronbach‟s alpha represents a reliability coefficient that reveals how glowing the items in the instrument are positively correlated to one another. It is usually calculated using the average inter-correlations among the items measuring the variable (Hair et al., 2017). The closer the Cronbach‟s alpha is to 1, the better the internal consistency of the scale (Sekara and Bougie, 2010).

Thus, as demonstrated above a Cronbach‟s alpha of 0.6 or higher for a constituent indicates that the measuring items under that particular constituent offer a dependable measure of the constructs internal consistency (Awang, 2012, Sekara and Bougie, 2010). On the other hand, composite reliability considers various outer loading of the items measuring the variable. Generally, in an exploratory study a value of composite reliability of 0.60 to 0.70 or higher is acceptable (Creswell, 2014, Hair et al., 2017).

3.9.2 Validity Test

The validity of an instrument refers to the degree to which the instruments that the researcher developed or adopted adequately measure the concepts to be used in the study (Gray, 2004). Validity is concerned with the ability of the instrument, technique or process used to appropriately measure what it is supposed to measure (Sekaran and Bougie, 2013, Golofshani, 2003). Validity therefore ensures that items included truly represent the construct under study. Specifically, there are three different types of validity test in a social science research; this includes content validity, convergent validity, and discriminant validity (Sekaran and Bougie, 2013). For the purpose of this study, the convergent validity and discriminant validity were

assessed. This is informed by the reflective nature of most of the constructs under study (Hair, Tomas, Ringle, and Sarstedt, 2017). However, the content validity was also substantially conducted.

Hair, Tomas, Ringle, and Sarstedt, (2017), postulated that convergent validity (indicator reliability or average variance extracted) is concerned with positive correlation amongst various measures/items in a construct. Convergent validity test is used to examine the positive correlation amongst various measures in a study construct, therefore this type of validity evaluates the extent to which an instrument is measuring what is supposed to be measuring (Sekara and Bougie, 2010, Golofshani, 2003). Consequently, convergent validity of a construct is established statistically when measurement items have outer loading value of 0.70 and above or an average variance extracted (AVE) of 0.50 or higher. Thus an AVE of 0.50 indicates that more than half of the indicators variance have been explained by the construct (Hair, Sarstedt, Hopkins, and Kuppelwieser, 2014, Hair, Ringle, and Sarstedt, 2013). AVE is defined as the grand total of squared loading divide by the number of indicators (Hair, Tomas, Ringle and Sarstedt, 2017).

Discriminant validity measures the degree to which a survey construct is genuinely different from other construct empirically. Therefore, establishing discriminant validity implies that the construct under study is distinctive and covers different phenomena denoted by other construct (Hair, Tomas, Ringle, and Sarstedt, 2017). Specifically, cross-loading is the primary techniques used to assess the discriminant validity of a construct indicators. Normally, the indicators outer loading on the construct under study should be higher than its correlation on any other constructs,

conversely, a cross-loding or correlation that is greater than the outer loading indicates issues in discriminant validity (Hair, Tomas, Ringle, and Sarstedt, 2017, Awang, 2012).

Equally, discriminant validity can be assessed through Fornell-Larcker criterion (Henseler, Ringle, and Sarstedt, 2015). This method compares the square root of the average variance extracted (AVE) value with the correlation value of the latent variable (Henseler, Ringle, and Sarstedt, 2015). In this method the value of the AVE of each construct must be more than its highest correlation with each other construct, or alternatively, the AVE must be greater than the squared correlation of each of the construct (Hair, Tomas, Ringle, and Sarstedt, 2017, Camisón and Villar-López, 2012).

However, Henseler, Ringle, and Sarstedt, (2015) demonstrated that neither the cross-loading assessment nor the Fornell-Larcker criterion permits the researchers using variance based SEM to ascertain the discriminant validity of their survey measures sufficiently. Precisely, the cross loading fails to reveal discriminant validity problem when two constructs in a study are perfectly correlated. Equally, when construct indicator loading does not vary strongly, the Fornell-Larcker criterion performs poorly (Hair, et al., 2017). Therefore, Henseler, et al., (2015) proposed and recommended the use of the correlation of heterotrait-monotrait ratio (HTMT) as a solution to the issue concerning cross-loading and Fornell-Larcker criterion of evaluating discriminant validity in a variance-based SEM. And they have established the efficacy of HTMT through Monte Carlo simulation after comparing the

performance of this method with the other two customary method used in determining the discriminant validity.

3.9.3 Content Validity

Content validity entails determining the capability of the survey instrument to cover all the thoughts and concepts in a given construct. It is all about making contact with specialist and expert in the particular area of interest to review and evaluate the enclosed wording and phrases in the instruments (Sekaran and Bougie, 2013). Based on the foregoing discussion, the draft copies of the survey instrument of this study was presented to specialist who have ample knowledge on the topic under study and the nature of the participants as well as the environment of the study at Department of Business Administration, University of Maiduguri, Nigeria, Abubakar Tafawa Balewa University Bauchi, Nigeria, and Yobe State University Damaturu, the secretary manufacturing association of Nigeria (MAN) Kano state chapter, as well as academic colleagues at Universiti Utara, Malaysia for their inputs.

In accordance with the observation and suggestions received from the experts mentioned ealier, a revised and enriched version of the instrument was developed. Specifically, two items of measuring technological capability from Halac, (2015) “Our firm monitor u-to-date technological changes and developments closely and our firms have the ability to accurately predict future technological trends” were merged into one items (Our firm has the monitoring capacity to accurately predict changes in technological environment. See item 7) based on the suggestion from experts during the contents/face validity. This agrees with the contents of Wang et al., (2006). Thus, the constructs were measured with 11 items. Accordingly, the researcher also

thereafter administered a small sample of the research questionnaire on the owner/managers of food and beverage manufacturing SMEs in Kano to determine the reliability of the instrument prior to the main study.

3.10 Data Analysis Technique

Method of data analysis involves stating the procedure and statistical tools to be employed in analyzing the data and exploring the hypotheses to successfully draw a conclusion (Tayie, 2005). The survey instrument that was developed for this study has generated both descriptive and inferential data. Consequently, in this study descriptive and inferential statistics techniques were employed to analyze the data that was collected. Creswell, (2012) establishes that through descriptive statistic the trend of a particular data on the research instrument is described, however inferential analysis takes the leads when the researcher wants to compare or relate two or more variables of the study. Specifically, to accomplish this task, a statistical package for social sciences (SPSS) and partial least squares-structural equation modeling (PLS-SEM) technique were employed in the data analysis.

PLS-SEM allows the researcher to measure latent variable indirectly through indicators and to use proxies to denote the construct, as well as facilitating the accounting for measurement error (Hair, Tomas, Ringle, and Sarstedt, 2017). Furthermore, PLS-SEM has been acknowledged to be capable and effective in handling complex modeling issues that usually befall researches in social sciences such as strange data characteristic like the non-normality of data, limited sample size (Sosik, Kahai, and Piovoso, 2009), mediation and moderation, as well as formative nature of the latent variable (Hair, Sarstedt, Hopkins, and Kuppelwieser, 2014).

However, Dana and Dawes, (2004) established that sample size influences the predictive ability in an out-of sample analysis. Equally, Hair, Ringle, and Sarstedt, (2013) maintained that the inference statistic in PLS-SEM requires sufficient samples representative just like all other statistical techniques. Similarly, Becker, Rai, and Rigdon, (2013) contended this advantage of small sample by emphasizing that the outer weights of the PLS path model perform poorly with small sample size in an out-of-sample predictive proficiency.

On the other hand, PLS path model generates values that are optimum in some sense, unlike, the CB-SEM which concentrated on producing unbiased estimates parameters for the model (Henseler and Sarstedt, 2013). Similarly, the utmost predictive capability of PLS-SEM is another important consideration for adopting this technique (Hair, Sarstedt, Ringle, and Mena, 2012b). Reinartz, Haenlein, and Henseler, (2009) in their simulation study validated the predictive power of PLS-SEM and concluded that when the focus of a research lies in predicting relationship PLS-SEM is superior over CB-SEM and ML-based.

Although, PLS-SEM has been acknowledged to suffer from lack of global scalar function and goodness-of-fit measures (Hair, Sarstedt, Ringle, and Mena, 2012b), which constrained the advancement of its statistical index that could possibly provide an investigator a model with global validation such as X^2 and other measures known with CB-SEM (Henseler and Sarstedt, 2013). Equally, Reinartz, Haenlein, and Henseler, (2009) urged that because of what is called PLS-SEM bias, there is no optimal parameter estimates of biasness and consistency in PLS-SEM analysis. Hair, Sarstedt, Ringle, and Mena, (2012b) underscore this argument by stressing that the

biasness is so pronounced in a highly complex models as the estimators of the least squares does not control the dependent and connected effects of all the parts of the model‟s errors to one another.

Nevertheless, PLS-SEM is the latest second generation statistical package and widely used technique amongst social science researchers (Shamsudeen, 2017, Rezazzedeh et al., 2016, Aminu, 2015, Setyanti et al., 2013). Hence researchers adopt PLS-SEM because of the measures signifying the extrapolative capabilities to judge the model quality, less restrictive setups requirement, and ability to handle complex model and data (Hair, Tomas, Ringle, and Sarstedt, 2017), and small sample size (Hair et al., 2012).

The analysis and interpretation of a PLS model is a multi-stage process consisting of measurement and structural models valuation: that is the reliability and validity of the construct measurement; likewise, an evaluation of the structural model itself (Casillas, Acedo, and Barbero, 2010). This process ensures that the measurements of the constructs are valid and dependable before proceeding to draw conclusions on the relationships amongst the constructs in a study (Hair et al., 2012). Therefore, the measurements model in PLS were evaluated on individual items reliability; construct reliability, convergent validity, and discriminant validity (Hair et al., 2010). While the structural model evaluates the coefficient of determination, path coefficient, effect size, predictive relevance and the indirect relationship.

Therefore, data collected from the field through the questionnaires were coded and keyed-in to the Statistical Package for the Social Sciences (IBM SPSS v22).

Thereafter, the data entry were checked upon to ensure free data entry errors; while frequency test was run for each of the study variables to identify and correct the possible missing value using the respective mean values if it is less than 15% (Hair et al., 2017). The descriptive statistical tools of the SPSS were also used to describe and compare the demographics information. Moreover, the data was exported to PLS-SEM for the purpose of further screening and main analysis.

3.11 Unit of Analysis

Identifying the unit of analysis is one of the cardinal issues while conducting research. It has been established that a unit of analysis in a research refers to specific objects of study, for example, a person, a group, a program, a firm, (Mertens, 1998), or a community, state or nation (Patton, 1987). Based on the available literature, the variables of this study MC, TC, LC, RC, innovation strategy and F&B SMEs performance were operationalized from the firms level perspective (Rezazadeh, Karami and Karami, 2016, Halac, 2015; Urban and Heydenrych, 2015; Richert and Zawislak, 2014).

Accordingly, in studying SMEs at firms levels, the target respondents are usually the owner/manager; this is because of the fact that they possess more knowledge regarding their firm‟s strategies and overall conditions of the business affairs (Zahra and Covin, 1995). Top managers have full access to the objective data concerning the performance of their firm and are in the better position to make sensible judgment of the different demands of each groups of stakeholders (Santos and Brito, 2012). Therefore, the unit of analysis in this study is the firm and the target respondents was the owner or managers of F&B manufacturing SMEs in Bauchi, Kano and Niger

states of northern Nigeria. This is in line with several studies conducted on SMEs" performance (Rezazadeh et al., 2016, Aminu, 2015, Shehu, 2014, Raymond, Bergeron, and Croteau, 2013, Al-Ansari, Altalib, and Sardoh, 2013, Suliyanto and Rahab, 2012).

3.12 Pilot Study

A pilot study is normally conducted to determine the suitability, adequacy and feasibility of items included to measure the instrument, designing the research protocol, establishing whether the sampling procedures are effective, determining the needed resource and convincing the interesting parties that the core study is worth supporting (Tayie, 2005, Teijlingen van, Hundley and Graham, 2001). Another reason for conducting a pilot study apart from testing the reliability and validity is to have an overview of the actual conditions and the environment of the study, which help the researcher to identify potential obstacles and to develop strategies to adjust before embarking on the main research (Teijlingen van et al., 2001). Similarly, it helps researcher save time, cost and avoid frustration as a mistake that could nullify the whole analysis sometimes is disregarded until the stage of main study (Tayie, 2005).

Specifically, therefore, pilot study enables the researcher to evaluate the environment of the study, the procedure and the validity of the instruments. Hence the paramount issues in pilot study are the validity and reliability of the instrument (Tayie, 2005, Teijlingen van, Hundley, and Graham, 2001). Therefore, a pilot test was conducted in this study so as to determine the validity and dependability of the instrument to be used. The preliminary study was conducted in Kano state. A total of 65 number of

questionnaires were randomly distributed personally to owner/managers of F&B manufacturing SMEs in Kano state. However, 53 questionnaires representing 82% were retrieved. Equally, 3 questionnaires were identified to be incomplete and not appropriate for the analyses.

After retrieving the administered questionnaires, SPSSv22 and PLS-SEM were used to evaluate the reliability of the construct internal consistency and discriminant validity. Table 3.9 below presents the reults of the Cronbach‟s alpha from the pilot study.

Table 3. 9:
Reliability Test

Constructs	**Number of Items**	**Cronbach's Alpha**
SMEs Performance	6	0.83
Management Capability	8	0.91
Technological Capability	11	0.85
Learning Capability	7	0.75
Relational Capability	9	0.76
Innovation Capability	15	0.77
TOTAL	**56**	

Personal administration of questionnaires enables the researcher to fashion understanding and relationships with the respondents (Sekaran and Bougie, 2013), and also provide an opportunity for the respondents to seek out for clarification promptly from the researcher, hence the responses rate in most cases is appreciable as surveys were instantly filled. The process of pilot study enables the researcher to learn and understand the environment as well as the process and procedure to conduct a survey of this nature. Although personality traits of researcher have no significant influence on the rate of response, however, experience and attitude do affect response rate (Hox and De Leeuw, 2002).

3.13 Summary of the Chapter

This part of the study presents the methodologies employed. It specifically spells out the research design, definition and measurement of the study variables, population of the study and sample size, sampling and sampling method, process and technique of data collection and analyses. Similarly, the process of testing reliability and validity is also elucidated and finaly the unit of analysis and the rationale for preliminary study were substantially justified. Subsequently, the data collected for the main study was presented in the subsequent chapter (four), while the summary of the major finding, discussion, conclusion, and implication of the study has formed the last chapter of the study (five).

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

The major aim of this chapter is to present, examine and determine the normality of data collected, test the hypotheses established and analyze the findings of the survey. Specifically in this section the data of the study are presented and analyzed. The analyses of data are made in the following sections: response rate, profile of the study respondents. Similarly, the chapter analyzed the fitness of measures used in the measurement of the study variables such as internal consistency reliability, convergent validity and discriminant validity through PLS-SEM. The chapter also computes the structural model which comprises the predictive relevance Q^2, statistical significance of path coefficient, explained variance (R^2), effect size (f^2) to analyze the relationship between the four (4) independent variables (top management capability, technological capability, learning capability, and relational capability) and the mediating variable (innovation strategy) as well as the dependent variables (F&B SMEs performance).

4.2 Response Rate

Obviously, it is practically difficult if not impossible to achieve 100% response rate in whatever method of survey adopted. Nevertheless, there is no universally accepted rate of response for a given survey, particularly in social science research. However the greater the rate of the responses the better as substantial number of respondent are sampled (Tayie, 2005, Cook, Heath, and Thompson, 2000); thus reduces the potentiality of non-response bias (Shih and Fan, 2008) and enhance the quality of the

survey outcomes (Hox and De Leeuw, 1994). Declining response rate in sample survey in developed economies has poised a challenge to researchers in terms of cost resulting from several effort to get access to sample units and to attain to the apprehension of the sample populaces (Groves and Peytcheva, 2008). Baruch and Holtom, (2008) identify two important causes for not responding which includes failure to convey the survey questionnaire to target respondents due to wrong address and the reluctance of the respondents to answer. Consequently, the extent of refusal, failure to return the questionnaire and change of address may affect the level of nonresponse bias (Etter and Perneger, 1997).

Therefore, to overcome the above challenges and achieve satisfactory response rate, the researcher must learn and employ strategies that influence and to convince reluctant respondents (Groves and Peytcheva, 2008). In this regards prior notification, follow-up reminder, can significantly improve response rate (Shih and Fan, 2008, Barclay, Todd, Finlay, Grande, and Wyatt, 2002, Fox, Crask, and Kim, 1988) and face-to-face visitation (Hox and De Leeuw, 1994). Similarly, the problem of low level of response rate can be subdued and even eliminated completely by employing specific strategies which comprises incentives and delivery and collection method (Ibeh, Brock, and Zhou, 2004). However, Church, (1993) advocated that offering incentives and reward contingent does not influence the return of survey instrument.

Therefore, a total number of 371 questionnaires were administered personally to the three (3) study area selected from the three (3) geo-political zone of northern Nigeria. Several strategies (follow-up and visitations) were employed to facilitate the

response, so as to achieve substantial response in reasonable time. Consequently, a total number of 241 copies of the questionnaire were retrieved, indicating the response rate of 64%. Practically, this appreciable response rate was achieved due to the researcher perseverance in facilitating the completion of most of the questionnaires through the strategies mentioned above.

Inspiration through face-to-face contacts (Ibeh et al., 2004), and motivation in form of writing material (pens) and appreciation word were given to respondents; this greatly influences the response rate (Groves and Peytcheva, 2008). However, in the process of data screening, the researcher was able to identify 3 copies of questionnaires as suspicious and incomplete (based on SMEDAN, 2013, definition of SMEs), thus not suitable for the analysis. Consequently, a total number of 238 valid questionnaires were identified and used for the analyses.

Table 4.1:
Questionnaire Distributed and Response Rate

Study area	Number of Questionnaire Distributed	Number of Questionnaire Retrieved	Valid Questionnaire	Percentage of Response rate (%)
Bauchi State	65	51	49	21
Kano State	201	131	131	55
Niger State	105	59	58	24
TOTAL	**371**	**241**	**238**	**100**

4.3 Profile of the Respondent

The result of the descriptive analysis in table 4.2 below indicates that 83% of the respondents are male, while 17% are female. The analyses of the educational qualification of the respondents‟ show that 3% possesses secondary school certificate, 39% are Diploma/NCE holders, 41% are graduates with B. Sc/HND and 17% have attained post graduate levels in education. Additionally, the descriptive

analysis of the demographic data demonstrates that owner manager form 79% of the respondent in this study, while 21% were middle manager/ head of department. Similarly the descriptive statistics reveals that 7% of the respondents are in the business for less than five years, while 39% have been in business between six to ten years, 54% are 11 years and above of existence. On the other hand the descriptive analysis of the strength of employment reveals that 72% of F&B businesses under study have employment capacity of 10-49; while 28% of businesses have 50-199 employees.

Table 4.2:
Demographic Profile of the Respondent

Demographic Variable	**Classes**	**Frequency**	**Percentage**
Gender	Male	191	83
	Female	38	17
Educational Level	SSCE/Other	7	3
	Diploma	90	39
	B.Sc/HND	93	41
	PG Certificate	38	17
Position	Owner/Manager	180	79
	Manager	49	21
Number of Employees	10 – 49	164	72
	50 - 199	65	28
Value of Assets	5 – 49	101	44
(Million Naira)	50 - 499	128	56
Business Life	Less than 5 years	17	7
	6 – 10	89	39
	11 - Above	123	54
Type of Business	Food	82	36
	Beverage	147	64
Form of Ownership	Sole Proprietorship	42	18
	Partnership	25	11
	Company	162	71
Capital Structure	Equity	55	24
	Equity/ Debt	174	76

Furthermore, the analysis of the descriptive statistics in the table above postulates that a substantial number representing 44% of businesses have assets value excluding land and building worth N5m- N49m and 56% have assets value worth N50m-N500m excluding land and building. Similarly, the study indicates that 18% of the businesses under this study are individually owned, 11% of the businesses are

partnership enterprises, while 71% are registered and incorporated companies. With regard to the types of business, SMEs engaged in food production accounts for 36% of the respondents while 64% of the respondents are beverage manufacturing firms. Accordingly, the descriptive analysis reveals that 24% of the F&B SMEs are financed wholly by the owner equity, while 76% of the businesses were financed by combination of owner"s equity and debts.

4.4 Data Screening and Preliminary Analysis

Normally when data were collected using survey questionnaires, the researcher or investigator must first and foremost address the issues in data collection process. Hair, Tomas, Ringle, and Sarstedt, (2017) identify suspicious response pattern, missing data, outliers and data distribution as some common issues that must be addressed. Therefore, conducting data screening is essential in a questionnaire survey research as it enables the researcher to identify missing and miscoded data, the normality and non-normality of data distribution, as well as possible data outliers which in turn increases the value of R^2 (Odom and Henson, 2002). To achieve the above requirement, this study used IBM SPSS 22.0 version to conduct the missing value analysis, outliers and normality tests. While, smartPLS-SEM 3.0 was employed in the measurement and structural analyses.

4.4.1 Management and Analysis of Missing Data

Missing data has been observed as a common problem in data collected through survey questionnaire in social science research (Hair, Tomas, Ringle, and Sarstedt, 2017). To ensure that a clean and appropriate data is used to examine the influence of strategic organizational capabilities (MC, TC, LC and RC) on the innovation strategy

and performance of F&B SMEs in Nigeria, a preliminary examination of data was carried out to determine and manage the missing data. This screening exercise is necessary so as to remove any out-of-the-way responses that may raise invalid results in the study (Alreck and Settle, 1995).

Analyzing missing data and no-response bias is essential in maximizing confidence in the outcomes and conclusion of a study, thus analyzing and treatment of missing data has significant implication in using PLS-SEM (Hair, Ringle, and Sarstedt, 2013). It has been established that missing values of 5 percent or less is accepted as insignificant to affect the validity of a data set (Hair, Tomas, Ringle, and Sarstedt, 2017). However, to replace the missing values, a nearby point median approach is usually adopted (Hair, Tomas, Ringle, and Sarstedt, 2017). Similarly, mean value can also be used to replace the missing value if it is less than 5% (Hair, Ringle, and Sarstedt, 2013). A case with more than 50% missing value should be deleted if required sample size were achieved (Hair et al,. 2010).

Nevertheless, as this study employs delivery and collection method, a precautionary measure was taken to ensure that data obtained is free of missing value. Therefore, the researcher examined and ascertained immediately on receiving the completed questionnaire from the respondents. Attentions of the respondent were compassionately sought instantly when a particular question was identified non-responded. Clarifications were made where necessary to facilitate response to the missing question. However, after coding the data in the SPSS, a descriptive statistical analysis was conducted to examine whether missing or miscoded value exist in the

data. The outcomes of the statistical analysis reveal no missing value; hence the data entery was free of missing value and miscoded data.

4.4.2 Management and Analysis of Outliers

In the views of Hair, Tomas, Ringle, and Sarstedt, (2017) outliers represent an extreme response to a specific question or extreme response to all the survey questions. While Zikmund, (2000) opined that outliers are values obtainable outside the standard range of the data which breed exaggerated value of square, alter the estimate and statistical significance value (p-value), thus biasness and incorrect conclusion. Outliers can occur as a result of error in data collection or data coding particularly in manual entry (Hair, Tomas, Ringle, and Sarstedt, 2017). Therefore, the first task ahead of researcher in managing outlier is to identify them. Hair, Black, Babin, and Anderson, (2010) opined that by using a univariate or multivariate statistic and graphs in standardized statistical software program an outlier can be identified. Similarly, an IBM SPSS statistics provides a window identified as "Explore" or "Analyze" through which outliers can be identified on the number of respondent (Sarstedt and Mooi, 2014).

To evaluate the univariate outliers, a researcher can run and observe the value of the Z score to identify potential outlier. Any Z score value that is equal or more than ± 3.29 is potential outlier and must be deleted (Tabachnick and Fidell, 2007). Consequently, using the Z score value of ± 3.29, 9 univariate outliers‟ cases were recorded and deleted as potential univariate outliers, thus 229 remain valid for further analyses. Equally, Mahanalobis distance was used to evaluate the multivariate outliers. From the X^2 table, 74.468 were identified as the value of X^2 of 56 items at

5% degree of freedom. It has been established that any Mahalanobis distance value above the X^2 value (74.468) is potential multivariate outlier and must be deleted (Tabachnick and Fidell, 2007). However, observation of the Mahanalobis distance values indicate that no multivariate outliers exist. Hence, the 229 were valid for further analysis.

4.4.3 Analysis of Non-response Bias

Non-response bias describes the departure of the predictable value of an estimate from its exact value (Groves, 2006). Sax, Gilmartin, and Bryant, (2003) considered non-response bias as a situation where the respondents that responded to the survey are distinct in terms of attitudinal or demographic variables from those that did not respond. Therefore, the extent of non-response bias is essentially influenced by the percentage of non-responded sample and the degree to which non-responded sample systematically varies from the study population (Barclay, Todd, Finlay, Grande, and Wyatt, 2002). Hence, Hair, Ringle, and Sarstedt, (2013) urged that evaluating the non-response bias is indispensable in maximizing confidence in the outcomes and conclusion of a study.

Although literatures have explicitly demonstrated that no minimum amount of response rate less than which a survey response is considered biased, equally no amount of response rate beyond which it is biased free (Baruch and Holtom, 2008, Rogelberg and Stanton, 2007). Therefore, low rate of response does not necessarily indicate bias (Sax, Gilmartin, and Bryant, 2003). However, Ostroff, Kinicki, and Clark, (2002), postulated that the extent of time respondent have taken in completing survey affects response bias. Yet no matter how negligible the rate of non-response,

there is likelihood of bias, which may inhibit the validity and generalizability of the survey outcomes (Ibeh, Brock, and Zhou, 2004).

Hence the need to analyze the influence of non-response on the capability of survey to define the population (Groves, 2006). Hox and De Leeuw, (1994) succinctly postulated that the finding of a research can be biased when the nonresponse is nonrandom. However, Groves and Peytcheva, (2008) posited that whenever a subset or sample is measured instead of the entire population, none of the property of probability sampling extrapolation relates, unless some typical influence of nonresponse is advanced. Therefore, it is necessary to evaluate the non-response bias in this study.

The respondents of this study were classified into two categories of independent samples based on the time of their response to the research instrument on the six subjects contained in the survey as shown in table 4.4 (top management capability, technological capability, learning capability, relational capability, innovation strategy and SMEs performance). Generally, previous studies, use time lag between early respondent and late respondent to the survey instrument to test the non-response bias in their study (Shamsudeen, 2017, Aminu, 2015, Shehu, 2014).

Therefore, non-response bias for this study was tested by contrasting the early responses and late response. Specifically, survey questionnaires responded to within four weeks of the administration (11th May, 2018 to 10th June, 2018) are considered early respondents and those questionnaires responded to after the first month of the

questionnaire administration (11th June, 2018 to 10th July, 2018) are considered late respondents. Table 4.3 presents the analysis of non-response bias in this study.

Table 4. 3:
T-Test for None Response Bias

Variable	Response	N	Mean	SD	t-value	Sign
Performance	EARLY	120	4.4083	.46227	.320	.515
	LATE	109	4.3865	.56865	.317	
Management Capability	EARLY	120	3.7939	.67987	.260	.060
	LATE	109	3.7723	.56565	.263	
Technological Capability	EARLY	120	1.4393	.39338	1.438	.080
	LATE	109	1.3670	.36492	1.443	
Learning Capability	EARLY	120	4.5556	.52409	4.242	.097
	LATE	109	4.2523	.55769	4.229	
Relational Capability	EARLY	120	2.8231	.82654	1.237	.090
	LATE	109	2.9429	.60982	1.255	
Innovation Strategy	EARLY	120	2.5322	.65872	.580	.546
	LATE	109	2.4813	.66675	.580	

Considering the value from table 4.3 above, it can be clearly understood that the distinction between the mean and standard deviation of the early response and late response are not significantly diverse. Comparatively, the result of the 2 tailed tests reveals no significant disparity between the responses of those responded earlier and those responded late at .05. Therefore, the data of this study is free of non-respondent bias. Specifically, the mean (M) and standard deviation (SD) of early (M= 4.40; SD .46) and late (M = 4.38; SD = .56) response to performance did not reveal significant variance. With respect to top management capability, the independent sample test result does show substantial difference between the early (M= 3.79; SD .67) and the late (M = 3.77; SD = . 56).

Furthermore, the analysis of technological capability early (M= 1.43; SD .39) and late (M = 1.36; SD = . 36) response shows that there is no significant disparity. Similarly, the value of early (M= 4.55; SD .55) and late (M = 4.25; SD = .55) responses to learning capability does not indicate serious disagreement. Equally,

there is no much discrepancy between the early and late responses related to relational capability (M= 2.82; SD .82) and (M = 2.94; SD = . 69). While the evaluation of early and lates responses on innovation strategy (M= 2.53; SD .65) and (M = 2.48; SD = .66) demonstrates non-significant variance.

4.4.4 Common Method Bias

Common method bias/variance (CMV) in social science research refers to the extent of discrepancy in what actually the variable intends to measure which contributed consistently to measurement errors (MacKenzie and Podsakoff, 2012). Nevertheless, the fear on how to subdue the method bias in behavioral science is increasing; as it constitutes the main sources of measurement errors. In this study, the data on the predicting variables (top management, technological, learning and relational capabilities as well as innovation strategy) and the criterion variable (F&B SMEs performance) were collected from single source (owner/managers), thus this self-reported data from owner/managers may create a possibility for common method bias.

Common method bias affects the items reliabilities, validities and the covariance between the study constructs (MacKenzie and Podsakoff, 2012, Podsakoff, et al., 2003). Method bias may occured from the inability of the respondent to respond accurately due to ambiguity and lack of motivations (MacKenzie and Podsakoff, 2012). However, these can be eliminated or reduced through procedural and statistical techniques (Podsakoff, et al., 2003). Hence, to eradicate or minimize the issues of common method variance, some procedural and statistical measures were employed in this research process such as assurance and allowance of respondent

anonymity and elimination of ambiguity in wording (Chang, Van Witteloostuijn, and Eden, 2010, Podsakoff, MacKenzie, Lee, and Podsakoff, 2003).

Furthermore, Podsakoff, MacKenzie, and Podsakoff, (2012) urged that it is essential for a researcher to select respondents that are thoughtful and have the required experience about the subjects of interest raised in the questionnaire. Similarly, researcher can pretest the questions to ensure that the questions are designed in a words that can be easily comprehended by the respondents (MacKenzie and Podsakoff, 2012, Podsakoff, et al., 2003). Consequently, owners/managers were selected as the target respondents in this study, this is because owners/smanager in SMEs are believed to have more knowledge and information regarding the affairs of their business (Zahra and Covin, 1994).

Equally a pilot study was conducted to determine the potential obstacles and feasibility of the constructs reliabilities and validities. Based on the reports from the series of validations necessary adjustment were made in the last version of the questionnaire. The personal delivery and collection method accord the researcher a chance to check and clarify missing response where necessary, and to motivate the respondents to respond accurately. Accordingly, comfirmatory analysis such as the evaluation of reliability were established, equally discriminant validity and collinearity in this study as shown in table 4.6 does not reveal any extreme correlation amongst the study variables (Lee, Sharif, Scandura, and Kim, 2017).

To statistically evaluate the CMV in this study, all the 56 items of the measures were taken into SPSS statistical package using Harman‟s single-factor test as endorsed by

(Podsakoff, et al., 2003). Consequently, all the measurement items were exposed to a principal component factor analysis. The statistical result of the analysis revealed 10 factors, which cumulatively, explained 83.84% of the variance; where the first and the largest factor explaining 24.44% of the overall variance which is below 50% (Kumar, 2012). Hence, no single factor accounted for the largest covariance (50%) in both the predictor and the criterion variables (MacKenzie and Podsakoff, 2012). Therefore, the issue of CMV in this study is not feasibly manifested and may not constitute problems to the data of this study.

4.4.5 Normality Test

Although this study adopted PLS-SEM which is a nonparametric technique that does not require data to be normally distributed. However, it is considered appropriate to ensure that the data of this study are not far away from normality. Normality test of data can be presented numerically or graphically (Ghasemi and Zahediasl, 2012, Razali and Wah, 2011, Thadewald and Büning, 2007). Therefore, this study used the statistical methods to determine the normality of the survey data collected. Numerous previous studies used this statistical technique (Ibrabim, 2016, Aminu, 2015).

Specifically, the graphical curve portrays the level of skewness and kurtosis which reveals the normality status of the data (Kim, 2013). Positively skewed data demonstrates a long tail of the curve on the right hand side, similarly, a negatively skewed data indicates a long tail on left hand side of the distribution curve (Ghasemi and Zahediasl, 2012, Bai and Ng, 2005). Skewness evaluates the magnitude to which the data distribution is balanced, while Kurtosis assesses whether the distribution of data is centered and too peaked (Kim, 2013, Hair, et al., 2012, Ghasemi and

Zahediasl, 2012). Odom and Henson, (2002) postulated that variables that are positively skewed tend to have observations assembled near the lower value with cases lining-off toward the higher value, while variables that are negatively skewed amass in the direction of the higher values and cases sprawling toward the lower end.

On the other hand, a concerted cluster of observation nearby the mean of a variable that is greater than the majority of observation in the normal distribution leads to leptokurtic (highly peaked), while lower concentration of values around the mean leads to platykurtic (lower peak) (Odom and Henson, 2002). Hence, nonexistence of evenness (skewness) and pointiness (kurtosis) are the major instances in which data distribution can digress from normal (Kim, 2013, Ghasemi and Zahediasl, 2012, Razali and Wah, 2011). Consequently, Hair, Sarstedt, Ringle, and Mena, (2012), advocated that it is beneficial for researchers to conduct a normality test in order to determine the skewness and kurtosis of the data.

To evaluate the possible deviation of data distribution from the normality, a statistical method has been employed in this study (Aminu, 2015, Ghasemi and Zahediasl, 2012, Razali and Wah, 2011, Linnet, 1988). Ghasemi and Zahediasl, (2012), urged that statistically, a value higher or less than 1.96 is adequate to establish the normality of a data from small samples. However, in samples of 200 and above a value of ± 2.58 is sufficient to establish normality of data. While in substantial samples of more than 300, the criterion for skewness and kurtosis should not be applied, as their deviation does not make significant difference (Kim, 2013, Ghasemi and Zahediasl, 2012). Conversely, deviation from skewness and kurtosis

normality does not create significant difference if the sample under study is more than 300 (Kim, 2013, Tabachnick and Fidell, 2013).

Consequently, Kim, (2013) demonstrated that skewness value of less than ±2 and kurtosis value of less than ±7 are acceptable thresholds of data normality. He further, rearfirmed that a skewness value higher than 3 and a value of kurtosis more than 10 reveals serious normality problems. However, if a data is not normally distributed, nonparametric techniques should be employed to analyze the data (Kim, 2013). Based on this, it was established that, the data for this study is free from the issue of Skewness and Kurtosis as the statistical value for the skewness and kurtosis are all less than ±2 and ±7 respectively as shown in table 4.4.

Table 4. 4:
Skewness and Kurtosis Statistic

	N	Min.	Max.	Mean	StD.	Skewness		Kurtosis	
	Std.						Std.		
Kurtosis Stat.	Error	Stat.	Stat.	Stat.	Stat	Stat.	Error	Stat.	Stad. Error
MCAP	229	3.50	5.00	4.3979	.51461	-.332	.161	-1.334	.320
TCAP	229	2.27	4.82	3.7836	.62684	-1.273	.161	1.076	.320
LCAP	229	1.00	2.00	1.4049	.38099	.681	.161	-1.144	.320
PERF	229	3.50	5.00	4.4112	.56011	-.203	.161	-1.537	.320
RCAP	229	1.44	4.00	2.8802	.73233	-.232	.161	-.929	.320
INNOV	229	1.67	3.87	2.5080	.66159	.446	.161	-1.261	.320
Valid N (listwise)	229								

Note: Max = Maximum; Min = Minimum; Stat = Statistic; StD = Standard Deviation; Std = Standard

4.5 Evaluation of the Measurement Model

This study employed PLS-SEM data analysis technique to evaluate the reliability and validity of the inner and the outer model measures. Similarly, this technique was used to test the hypotheses developed in this study. PLS-SEM has been acknowledged to be capable and effective in handling complex modeling issues that

usually befall researches in social sciences such as strange data characteristics like the non-normality of data, limited sample size and formative latent variable (Hair, Sarstedt, Hopkins, and Kuppelwieser, 2014). This is due to the fact that PLS-SEM is flexible while working with non-normal data, as its algorithm uses central limit theorem to transform the non-normal data (Hair, Tomas, Ringle, and Sarstedt, 2017).

Equally, PLS-SEM has the ability to accommodate small sample of data (Sosik, Kahai, and Piovoso, 2009). Nevertheless, Dana and Dawes, (2004) established that sample size influences the predictive ability in an out-of sample analysis. Similarly, Becker, Rai, and Rigdon, (2013) emphasize this view by asserting that the outer weights of the PLS path model perform poorly with small sample size in an out-of-sample predictive capability analyses, thus sample size considered sufficient for a parameter estimation may be extremely insufficient for out-of-sample prediction. However, it has been maintained that, unlike CB-SEM in which the parameters of a model is estimated to minimize the discrepancy between the estimated and sample covariance matrices, PLS-SEM attempts to maximize the variance in explaining the dependent variable through iterative sequence of ordinary least square regression (Reinartz, Haenlein, and Henseler, 2009).

In a nutshell the weaknesses of PLS-SEM are the strengths of CB-SEM and vice versa (Sosik, Kahai, and Piovoso, 2009). Consequently, neither the PLS-SEM nor the CB-SEM is generally accepted as the superior method over one another (Hair, et al., 2017, Hair et al., 2012b). Thus researchers decision on which technique (PLS-SEM or CB-SEM) to employ depends on peculiar objectives, situation and context (Reinartz, Haenlein, and Henseler, 2009). However, several studies have successfully

used PLS-SEM to evaluate the relationship among the variables hypothesized in their studies (Shamsudden, 2017, Aminu, 2015, Mukhtar, 2014). Therefore smart-PLS 3.0 was used to evaluate the measurements of this study.

The aim of evaluating the measurement model in a study is to determine the goodness of measures and the estimate. Therefore, measurement model is concerned with estimate of the goodness of measures. Thus the two foremost techniques used in PLS-SEM to assess the outer model are the validity and reliability of the measurement model (Ramayah, Lee, and In, 2011). However, researcher must differentiate the reflectively from formatively measured constructs while assessing the outer model (Hair, Black, Babin, and Anderson, 2010).

Evaluating the outer model measures involves establishing the internal consistency reliability through composite reliability and Cronbach‟s alpha and the validity of the construct in term of convergent and discriminant validity (Hair, Sarstedt, Hopkins, and Kuppelwieser, 2014). The process of testing reliability attempts to determine how measuring instrument is consistent in measuring what is expected to measure, while validity test tries to determine how versatile a survey instrument precisely measures the concept it is intended to measure (Sekara and Bougie, 2010, Hair et al., 2010). Therefore, the internal consistency reliability, discriminant and convergent validity of instrument adapted in this study were evaluated through Cronbach‟s alpha, composite reliability, AVE and the Fornell and Larcker model.

4.5.1 Reliability Test

Reliability of an instrument is met if the findings and inferences of one study can be simulated by another study with the same case study (Gray, 2004). Reliability of research instrument, particularly internal consistency can be estimated using the coefficient score produced from the study known as Cronbach‟s alpha (Yu, 2012). Cronbach‟s alpha represents a reliability coefficient that reveals how blooming the items in the instrument are positively correlated to one another, and it is usually calculated using the average inter-correlations among the items measuring the concept (Hair et al., 2017). The closer the Cronbach‟s alpha is to 1, the better the internal consistency of the scale (Sekara and Bougie, 2010). Therefore, a Cronbach‟s alpha of 0.6 or higher for a constituent in this study indicates that the measuring items under that particular constituent suggested a trustworthy measure of the constructs internal consistency (Awang, 2012).

However, reliability analysis base on internal consistency could eliminate important item and decline the validity of the index (Diamantopoulos and Siguaw, 2006). Though, the assumption of tau-equivalence (all indicators are equal) reliability restricted the use of Cronbach‟s alpha and making an attempt to maximize it can seriously compromise the reliability (Raykov, 2007). Similarly, Cronbach‟s alpha is sensitive to the number of items in the scale and mostly have a habit of underestimating the internal consistency reliability, while on the other hand composite reliability (CR) tends to overestimate the internal reliability consistency (Hair, Tomas, Ringle, and Sarstedt, 2017).

Unlike Cronbach‟s alpha, composite reliability prioritizes indicators based on their individual reliability which makes it appropriate for PLS-SEM (Hair, Sarstedt, Ringle, and Mena, 2012). Composite reliability offers a more suitable and dependable assessment of internal consistency reliability, as the technique does not consider equality of indicator loading among the items based on the guiding principle of PLS-SEM algorithm which ranks the indicator on the basis of their individual reliability at the stage of model estimation (Hair et al., 2017). Thus CR is devoid of the underestimation problem associated with Cronbach‟s alpha (Hair, et al., 2014). Therefore in testing the reliability of instrument used in this study both the Cronbach‟s alpha and composite reliability were used to determine the internal consistency reliability of the measurement and scale adapted. Consequently, Cronbach‟s Alpha were used as a lower bound, and CR as an upper bound internal consistency reliability (Hair, Ringle, and Sarstedt, 2013).

Table 4.5:
Cronbach's Alpha, Composite Reliability, and Average Variance Extracted

Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Innovation Strategy	0.812	0.861	0.516
Learning Capability	0.886	0.910	0.591
Top management Capability	0.884	0.903	0.540
SMEs Performance	0.860	0.893	0.585
Relational Capability	0.873	0.908	0.707
Technological Capability	0.928	0.942	0.677

The rule of Cronbach‟s alpha stated that an alpha value of .60 and above for a variable is considered reliable (Sekaran and Bougie, 2013). On the other hand composite reliability is achieved when a variable has a composite reliability value of .70 and above (Hair, et al., 2012). From the table 4.5 above it is clearly observed that the requirement of both the Cronbach‟s alpha (.60) and composite reliability (.70) for all the variables in this study were attained. The values of the Cronbach‟s alpha of all

the variables range from 0.82 to 0.93; similarly, a value of 0.87 to 0.94 can be observed from the table 4.5 above as the lowest and highest values of composite reliability of the variables under study.

4.5.2 Validity Test

Validity test determines the ability of the instrument, technique or process used to correctly measure what is supposed to measure (Sekaran and Bougie, 2013, Golofshani, 2003). Precisely, Sekaran and Bougie, (2013) identify two important types of validity test; this comprises convergent validity and discriminant validity. Consequently in this study, convergent validity or indicator reliability, average variance extracted (AVE) and discriminant validity were assessed. This is informed by the reflective nature of the constructs under study (Hair, et al., 2013, Hair, et al., 2017).

4.5.2.1 Convergent Validity

Hair, et al., (2017), postulated that convergent validity test is used to examine the positive correlation amongst various measures in a study construct, hence convergent validity evaluates the extent to which an instrument is measuring what is supposed to be measuring (Sekara and Bougie, 2010, Golofshani, 2003). Consequently, convergent validity is established when construct measurement items composite reliability value is 0.70 and above and an AVE of 0.50 or higher. Thus an AVE of 0.050 indicates that more than half of the indicators variance has been explained by the construct (Hair, Sarstedt, Hopkins, and Kuppelwieser, 2014, Hair, Ringle, and Sarstedt, 2013). Table 4.6 below present the AVE values.

On the other hand, outer loadings been one of the significant techniques in assessing the contribution of indicators assigned to a particular construct was also examined in this study. The acceptable threshold of outer loading was established at 0.50 and above (Hair, et al., 2017). However, outer loadings higher than 0.40 and less than 0.70 should be cautiously analyzed to ensure that it increases the value of AVE and CR before deletion. Guided by this principle of item deletion, 15 items or indicators were deleted out of the 56 items measuring the constructs in this study.

From table 4.6, it can be observed that convergent validity of all the variables in this study has been achieved. None of the variables has composite reliability and AVE less than the threshold of 0.70 and 0.50 respectively. The composite reliability ranges from the least bound of 0.86 to the highest of 0.94. Similarly, all the AVE value range from 0.57 to 0.71, hence the items of the measurements adequately represent the variables and correlate with other variables.

Table 4. 6:
Construct Convergent Validity and Reliability

Construct	Measures	Factor Loadings	Composite Reliability	AVE
Performance	PER1	0.736	0.893	**0.585**
	PER2	0.677		
	PER3	0.824		
	PER4	0.849		
	PER5	0.850		
	PER6	0.620		
Management Cap	MC001	0.628	0.903	**0.540**
	MC002	0.614		
	MC003	0.686		
	MC004	0.644		
	MC005	0.772		
	MC006	0.837		
	MC007	0.832		
	MC008	0.824		
Technological Ca	TC001	0.925	0.942	**0.677**
	TC002	0.925		
	TC003	0.915		
	TC004	0.920		
	TC005	0.861		
	TC006	0.806		
	TC007	0.564		
	TC008	0.561		
Learning Cap.	LC001	0.779	0.910	**0.591**
	LC002	0.712		
	LC003	0.774		
	LC004	0.667		
	LC005	0.830		
	LC006	0.835		
	LC007	0.771		
Relational Cap.	RC003	0.876	0.908	**0.707**
	RC004	0.650		
	RC005	0.632		
	RC007	0.940		
	RC008	0.936		
	RC009	0.946		
Innov. Strategy	IS104	0.540	0.861	**0.516**
	IS105	0.564		
	IS201	0.623		
	IS303	0.842		
	IS304	0.836		
	IS305	0.830		

4.5.2.2 Discriminant Validity

Discriminant validity is the degree to which a survey construct is genuinely different from the other constructs empirically. Therefore, establishing discriminant validity implies that the construct under study is distinctive and covers different phenomena

denoted by the other constructs in the model (Hair, Tomas, Ringle, and Sarstedt, 2017). Specifically, cross-loading is the primary techniques used to assess the discriminant validity of the construct indicators. Normally, the indicators outer loading on the related construct should be higher than its correlation to any other constructs, conversely, a cross-loading or correlation that is greater than the outer loading indicates issues in discriminant validity (Hair, Tomas, Ringle, and Sarstedt, 2017, Awang, 2012). Similarly, discriminant validity can be assessed through Fornell-Larcker criterion (Hair, Ringle, and Sarstedt, 2013).

Fornell-Larcker method compares the square root of the average variance extracted (AVE) value with the correlation value of latent variable. In this method the value of the AVE of each construct must be more than its highest correlation with each other constructs, or alternatively, the AVE is greater than the squared correlation of each of the constructs (Hair, Tomas, Ringle, and Sarstedt, 2017). Therefore, both the cross-loading and Fornell-Larcker criterion were employed to test the discriminate validity in this study.

Chin, (1988) established that an instrument is free of discriminant validity issues if individual items loadings of all the variables in a model is greater than its corresponding loadings denoted by other variables. Hence, the table 4.7 shows that there is no issues of discriminant validity in this study, as all the loadings for a particular variable is higher than corresponding loadings of all the other variables.

Table 4.7:
Factor Loading and Cross-loading

ITEMs	INNOV	LCAP	MCAP	PERF	RCAP	TCAP
IS104	**0.540**	0.117	0.072	0.197	0.201	0.292
IS105	**0.564**	0.054	0.164	0.474	0.263	0.377
IS201	**0.623**	0.034	0.254	0.160	0.544	0.239
IS303	**0.842**	0.145	0.312	0.311	0.518	0.388
IS304	**0.836**	0.158	0.301	0.318	0.514	0.396
IS305	**0.830**	0.214	0.515	0.600	0.307	0.510
LC001	0.004	**0.779**	-0.043	0.177	0.057	0.210
LC002	0.026	**0.712**	0.015	0.126	0.007	-0.148
LC003	0.147	**0.774**	0.001	0.026	0.023	0.149
LC004	0.038	**0.667**	0.047	0.065	0.035	0.243
LC005	0.131	**0.830**	0.027	0.107	0.045	-0.129
LC006	0.134	**0.835**	0.031	0.106	0.102	-0.192
LC007	0.117	**0.771**	0.063	0.044	0.004	0.150
MC001	0.010	-0.048	**0.628**	0.100	0.087	0.134
MC002	0.197	0.119	**0.614**	0.142	0.227	0.387
MC003	0.257	0.072	**0.686**	0.213	0.283	0.414
MC004	0.202	0.090	**0.644**	0.156	0.280	0.365
MC005	0.348	0.194	**0.772**	0.379	0.272	0.401
MC006	0.372	-0.125	**0.837**	0.372	0.210	0.425
MC007	0.336	0.136	**0.832**	0.362	0.180	0.399
MC008	0.338	0.148	**0.824**	0.364	0.170	0.412
PER1	0.420	0.248	0.363	**0.736**	0.082	0.326
PER2	0.410	0.070	0.485	**0.677**	0.192	0.377
PER3	0.590	-0.033	0.390	**0.824**	0.120	0.390
PER4	0.295	0.080	0.208	**0.849**	0.007	0.432
PER5	0.307	0.076	0.235	**0.850**	0.037	0.450
PER6	0.106	0.010	-0.136	**0.620**	-0.107	0.230
RC003	0.430	0.308	0.202	0.013	**0.876**	0.256
RC004	0.255	0.151	-0.067	0.120	**0.650**	0.194
RC005	0.260	0.144	-0.074	0.122	**0.632**	0.176
RC007	0.545	0.133	0.351	0.081	**0.940**	0.407
RC008	0.560	0.086	0.379	0.104	**0.936**	0.425
RC009	0.554	0.087	0.378	0.103	**0.946**	0.432
TC001	0.442	0.325	0.521	0.447	0.394	**0.925**
TC002	0.451	0.311	0.526	0.451	0.403	**0.925**
TC003	0.443	0.346	0.512	0.446	0.379	**0.915**
TC004	0.547	0.352	0.417	0.512	0.361	**0.920**
TC005	0.391	-0.222	0.393	0.498	0.145	**0.861**
TC006	0.487	0.125	0.432	0.425	0.219	**0.806**
TC007	0.385	0.170	0.276	0.155	0.482	**0.564**
TC008	0.294	0.095	0.281	0.093	0.396	**0.561**

Another method for evaluating constructs discriminant validity is the Fornell-Larcker criterion. Table 4.8 demonstrates the Fornell-Larcker criterion.

Table 4.8:
Correlations of Study Variables and AVE Square Roots (Fornell-Larcker criterion)

S/No.	Variable	1	2	3	4	5	6
1	Innovation Strategy	**0.718**					
2	Learning Capability	0.117	**0.769**				
3	Management Capability	0.398	-.015	**0.735**			
4	SMEs Performance	0.514	-.122	0.402	**0.765**		
5	Relational Capability	0.544	0.018	0.0289	0.101	**0.841**	
6	TechnologicalCapability	0.528	-.220	0.519	0.492	0.398	**0.823**

Note: All the numbers in boldness represent the square roots of the average variance extracted (AVE).

The table 4.8 above demonstrates that the values of the AVE square root are all greater than .50. As indicated by the values boldly appearing in the table 4.8 above, each AVE is greater than it corresponding correlation with other variable in the study. Consequently, the requirement for free discriminant validity is sufficiently achieved in this study (Henseler, et al., 2015).

4.5.3 Multicollinearity

Multicollinearity has been described as a predicament that occurs when independent variables in a study extremely correlate to one another as high as 0.9 and above (Tabachnick and Fidell, 2007). Sekaran and Bougie, (2013) demonstrated that multicollinearity is not a dilemma in a study whose objectives is to predict the values of the dependent variable or the relationship between the two variables. They further portray that in such a situation the reliability of the predicted value was free of multicollinearity issues. However, when two or more variables correlate, they enclose needless information, thus they are not required in the analysis since they

raise the extent of error terms and weaken the study. Therefore, if multicollinearity issue arises in a study, it can be fixed by removing the offending variables.

Evaluating the multicollinearity in this study was informed by the fact that an extreme correlation among the independent variables indicates unstable model and the tendency to greatly misrepresent the examination and their statistical significance (Hair, Black, Babin, and Anderson, 2010). The examination of multicollinearity indicates the level at which an independent variable is explained by other variable. Therefore, multicollinearity was evaluated in this study. Generally, variance inflation factor (VIF) and tolerance level are the most commonly used techniques to evaluate multicollinearity (Sekaran and Bougie, 2013). The guiding principle of the examination of multicollinearity establishes that a VIF value of 5 or more and a tolerance level of 0.20 and below respectively represent a potential multicollinearity issues (Hair, Sarstedt, Ringle, and Mena, 2012). The VIF value of 5 and above and tolerance level of 0.20 and below (Hair, et al., 2012) was adopted in this study to determine the multicollinearity of variables under study.

Table 4.9:
Tolerance and Variance Influential Factor (VIF)

Independent Variables	**Tolerances**	**VIF**
Management Capability	.721	1.386
Technological Capability	.632	1.582
Learning Capability	.922	1.085
Relational Capability	.523	1.913
Innovation Strategy	.521	1.920

Based on the foregoing rule, it is clear from the table 4.9 that all the VIF values are below 5, similarly all the tolerance values are above 0.20. This reveals that there is no case of multicollinearity, thus justifies the reliability of the measures.

4.5.4 Pearson Correlation of the Study Variables

The issue of correlations amongst variables in a study containing two or more predicting variables is an important area of concern, there is the need to determine the extent of linear relationship between the variables under study. Normally Pearson correlation is been used to determine the degree of correlations amongst the variables of study (Hair, et al., 2017). This study used Pearson correlation to explain the magnitude of the linear association amongst the variables under study. It has been established that, a statistical value of 0 demonstrates no correlation in anyway, a value of 1 indicates a perfect positive correlations; while -1 shows a negative correlation (Hair, et al., 2017). Hair, et al., (2010) maintained that a value of 0.9 and above demonstrates multicollinearity problems. The interrelationship amongst the variables in this study; SMEs performance; top management capability; technology capability; learning capability, relational capability and innovation strategy was presented in table 4.10 below.

Table 4. 10:
Pearson Correlation of the Study Variables

		1	2	3	4	5	6
1	Performance	**1**					
2	Management Cap	.272	**1**				
3	Technological Cap	.326	.496	**1**			
4	Learning Cap	.087	.004	.076	**1**		
5	Relational Cap	.132	.311	.458	.101	**1**	
6	Innovation Strategy	.261	.377	.446	.120	.637	**1**

From the table above it can be clearly observed that none of the variables under study correlates with one another with value 0.9 and above, therefore, the issue of variable correlation does not exist in this study.

After establishing an acceptable result from the evaluation of measurement model (outer model), specifically after achieving the reliability and validity of the latent variables, the next action was the evaluation of the structural model (inner model). The fact that the framework of this study was developed based on the practical problems and the gaps demonstrated by the extant literature, hence the need to revisit and adjust where necessary after the conduct of the assessment of the outer model. This is due to the facts that the evaluation of the outer model resulted in the deletion of 15 items. Nevertheless, all the constructs have adequate number of indicators acceptable for structural evaluation (Hair, et al., 2012), thus all were retained.

4.6 Assessment of the Structural Model

After establishing the reliability and validity of the measurement model, this study deems it necessary to evaluate the structural model (outer model) to achieve its objectives. The evaluation of structural model involves assessing the predictive ability of the outer model and the relationship among the construct under study (Hair, Hult, Ringle, Sarstedt, and Thiele, 2017). Specifically, PLS-SEM estimate is employed to evaluate the structural model of this study. However, PLS-SEM depends on nonparametric bootstrap techniques to determine the significance level of each indicator weight (Hair et al., 2014, Sarstedt, 2008). Therefore, this study used the bootstrapping technique of PLS-SEM to determine the significance value of the entire path coefficient in the model (Hair, Ringle, and Sarstedt, 2013).

Bootstrapping techniques in PLS-SEM analysis is employed to calculate the approximate standard error and standard deviation (Hair, Tomas, Ringle, and Sarstedt, 2017). Hair, Sarstedt, Hopkins, snd Kuppelwieser, (2014) posit that

bootstrapping is an effective technique that enables researcher to re-sample the estimate of distribution from the original sample with replacement. However, in a situation where the weight of the indicator is not significant, the researcher is required to calculate the bivariate correlation or loading between the construct and the non-significant indicator so as to decide if the indicator could be excluded from the outer model (Hair, Sarstedt, Hopkins, and Kuppelwieser, 2014, Williams and MacKinnon, 2008).

Unlike conventional techniques which rely on assumed properties of distributional test statistics, bootstrapping techniques generate their own distributional test statistics against which hypotheses is tested and confidence interval generated (Williams and MacKinnon, 2008). This is normally done by generating a substantial number of virtual datasets through resampling from the original sample. Due to the facts that resampling is been done with replacement, each virtual dataset tends to be unique (Williams and MacKinnon, 2008).

Even though, bootstrapping plays a crucial role in PLS-SEM analysis (Hair, et al., 2012), the technique is yet to have a standard point as operator has to severally conduct a retrial bootstrap depending on the circumstance (Rasmussen1988). Bontis, Booker, and Serenko, (2007) claimed that inaccurate estimates of standard error, confidence interval, t-value and the inference from the hypotheses testing may be affected by insufficient number of bootstrap retrials. Consequently, the important principle that guides the number of re-sampling selection in bootstrapping is still underway (Andrew and Buchinsky, 2002). Nevertheless, this study uses a total of 5000 retrials sample for 229 cases to determine the outcomes of the standard error

and path coefficient of all the relationship of hypotheses in this study as suggested by (Hair, et al., 2014, Hair, et al., 2017).

The major objectives of this study are to empirically determine the relationship between the independent variables (MC, TC, LC and RC) and the dependent variable (SMEs performance), through the mediating role of innovation strategy. Therefore, to achieve these objectives, the researcher conducted three different structural model"s analysis: the direct relationship between independent variable and the dependent variable was analyzed in the first model. The second model evaluate the direct relationship between the independent variables and the mediating variable. While the mediating role was analyzed in the third model as suggested by (Hair et al., 2017, Baron and Kenny, 1986).

PLS-SEM examination of structural model or inner model entails the determination of the model"s capability to predict the variance in the dependent variable (Hair, et al., 2014). Consequently, the results of the PLS-SEM are evaluated by the R^2 values (coefficient of determination), f^2 effect sizes, (significance of path coefficient), and the Q^2 or the predictive relevance (Hair, Ringle, and Sarstedt, 2013, Hair, Black, Babin, and Anderson, 2010).

4.6.1 The Assessment of the Coefficient of Determination (R^2)

Contrary to CB-SEM which intends to rectify theories by ascertaining how effective a model estimate the covariance matrix for a group of data, PLS-SEM functions comparably with multiple regression analysis (Hair et al., 2012). This feature makes PLS-SEM essentially effective in exploratory study (Hair, Sarstedt, Hopkins, and

Kuppelwieser, 2014). Hence, the aim of PLS-SEM is the maximization of the explained variance (R^2). In this method, the predictive influence of each model is explain by the coefficient of determination (R^2) of the latent variables and the path coefficient for each relationship of the independent variables and the dependent variables. Alternatively, R^2 signifies the combined effect of the independent variables on the dependent variables (Hair et al., 2014).

The value of the R^2 indicates the level of variance in the construct that is elucidated by the model (Hair, Sarstedt, Ringle, and Mena, 2012). This effect or value of R^2 ranges from 0 to 1 signifying complete predictive capability of the independent variable on the dependent variable (Hair et al., 2014b). However, due to the fact that R^2 is employed in various disciplines, researchers mostly depend on an uneven rule of thumb concerning the suitability of R^2. However, Cohen, (1988) established that R^2 of .02, .13 and .27 indicate small, medium and large degree of predictability respectively (Bakeman, 2005).

Although R^2 is an important technique in evaluating the quality of PLS-SEM model, over reliance on it may prove problematic, particularly when the researcher tries to compare the models with dissimilar measurement of the same dependent construct, consequently selecting inefficient model (Hair, et al., 2014). Hence the decision for selecting a model should center on the value of adjusted R^2 which opposes increasing number of construct by reducing the adjusted R^2 once more construct are added to the model. However, R^2 is the most commonly used techniques in evaluating coefficient of determination (Shamsudeen, 2017, Aminu, 2015, Gorondutse, 2014, Shehu, 2014).

Table 4.11:
R^2 of the Independent Variable

Constructs	R2	Decision Based on Cohen, (1988) Criterion
Innovation Strategy	46	Substantial
Performance	43	Substantial

Source: (Researcher, 2018)

Based on Cohen, (1988) criterion, the values in the table 4.11 indicate a substantial R^2 values for both the innovation strategy and SMEs performance. It demonstrated that the independent variables account for 46% and 43% of changes and success in SMEs innovation strategy and performance respectively (see figure 4.5).

4.6.2 The Assessment of the Predictive Relevance (Q^2)

The fact that the R^2 has informative relevance only with in-sample prediction, conversely, Q^2 (Stone-Geisser‟s) offers a measure for out-of-sample prediction (Sarstedt, Ringle, Henseler, and Hair, 2014). As the name implied, this technique predicts the relevance of the inner model. The technique was developed to handle sample re-use procedure, which omits a segment of the data matrix, approximate the model parameters and calculates the value of the omitted part with the estimates. This study adopted the Stone-Geisser test of predictive relevance to predict the relevance of the model of this research through the blindfolding techniques (Geisser, 1974, Stone, 1974). This technique has been urged to complement the process of assessing goodness of fit GoF in PLS-SEM (Duarte, Alves, and Raposo, 2010). Blindfolding was used due to the reflective nature of the dependent construct under study. Hair, et al., (2013) observed that blindfolding technique is normally applied to the reflectively measure dependent variables.

Therefore, Q^2 (cross-validated redundancy measure) was used to examine the predictive relevance of the model under study (Sarstedt, Ringle, Henseler, and Hair,

2014). Consequently, the lesser the variance between the predicted and the original values, the higher the Q^2, hence the model‟s predictive capability. Explicitly, a Q^2 value that is greater than zero for a specific dependent construct revealed the path model‟s predictive relevance for the specific construct (Hair et al., 2014). However, Rigdon, (2014) maintains that evaluating the Q^2 value to zero only demonstrates the possibility of predicting the dependent construct and not the accuracy of the prediction. Therefore, Reinartz, Haenlein, and Henseler, (2009) suggested that Q^2 value that is greater than zero in a model demonstrates predictive relevance, however, a research model with greater positive Q^2 value is considered to have higher predictive relevance.

The value of Q^2 can also be employed to evaluate the predictive relevance of each individual construct Q^2 in the model (Hair, Sarstedt, Pieper, and Ringle, 2012). On the other hand Q^2 value of 0.02, 0.15 and 0.35 represent weak, moderate and strong relative predictive relevance of individual effect respectively (Hair, Ringle, and Sarstedt, 2013). The table 4.12 below indicates that both the mediating variable and the dependent variable have moderate predictive relevance based on the Hair, et al., (2013) criterion.

Table 4.12:
Result of the Predictive Relevance

Total	SSO	SSE	1-SSO/SSE	Decisions
Innovation Strategy	1, 374.000	1, 075.465	0.217	Moderate
Performance	1, 374.000	1,082.458	0.212	Moderate

Source: (Researcher 2018)

4.6.3 The Assessment of the Path Coefficients

The PLS model analysis provides an estimate of the path coefficients which signify the hypothesized relationship between the constructs (Hair, Ringle, and Sarstedt, 2013). The standard value of the path coefficient ranges from -1 to +1, where a

coefficient value closer to +1 indicates strong positive association and coefficient value closer to -1 represents negative association (Hair, et al., 2017). While values close to +1 or -1 are virtually significant statistically, however, researcher must determine the standard error in using bootstrapping to determine the significance (Hair, Ringle, and Sarstedt, 2013), thereafter verify if the relationship is significant by considering the relevance of the significant relationship (Hair, Sarstedt, Hopkins, and Kuppelwieser, 2014). Table 4.13 demonstrates the path coefficient of this study.

Table 4. 13:
Path Coefficient

Path	Sample	Mean	Standard deviation	T-Statistic	P-Value
INNOV -> PERF	0.507	0.503	0.058	8.931	0.001
LCAP -> INNOV	0.192	0.184	0.090	2.136	0.016
LCAP -> PERF	-0.034	-0.034	0.092	0.550	0.291
MCAP -> INNOV	0.103	0.104	0.062	1.661	0.048
MCAP -> PERF	0.215	0.218	0.083	2.425	0.012
RCAP -> INNOV	0.362	0.364	0.048	7.532	0.001
RCAP -> PERF	-0.57	-0.057	0.065	0.334	0.369
TCAP -> INNOV	0.373	0.369	0.058	6.536	0.001
TCAP -> PERF	0.420	0.421	0.074	5.721	0.001

4.6.4 The Assesment of the Effect Size

Effect size designates the comparative influence of a particular independent variable on latent dependent variable through the variation in R^2 (Chin, 1998). Simply put f^2 represents the changes between $R^2_{included}$ and $R^2_{excluded}$. Therefore, $R^2_{included}$ represents the value of dependent variable without any independent variable been dropped from the model, while $R^2_{excluded}$ indicates the variance in the value of R^2 of the dependent construct after a given independent variable is drooped out of the model. The effect size (f^2) for a path model can be ascertained by computing the Cohen"s f^2. The f^2 is calculated by establishing the changes in R^2 after a particular construct is dropped out of the model.

This is done usually by estimating two PLS path model, with the first based on the hypotheses depicting full model (R^2 included) and the second one with some identifiable independent variable dropped out of the model to have R^2 of the squeezed model (R^2 excluded). The F^2 effect size of 0.02, 0.15 and 0.35 represent small, medium and large effect respectively (Hair, Ringle, and Sarstedt, 2013, Cohen, 1998). Consequently, if the contribution of an independent construct is strong in explaining the dependent construct, the variance between R^2 included and R^2 excluded will be great leading to greater f^2 value. However, it has been established that no matter the strength of the F^2, it is considered important and have significant impacts (Chin, Henseler, Vinzi, and Wang, 2010).

Table 4.14:
Effect Size of the Independent Variables on Performance

Constructs	**F^2**	**Decision Based on Cohen, 1988 Criterion**
Innovation Strategy	0.244	Medium
Top management capability	0.043	Small
Technological capability	0.150	Medium
Learning capability	0.003	None
Relational capability	0.004	None

Source: (Researcher, 2018)

Based on Cohen (1988) criterion, it can be clearly observed from the table 4.14, that innovation strategy has medium effects size, while all of the independent variables have small effect size on the dependent variable.

Table 4.15:
Effect Size of the Independent Variables on Innovation Strategy

Constructs	**F^2**	**Decision Based on Cohen, 1988 Criterion**
Top management capability	0.041	Small
Technological capability	0.158	Medium
Learning capability	0.063	Small
Relational capability	0.198	Medium

Source: (Researcher, 2018)

Using the Cohen (1988) criterion, it can be observed from the table 4.15 that technological and relational capabilities exalt medium effect size on the mediating variable. On the other hand, top management capability did not have significant effect, while learning capability exhibited small effect size on the mediating variable (innovation strategy).

4.7 Summary of the Major Hypothesized Relationships

Generally, there are ten (10) main hypotheses developed for this study. Specifically, nine (9) direct hypotheses were established, hypotheses 1-4 tested the relationship between the four independent variables and the dependent variable; H5-H8 tested the direct relationship of the independent variables and innovation strategy. While H9 tests the direct relationship of innovation strategy and the dependent variable. Accordingly, the last hypothesis H10 tested the mediating effects of innovation strategy on the relationship between MC, TC, LC, RC and the performance of F&B manufacturing SMEs. Lastly, to achieve the last objective of the study H10a- H10d were tested.

H1**:** MC positively relates to the performance of F&B manufacturing SMEs in Nigeria.

H2**:** TC positively relates to the performance of F&B manufacturing SMEs in Nigeria.

H3**:** LC positively relates to the performance of F&B manufacturing SMEs in Nigeria.

H4**:** RC positively relates to the performance of F&B manufacturing SMEs in Nigeria.

H5**:** MC positively relates to the innovation strategy of F&B manufacturing SMEs‟ in Nigeria.

H6: TC positively relates to innovation strategy of F&B manufacturing SMEs‟ in Nigeria.

H7**:** LC positively relates to the innovation strategy of F&B manufacturing SMEs‟ in Nigeria.

H8**:** RC positively relates to the innovation strategy of F&B manufacturing SMEs‟ in Nigeria.

H9**:** Innovation strategy positively relates to the performance of F&B manufacturing SMEs in Nigeria.

H10**:** Innovation strategy positively mediates the relationships between MC, TC, LC, RC and the performance of F&B manufacturing SMEs in Nigeria.

4.8 Testing the Hypotheses

To evaluate the main effects of the relationship within the various constructs, PLS-SEM analysis was carried out. The individual effect of each of the independent variable on the explained variable was represented and assessed by the value of the PLS-SEM standardized beta (Chin, 1998). Furthermore, other objectives of the study were to examine the mediating effects of innovation strategy on the relationship between MC, TC, LC, RC and performance of manufacturing SMEs. Therefore, evaluation of the direct relationship was conducted in three important subsections.

The direct relationship between the four independent variables of the study (MC, TC, LC and RC) and the dependent variable was presented in the first section. The second subsection presents the result of direct effect of the four independent variables on innovation strategy. The last subsection presents the direct effect of

innovation strategy on SMEs performance. A standardized beta value was used to represent all the test of the relationship between the constructs at significant level of $p< .01$ and $p< .05$ (Hair, et al., 2017).

4.8.1 Testing the Direct Relationship

This section presents the main direct effects of the top management capability, technological capability, learning capability and relational capability (independent variables) on the performance of SMEs (dependent variable) as hypothesized above. The direct arrows linking the constructs depict the direct hypotheses as stated earlier. Table 4.16 below demonstrates the t-values, standard error, standardized path coefficient and the decision taken. Correspondingly, the standardized coefficient and the t-values of the established hypotheses were graphically depicted in figure 4.2.

Table 4.16.

Hypotheses Test of the Direct Relationship of the Study Variables

Path Coefficient	Std. Error	Beta (β)	T-statistic	P-Value	Decision
INNOV-$< PERF$	0.058	0.503	8.931	0.001***	Supported
MC-$< PERF$	0.083	0.218	2.258	0.012**	Supported
TC-$< PERF$	0.074	0.421	5.721	0.001***	Supported
LC−<PERF	0.092	-0.034	0.550	0.291	Not Supported
RC-$< PERF$	0.065	-0.057	0.334	0.369	Not Supported
MC-$< INNOV$	0.062	0.104	1.661	0.048**	Supported
TC-$< INNOV$	0.058	0.371	6.536	0.001***	Supported
LC−<INNOV	0.090	0.184	2.136	0.016**	Supported
RC-$< INNOV$	0.048	0.363	7.523	0.001***	Supported

Note: ***; ** shows the relationship is significant at $p< .01$ and $p< .05$ respectively

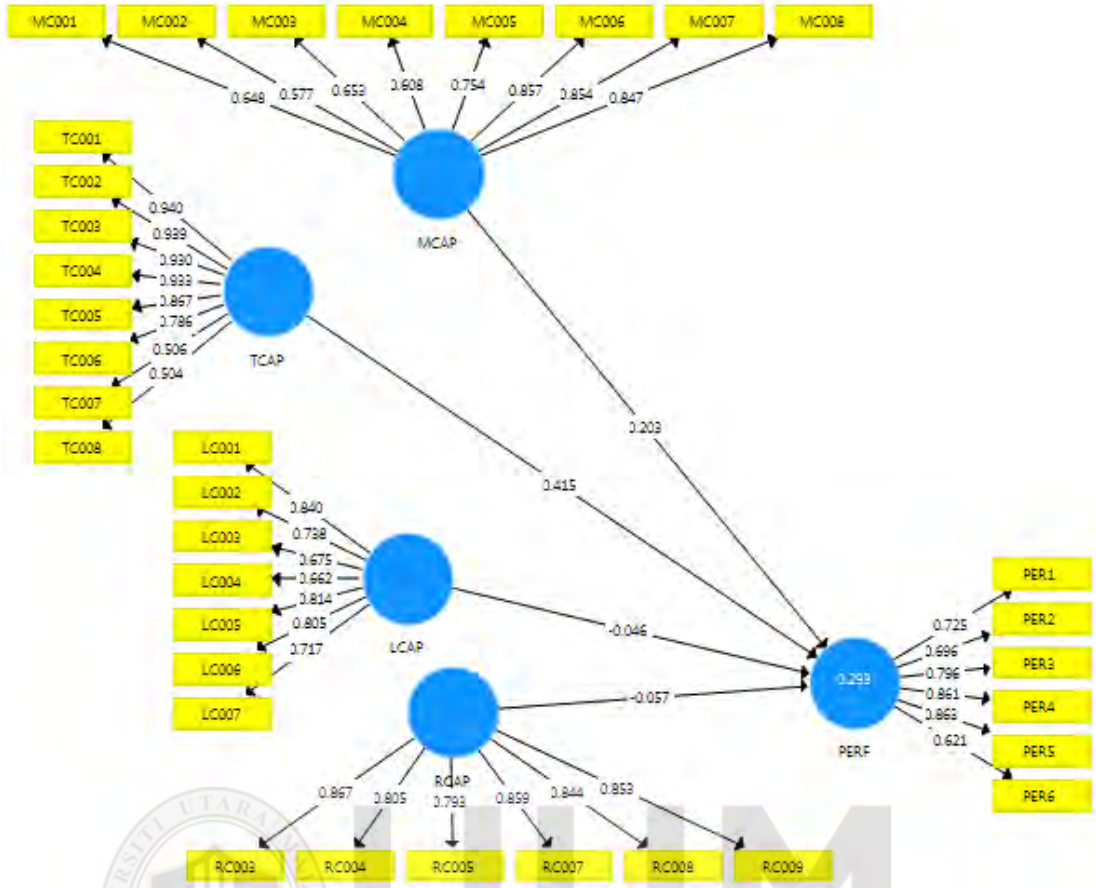

Figure 4.1:
PLS Algorithm for IVs-DV Direct Relationship

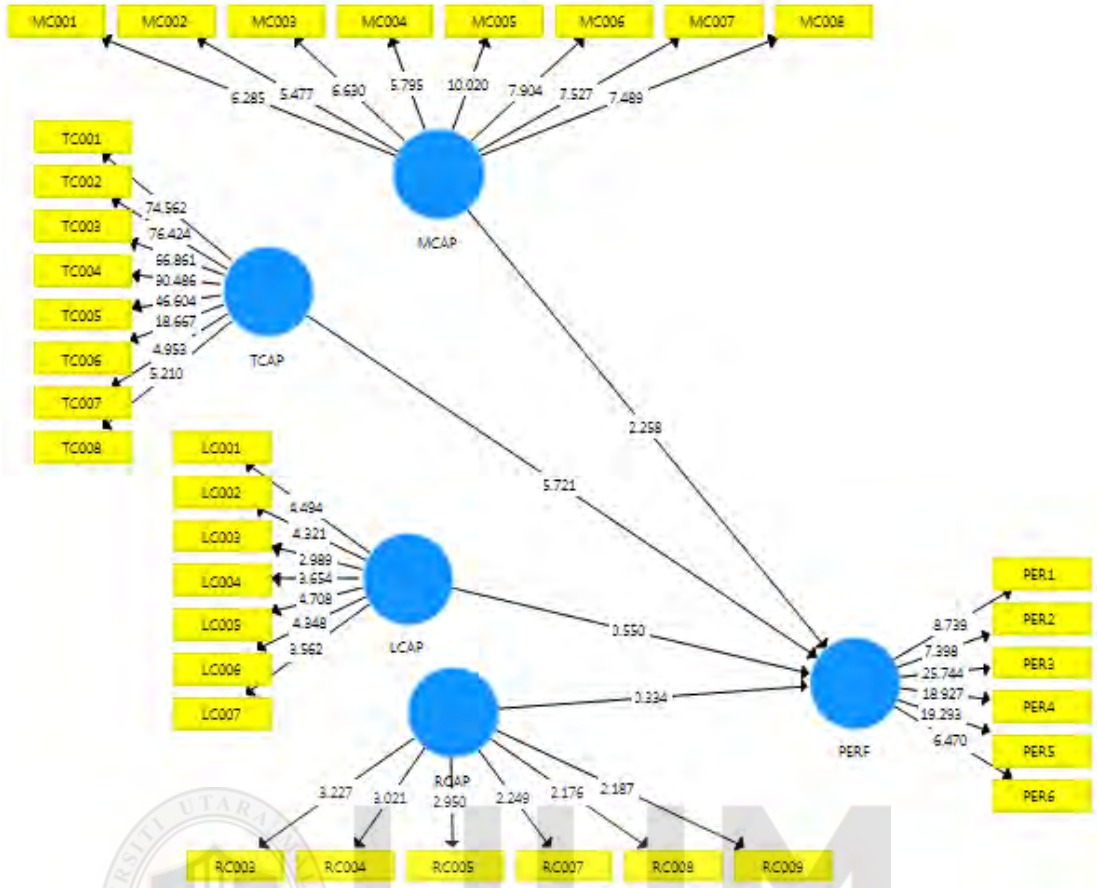

Figure 4. 2

Bootstrapping of direct IV-DV relationship

As shown in table 4.16 and figure 4.2 above, three (3) significant positive direct effects were established out of five (5) direct relationships tested between the independent variables and performance. Equally, two none significant relationship was also found, i. e RC and LC paths reveals no significant direct effects. Specifically, H1 is supported which indicates that top management capability (MC) and SMEs performance (PERF) positively and significantly relates with one another (β=0.218, t=2.258, p< .012). The statictical result demonstrated that a 2% changes in top management capability brings about 22% increase in F&B manufacturing SMEs performance.

Similarly, H2 was supported as the result shows that technological capability (TC) significantly and positively relates to the SMEs performance (PERF) (β=0.421, t=5.721, p< .001). From this statistical value, it can be observed that 1% variation in technological capability improve F&B manufacturing SMEs performance by 42%. However, H3 was not supported, that is learning capability has no significant relationship with SMEs performance (PERF) (β=-0.081, t= 0.550, p< .291). Equally, H4 was not supported, because the statistical result reveals that relational capability did not significantly relate to SMEs performance (PERF) (β= -0.057, t = 0.334, p< .369).

The table 4.16 above also presents the main direct effects of the top management capability, technological capability, learning capability and relational capability (independent variables) on the SMEs innovation strategy (mediating variable) as hypothesized above. Significant positive direct effects were established for all the four (4) direct relationships between the independents variables and the mediating variable. Specifically, top management capability (MC) and SMEs innovation strategy (INNOV) significantly and positively relate (β=0.104, t=1.661, p< .048); this means that H5 is supported. However, the variation in F&B SMEs innovation strategy brought by the changes in top management capability is not highly greatable. 5% changes in MC only improve innovation strategy by 10%.

H6 was also supported, this demonstrates that technological capability (TC) and SMEs innovation strategy (INNOV) have significant positive relationship (β=0.371, t=6.536, p< .001). Technological capability is significant factor in explaining innovation strategy in F&B manufacturing SMEs. The result of this study indicates

that 1% changes in TC accounts for 37% improvement in F&B manufacturing SMEs innovation strategy.

Furthermore, learning capability and SMEs innovation strategy (INNOV) also positively and significantly relate (β=0.184, t=2.136, $p < .018$), thus H7 was supported. This statistical findings shows that 2% improvement in F&B manufacturing learning process increases innovation strategy by 19%. Learnig capability is therefore essential in explaining innovation strategy in Nigerian F&B manufacturing SMEs. Similarly, the empirical result supported the H8, this indicates that relational capability positively and significantly relates to SMEs innovation strategy (INNOV) (β=0.363, t=7.523, $p < .001$). This result indicates that 1% changes in RC create 37% improvement in F&B manufacturing SMEs innovation strategy.

Accordingly, as we have observed from the table 4.12 and figure 4.3 above, innovation strategy (INNOV) has a significant positive direct relationship with SMEs performance (PERF) (β=0.503, t=8.931, $p < .001$). This confirmed that H9 was also supported. Innovation strategy is critical to the survival and growth of F&B manufacturing SMEs. It can be acknowledge from this statistical result that 1% changes in innovation strategy creates 50% enhancement in F&B manufacturing SMEs performance.

4.8.2 The Mediating Relationship

This section presents the mediating effect of innovation strategy on the relationship between MC, TC, LC, RC and F&B SMEs performance. Baron and Kenny, (1986)

maintain that a researcher must estimate three (3) regression equations in evaluating mediation effect in a survey model. These include: regressing the dependent variable on the independent variable, follow by regressing the mediator on the independent variable, and finally regressing the dependent variable on both the independent and the mediating variable (see table 4.17 and figure 4.4 below). Thereafter, the distinctive coefficients of every equation state must be estimated and tested, hence hierarchical regression or any partial or semi-partial correlations is not necessary. Therefore, if all of the condition mentioned above established in the expected direction, then the influence of the independent variable on the dependent variable must be greater in the second equation than in the third equation (Baron and Kenny, 1986).

Hence to demonstrate mediation, the statistical value must demonstrate significant influence between the independent variable and the mediating variable and also a strong influence of the mediating variable on the dependent variable (Preacher and Hayes, 2004, Baron and Kenny, 1986). However, Zhao, Lynch, and Chen, (2010) contended the theory of Baron and Kenny that only significant indirect effects determine the strength of mediation but not direct effect. Hence significant indirect effect becomes a requirement for establishing mediation and all other tests are relevant in categorizing the extent of the mediation. Similarly, they pointed out that their Sobel test is inadequate in power if related to bootstrapping test popularized by Preacher and Hayes, (2004).

Consequently, a researcher expecting a significant positive indirect effect may overlook the fact that the relationship can be significant and negative regardless of

the positive relationship between independent and dependent variables, independent and intervening variables and dependent and mediating variables (Zhao, Lynch, and Chen, 2010, Hayes, 2009). Recently, Nitzl, Roldan, and Cepeda, (2016) urged that mediation can be tested through the indirect effect and get the required information in the first instance, and secondly the power of indirect effects must determine the mediation size and lastly researcher can test the significance of the indirect effect through bootstrapping (Hayes and Scharkow, 2013, Hayes, 2009). Bootstrapping in most case maintains high power and ability to control the type I error (Hayes, 2009).

Bootstrapping is among the powerful techniques of testing the effect of mediating variable (Williams and MacKinnon, 2008, MacKinnon, Lockwood, and Williams, 2004). Hence bootstrapping is adopted to analyze the effect of all the mediating hypotheses. The unique advantage of bootstrapping is that the statistical inference depends on the estimated indirect effect, unlike the Sobel test, bootstrapping does not assume about the shape of the sample distribution of indirect effect, thus avoid the problem surrounding the Sobel test (Hayes, 2009, Preacher, Rucker, and Hayes, 2007).

Moreover, it does not require estimate of the standard error to make inference, hence it is considered as a general approach that can be applied in any complex model to make inference about the indirect effect (Hayes, 2009). Unlike conventional techniques which relied on assumed distributional test statistic properties, Bootstrapping techniques generate their own distributional test statistic against which hypotheses is tested and confidence interval generated (Williams and MacKinnon, 2008).

Mediation is established when in the first equation the independent variable influences the mediator, similarly in the second equation the independent variable affects the dependent variable and finally in the third equation the mediator affects the dependent variable (Hair et al., 2017). Nevertheless, an effect of mediation is established where the indirect effects among the variable of the study is significant (Zhao, Lynch, and Chen, 2010). The effects of mediation can either be partial or full mediation. Full mediation represents situation where the direct effect is insignificant, while the indirect effect is positively significant, or the direct effect of independent variable on the dependent variable is absolutely transmitted with the support of the intervening variable (Carrión, Nitzl, and Roldán, 2017).

Furthermore, the partial mediation can either be complementary or competitive. Complementary mediation exists when the portion of the significant effect of independent variable on the dependent variable is explained by the mediating variable and the other portion is explained by the independent variable. On the other hand, a competitive mediation exists where the direct and indirect effects point at opposite direction (Carrión, Nitzl, and Roldán, 2017). Hence a negative indirect effect indicates that the intervening variable explains some portion of the effect, while the independent variable also explains some portion independent of the intervening variable (Zhao, Lynch, and Chen, 2010). In hypothesized competitive mediation, it is expected that the intervening variable reduce the extent of correlation between the independent and dependent variables. Conversely, the intervening variable may increase the extent of correlation between the independent and dependent variables (Nitzl, Roldan, and Cepeda, 2016).

Similarly, the analyses may reveal only direct effect where the indirect effect is insignificant while the direct relationship is significant, hence in this case the presence of non-mediating but direct effect (Nitzl, Roldan, and Cepeda, 2016, Zhao, Lynch, and Chen, 2010). In this situation, the researcher may be searching for erroneous mediation relationship. Nevertheless, it is also likely that an unnoticeable mediation relationship silently exists beside other present variable that mediates the effects between the independent and dependent variables (Shrout and Bolger, 2002). However, if a significant total effect exists, the researcher must determine if the sample size is sufficient to exalt an effect where there is (Carrión, Nitzl, and Roldán, 2017, Zhao, Lynch, and Chen, 2010). In a nutshell, according to Zhao, Lynch, and Chen, (2010) an analysis of mediation can produce any of the five (5) outcomes below:

- Complementary mediation: this represents mediating effect (significant correlation between independent and dependent variable, independent, mediating and dependent variables)
- Competitive mediation: this represents mediated effect (significant effect between independent, mediating and dependent variables) and the direct effect (independent and dependent variables) both exist, but point at different directions
- Indirect-only mediation: this indicates mediated effect (significant relationship between independent, mediating and dependent variables) but no direct significant effect between independent and dependent variables.

- Direct-only non-mediation: this shows that only significant correlation exists between independent variable and dependent variables, but no significant indirect effects.
- No-effect non-mediation: this represents a situation where both the direct and indirect relationship is non-significant.

4.8.3 Testing the Mediation Effect

This sub-section presents the PLS structural result of the direct and the indirect effects. Indirect effects demonstrate the collective effects of the direct and indirect relationship among the constructs (Zhao, et al., 2010). Indirect effects show the role of intervening variable (M) in influencing the effect of X on Y (Preacher and Hayes, 2004, Baron and Kenny, 1986). Quantitatively, it is the paths outcome of a change in Y from the influence of X on M which in turn influences Y. Presenting total effect is a necessary condition as it indicates to the practitioners the true picture of the mediating role in a given constructs.

Using the bootstrapping analyses in PLS-SEM, the mediation roles can be tested according to the established hypotheses. Similarly, Teller and Kock, (2013) maintained that mediation effects can be measured by the product of the path of –a" and –b" and then divide the value obtained by the standard error as indicated by the formula below.

T = a x b S(a x b)

Where;

-a = relationship value between independent variable and the mediating variable

-b = relationship value between the mediating variable and the dependent variable

-S(a x b) = standard deviation of -a and –b.

PLS bootstrapping is normally used to obtain the path coefficient of -a and –b to determine their significance and standard error. Mediation is established at 0.05 significance levels when T value is greater or equal to 1.96 and 1.64 in two and one tail respectively (Hair, et al., 2010).

On the other hand a Variance Accounted For (VAF) can be used to determine the degree of the indirect effects. It estimates the ratio of indirect to total effects. Usually calculated through:

VAF= a*b/a+b+c

Where a= coefficient value of independent and mediating variable

b= coefficient value of mediating and dependent variable

c= coefficient value of independent and dependent variable

Equally, bootstrapping can be used directly from SmartPLS-3.0 to calculate and determine the mediating effect of the intervening variable. Therefore, this study used SMartPLS-3.0 to examine the mediating role of innovation strategy on the relationship between MC, TC, LC, RC and the performance of F&B SMEs.

Table 4. 17:
Specific Indirect Effects of Study Variable

Path Coefficient	Standard Error	Beta (β)	T-statistic	P-Value	Decision
MC-< $INNOV$ < $PERF$	0.032	0.053	1.613	0.053**	Supported
TC-< $INNOV$-< $PERF$	0.034	0.186	5.613	0.001***	Supported
LC−<INNOV-< $PERF$	0.047	0.093	2.106	0.018**	Supported
RC-< $INNOV$ < $PERF$	0.033	0.183	5.679	0.001***	Supported

Note: PLS bootstrapping of 5000 samples with 229 cases was used to calculate the values at Note: ***; **; shows the relationship is significant at p< .01; and p< .05 respectively.

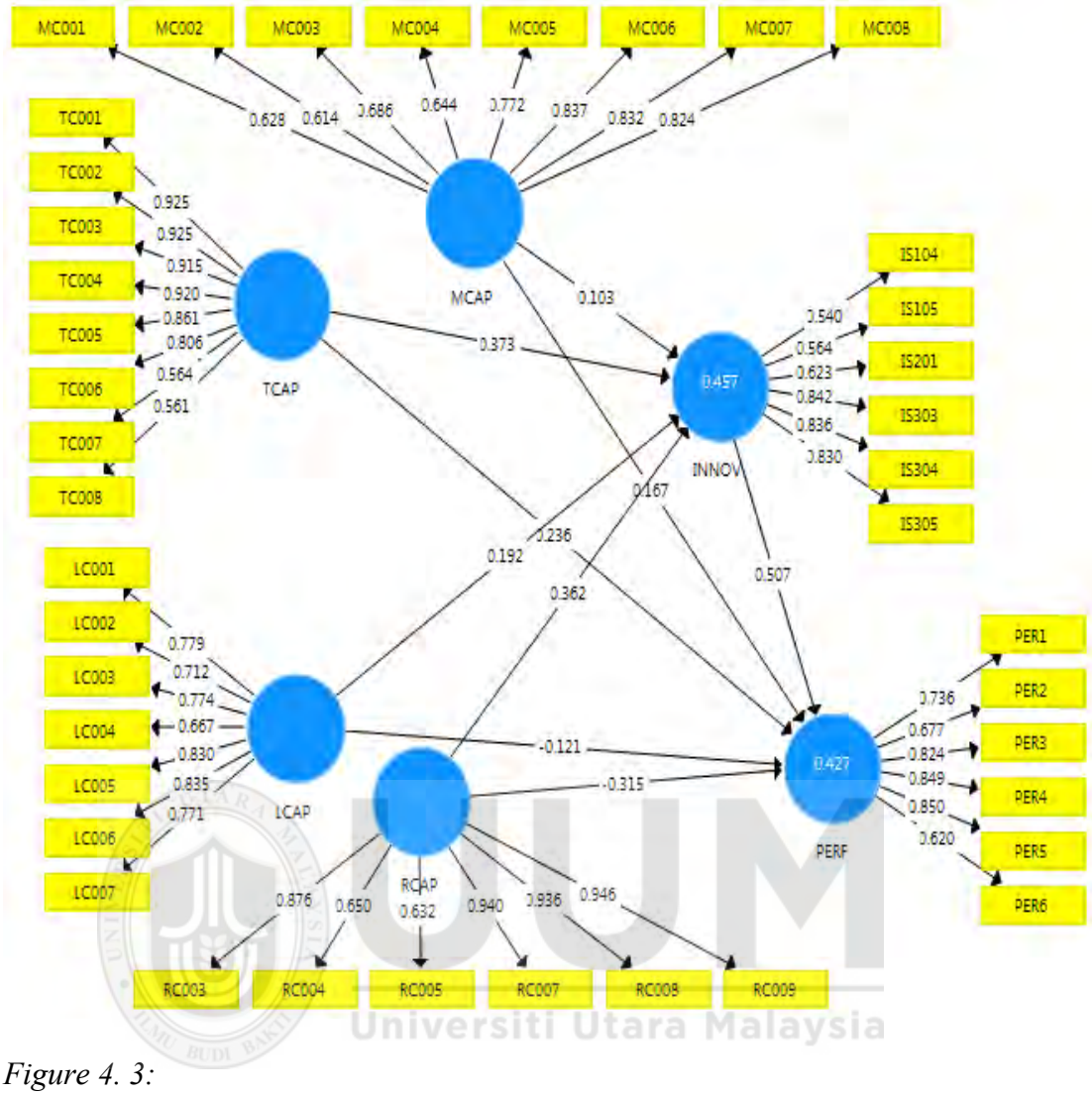

Figure 4. 3:

PLS Algorithm of Indirect Relationship IV-MV-DV

The analyses of the statistical values presented in Table 4.17 and Figure 4.4 indicate the indirect relations of the study variables; top management capability, technological capability, learning capability, relational capability and innovation strategy to the F&B SMEs performance.

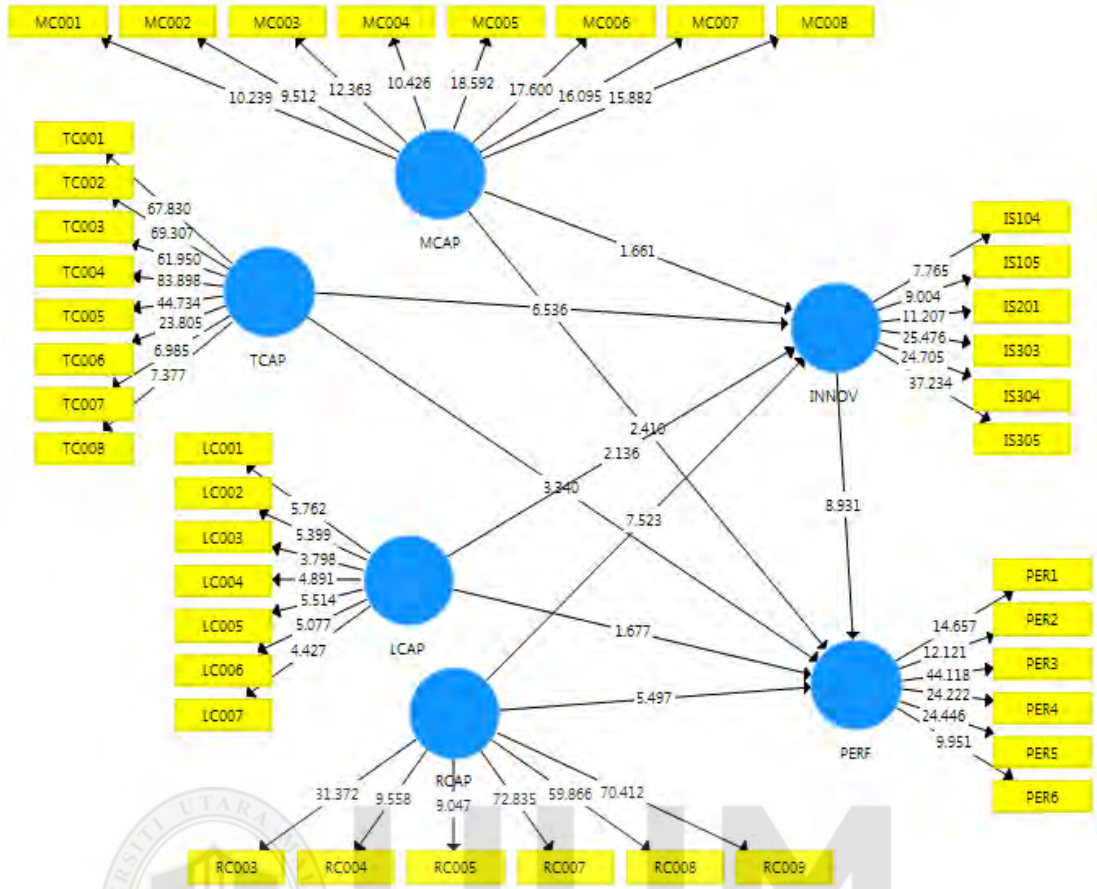

Figure 4.4
PLS Bootstrapping for Indirect Relationship IVs – MV – DV

The analyses of the results in the Table 4.17 and Figure 4.4 reveal significant indirect effects of all the variables under study. These demonstrate the mediating effects of innovation strategy on the relationship between the four independent variables and the SMEs performance. Precisely, innovation strategy mediates the positive relationship of top management capability and SMEs performance MC-$< INNOV <$ $PERF$ (β=0.053, t=1.613, p< .053), thus H10a was supported. Similarly, H10b was also supported as shown by this statistical value TC-$<$ $INNOV$-$<$ $PERF$(β=0.186, t=5.613, p< .001). This means that innovation strategy mediates the relationship between technological capability and performance of manufacturing SMEs.

Regarding to H10c, the statistical value LC−<INNOV-< $PERF$ (β=0.093, t=2. 106, p< .018) supported the hypotheses. Thus innovation strategy mediates the relationship between learning capability and the performance of SMEs. H10d was also supported as demonstrated by the statistical value RC-< $INNOV < PERF$ (β=0.183, t=5.679, p< .001), consequently innovation strategy mediates the relationship of SMEs relational capability and performance.

Based on Zhao, Lynch, and Chen (2010), innovation strategy has a complimentary mediation role on the relationship between top management capability, technological capability and SMEs performance. This is because of the significant positive relationship between the MC, TC and PERF, significant positive relations between MC, TC and INNOV and significant positive relationship between INNOV and PERF. On the other hand, innovation strategy has indirect-only mediation effect (full mediation) on the relationship between learning capability (LC) as well as relational capability (RC) and the SMEs performance. This is due to the fact that no significant direct relationship between LC, RC and PERF but only LC and INNOV, RC and INNOV however, INNOV significantly and positively mediates the relationship between LC and PERF as well as RC and PERF.

4.9 Recapitulation of the Study Major Findings

This study established and tested 10 main hypotheses. Hypotheses 1-4 tested the direct relationship of the independent variables and the study dependent variable. While hypotheses 5-8 tested the direct relationship of the study independent variables and the mediating variable. Equally, hypothesis 9 tested the direct relationship of the mediating variable and the study dependent variable. Whereas hypothesis 10 (10a-

H10d) tested the mediating effect of the mediating variable on the relationship between the independent variables and the study dependent variable.

Table 4.18:
Recapitulation of the Study Major Finding

Hypotheses	Stated Hypothesis	Finding/Decision
H1	MC positively relates to the performance of F&B manufacturing SMEs in Nigeria.	Supported
H2	TC positively relates to the performance of F&B manufacturing SMEs in Nigeria.	Supported
H3	LC positively relates to the performance of F&B manufacturing SMEs in Nigeria.	Not Supported
H4	RC positively relates to the performance of F&B manufacturing SMEs in Nigeria.	Not Supported
H5	MC positively relates to the innovation strategy of F&B manufacturing SMEs" in Nigeria.	Supported
H6	TC positively relates to the innovation strategy of F&B manufacturing SMEs" in Nigeria.	Supported
H7	LC positively relates to the innovation strategy of F&B manufacturing SMEs" in Nigeria.	Supported
H8	RC positively relates to the innovation strategy of F&B manufacturing SMEs" in Nigeria.	Supported
H9	Innovation strategy positively relates to the performance of F&B manufacturing SMEs in Nigeria.	Supported
H10a	Innovation strategy positively mediates the relationships between MC and the performance of F&B manufacturing SMEs in Nigeria.	Supported
H10b	Innovation strategy positively mediates the relationships between TC and the performance of F&B manufacturing SMEs in Nigeria.	Supported
H10c	Innovation strategy positively mediates the relationships between LC and the performance of F&B manufacturing SMEs in Nigeria.	Supported
H10d	Innovation strategy positively mediates the relationships between RC and the performance of F&B manufacturing SMEs in Nigeria.	Supported

4.10 Summary of the Chapter

The chapter presents the outlines of the findings from the data collected. Analyses were made for the questionnaires administered and retrieved, screened and validated. Descriptive statistics of the profile of respondents and the constructs in the study was also conducted in this chapter. Furthermore, the empirical statistical test of the hypotheses developed for the study were made. The results of the empirical test revealed that eight (8) hypotheses were supported. In overall perspective firms top management and technological capabilities, as well as innovation strategy are positively related to F&B SMEs performance. Learning capability and relational capability has no significant direct relationship with F&B manufacturing SMEs performance. The analysis of the mediation effect reveals a significant effect of the mediating variable on the relationship of all the four independent variables and the dependent variable. The results obtained were discussed and related to relevant existing literature in the subsequent chapter.

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This last chapter of this research concentrates on the discussion of the relevant findings based on the established study questions, objectives, hypotheses and relevant extant literature reviewed in this study. Moreover, the section demonstrated the practical and theoretical contributions as well as the implications of the study findings. It also presents the limitation of the research and profers a direction for further study. Finally, the conclusion drawn for the study was also presented in the chapter.

5.2 Summary of the Major Findings

This section of the fifth chapter demonstrated the executive summary of the major research findings based on the research objectives established for this study. The main objectives of this research were to examine the relationship between firm‟s strategic capabilities (MC, TC, LC, RC) and the innovation strategy as well as the performance of F&B manufacturing SMEs. Specifically, MC, TC, LC, RC are hypothesized to have a positive direct relationship with innovation strategy on one hand and the performance of SMEs on the other hand. Equally, innovation strategy is hypothesized to positively relate to F&B SMEs performance as well as mediate the positive links between MC, TC, LC, RC and F&B SMEs performance.

Based on the major research questions raised, a total of ten (10) objectives were specified and hypotheses formulated according to the statement of the research

objectives. Reviewing and examining these relationships empirically has provided a way to improve the performance of F&B manufacturing SMEs. The study framework is grounded on the theory of resource-based view (RBV) and the dynamic capability theory (DCT), which demonstrated that F&B SMEs performance is positively influenced by the collections of distinctive intangible resources such as capabilities.

Therefore, strategic organizational capabilities (MC, TC, LC, and RC) are unique intangible resources and dynamic capabilities that significantly influence F&B SMEs performance directly and indirectly. Consequently, to achieve this, Smart-PLS 3.0 was used to statistically test the ten hypotheses formulated for this study. The result of the empirical examination reveals a support for seven (7) direct hypotheses and all of the four (4) indirect relationships through mediating variable. While two direct hypotheses were not supported.

5.3 Relationship between MC, TC, LC, RC and the Performance of Manufacturing SMEs in Nigeria.

The first phase of the leading objectives of this study is to empirically evaluate the significant relationship between MC, TC, LC, RC and the performance of Nigerian F&B manufacturing SMEs. Accordingly, four hypotheses were developed and tested the positive relationship between MC and F&B SMEs performance, TC and F&B SMEs performance, LC and F&B SMEs performance and RC and F&B SMEs performance.

5.3.1 Top Management Capability and the Performance of SME in Nigeria

Top management capability (MC) is described as the ability of F&B SMEs top management to effectively develop tactical capability, demonstrate relational and leadership skills, forecasting, understanding and adjusting to the changing operating environment to achieve successful innovation and enhance performance. Thus, H1 hypothesized that MC positively relates to the performance of manufacturing SMEs. The empirical result demonstrated that MC significantly and positively relates to SMEs performance (β=0.218, t=2.258, p< .012). This agrees with the findings of numerous past studies (Ahmed and Mohamed, 2017, Shigang and Guozhi, 2016, Hayton 2015, Birkinshaw and Goddard, 2009). The statictical result demonstrated that a 2% changes in top management capability brings about 22% increase in F&B manufacturing SMEs performance.

As the result of this statistical test supported the hypothesis and it satisfied the requirements of the corresponding question. Equally, the findings confirmed the essential role of MC as a VRIN and dynamic resources, thus supported the claim of RBV and DCT. This study confirmed that top management capability is one of the valuable, exceptional and unique F&B SMEs resources that create, sustain and improve competitive advantage and better performance. The ability of top management to understand the industry, players and changes are critical resource in creating better performance that generate more profits, expand market and increase customer and employees satisfactions as well as improve social and environmental responsibilities.

The study also demonstrated the dynamic power of top management capability by empowering F&B SMEs to reconfigure their capabilities and strategies to meritoriously understand the changes in the industry and the general environment, identify and plan toward exploiting opportunities and to guard against the threats. This tremendeously helps F&B manufacturing SMEs to effectively adjust to changing market and operational demands, which lead to the attaintment of sustainable superior performance in terms of profitability, market growth, satisfaction of employees and customers needs as well as social and environmental duties.

Top management capability is an essential factor that influences effective utilization of firm‟s resource and growth (Mazzarol, Reboud, and Soutar, 2009) and help combine human capital and physical resource to achieve sustainable competitive advantage (Garcés-Galdeano, García-Olaverri, and Emilio, 2016). This study therefore advocates that top management capability is essential for F&B manufacturing SMEs to understand the trends in their operating environment and develop strategy to integrate internal and external resources to achieve and uphold competitive position. Hence, Nigerian F&B SMEs need to develop and improve the effectiveness of MC to maintain and enhance their performance through effective strategic planning, coordination, leadership, inter-personal, communication and monitoring capabilities.

5.3.2 Technological Capability and the Performance of SMEs in Nigeria

The second question raised in this research was whether TC significantly influences F&B manufacturing SMEs performance in Nigeria. TC in this study is described as

F&B SMEs capability to explore, acquire, refine and operate new technologies, skills and technique to frequently develop differentiated product, process and administrative innovations that best satisfy the market demands. Consequently H2 of the study hypothesized that TC positively relates to the performance of F&B manufacturing SMEs is tested. The result of the empirical examination indicated that TC positively relates to the performance of F&B SMEs in Nigeria (β=0.421, t=5.721, $p < .001$). Thus the result of the empirical test in this study supported the findings of previous studies (Navimipour and Soltani, 2016, Nakola, Buigut, and Kipchirchir, 2015, Ahmad, et al., 2014, Reichert and Zawislak, 2014). The statistical value indicates that 1% variation in technological capability improve F&B manufacturing SMEs performance by 42%.

As the hypothesis is accepted, the empirical outcomes also answered the respective question raised. It also validates the assertion of this study from the perspective of RBV which maintains that TC is a VRIN resource that significantly influences firm‟s performance. It is therefore demonstrated that an efficient and effective level of TC is an important strategic organizational capability in influencing the performance of F&B manufacturing SMEs. Accordingly, the empirical evidence supported the view of TC as the firm‟s dynamic capability which enables F&B SMEs to reconfigure their technologies, skills and knowledge to effectively adjust to the changing operating environment and sustaining competititve position and creating satisfactory performance.

In a nutshell, the result suggests that SMEs generally and Nigerian F&B manufacturing SMEs in particular need to develop efficient technological capability

through training and research and development (R&D); as this can greatly assist managers to proficiently explore, acquire, refine and operate new technologies, skills and technique to effectively develop distinctive innovation strategy based on the market demand to improve performance. Hence F&B SMEs ability to invest in R&D, develop and explore new technologies and skills are crucial to their survival and sustenance of superior performance in this changing environment, thus TC is regarded in this study as one of the firm‟s dynamic capability.

5.3.3 Learning Capability and the Performance of F&B SMEs in Nigeria

The third objective of the study was not achieved. H3 hypothesized that LC positively relates to the manufacturing SMEs performance. The result of statistical test shows no significant effects of LC on F&B SMEs performance (β=-0.083, t= 0.550, p< .291). Learning capability was found in this study to have no significant statistical influence on F&B SMEs performance contrary to the reports of previous studies (Pucci, Nosi, and Zanni, 2017, Beneke, Blampied, Dewar and Soriano, 2016, Serna, Vega and Martínez 2016, Hailekiros and Renyong, 2016).

Given that LC represents the F&B SMEs ability to generate knowledge, skills and techniques, this result means that F&B manufacturing SMEs in Nigeria have low ability in the generation of knowledge that would directly enhance profitability, customer and employees satisfactions, social and environmental performance. Thus Nigerian F&B SMEs should revisit their strategic planning and inculcate learning capability which emphasizes; experimentation, risk taking, dialogue, interaction and participative decision making that can effectively enhance their overall performance directly.

The explanation of this none significant findings may be possibly depended on the assertion that LC as a strategic organizational capability is contextually sensitive. The extant literature maintained that learning does occur unexpectedly, rather some environmental and managerial actions are required to ensure the firm is rightly designed to achieve effective learning capability (Zahra, et al., 2011, Goh and Richards, 1997). Furthermore, Verma, et al., (2014) and Sinkula et al., (1997) demonstrated that the ability and efficiency at which the firm learns is determined by its culture as they interact with market information, behaviours and actions. Calantone, et al. (2002) urged that SMEs committed to learning must understand fully the new technologies, customers, competitors, and other factor in the environment.

Equally, Peansupap and Walker, (2009) identified management support for learning, absorptive capacity, individual learning and sharing, group learning, personal relationship, nature of work and knowledge source, as well as learning equilibrium as crucial factor influencing the effectiveness of learning. Thus, the reason for this insignificant relationship may be attributed to both internal and external factors such as lack of managerial commitment to learning and cultural issues. Learning is generally effective when employees engage themselves in dialogue, share vision, participatory decision and initiation. However in SMEs, owners and managers always decide what to do (Dewi, Maarif, and Sunarti, 2017). Thus in Nigeria, F&B SMEs owner/managers may be in most cases the only person to detect what task to perform, where, when, how and by whom. These may have prevented employees to

come up with and demonstrate new idea that would help others to learn and enhance performance.

The transformation and exploitation capacity of Nigerian F&B manufacturing SMEs may be another factor affecting the influence of learning capability on their performance. Acquisition, transformation and exploitation capacities are essentials in firm‟s learning. It has been demonstrated that the success and effectiveness of knowledge transfer and acquisition depend on organizational transformation and exploitation capability, the environment for learning and the willingness to transfer the knowledge (Awang, et al., 2013). Wang, et al., (2018) and Whitehead, et al., (2016) emphasize the essential role of absorptive capacity in enhancing local firms to leverage the benefit from external linkage to improve performance.

Another potential reason may be lack of teamwork and participatory decision which are essential in sharing and acquisition of knowledge. Participatory decision making helps develop a sense of belonging among employee which resulted in a total commitment to firm‟s objective (Lin, 2007). LC postulates firm‟s ability to systematize learning into its culture to drive in and inspire teamwork, knowledge acquisition process and alliance, which creates firms‟ value (Kaplan, et al., 2014). Ojo, Raman, and Chong, (2017) asserted that knowledge can be acquired and assimilated based on firm‟s efforts and ability, however effective utilization of such a knowledge requires the firm to create mutual understanding among the groups or organizational members. Therefore, F&B SMEs managers in Nigeria need to create and encourage team work, shared vision and participatory decision making among its employees to directly enhance performance.

Although learning plays a vital role in improving firm‟s innovation performance, it is imperative to develop the culture for constant learning in the firms, and acknowledge that employees‟ willingness and commitment to learning is correspondingly important (Ajayi and Morton, 2015). Ojo, et al., (2017) maintained that firms must create learning focus that motivate employees to willingly exalt necessary efforts to leverage external knowledge and resources. Thus, it is important to influence employees commitment to learning so as to acquire and learn new techniques and knowledge to enhance operational and service delivery process to improve performance.

Verma, et al., (2014) urged that managers must develop learning culture to encourage employees to reason differently and create innovative ideas to improve performance. Hence, the result of this study demonstrated that F&B manufacturing SMEs in Nigeria may have exhibited low commitment to allow experimentations, interactions and risk taking. F&B SMEs managers in Nigeria should therefore, allow and encourage employee‟s participation, initiative and information sharing to enhance the effects of learning capability on the performance of their firms. Dialogue and shared vision would help those that perceived creating innovative values as risky to seek information and advice about the idea which may likely enhance the service delivery.

Equally, another potential reason for this assertion (H3) not to hold could be attributed to methodological differences, like absence of mediating variable, as the hypotheses tested a direct relationship. This can be observed from the result of mediation test in this study. Hence, this result does not mean that LC is not an

essential capability for better firm‟s performance. The result of this study confirmed the mediating role of innovation strategy on the relationship of LC and F&B SMEs performance. Therefore, the impact of LC on F&B manufacturing SMEs performance by itself is likely not as strongly effective as when innovation strategy is taken into consideration.

5.3.4 Relational Capability and the Performance of F&B SMEs in Nigeria

To achieve the fourth objective of this study, H4 was developed which states that RC positively relates to the performance of F&B manufacturing SMEs was tested. The empirical result indicates a none significant relationship of RC with the performance of manufacturing SMEs in Nigeria (β= -0.057, t = 0.334, p< .369). Consequently H4 was rejected. This does not support the findings of previous researches that demonstrated a positive relationship of RC on firm‟s performance (Sánchez-Gutiérrez, et al., 2018, Chen and Kitsis, 2017, Shou et al., 2017, Yu and Huo, 2018, Hietajärvi, Aaltonen, and Haapasalo, 2017, Lo, Stepicheva, and Peng, 2016, Luvison and de Man, 2015, Schweitzer, 2014, Caner and Tyler, 2013, Ziggers and Henseler, 2009).

RC in this study demonstrated the ability of F&B manufacturing SMEs to nurture and establish relationship with relevant partners so as to access valuable resources the business cannot independently provide to enhance operation and performance. However, the insignificant effect does not indicate that RC is not a significant strategic capability, rather designates that RC did not directly enhance performance, but can influences other capabilities and strategies as indicated by the indirect relationship (H10d) in this study. RC meaningfully and positively impacted on the

innovation strategy which inturn mediates the insignificant relationship of RC and F&B SMEs performance to momentous positive relationship.

Consequently, some operational and environmental factors may have been the reason for this insignificant outcomes. For instance, it has been established that relationship with external partners entails commitments of resources, effort and attention (Albort-Morant, et al., 2018, Andersén and Kask, 2012, Sandberg, 2007). Therefore, this result indicates that F&B manufacturing SMEs in Nigeria may have committed limited resources, time and efforts to external relations to directly enhance profitability, customer and employees satisfaction, social and environmental responsibility. Hence, inadequate resource and managerial commitment to inter-firm relationship may be among the potential reason for the none significant influence of Nigerian F&B SMEs relational capability on their performance.

Equally, the none significant influence of RC on F&B SMEs performance may be as a result of the inability of F&B SMEs management to effectively analyze, understand the terms, condition and determine the appropriate partners for relationship. Entering into bilateral trades relationship without due consideration for comparative advantage may not be healthy for businesses particularly SMEs in developing economies like Nigeria. This is largely because of peculiar challenges such as environmental constraints, lack of economic of scales and global outlooks. Fisher and Qualls, (2018) maintained that the effectiveness of collaborative relationship is determined by the firms position in the collaborative relationship.

The skills and knowledge of F&B manufacturing SMEs managers whose day-today operation of the firm depends upon is constrained by lack of appropriate professional advice, which affects the decision to relate and source external resources mainly due to fear of possible loss of control (Cassar and Holmes, 2003). Rungsithong, Meyer, and Roath, (2017) established that trust, facilitate the effectiveness of firm‟s relational capability. Thus, this statistical outcome demonstrate that F&B SMEs in Nigeria may have little trust in their relationship with external partners such competitors, supplier etc in relation to the attainment of better performance mainly because of fear to loss of control. Lau and Tovstiga, (2015), Türkeș, (2018) and Hasaballah et al., 2019) underscore this view by linking the success of strategic partnering to the cooperation, trust, conflict resolution and commitment of partners.

Another potential reason of this insignificant effect may be inability of the Nigerian F&B manufacturing SMEs to assimilate and exploit the external resources to build on the existing strength. Driving benefits from inter-firms relationship is a function of firm‟s assimilating capacity (Rafique, et al., 2018, Miguélez and Moreno, 2015, Bhattacharjee, et al., 2015, Mavondo and Matanda, 2015 Andersén and Kask, 2012, Jansen, et al., 2005). Obayi, et al., (2016) and Kim, et al., (2011) infer that the performance of inter-partnership is driven by complementary resources of strategic partner firms in conjunctions with effective absorptive capacity of the recipient firms.

Equally, F&B manufacturing SMEs in Nigeria may have low capacity to effectively engage with almost all its direct major competitors, who might be committed in maximizing their market shares, thus a weak SMEs firm may find it difficult to profit

from this relationship. Too much relationship exposed firms to lose its competitive capabilities, knowledge and resources to major competitors (Ritala, et al., 2008). Kanter, (1994) opined that even though external relationships have great benefits, a firm can manage only many, before collaborative demands begin to create conflicts, and investment requirements in learning, capital and management time which overshadow the perceived benefits.

Recently, the Nigerian government has declined assent to bilateral African continental free trade agreement due to pressure from Nigerian Labour Congress (NLC) and the Manufactureres Association of Nigeria (MAN), that the agreement would be detrimental to Nigerian firms which are mainly SMEs because of the lacks of economic of scale and competitive advantage (Akeyewale, 2018, Bloomberg, 2018, Mumbere, 2018). Li and Nguyen, (2017) urged that to successfully exploit information and resources from relevant partners, firms must effectively consider the market size and volatility, knowledge sharing, strategic partner selection, spillover effects, collaboration cost, collaboration strategy, opportunism, trust and commitment as well as economies of scale.

Another reason for this insignificant relationship of RC with Nigerian F&B manufacturing SMEs performance may be the short-term approach in assessing returns on investment and commitments by the SMEs owners/managers. Srivastava, (2015) maintained that firms must be patient enough particularly when invested in augmented mutual project/agreement with the aim of achieving end user satisfaction, as the return may take substantial time to manifest. Harnessing relationship benefits may be time consuming and requires considerable efforts (Sok et al., 2017). Fawcett,

McCarter, Fawcett, Webb, and Magnan, (2015) established that managers identify that relationship with partners requires upfront devotion of firm‟s scarce resources, but often return delayed and uncertain, thus managers are unwilling to take these risks.

Morever, F&B manufacturing SMEs in Nigeria may have also exhibited little commitment in taking collective actions/decisions with relevant partners concerning the generation of information, techniques, capabilities and materials resources that can be used to expand market, improve profitability, enhance customers and employees satisfaction as well as improved social and environmental responsibilities. Bonger and Christian, (2013) opined that the level at which SMEs firm is organized and its capacity to engage in collective decision/action are essential in forging effective relationship with external partners.

Various studies have demonstrated the influence of RC on firm‟s internal processes (Yu and Huo, 2018, Yu, Nguyen, and Chen, 2016, Lado, Paulraj, and Chen, 2011, Kandemir, Yaprak, and Cavusgil, 2006, Lee, Lee, and Pennings, 2001) which in turn enhances performance. Loewe and Chen, (2007) opined that to generate valuable ideas/resources firms must create appropriate stimulus by establishing strategy in identifying unmet market needs, overturning obsolete assumptions, understand and take advantage of environmental changes, leverage core competences distinctively and do several of these tasks simultaneously. Therefore, the findings of this study underscore this view by demonstrating that Nigerian F&B manufacturing SMEs RC is effective with other appropriate leveraging core factor like innovation strategy.

From the result and the arguments of previous studies, this study suggests that F&B manufacturing SMEs owner/manager in Nigeria must strengthen their strategic planning that takes into consideration other operational capabilities and strategies that would enhance the effectiveness of RC to support the process of obtaining valuable resource and information the business cannot individually provide to enhance performance. This may enhance the relational capability to facilitate the establishment of beneficial strategic collaboration with relevant partners in both backward and forward linkage which can help F&B manufacturing SMEs in Nigeria learn and develop new technologies and skills to effectively respond to emerging market demands than competitors.

5.4 The Relationship between MC, TC, LC, RC and F&B SMEs Innovation Strategy in Nigeria

Innovation has been established to be the most effective strategy for Nigerian F&B manufacturing SMEs to not only survive in their industry, but also enhance their competitive position and achieve improve performance in maximizing profit, expand market, better customer and employees satisfactions and improve social and environmental responsibilities. F&B manufacturing SMEs that is not concerned with this reality of innovativeness is officially signing off. F&B manufacturing SMEs can however develops effective management, technological, learning and relational capabilities to efficiently formulate policies, acquire technologies, gather and assimilate knowledge and establish backward and forward linkage to conceive and implement effective innovation strategy.

Therefore, the second direction of the objectives of this study geared toward evaluating the direct relationship between strategic capabilities (MC, TC, LC, and RC) and the innovation strategy of F&B SMEs (mediator). Based on the objectives established four hypotheses were formulated to test the relationship between the four distinctive F&B manufacturing SMEs strategic capabilities (MC, TC, LC, RC) and their innovation strategy guided by the RBV DCT. Precisely, H5, H6, H7, and H8 were empirically tested to attain objectives 5-8 established in this study.

5.4.1 Top Management Capability and the Innovation Strategy of SMEs in Nigeria

Building on the four objectives tested in the preceding subsection, the fifth objective of study is to answer the fifth research question raised which seeks to evaluate how MC relates to F&B SMEs innovation strategy. Hence H5 was hypothesized which stated that MC positively relates to SMEs innovation strategy. The result from the statistical test reveals that MC considerably and positively relates to the manufacturing SMEs innovation strategy (β=0.104, t=1.661, p< .048). This supports the outcomes of previous studies (Minh, Badir, Ngoc and Afsar, 2017, Ruiz-jiménez and Fuentes-fuentes 2015, Farrokhian and Soleimani 2015, Martins, Gomez-Araujo and Vaillant 2015, Pufal et al. 2015). However, the variation in F&B manufacturing SMEs innovation strategy brought by the changes in top management capability is not highly greatable. 5% changes in MC only improve innovation strategy by 10%.

Therefore, from RBV perspectives, the result demonstrated the validity of MC as VRIN resources which help SMEs achieve differential performance by enhancing product, administrative and process innovation. Thus MC is essential resources for

F&B SMEs in developing and implementing effective innovation strategy for sustainable superior competitive advantage. On the other hand, from DCT viewpoint MC is critical dynamic capability that enables F&B manufacturing SMEs reconfigure its innovative strategy to effectively response to changing market demands for sustainable competitive advantage. Equally, the positive effects of top management capability on innovation strategy in this study confirm the role of management ability as demonstrated by the innovation diffusion theory (Rogers, 1976, Rogers, 2004).

The managerial capability of F&B manufacturing SMEs top manager‟s is essential in all the categories of innovation strategy more than the factors from external environment and other personal characteristics of the top managers. This agrees with the views of Damanpour and Schneider (2006), which also demonstrated the ability of top management to commit substantial firm‟s resource to generate both tangible and intangible resource to support new process, product and administrative innovation strategy. The extant literature reveals that top management plays a significant role in promoting new ideas for product innovations and providing the resources required for all entrepreneurial action (Minh, et al., 2017, Goodale, et al, 2011).

Top management capability also supports and encourages internal knowledge sharing and inspires employees readiness to acquire, donate and share information and knowledge with colleagues (Szczepańska-Woszczyna, 2015, Borjesson et al., 2014), which are crucial to firm‟s innovation process. Therefore, MC is a VRIN F&B manufacturing SMEs resources that support and enhance innovation strategy.

Equally, MC is a crucial dynamic capability that facilitates the attainment of sustainable competitive advantage and superior performance in a rapidly changing environment. Nevertheless, F&B manufacturing SMEs managers need to improve in their strategic managerial functions so as greatly enhance innovation strategy.

5.4.2 Technological Capability and the Innovation Strategy of F&B SMEs in Nigeria

Furthermore, to answer the sixth question of this study, H6 were hypothesized and tested using the smartPLS 3.0 version. H6 stated that TC positively relates to the F&B SMEs innovation strategy. The result of the statistical test reveals a significant positive relationship between TC and SMEs innovation strategy (β=0.363, t=6.636, $p < .001$). This supports the findings of previous studies (Zawislak, et al., 2014, Chantanaphant et al., 2013). Technological capability is significant factor in explaining innovation strategy in F&B manufacturing SMEs. The result of this study indicates that 1% changes in TC accounts for 37% improvement in F&B manufacturing SMEs innovation strategy.

The result of this study indicates that F&B manufacturing SMEs technological pioneering, substantial investment in R&D, understanding of technological development are essential to the attainment of effective innovation strategy for better and sustainable competitive advantage and innovative performance. TC is therefore a VRIN SMEs firm"s resource in achieving effective sustainable innovative strategy to create distinctive competitive position in the market place. TC is equally an important dynamic capability, through which SMEs can reconfigure their operating

capabilities to efficiently create differential innovative strategy to respond to the changing market demands and maintain sustainable competitive position.

The extant literature have demonstrated TC as an important component of a firm‟s inimitable assets that contribute greatly to the conception and implementation of effective business strategies like innovation strategy to enhance the attainment of outstanding performance. Chantanaphant, et al., (2012) postulate that TC enables firms to develop new knowledge and capabilities to enhance operational and cost efficiency, foster inter-firm capability in collaboration, and enhance products and processes innovation capabilities. TC allows SMEs to effectively identify, acquire and exploit new technologies to adequately respond to changing operating environment (Akroush, 2012).

5.4.3 Learning Capability and the Innovation Strategy of F&B SMEs in Nigeria

Accordingly, objective seventh of the study was also attained. H7 hypothesized that LC positively relates to the innovation strategy of F&B manufacturing SMEs. The result shows a positive relationship between LC and F&B manufacturing SMEs innovation strategy (β=0.184, t=2.136, $p < .016$). Consequently, the results validate the hypothesis established. It also concurs with the views of numerous previous studies (Serna, et al., 2016, Kiziloglu, 2015 Aini, et al., 2013, Fang, Chang and Chen, 2011, Yoh, 2009, Karagouni and Papadopoulos, 2007). This statistical findings shows that 2% improvement in F&B manufacturing learning process increases innovation strategy by 19%. Learnig capability is therefore essential in explaining innovation strategy in Nigerian F&B manufacturing SMEs.

Therefore, this study postulates LC as the F&B SMEs ability to search and gather information and knowledge that help understand competitor‟s actions; changes in the market strategy and customer needs to enhance F&B manufacturing SMEs innovation strategy. This empirical result supports the RBV theoretical explanation of LC as firm‟s VRIN resource which creates and improves innovative strategy and performance. Similarly, the result validated the LC as a dynamic capability that enables F&B manufacturing SMEs to acquire, transform and exploit both the internal and external knowledge to reconfigure their operating capabilities to support the firm‟s innovative strategy in changing operating business environment.

F&B manufacturing SMEs must be ever determined in identifying new ways to enhance their position in the market. One of the strategic firm‟s capability to achieve this is learning capability (Sok and O‟Cass, 2011). Hence, F&B SMEs need to develop effective LC to generate market information from both internal and external sources for better innovative activities to satisfy the requirements of the changing market demands. Learning capability empowers F&B SMEs develop and implement effective innovation strategy leading to the development and timely delivery of product, process and administrative innovation. F&B SMEs that possess effective learning capability are ever ready to question their operational procedure, routines and processes and make changes based on feedback generated from the customers and channels which enhance the firms‟ abilities to efficiently develop better new products, increase the product delivery speed to customers.

5.4.4 Relational Capability and the Innovation Strategy of F&B SMEs in Nigeria

Objective eighth of this study is designed to answer the research question number eight raised in chapter one, which strives to gauge how RC relates to F&B SMEs innovation strategy. Therefore, H8 was hypothesized which stated that RC positively relates to the F&B SMEs innovation strategy. The statistical result discloses that RC significantly and positively relates to the innovation strategy of F&B manufacturing SMEs (β=0.363, t=7.523, p< .000). This concurs with the assertion of previous studies (Shou, et al., 2017, Pham, et al., 2017, Silvestri and Veltri, 2017, Schweitzer, 2014, Caner and Tyler, 2013, Kumar, et al., 2012). This result indicates that 1% changes in RC create 37% improvement in F&B manufacturing SMEs innovation strategy. Hence, RC is one of the most essential strategic capabilities for F&B SMEs innovation strategy.

From the stand points of the DCT, the result confirmed the power of RC as a dynamic capability that helps F&B manufacturing SMEs attain comparable and distinctive competitive advantage in today‟s rapidly changing environment through enhanced reconfigured product, administrative and process innovation strategy. Furthermore, from RBV stand point, the study upholds that F&B manufacturing SMEs relational capability is indispensable resource in all sorts of innovation strategy to effectively satisfy the market demand and achieve competitive advantage. RC facilitates strategic collaboration with relevant partners which provide firms with learning advantage to access market, information, technologies and resource to enhance the accomplishment of strategic firm‟s goals of economic of scale and competitive advantage.

Equally, relationship with strategic partners help spread technologies rapidly, penetrates new market, and speedily accesses knowledge and skills to form the market groundbreaker. Relationship with suppliers, customers, industry associate, competitors, research institution and other relevant stakeholders enable the firms acquire missing inputs that cannot be privately provided. This therefore, enhance F&B manufacturing SMEs capability to establish and improve effective innovation strategy. The innovation diffusion literature have justified the role of inter-personal relationship ability in enhancing the successful implementation of innovation (Rogers, 1976, Rogers, 2004). Therefore, this study complements by providing supportive evidence of the relationship of RC and innovation strategy from F&B SMEs perspective.

5.5 Innovation Strategy and the Performance of F&B SMEs in Nigeria

The objective nine of this study which was developed based on the research question number nine was also achieved. H9 is hypothesized as innovation strategy positively relates to the performance of F&B manufacturing SMEs. The result unveils that, SMEs innovation strategy (INNOV) significantly and positively relates to the performance of manufacturing SMEs (β=0.503, t=8.931, $p < .000$). This supports the findings of previous studies (Yusr, 2016, Beyene, Shi and Wu 2016, Hilman and Kaliappen, 2015, Huang, 2014, Dadfar et al., 2013, Rosli and Sidek 2013, Nybakk, et al., 2012). Innovation strategy is critical to the survival and growth of F&B manufacturing SMEs, as acknowledged from this statistical result, that 1% changes in innovation strategy creates 50% enhancement in F&B manufacturing SMEs performance.

Consistently, from the perspectives of RBV, the result confirmed the influence of innovation strategy as VRIN resources that help F&B manufacturing SMEs attain comparable unique performance through improved product, administrative and process innovation. It also demonstrated that despite the chain of challenges to F&B manufacturing SMEs innovation activities, innovation strategy is one of the strong dynamic capabilities that help SMEs to adjust to the changing environmental demands to achieve sustainable competitive advantage. Previous studies have maintained that through innovation, firms improve its capacity in exploiting opportunities and managing environmental threats (Matzler, et al., 2013, Nybakk, et al., 2012).

Innovation strategy is therefore, confirm to be one of the most essential F&B manufacturing SMEs strategy which enhances effectiveness, facilitates the process and serves as mechanism through which firms respond to the market challenges and improves competitive advantage and determines the firm‟s success in future. Hence innovation strategy is considered as the best strategy for achieving continuous product and process innovation in Nigerian F&B manufacturing sector. It enables F&B businesses achieve high profit and growth and provides the bases to develop the right innovations at right price and quality in the face of changing market and competitive condition. It equally, influences F&B financial and non-financial performance through improving the capability to create new product and process which leads the firm to innovate more efficiently than the competitor, therefore without innovation strategy, failure is inevitable in this dynamic environment.

Innovation strategy is a dynamic strategy that effectively guides the F&B manufacturing firms in the process of new product development and enhances the production of high-quality product, efficient and effective delivery time and discovering of a new market and ensures effective responses to competitive environment. Accordingly, through innovation strategy F&B involved in R&D, technical design, organizational structuring and profitable marketing activities of new or modified product. Therefore, effective innovation strategy helps F&B manufacturing SMEs to achieve, sustain and increase market share of their product, improve profitability, customers and employees satisfaction as well as social and environmental responsibilities.

Achieving sustainable innovation performance is more than producing new product, it requires planning of the manufacturing process, factory layout, the distribution channels and sales activities. Hence, through innovation strategy F&B manufacturing SMEs in Nigeria re-engineer their business processes by upgrading the internal capacities, structure and operational equipment. Innovation strategy enables the firm to improve and maintain their performance by reacting effectively to the pressure from the operating environment (Sisaye and Birnberg, 2010).

Consequently, F&B manufacturing SMEs can concentrate solely on innovation strategy to achieve efficient production cost and effective utilization of resources to improve product innovation and achieve product differentiation. Effective innovation strategy facilitates the development of beneficial external collaboration with strategic partners which enables firms to tapped resources which cannot be independently provided. Innovation strategy involves the implementation of the new method in the

firms practices, structure and external relations which often enhance performance by facilitating the sourcing of external knowledge and resources (Birkinshaw et al., 2008, Damanpour and Gopalakrishnan, 2001).

Innovation strategy facilitates firm‟s flexibility in identifying and exploring opportunities ahead of competitors. Thus through innovation strategy, F&B manufacturing SMEs can adjust to changing operating environment and customers‟ demand, which becomes a source of sustainable competitive edge. Therefore, innovation is considered as a major determinant of firm‟s survival and growth, thus firm unmindful to this reality of innovativeness is clearing its path out of existence (Kheng, Mahmood, and Beris, 2013). Hence, the importance of innovation strategy in firm‟s survival and growth in today‟s dynamic environment can never be over emphasized.

As a resilient competitive strategy for engaging in international business (Neely, Filippini, et al, 2001) where competition and high growing demand for better quality product, enhance product utility, reliable deliveries and prompt reponse time are the order of the day (Nybakk and Jenssen, 2012). Nigerian F&B manufacturing SMEs have developed innovation to effectively respond to the changes in managerial and technological knowledge, customer‟s expectation, industry competition and top management aspiration to achieve distinctive competencies in improving firm‟s performance. This concurred with the extant literature (Yusr, 2016, Iddris, 2016) which demonstrated that, in this environment where consumer preference, operationl skills, and market condition change rapidly, developing effective innovation strategy is necessary so as to survive and succeed.

5.6 The Mediating Role of Innovation Strategy on the Relationship between MC, TC, LC, RC and F&B Manufacturing SMEs performance

Lastly, H10 sought to achieve objective 10 established in this study. H10 was hypothesized to test the mediating role of innovation strategy on the relationship between MC, TC, LC, RC and the performance of F&B manufacturing SMEs. Consequently, bootstrapping method of 5000 sample of 229 cases was tested (Hair et al., 2017). The result reveals that innovation strategy significantly and positively mediates the relationship between MC, TC, LC, RC and the performance of F&B SMEs in Nigeria. The statistical results obtained from the mediation effect test represent the main contribution of this study; the issues of how and why mediation of innovation strategy occurs could better be answered by theoretical expositions reasonably than previous studies. Therefore, important theories consisting of resource based view (RBV) and dynamic capability theory (DCT) have prospered theoretical foundations for the new findings.

This study established that innovation strategy is one of SMEs essential strategies that enhance not only performance directly, but also facilitate and enhance the effects of firm‟s strategic capabilities. Specifically, the main reason of testing H9 above is to determine and establish the bases for mediating role of innovation strategy on the relationship between MC, TC, LC, RC and the performance of F&B manufacturing SMEs (Hayes, 2009, Baron and Kenny, 1986). The result from testing H9 supported the hypothesis. Thus F&B manufacturing SMEs must recognize that innovation strategy not only influences performance but also other strategic capabilities. Consequently, all the four components of H10 were established and supported.

Explicitly, the mediating role of innovation strategy on the relationship of MC and F&B SME performance was tested. The result of the statistical test shows that innovation strategy mediates the relationship of MC and F&B manufacturing SMEs performance (β=0.053, t=1.613, p< .053). This means that innovation strategy is a crucial strategy in enhancing the influence of top management capability on the performance of SMEs. Therefore, innovation strategy is vital to Nigerian F&B manufacturing SMEs top managers as dynamic capability that helps identify and reconfigure operational capabilities and resources to improve competitive position and achieve better performance in changing operating business environment.

Accordingly, innovation strategy can be an influential factor in explaining the relationship of TC and F&B SMEs performance. Hence, this study hypothesized that innovation strategy mediates the relationship of TC and F&B SMEs performance. The statistical result reveals that innovation strategy mediates the positive relationship of TC and performance (β=0.186, t=5.613, p< .001). Based on this result, it is worthy to note that SMEs ability to acquire, operate and upgrade new technologies, skills and resources to achieve and maintain better competitive advantage is considerably strengthened by effective innovation strategy.

Through innovation strategy, F&B manufacturing SMEs can apply TC to reduce cost and offer competitive product to the market which could result into enhanced overall performance. Therefore, from DCT perspective, innovation strategy and TC are valuable dynamic capabilities for F&B SMEs to survive and sustain superior competitive advantage in today‟s rapidly changing environment.

The relationship of LC and F&B manufacturing SMEs performance can intensely be explained by firm‟s innovation strategy. Thus, the hypothesis which stated that innovation strategy mediates the relationship between LC and F&B SMEs performance was tested. The results of statistical test indicate that innovation strategy mediates the non-significant relationship of LC and SMEs performance (β=0.093, t= 2.106; $p < .018$). It can be recalled interestingly that LC in this study has no significant direct relationship with F&B SMEs performance, but significantly relates to innovation strategy.

Consequently, innovation strategy exalted strong influence to enhance the insignificant relationship between LC and F&B SMEs performance to significant positive relationship. In short the result demonstrates that LC is VRIN reources that positively influence F&B manufacturing SMEs performance through innovation strategy. Therefore, the effect of LC on Nigerian F&B manufacturing SMEs performance is better understood with effective innovation strategy.

Furthermore, the empirical statistic demonstrated that the ability of Nigerian F&B manufacturing SMEs to search and gather information which helps understand competitor‟s actions and changes in the market strategy and customer needs leads to effective innovation strategy which in turn enhances performance. This finding agrees with the outcomes of previous studies (Aminu, 2015, Mahmood and Yusif, 2012) which postulated that LC positively relates to SMEs performance through intervening variables.

Equally, innovation strategy can be an exciting factor in clarifying the relationship between RC and F&B manufacturing SMEs performance. Hence, the hypothesis which stated that innovation strategy mediates the relationship between RC and F&B SMEs performance was tested. Although, in this study RC insignificantly relates to F&B SMEs performance, but positively relates to innovation strategy. Nevertheless, the result of the mediation test indicates that innovation strategy positively mediates the none significant relationship of RC and F&B SMEs performance (β=0.183, t=5.679, $p < .001$). Therefore, it is right to conclude based on this result that innovation strategy sufficiently mediates the insignificant relationship between RC and SMEs performance to significant positive relationship .

This means that innovation strategy is an effective SMEs strategy that mediates significantly the relationship between RC and the performance of Nigerian F&B SMEs. Consequently, the influence of RC on F&B manufacturing SMEs performance is well understood with mediating role of innovation strategy. Thus, the hypothesis is supported. Therefore, the empirical result postulates that Nigerian F&B manufacturing SMEs ability to develop strategic collaboration with relevant partners provides firms with learning advantage to access market, information, technologies and resource to enhance the accomplishment of firm‟s strategic goals lead to effective innovation strategy, which in turn improves performance.

Finally, this study demonstrates that indirectly through innovation strategy, the influence of strategic organizational capabilities (MC, TC, LC, RC) on Nigerian F&B manufacturing SMEs performance are adequately explained. These elaborate the contextual explanation of the relationship existing between these strategic

organizational capabilities (MC, TC, LC, RC) and the performance of F&B manufacturing SMEs. Equally, the finding demonstrates that F&B manufacturing SMEs need to effectively reconfigure their capabilities to improve innovation strategy in order to achieve superior performance. Based on RBV and DCT, the result of this study postulated that strategic organizational capabilities are culture-based, distinctive and valuable firm resources that lead to the attainment of sustainable competitive advantage and better performance.

Therefore, innovation strategy is an essential F&B manufacturing SMEs strategy that enhances not only performance directly, but also facilitates and enhances the effectiveness of other firm‟s strategic capabilities. In this study, innovation strategy enhances the none significant relationship of relational capability and learning capability with F&B manufacturing SMEs performance to positively and substantial relationship. In a nutshell, innovation strategy is an avenue through which strategic organizational capabilities (MC, TC, LC, RC) exalt momentous positive effects on F&B manufacturing SMEs performance.

5.7 Implication of the Study

Managers, researchers‟ governments and non-governmental organizations with interest in small business management, entrepreneurship, economic transformation and development have recently concentrated on the roles of SMEs in economic development, and the identification and evaluation of factors that enhance their performance. This has been one of the motivating factors to carry on this study. Consequently, this study provides several crucial implications regarding the performance and development of F&B manufacturing SMEs in Nigeria. Specifically,

theoretical, managerial/practical and methodological implications were provided based on the result obtained from the study.

5.7.1 Theoretical Implications

The theoretical relationship hypothesized based on the framework of this study has been empirically validated and established. Precisely, the study evaluates the relationship between strategic capabilities (MC, TC, LC and RC) and the performance of F&B manufacturing SMEs in Nigeria through mediating role of innovation strategy. Based on this, 10 hypotheses were developed. The results of the empirical testing indicate that 8 main hypotheses were supported, while two hypotheses were rejected. The effects of strategic capabilities (MC, TC, LC, and RC) on performance have been examined by numerous past studies (Pucci, Nosi, and Zanni, 2017, Ahmed and Mohamed, 2017, Silvestri and Veltri, 2017, Beneke, Blampied, Dewar and Soriano, 2016, Serna, Vega and Martínez 2016, Hailekiros and Renyong, 2016, Lo, Stepicheva, and Peng, 2016, Yu, Nguyen, and Chen, 2016).

Nonetheless, a dearth of empirical studies that combined these strategic capabilities (MC, TC, LC and RC) in a given model as the determinants of F&B manufacturing SMEs performance exist. Therefore, structural models that collectively examine the relationship of these variables MC, TC, LC and RC were developed based on afore mentioned gap as suggested by Shamsudden (2017), Chantanaphant, et al., (2013) Nybakk and Jenssen (2012) and Lahiri, Kedia, and Mukherjee, (2012).

The analyses of the statistical test in this study reveal that MC, TC, LC and RC positively influence F&B manufacturing SMEs performance directly and/or

indirectly through innovation strategy. Consequently, the study expands the body of knowledge on the significant role MC, TC, LC, RC and innovation strategy in influencing F&B manufacturing SMEs performance. Equally, the result of the empirical testing provides justification for the research framework. On this note therefore, this research contributes substantially to the RBV and DCT by establishing empirical evidence that upholds the views of these theories.

The advocates of the RBV maintain that firm‟s superior performance is being driven by the firm‟s pools of unique tangible and intangible resources. Precisely, in this study MC, TC, LC, RC and innovation strategy are considered and demonstrated as F&B manufacturing SMEs intangible resources that create strong competitive advantage and enhance performance. Therefore, from RBV perspective, the study demonstrates how SMEs managers recognize and consider the role of MC, TC, LC, and RC in deciding how to enter and stand in their market. Specifically, through strategic and operational managerial competences of top managers, efficient acquisition, operation and upgrading of technologies; proper sourcing and dissemination of information and knowledge as well as collaboration with strategic partners enable F&B manufacturing SMEs to distinctively achieve cost efficiencies, create differentiation and perfectly respond to market demands.

Similarly, DCT postulates that in a dynamic environment like this; performance is being influenced by the ability of the firms to reconfigure it essential capabilities to enhance and sustain superior performance in the changing environment. MC, TC, LC, RC and innovation strategy are essential dynamic capabilities that enable nigreian F&B manufacturing SMEs to effectively adjust to the changes in

technologies, customers‟ preference, utilities and delivery time, employees‟ motivation and work schedules. Thus DCT postulates how F&B manufacturing SMEs need to develop and employ strategic capabilities to achieve and uphold competitive advantage in a changing environment.

Another contribution of this study is demonstrated by the examination of the relationship between MC, TC, LC, RC and the innovation strategy of F&B manufacturing SMEs. Numerous previous studies have established the influence of firm‟s strategic organizational capabilities (MC, TC, LC, RC) on innovative activities (Minh, Badir, Ngoc and Afsar, 2017, Silvestri and Veltri, 2017, Lo, Stepicheva, and Peng, 2016, Serna, Vega and Martínez, 2016, Mahmoud, Blankson, Owusu-Frimpong, Nwankwo, and Trang, 2016 , Alvarez and Iske, 2015, Pednekar, 2015, Oxford Economics, 2013, Shan and Jolly 2013).

However, limited literature exists on the collective impacts of these firm‟s strategic capabilities on F&B manufacturing SMEs innovation strategy. In this regard, the significant relationship of MC, TC, LC, RC and the innovation strategy of F&B manufacturing SMEs was investigated. Consequently, the ability of F&B SMEs managers to effectively explore and exploit their distinctive intangible resources and dynamic capabilities like MC, TC, LC, RC to improve innovation strategy have been established by the empirical result of this study. Hence, this study established that successful F&B manufacturing SMEs innovation strategy to a large extent depends on the effective combination of strategic organizational capabilities like MC, TC, LC and RC.

Furthermore, the extant literature have established that firm‟s strategic capabilities also indirectly through intervening variables influence firms‟ performance (Obeidat 2016, Yusr 2016, Hemmati and Hosseini 2016, Khan and Terziovski, 2014, Setyanti, et al., 2013, Moghaddam et al., 2013). In this regards, Nybakk and Jenssen, (2012) sought for the investigation of mediating influence of innovation strategy on the relationship of SMEs firm performance and other determinant factors. Nevertheless, little efforts have been given to the examination of the mediating role of strategy for sustainable and competitive innovation on the relationship of MC, TC, LC and RC and the performance of SMEs.

Previous studies have postulated that firm‟s innovation strategy influences firm‟s performance (Ciriaci et al. 2015, Hilman and Kaliappen, 2015, Saunila, 2014, Dadfar et al., 2013, Rosli and Sidek 2013, Mohutsiwa, 2012, Ismail, Zaidi, WanOmar, Soehod, Senin and Akhtar, 2010). Nevertheless, Abu Bakar and Ahmad, (2012) identify lack of strategy as a challenge to SMEs innovativeness, however, limited attention has been given to mediating role of innovation strategy. While, some extant studies suggested investigation of strategic variables such as innovation Nybakk and Jenssen, (2012), Chantanaphant, et al., (2013) and Rezazadeh et al., (2016) on other factors that influence performance.

Therefore, by conducting an empirical examination of the mediating role of innovation strategy on the relationship between MC, TC, LC, RC and the performance of F&B manufacturing SMEs from developing economy, this study has contributed greatly by extending the body of literature and theories on these concepts. The mediating role of innovation strategy on the relationship of MC, TC,

LC, RC and the performance of manufacturing SMEs was established by the empirical result of this study.

Thus the study established that to enhance the performance of F&B manufacturing SMEs through MC, LC and RC, owner/manager needs to improve their innovation strategy. Specifically, long-term action plan in product, process and administrative innovation is essential for sustainable improvement in F&B manufacturing SMEs performance. Consequently, substantiating the mediating influence of innovation strategy makes another contribution to RBV and DCT as well as strategic capabilities literature.

Studying the mediating role of innovation strategy on firm performance is not only limited to this study but other previous studies (Segarra-ciprés and Bou-llusar, 2018; Taghizadeh, et al., 2016). However, most of the previous studies examined mediating effects of innovation strategy on other organization factors such as; Access, Transference, Risk and Dialogue on market performance. Equally, external knowledge search and innovation has been examined. Yet limited literature exist on the mediating role of innovation strategy on strategic capabilities and performance of SMEs.

Therefore, this study is among the limited studies that examine the mediating role of innovation strategy on the relationship between strategic capabilities (MC, TC, LC, RC) and the performance of food and beverage manufacturing SMEs in Nigeria. Consequently, the study contributes significantly to the body of existing literature on strategic organizational capabilities; innovation strategy and SMEs performance.

Similarly, the existing limited empirical studies on the individual effects of MC, TC, LC, and RC on firm‟s performance have been conducted mostly in Latin America, Asian emerging and western developed economies (Wang and Dass, 2017, Pucci, Nosi, and Zanni, 2017, Hayton, 2015, Reichert and Zawislak, 2014, Ahmad, et al., 2014, Sompong, Igel, and Smith, 2014, Caner and Tyler, 2013, Atak, 2011, Rajasekar and Fouts, 2009), while empirical study from developing country of Africa like Nigeria is not adequately available.

Equally, most of the studies are not industry specific. Studying the whole population of business firms or overall SMEs consisting of all types of business in service and manufacturing sector may suffer from bias in data mainly due to the nature and characteristic of different sectors (Ordanini and Parasuraman, 2011). This study therefore as an industry specific, provides a relatively biased free empirical result.

Similarly, previous studies that evaluated the effects of innovation on firm‟s performance concentrated on financial or market growth (Segarra-ciprés and Boullusar, 2018; Taghizadeh, et al., 2016). However, Damanpour, Walker, and Avellaneda, (2009) urged that evaluating the effect of innovation on firm‟s performance should contain multiples items that cover the interest of all the stakeholders. Chen and Kitsis (2017), advocated that in addition to economic performance, firms nowadays are increasingly accountable for the social and environmental impacts of their operation.

The above view underscores the importance of green innovation (Tariq, Badir, and Chonglerttham, 2019, Wong, 2013). Thus, firm performance in this study was measured with a six (6) subjective measures that covered the interest of business stakeholders (shareholders, employees, customers, community and the environment) adapted from Santos and Brito, (2012). Therefore, this study contributes to the existing literature by measuring SMEs performance from the stakeholder perspective and satisfied the recommendation of Wang, Chen, Guo, and Lin, (2019) for a study to consider other performance measure apart from financial measure.

5.7.2 Managerial/Practical Implications

SMEs sector have been acknowledged as a vital strategic avenue in the course of industrialization by both the developed, emerging and developing economies. Apart from improving output and per capita income, SMEs create opportunities for employment and promote effective exploitation of local resources which are considered fundamental to the growth and development of an economy. It is therefore pertinent to state categorically that policies makers (managers and governments) recognize that their actions and decisions concerning SMEs have a direct impact on the operation of SMEs in particular and the overall economic development in general.

Hence, it would be essential in this context to identify, evaluate and report any factor that managers and policies makers must consider to sustain and improve the performance of SMEs in Nigeria. Consequently, the extant literature reviewed in this study have traced the poor performance of F&B manufacturing SMEs in Nigeria to lack of innovativeness, mediocre management, less commitment to R&D, lacks of

technical and collaborative capabilities (ERGP, 2017, Salisu, et al., 2017, GII, 2015, SMEDAN, and NBS, 2012, Yauri, 2012, Oyelaran-Oyeyinka, et al., 2012, Radwan and Pellegrini, 2010).

Nevertheless, governments at different levels in Nigeria have established programs and policies to promote creativity and innovation to enhance the performance of the manufacturing sectors. However, lacks of commitment and supports to numerous policies, rather than the pronouncement of new policies and programs are the major constraints to SMEs innovative activities and performance (SMEDAN, 2012). This points out that managers and governments need to expedites commitment in supporting all policies and programs that facilitate the developments of strategic capabilities to enhance the innovative activities of SMEs in Nigeria.

The environmental factors such as the influx of foreign factors and product have been established to negatively affect the innovativeness of local businesses (NIRP, 2014, Aluko et al., 2004). Due to the benefit of economic of scales; local businesses particularly F&B manufacturing SMEs in Nigeria cannot stand to favorably innovate and compete with its counterparts from Asian and western world in terms of price and quality of the product (NIRP, 2014). However, the under performance of F&B manufacturing bSMEs in Nigeria may also be as a result of, inadequate management commitment to effective learning and beneficial collaborative mechanism, which undermines the supportive services to SMEs performance. Specifically, low commitment from SMEs managers to encourage and support experimentation, risk taking, dialogue and participatory decision making as well as inefficient collaboration may be the possible reasons inhibiting their performance.

The extant literature equally recognized that; insufficient exploitation of local raw materials, unbearable cost of power and foreign inputs and smuggling as well threat from D8 countries as a result of multilateral trades agreement inhibit the performance of manufacturing sector in Nigeria (MAN, 2017b). This makes the Nigerian industrial and commercial landscape dominated by imported foreign goods (Bloch, et al., 2015), which made most of the citizen to developed preference for foreign goods. Consequently, this may be why the locally manufactured F&B products loss patronage, thus entrenching and promoting the problem of lacks of innovativeness and capacity utilization of the country manufacturing firms which resulted in poor performance.

However, with effective and efficient strategic capabilities firms can proficiently enhance its strategies to improve competitive advantage and achieve superior performance (Parnell and Brady, 2019, Park et al., 2019, Amlt and Schoemaker, 1993). Management, technological, learning and relational capabilities are critical to the attaintment of distinctive competitive position and better performance directly and indirectly through innovation strategy. Therefore governments and managers in Nigeria must strive to create a favorable innovative environment for F&B manufacturing SMEs to flourish through adequate investment in R&D, managerial capacity building, rational collaboration and effective learning environment.

However, this study observed that significant number of Nigerian F&B SMEs operate with facilities and equipment below standard of providing innovative values. Hence, F&B manufacturing SMEs needs to standardize their innovation strategy by

emphasizing all the elements of strategic innovation planning; efficient resource sourcing and allocation, knowledge acquisition and exploitation, external co-operative innovation and practicing internal R&D. To achieve this, some enabling factors must accordingly be put in place by management and policy makers.

This includes incentives such as subsidies in R&D, effective management of intellectual property right (IPR), market focus innovation and strategic collaboration along the industry value chain. For Nigerian F&B manufacturing SMEs, most of which are not sophisticated in technology, knowledge and standardization as their foreign counterparts, local large enterprises and multinational competitors, it would be beneficial if their innovation strategy revolves around the above four core elements of strategic innovation.

This study also observed that collaboration between F&B SMEs with suppliers, consumers, universities and other research institutes is very low. Equally, the country is accordingly reluctant to endorse the regional trade network known as African Continental Free Trade Agenda (ACFTA) due to pressure from manufacturers association of Nigeria (MAN). Ineffective collaboration between knowledge production centers such as universities, colleges and research institutes with industries constrained the capacity of F&B manufacturing firms to engage in creative accumulation and creative destruction innovative activities to help them compete efficiently with counterpart from developing countries such South Africa, Malaysia, Singapore, India, Brazil and China as well as the US, UK and other developed economies.

F&B firms in Nigeria must be strategically capable of not only operating efficiently in a niche market at home, but going abroad competently. The facts that multinational companies account for more than 60% of the total revenue in Nigerian F&B sub-sector (Fairtrade, 2018), it will be beneficial for them to form establish alliance and collaboration with the Nigerian companies particularly SMEs to absorb their product through value addition, repackaging and marketing. This will also benefits the multinational companies through exploitation of the SMEs marketing and distribution channels.

Rosli, (2012) maintained that firms incapable of trading internationally will have their land dominated by foreign firms and product. This assertion is specifically true of Nigeria, as at today the country with abundant human and land resources depend on imported process foods. The governments and F&B SMEs managers must act fast and accordingly to change the narratives. Kafetzopoulos and Skalkos, (2019) postulated that it is very impossible for manufacturing SMEs operating in technologically oriented world to act and succeed without considerations of risks and opportunities presented by local and foreign competitors. This demonstrates the importance of strategic capabilities. Therefore, top management capability, technological capability, learning capability and relational capability are strategic capabilities that can be deploy to efficiently enhance innovation strategy and turnaround the performance of Nigerian F&B firms in particular and manufacturing firms in general.

The study saw that the production level in Nigerian F&B manufacturing system is very low as many firms still employ traditional manual approaches rather than

modern technologies. However, most managers attributed the persistent of this problem of obsolete technologies to limited financial resources to acquire relevant modern technologies and constant ecliptics power supply. Nevertheless, the outdated technologies adopted in production and distribution cannot stand the taste of today‟s production and services challenges (NIRP, 2015, Vission 20:20, 2009).

Consequently, ERGP, (2017) identified promotion of innovation and technological strategies as crucial strategy for enhancing the growth and competitiveness of Nigerian industrial sector both locally and at global front. In this regards; top management, technological, learning and relational capabilities would be strategic capabilities to enhance the effectiveness of innovation strategy. The development of industrial sector in an economy is determined by sustained deliberate application of the combine appropriate technology, management techniques, human capital and resources that enhance the production system (Madu, 2016).

The study observed that F&B manufacturing firms are trying to produce a unique healthy quality product; however the technologies employed undermine the process. In some cases the environment is not hygienic. Managers and policy makers in Nigeria need to demonstrate commitment to the implementation of general hygiene in the industrials layout and advancement of food science, chemical engineering, mechanical engineering and high quality polymer technology. Regulatory agencies such standard organization of Nigeria (SON), National Agency for Food Drug Administration and Control (NAFDAC) must be strengthen to ensure adequate and timely inspections of production sites and installations of appropriate technology as well as packaging to ensure the production of healthy processed foods and drinks.

This study further observed that political will can significantly influence the innovation process of F&B SMEs firms. Porter, (1985) maintained that industries are more prospective to innovate in response to government incentives, regulations and various degree of intensity in sectorial policies and support. Government programs must create benefits to SMEs firms such as expansion and ease access to finance, the promotion of entrepreneurship as well as the development of priority in promoting F&B SMEs innovativeness and global orientations to enhance their performance. This could be efficiently achieve through commitment and support to the development and deployment of strategic capabilities such as management, technological, learning and relational capabilities as well as innovation strategy.

Despite the pronouncement and implementation of various programs and policies frameworks, challenges constraining the adoption of innovation strategy as a major driver for industrial and economic development still exist. Government through the ministry of science and technology and the national information technology development agency (NITDA), tertiary education trust fund (TETFund) must demonstrates commitment in resource allocations to support and enhance research and development to facilitate industrial innovation as a basis for attaining the economic objective of Vision 2020.

The commitment of Nigerian government under its national industrial revolution plan (NIRP) and the economic recovery and growth plan (ERGP), especially after the current economic recession 2015-2017 cannot be denied. However, support programs and policies provided covered all economic sectors and business areas which are too

diverse with limited resources. Therefore, learning from supports programs in the south-east Asia (China, Malaysia, South Korea, Japan, Singapore, Vietnam) and the western world, the focus of the support program particularly on SMEs should be on the priority basis of moving toward innovation, technology and global orientation.

Government official in Nigeria should emulate the leadership commitment of Malaysian ministry of science, technology and innovation (MOSTI) as well as the national science research council (NSRC) to systematically address the needs of R&D expenditure of targeted area that can best generate valuable innovation that will enhance the performance of F&B SMEs and industrial sector in general. This kind of support and commitment has help Malaysia not only to be ranked 2nd in 2014 among the world countries on high-tech export, but also turned the negative trade balance of the electronic component to favorable positive trade balance in 2013 (GII, 2015).

Implementing effective innovation strategy can enables F&B manufacturing SMEs to reduce the effects of external and internal contingencies on innovation performance in highly dynamic operating environment. Nigerian F&B manufacturing SMEs in particular and SMEs in general can improve their innovation strategy by reconfiguring and deploying appropriate combination of strategic capabilities such as top management capability, learning capability, technological capability and relational capability to enhance the achievement and sustenance of competitive position and better performance. Consequently, this would create more benefits in the value chain, expanding employment opportunities, improving export, decreasing import bills and enhancing foreign earnings as well as diversifications of the economy.

The findings of this study and other numerous previous studies have empirically confirmed the contributions of strategic capabilities (MC, TC, LC, and RC) to the enhancement of F&B manufacturing SMEs innovation strategy and performance. Specifically MC positively enhances the performance of F&B manufacturing SMEs directly and indirectly. Thus, governments and owner/managers of SMEs need to acknowledge the significant roles of MC in augmenting performance. Equally, to turn around the fortune of F&B manufacturing SMEs competitive advantage at the global front, managers must think strategically from global perspectives. Create environment that facilitates rational learning and collaboration to enhance information and resource gathering for effective innovative strategy to enhance prompt and sustainable response to environmental changes.

TC has been established to be effective capability in influencing the performance of the Nigeria F&B manufacturing SMEs. However, to sustain and enhance innovation processes, F&B SMEs owner managers and government need to create a supportive environment by investing profoundly in R&D, reduce cost of patents right and uphold laws guiding the patents right. Similarly, F&B manufacturing SMEs owner/managers must develop TC from global perspectives that will help acquire, operate and upgrade operating technologies that stand the taste of the global market. Therefore, F&B manufacturing SMEs owner/mangers need to be vast in appreciating and monitoring the global technological development. Doing so will facilitate the development of TC that would positively influence innovation strategy which would in turn enhance performance significantly.

Furthermore, the empirical result of the statistical test reveals that LC impacted positively on the innovation strategy of F&B manufacturing SMEs. This demonstrates that firm‟s culture, practice and commitments such as experimentation, risk taking, dialoque and participative decision making are essential in influencing innovation strategy to effectively satisfy the customer requirement which ultimately leads to achieving better competitive advantage and superior performance. Hence, owner/manager of F&B manufacturing SMEs in Nigeria must acknowledge the vital role of LC in generating valuable information and knowledge from within and outside the business to achieve and sustain competitive advantage and growth in this rapidly changing environment.

However, to improve the effectiveness and efficiency of learning on performance of F&B manufacturing SMEs, managers must demonstrate commitment to the management of knowledge resources at both firms and individuals levels. Particularly through what Cohen and Levinthal, (1990) describe as absorptive capacity, the ability to identify, acquire, assimilate, transform and apply knowledge and information.

Additionally the result shows that F&B manufacturing SMEs relational capability is an indispensable capability in all form of innovative strategy and performance. RC which facilitates strategic cooperation with appropriate partners that provide firms with learning advantage and access to market, information, technologies, skills and resource to enhance the achievement of strategic firm‟s goals of economic of scale and better performance. RC expedites the development of effective relationship with suppliers, customers, industry associate, competitors, research institution and other

relevant stakeholders which can enable F&B SMEs firms to acquire missing inputs that cannot be individually provided to enhance innovation strategy and performance.

Therefore, this study recognizes that MC, TC, LC and RC are valuable firm‟s intangible resources that would create distinctive market competitive position. Hence they are essentially considered as strategic resources that enhance product, process and administrative innovation strategy which in turn affects F&B manufacturing SMEs firm‟s performance. Firm‟s strategic capabilities are diverse and sometime interrelated; therefore, relying on a single capability may not be strategically beneficial. Consequently, this study upholds the views that collections of these capabilities are effective means of achieving and sustaining competitive advantage; hence F&B manufacturing SMEs owner managers need to strategically configure these capabilities to achieve outstanding performance.

5.7.3 Methodological Implications

In addition to theoretical and practical contribution, this study equally provides some methodological contribution. Basically, numerous past studies on SMEs performance dwell on SPSS, AMOS and PLS2 in testing the relationship of strategic organizational capabilities MC, TC, LC, RC, and the innovation strategy as well as firms performance. However, this study used SmartPLS 3.0 (Hair et al., 2017) to examine the relationship of these strategic organizational capabilities and F& manufacturing SMEs innovation strategy and performance, thus form parts of the few studies that used SmartPLS 3.0 to produce their statistical empirical result.

Furthermore, the measurements employed in this study were adapted from previous studies as demonstrated in the measurement sub-section of the methodological chapter. An essential issue identified is that most of these previous studies conducted used established survey instruments too (Ahmed and Mohamed, 2017, Silvestri and Veltri, 2017, Serna, Vega and Martínez, 2016, Lo, Stepicheva, and Peng, 2016, Hayton 2015, Sreckovic 2015, Schweitzer, 2014, Reichert and Zawislak, 2014, Caner and Tyler, 2013, Aini, Favotto, and Menini, 2012, Davis et al., 2010, Birkinshaw and Goddard, 2009, Nieto and Santamaría, 2007, Chung, Luo, and Wagner, 2006, Pansari, 2005), this demonstrated the need to justify the reliability and the validity of these construct and evaluate their applicability to different cultural set up.

Consequently, the reliability and validity of the instruments adapted was assessed, specifically, Cronbach's alpha, composite reliability, content validity, discriminant validity and convergent validity were evaluated in the Nigerian context. The processes established the reliability and the validity of the instruments adapted, thus the study contributes methodologically to the body of existing literature on strategic capabilities, innovation strategy and SMEs performance.

Morever, most of the previous studies conducted on SMEs operating in northern Nigeria (Shamsudeen, 2017, Aminu, 2015, Mukhtar, 2014) largely concentrated on north-western Nigeria, while Cresswell, (2012) opined that a study is worthwhile if it covers wider phenomenon or examines the phenomenon more comprehensively, methodologically and systematically than the previous studies. Consequently, empirical studies on SMEs that thoroughly cover the whole three geo-political zones

of northern Nigeria is quite limited. This study has covered all the three (3) geopolitical zone of northern Nigeria (north-east, north-central and north-west); thus provides relatively comprehensive data about the performance of SMEs in Nigeria than previous studies.

5.8 Limitations and Suggestions for Future Research

Even though this study has so many tremendous contributions both practical and theoretical towards evaluations of the roles of F&B manufacturing SMEs strategic capabilities, innovation strategy and performance as highlighted in the preceeding sections, it is no doubt not free from limitations. The fact that numerous strategic organizational capabilities that can influence F&B manufacturing SMEs performance exist, this research is limited to management, technological, learning and relational capabilities. Hence the need to examine other capabilities such as innovation, integrative, adaptive, marketing, employees/management commitments etc in future. This has been justified by the fact that the strategic capabilities examined in this study account for 46% and 43% of changes and success in F&B manufacturing SMEs innovation strategy and performance respectively. This means that the remaining 54% and 57% component are explained by other capabilities.

Another potential limitation of this study is the uni-dimensional approach adopted in measuring the F&B manufacturing SMEs performance. Despite the fact that performance measurement covered both financial and non-financial indicators which center on the stakeholders‟ perspective, however, using multi-dimensional approach consisting of several items may provide a basis to cover wide perspective of the SMEs performance.

Additionally, common method variance (CMV) as a potential problem in social science research may be one of the possible limitations as the study uses self-reported technique. Nevertheless, both the procedural and statistical measures were taken to minimize the effect of CMV. Consequently, the problem of common method variance was not established in this study as indicated in the result of the analysis of principal factor. Nevertheless, multiple respondents (owner/managers, employees, customers and policy maker) may provide a data that may be free of measurement bias. Similarly, the study concentrated on one sub-sector (food and beverage) out of the 13 sub-sectors of the Nigerian manufacturing sector which may not fully represent the characteristic of the entire sector. However, food and beverage manufacturing sectors is the largest sub-sector in the Nigerian manufacturing sector; accounting for more than 80% membership of the Maufacturers Association of Nigeria, and 51% of the overall activities of the manufacturing sectors (MAN, 2018, NBS, 2017).

Furthermore, the study does not include SMEs operating in other sub-sectors and sectors such as service, ICT, chemical and pharmaceutical, and also restricted to northern region of the federal republic of Nigeria. Although SMEs from both southern and northern regions of Nigeria have similar peculiar features and challenges, the outcomes of the statistical test may differ slightly if SMEs operating in the whole country were covered. On this note, caution must be taken while generalizing the result of this study to SMEs operating in other sectors and region of Nigeria. Consequently, studying other sectors and the whole country are of paramount importance for comprehensive analysis.

The time frame within which the data of this study was collected may pose a potential limitation. Specifically, data of this study was collected over two (2) months at a spot. Consequently, the cross-sectional nature of this data may affect the causal relationship of the variables under consideration. Therefore, longitudinal effects of the independent variables over the dependent variable may not be adequately covered. Hence to provide more comprehensive understanding and establish the validity of the cross-sectional data, there is the need to have a longitudinal study in future.

Another, potential limitation of this study is the use of quantitative method through questionnaire. Using questionnaire may have its own limitation as respondents may tend to be reluctant to provide accurate information and objective answers; hence this may possibly affect the consistency of variables measurement. Nevertheless, internal consistency and validity of measurements adapted in this study were substantially achieved as revealed by the statistical values of the Cronbach‟s alpha, composite reliability and average variance extracted (AVE) which were used to evaluates the internal consistency reliability, convergent and discriminant validity. However, it would be beneficial if future research considers the combination of qualitative and quantitative approaches to comprehensively examine the influence of these strategic capabilities on the performance of F&B manufacturing SMEs.

Similarly, the dimensions in which the independent variables were measured may also create a potential limitation. All the four independent variables MC, TC, LC, and RC were uni-dimensionally measured in a construct. More information may be

generated if these variables were measured as multi-dimensions. Therefore, future research should consider using multi-dimensional approaches in evaluating the influence of MC, TC, LC and RC on F&B manufacturing SMEs performance.

Equally, the mediating role of innovation strategy on the relationship of MC, TC, LC, RC and F&B manufacturing SMEs performance was examined in this study. Thus this study was confined to the evaluation of the relationship between the study variables, while an extensive analysis of the causes of these relationships was not adequately carried out. Hence, examination of what causes the positive and none significant relationships of MC, TC, LC, RC and innovation strategy with the F&B manufacturing SMEs performance may be beneficial. Thus, it would be beneficial if future studies can examine the role of integrative, absorptive capabilities and management commitment and trust on the relationship between relational and learning capabilities with SMEs performance.

Despite the numerous limitations, this study is a giant stride in the course of the evaluations of the relationship between the top management capability, technological capability, learning capability, relational capability and the performance of F&B manufacturing SMEs in Nigeria through the mediating role of innovation strategy.

5.9 Conclusion

The primary objective of this study was to evaluate the level of innovativeness in Nigerian F&B manufacturing SMEs and examine the role of innovation strategy on the relationship between the top management capability (MC), technological capability (TC), learning capability (LC), relational capability (RC) and their

performance. Grounded on RBV and DCT, 10 research questions and 10 objectives were established with MC, TC, LC, RC, innovation strategy and F&B manufacturing SMEs performance as the variables under study. However, 13 specific hypotheses were stated and tested.

The results of the statistical test established significant positive relationship between MC, TC and the performance of F&B manufacturing SMEs. However, no significant relationship was established between LC, RC and F&B manufacturing bSMEs performance. Environmental and managerial constraints are identified as the possible reason for these insignificant relationship. On the other hand MC, TC, LC, and RC positively relates to the innovation strategy of F&B manufacturing SMEs in Nigeria. Acoordingly, innovation strategy positively and significantly relates to the F&B manufacturing SMEs performance, and mediates the relationship between MC, TC, LC, and RC and the performance of F&B manufacturing SMEs.

From the results analyzed, this study deduced that MC, TC, LC and RC are valuable resources and dynamic capabilities that significantly and positively influence SMEs firm‟s performance directly and indirectly through innovative strategy. Accordingly, MC, TC, LC and RC are VRIN resources that significantly enhance firms‟ innovation strategy which in turn affects performance positively. This means that innovation strategy is crucial strategy in achieving and sustaining superior performance of F&B manufacturing SMEs in Nigeria. Consequently, the study contributed practically, theoretically and methodologically to the understanding of the factors influencing SMEs innovation strategy and performance.

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Appendix A:
Questionnaires

Othman Yeop Abdallah Graduate School of Business
School of Busines, Universiti Utara Malaysia,
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Email: oyagsb@uum.edu.my
Tel: (+604)

Dear Respondent,

ACADEMIC SURVEY INSTRUMENT

I am a PhD candidate in the above named prestiiousuniversity currently conducting a research on a topic titled **"Strategic Capabilities, Innovation Strategy and the Performance of Food and Beverage SMEs:".** Can I ask you to utilize your valuable time to help me fill in this questionnaire objectively and accurately as there is no right or wrong answer. Please be rest assured that information provided will be **confidentially and strictly used for academic purposes**.

As I anticipate your kind cooperation, please accept my utmost regard.

Yours sincerely,

Yakubu Salisu

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This questionnaire consists of two (2) sections (A and B). Section A contains questions that will help us evaluate how Innovation Strategy mediate the relationship between Strategic Capabilities and the performance of F&B manufacturing SMEs in Nigeria. While section B provides questions related to the bio-data of the companies. This will help me evaluate the nature and characteristic of F&B SMEs in Nigeria.

All the statements in section A will be measured on a five point likert scale ranging from 1-5(with 1 indicating strongly disagree and 5 strongly agree). You are required **to tick the appropriate option** in both section A and B.

SECTION A

Please use the boxes below to indicate your stand on the following statements

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	**2**	**3**	**4**	**5**

Firm Performance

S/No.	**Items**	**1**	**2**	**3**	**4**	**5**
1	Over the past few years, our firm have being recording success	1	2	3	4	5
2	Our firm profit have improved over the past few years	1	2	3	4	5
3	Over the past few years, our employees satisfactions have improved.	1	2	3	4	5
4	Over the past few years, our customer‟s satisfactions have improved.	1	2	3	4	5
5	Over the last few years, our firm‟s social performance have improve	1	2	3	4	5
6	Over the past few years, our firm‟s performance in environmental protection have improved	1	2	3	4	5

Top Management Capability

S/No.	**Items**	**1**	**2**	**3**	**4**	**5**
1	Our company‟s management has adequate knowledge of industry we serve	1	2	3	4	5
2	Our company‟s management has the required technical skills in the industry we serve.	1	2	3	4	5
3	Our firm‟s management team has a cordial relationship with customers and suppliers.	1	2	3	4	5
4	Our firm‟s management has the appropriate leadership skills	1	2	3	4	5

	required to operate in a rapidly changing environment.					
5	Our firm‟s management has understood the changing business environment.	1	2	3	4	5
6	Our firm‟s top management is in good relations with employees.	1	2	3	4	5
7	Our firm‟s management shares firm‟s vision with all stakeholders.	1	2	3	4	5
8	Our firm‟s management have strategic planning abilities	1	2	3	4	5

Technological Capability

S/No.	Items	1	2	3	4	5
1	Our firm is one of those firms in the industry that establish technology standard	1	2	3	4	5
2	Our firm is one of those firms in our industry to upgrade technology standard	1	2	3	4	5
3	Our firm have superior competitive technology strategy in the industry	1	2	3	4	5
4	Our firm have robust technological skills in several fields of operation	1	2	3	4	5
5	Our firm leads in technology innovation in the industry we operate	1	2	3	4	5
6	Our firm is competent in applying innovative technology to problem solving	1	2	3	4	5
7	Our firm have the monitoring capacity to accurately predict changes in the technological environment	1	2	3	4	5
8	Our firm have strong abilities to integrate internal and external technological resources	1	2	3	4	5
9	Our firm have the capacity to attract and hire talented experts	1	2	3	4	5
10	Our firm makes sufficient investment in R&D activities	1	2	3	4	5
11	Our firm improves technical skills through continuous training programs	1	2	3	4	5

Learning Capability

S/No.	Items	1	2	3	4	5
1	Our firm have been encouraging knowledge sharing among employees	1	2	3	4	5
2	Our firm encourages participatory decision making	1	2	3	4	5

3	Our firm management are committed to effective learning	1	2	3	4	5
4	Our firm is commited to internal dialogue	1	2	3	4	5
5	Our firm encourages experimentation and openness	1	2	3	4	5
6	Our firm always strive toward knowledge transfer	1	2	3	4	5
7	Our firm support new idea from employees	1	2	3	4	5

Relational Capability

S/No	**Items**	**1**	**2**	**3**	**4**	**5**
1	Our firm has the capability to create relationship with new relevant partners	1	2	3	4	5
2	Our firms has the ability to maintain relationship with existing partners	1	2	3	4	5
3	Our firm has the capability to develop mutual trust with strategic partners	1	2	3	4	5
4	Our firm have the ability to develop mutual goals and commitment with strategic partners	1	2	3	4	5
5	Our firm have the capability to build on the strength of our strategic partners	1	2	3	4	5
6	Our firm have develop the capacity to effectively communicate with relevant partners	1	2	3	4	5
7	Our firm have the ability to engage with partners collectively in problem solving	1	2	3	4	5
8	Our firm have the capacity to achieve target while negotiating with relevant partners	1	2	3	4	5
9	Our firm has the capability to achieve win-win with relevants partners	1	2	3	4	5

Innovation Strategy

S/No.	**Items**	**1**	**2**	**3**	**4**	**5**
1	Over the past few years, our firm have relentlessly set its operating system to global standard	1	2	3	4	5
2	To increase productivity, our firm have constantly updates its work practice over the past few years.	1	2	3	4	5
3	Over the past few years, our firm have been regularly using technology in improving the quality of our product	1	2	3	4	5
4	Over the past few years, our firm have been investing adequately in developing new operating system	1	2	3	4	5

5	Over the past few years, our firm have been regularly training its employees on new technology	1	2	3	4	5
6	Over the past few years, our firm have presents numerous new product to the market	1	2	3	4	5
7	Over the past few years, our firm have been modifying its product	1	2	3	4	5
8	Over the past few years, our firm have been regularly assessing the need for new product	1	2	3	4	5
9	Over the past few years, our firm have introduces many new product than competitors	1	2	3	4	5
10	Over the past few years, the new product we have been introducing has cause substantial changes in a positive fashion within th industry we serve	1	2	3	4	5
11	Over the past few years, our firm has been regularly introducing new ways of managing our affairs	1	2	3	4	5
12	Over the past few years, our firm have been investing substantially in updating administrative techniques	1	2	3	4	5
13	Over the past few years, our firm have been empowering employees to initiate	1	2	3	4	5
14	Over the past few years, our management have been regularly assessing for new administrative system	1	2	3	4	5
15	Over the past few years, our administrative system has served as a benchmark to competitors	1	2	3	4	5

SECTION B: Demographic Information

1. Age: Less than 20 [ ] 20-29 [ ] 30-39 [ ] 40-49 [ ] 50-Above[ ]
2. Gender : Male[ ] Female[ ]
3. Qualification: Primary [ ] SSCE [ ] Diploma/NCE [ ] BSc/HND [ ] Post Graduate [ ]
4. Location: Bauchi state [ ] Kano state [ ] Niger state [ ]
5. Position in business: Owner/manager [ ] Middle manager [ ]
6. Number of fulltime employee: Less than 10 [ ] 10- 49 [ ] 50-199 [ ]
7. Value of assets excluding land: Less than N5m [ ] N5m- 49 [ ] N50m- N500m [ ]
8. Year in business: 0-5 years [ ] 6- 10 years [ ] 11- Above [ ]
9. Type of business: Food [ ] beverage [ ]
10. Form of ownership: Sole Proprietorship [ ] Partnership [ ] Company [ ]
11. Source of capital: Equity [ ] Debt [ ] Equity/debt [ ]

Appendix B:

List of Members Manufacturers Association of Nigeria (MAN); Bauchi state; Kano state and Niger state