BARRIER TO INNOVATION IN DEVELOPING COUNTRIES' FIRMS: EVIDENCE FROM NIGERIAN SMALL AND MEDIUM SCALE ENTERPRISES

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Abstract

This paper explored the barriers to innovation in the Nigerian Small and Medium scale Enterprises (SMEs). The data used in this research were derived from the study of 996 SMEs that were selected in southwestern Nigeria using stratified random sampling technique. The data were collected using questionnaire and face-to-face interviews with 38 SME Owners/Managers in the study area. The data collected were analyzed using appropriate descriptive statistics. The study identified the major barriers to innovation in the Nigerian SMEs to include inadequate financial means and venture capital companies to sponsor new innovation, inadequate government assistance, poor infrastructural facilities, small size of company and market, lack of motivation for new innovation, inadequate research and development facilities within the firm, and lack of opportunities for cooperation with other firms and research institutions. The paper concluded that the barriers to innovation in the Nigerian SMEs need to be reduced or eliminated inorder to enhance their innovative performance and be at par with the rest of the SMEs from across the world now that the market place is open to all players.

Keywords: Innovation, Innovation Barrier, Small and Medium Scale Enterprises, Southwesern Nigeria

Introduction

In the past, firms in the developing countries were operating within a relatively protected environment. But now, globalisation of the markets has

exposed firms to the global forces of competition and required firms' adaptation in order to survive. Innovation had been identified as one of the strategies for the survival and competitiveness of firms (Madrid-Guijarro, Garcia & Auken, 2009; Oyelaran-Oyeyinka, Laditan & Esubiyi, 1996; Tulus, 2011). In OECD (2007) innovation is defined as the implementation of a new or significantly improved product or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.

Firms that do not embrace innovation in its business strategy take the risk of becoming uncompetitive due to their obsolete products and processes. McAdam, Reid, Harris and Mitchell (2008) noted that innovative companies are a prerequisite for a dynamic and competitive economy. According to them, the importance of innovation is mounting as a result of increased global competitiveness, reduced product life cycle, increase of the technological capacity of companies, and rapidly changing consumer requests. Globalisation has exposed developing countries' SMEs to foreign competition and majority of them cannot withstand this competitive pressure because they are not yet sufficiently competitive (Kodicara, 2009).

The owner-managers' competitive scope and firms' growth prospects tend to be limited by barriers to innovation. Thus, the study of innovation barriers in SMEs in this era of globalisation is relevant in this context as a critical factor for the sustainability and survival of developing countries' SMEs generally, and particularly Nigerian SMEs. Thus, the thrust of this paper is to contribute to the burgeoning body of knowledge on SME innovation and growth by providing novel insights into key innovation barriers that affect SMEs in the southwestern Nigeria. This paper is structured as follows: in the next section, the relevant literature is summarized. Next, the study methodology is outlined. In the following section, results from the descriptive analysis are reported. Conclusion and implications of the findings are then discussed.

Literature Review

Innovation

Different authors have different opinions about what can be called an innovation. For instance, Acs and Audretsch (1988) see innovation as a process that begins with an invention, proceeds with the development of the invention, and results in the introduction of a new product, process, or service to the marketplace. According to Damanpour (1999), innovation is the adoption of an idea or behavior, whether a system, policy, program, device, process, product, or service, that is new to the adopting organization. Avlonitis and Salavou (2007) see innovation as a company's ability to introduce new products, which are also successful. The third edition of the

Oslo Manual (OECD, 2005) defines innovation as "the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace, organization or external relations." Also McCormick and Maalu (2011) defines innovation to comprise product or process, continuous or discontinuous, radical or incremental innovations leading to improved or new products. They see 'radical' innovations as new products that result from advances in knowledge/technology. 'Incremental' innovations include improvement of process or product designs, with or without up-grading of machinery and/or acquisition of new machinery. The duo concluded that the most common form of innovation for small firms is non-technological innovation which includes marketing innovation, measured by whether or not the firm has implemented a new design or product packaging, significantly changed the way merchandise is displayed, introduced a new channel for selling goods and services, or introduced a new method of pricing products. For the purpose of this study, the definition given by McCormick and Maalu (2011) is adopted because the definition is given in the context of SMEs.

Barriers to Innovation

One of the several different approaches to innovation concentrates on the main barriers, that is, obstacles to innovation usually as perceived by the top managers of the firms. This approach is sometimes extended to include factors motivating innovation, that is, facilitators. The aim of the research on barriers is initially to find out about their nature, origin, and importance. It attempts then to identify their point of impact in the innovation process and to measure their effects or consequences.

The measurement of effects is the really difficult part. Barriers can be classified in various ways, a usual one differentiates between external to the firm or exogenous and internal or endogenous ones (Piatier, 1984). External can be further subdivided into supply, demand, and environment related. Supply barriers include difficulties in obtaining technological information, raw materials, and finance. Demand barriers have to do with customer needs, their perception of the risk of innovation, and domestic or foreign market limitations. Environmental ones include various government regulations, antitrust measures, and policy actions. Internal barriers can be further subdivided into resource related, for example, lack of internal funds, technical expertise or management time, culture and systems related, for example, out-of-date accountancy systems (Rush & Bessant, 1992), and human nature related, for example, attitude of top manager to risk or employee resistance to innovation.

Barriers may act on one or more points of the innovation process. If this process is visualised as a simplified linear sequence of stages from the adoption of innovation through implementation, the effect of a barrier is probably higher in one stage rather than another. For example, lack of finance will probably have a greater effect on the implementation stage. The assumption behind the barriers approach is that once inhibitors of innovation are identified, their effect is understood and action is taken to eliminate them, then the natural flow of innovation will be re-established. Innovation, however, demands motivation, extraordinary effort and risk acceptance to proceed (Tidd, Bessant, & Pavitt, 2005). It is not an automatic or spontaneous process.

Barriers may even act as innovation stimulants in some cases rather than inhibitors. Successful innovation has been associated with subsequent growth and therefore performance of the firm (Freeman, 1982). It is expected then that barriers to innovation will also affect negatively the economic performance of a firm. The reservation for their possible positive effect on the success of innovation in some cases makes, however, the direction of association between barriers and performance inconclusive. Small and Medium Enterprises (SMEs), even in industrialised countries, are expected to face relatively more barriers to innovation than large firms due to inadequate internal resources and expertise. This is why more emphasis has been given to SMEs in studying their barriers to innovation. SMEs need, therefore, to obtain technology and resources from external sources through strategic networks and as a consequence the interactive character of innovation in their case is even more intense than in large firms (Rothwell & Dodgson, 1991). It is assumed that the higher the importance attached to barriers, the higher the networking propensity. In less developed countries, SMEs face, apart from the above-mentioned problems, the inadequate technological and policy infrastructure. Studies on barriers to innovation in such contexts are relatively rare. There are, however some studies on barriers to growth (Levy, 1993) and technology development (Lall, Barba-Navaretti, & Wignaraja, 1994) which are of some relevance.

Barañano (2005) revealed two barriers to innovation when he conducted a study on five Portuguese SMEs. The barriers are the lack of qualified human resources and a huge absence of external communication between the knowledge generators (Universities and Investigation Institutes). Fernandes, Noronha and Nicolas (2002), conducted a study that related the localisation and innovation dynamic of SMEs in Portugal. The main barriers acknowledged were the structure of the Portuguese entrepreneurial, the low formal investigation due to paucity on human and financial resources. Cardoso, Lima and Costa (2004), promoted a study on organisational barriers to the introduction of new technologies. The results reported in that study

showed that the leading opposition to new technologies is structural in nature. So, innovation faces barriers not only inside but outside the organisation, in others words, the cost structure and also the consumers. The observation of the Portuguese business community in order to understand the longevity of companies allowed to establish the following barriers to innovation: (1) the high economic cost and risk associated with innovation; (2) lack of funding; (3) organisational rigidity; (4) lack of skilled human resources; (5) lack of market information and technology; (6) government regulation and; (7) weak capacity to approach the client, as well as lack of cooperation with centres of learning (Vieira, 2007).

Madrid-Guijarro, Garcia, and Auken (2009) studied the barriers to innovation faced by Spanish SMEs. These are: (1) the external environment; (2) human resources; (3) risk and; (4) the financial position. The authors also conclude that the cost of innovation affects more Small and Medium-sized Enterprises, and that different barriers promote different impacts on different types of innovation. Also referring to the Spanish reality, Segarra-Blasco, Garcia-Quevedo and Teruel-Carrizosa (2008) present the barriers to innovation in Catalonia. The barriers to innovation identified are: (1) cost barriers; (2) knowledge barriers and; (3) market barriers. With regards to cost barriers are presented the high cost of innovation, and the lack of internal and external funds. The knowledge barriers are lack of qualified staff, low information on technology, poor information about markets, and difficulty in finding partners. Finally, market barriers cited are the market dominance by the incumbent, the uncertainty of demand, and lack of demand for innovation.

The UK companies face three main barriers to innovation: (1) the time of development of innovation; (2) risk aversion and; (3) poor market knowledge (Tovstiga & Birschall, 2007). The German reality shows as being the more frequent barriers: (1) low budget; (2) difficulty in recruiting adequate human resources; (3) bureaucracy and (4) poor cooperation between enterprises (Tiwari & Buse, 2007). Buse, Tiwari and Herstatt (2010) also emphasise the lack of the target market, bureaucratic constraints, and the inability to find or decide on the better partner for strategic cooperation. A study carried over SMEs in Cyprus showed the following conclusions: the internal most significant barriers are: (1) lack of time; (2) the inadequacy of R&D activities; (3) the design and testing within the company and also; (4) inadequate financial resources (Hadjimanolis, 1999). The author also identified the more expressive external barriers to innovation: (1) the ease of copying the innovation; (2) government bureaucracy; (3) lack of government support; (4) lack of qualified human resources policies and; (5) bank lending.

Demirbas (2010) conducted a study on barriers to innovation in Turkey and reached some conclusions. The entrepreneurs who are innovative

are those with greater perception of barriers to innovation. The results show as barriers to innovation in Turkey: (1) lack of state policies to support technology and R&D activities; (2) the negative impact of the economy in the level of investment; (3) the high cost of innovation; (4) lack of appropriate means of financing and; (5) lack of qualified personnel.

Necadova and Scholleová (2011) identified as barriers to innovation in the Czech Republic the items described: (1) high cost; (2) lack of specialists; (3) extremely long payback period of investment; (4) equipment technology; (5) standards and legislation; (6) lack of capital; (7) lack of consumer response; (8) resistance to change; (9) the fear of risk; (10) ignorance of the market and; (11) the infrastructure of the business.

According to Comtesse, Hodgkinson and Krug (2002), the Swiss business sector faces the following barriers to innovation. The cultural levels are: (1) risk aversion; (2) public complacency; (3) non-recognition of high-value innovation; (4) provincialism and; (5) closed networks. The educational levels are: (1) the inability of framework tools for innovation in education; (2) limited human capital; (3) the absence of functional models and; (4) lack of entrepreneurial mindset. At the political level: (1) poor access to financing; (2) legal barriers; (3) insufficient political vision and growth; (4) underutilized infrastructure and intellectual capital and; (5) too many restrictions on the innovation.

In France, as showed by Galia and Legros (2004), the Community Innovation Survey 2 pointed out nine innovation barriers. Namely, (1) the high cost of innovation; (2) the nonexistence of appropriate sources of funding; (3) the internal resistance to change in firms; (4) too much relevance attributed to economic risk; (5) lack of qualified personnel; (6) insufficient information over technology; (7) low information about the markets; (8) the level of legislation, regulations and standards, and; (9) the lack of commitment of the customer with new products.

According to Iammarino, Sanna-Randaccio and Savona (2006), studying the barriers faced by Italian firms identified the following barriers: (1) lack of funding sources; (2) excessive financial risk; (3) innovation costs dimension; (4) the inexistence of qualified human resources; (5) low information about the markets; (6) scarce information on technology and; (7) rigid regulations.

Mussi and Spuldaro (2008) studied the following barriers to innovation in Brazilian SMEs: (1) the risk associated with excessive specialisation of human resources; (2) the super enhancement of production processes or services by its practitioners; (3) the limitation in the allocation of financial and human resources and; (4) the limitation on market access (for example, concessions).

Observing the Iranian case, Kamalian, Rashki and Arbabi (2011) unveiled as barriers to innovation: (1) excessive economic risks; (2) the insufficiency of economic resources; (3) the unavailability of funds and; (4) the high cost associated with innovation. The authors also divulged lack of response by the consumers and lack of qualified personnel.

Alinaitwe, Widen, Mwakali and Hansson (2007) on their study about innovation barriers on the civil construction activity in Uganda, identified the following barriers described in importance order: (1) the domestic market dimension; (2) the security level; (3) governmental intervention; (4) the taxing on new products or services; (5) lack of access to international markets and; (6) the discouraging policies of labour mobility.

Small and Medium Scale Enterprises: the Nigerian Context

Numerous scholars have attempted to define the concept of SME in Nigeria. For instance, according to Omisakin (1999), the Central Bank of Nigeria states that in the area of commercial banks, small scale industries are those with annual turnover not exceeding ₦5 million ($30,303). The Nigerian Industrial Development Bank (NIDB) now Bank of Industry (BOI) defines as small scale, industries with project cost (investment and working capital) not exceeding ₦3 million ($18,182). Moreover, the National Economic Reconstruction Fund (NERFUND) defined small-scale industries as those with fixed assets other than land but inclusive of the cost of new investment as not exceeding ₦10 million ($60,606). In the Federal Ministry of Commerce and Industry's guidelines to the Nigerian Bank for Commerce and Industries (NBCI) in 1981/82, small scale enterprises are those with total investment cost not more than ₦500,000 ($3,030) (excluding cost of land but including working capital). However, the NBCI, in its agreement with the World Bank, over the same period, defined small scale enterprises as one with project cost not exceeding ₦300,000 ($1,818) and with cost per job created not more than ₦7,500 ($45.5). Yet some states and institutions in Nigeria have reduced the capital base for the industry to as low as ₦150, 000 ($909.1) and ₦250, 000 ($1,515.2) respectively (Olayiwola & Adeleye, 2005). The Centre for Industrial Research and Development (CIRD) at the Obafemi Awolowo University, Ile-Ife (1979) had defined a small scale industry as an enterprise having a capital base excluding land of between 1 and 20 million ($6,060.6 and $121,212) and employing fewer than 50 full time workers (Johnson, 2006).

As in developed economies, Nigeria with the introduction of the National Policy on Micro, Small and Medium Scale Enterprises (MSMEs) has recently addressed the issue of definition as to what constitutes micro, small and medium enterprises. The definition adopts a classification based

on dual criteria, employment and assets (excluding land and buildings) as shown below.

- Micro Scale Enterprises are those enterprises whose total assets (excluding land and buildings) are less than Five Million Naira ($30,303) with a workforce not exceeding ten employees.
- Small Scale Enterprises are those enterprises whose total assets (excluding land and building) are above Five Million Naira ($30,303) but not exceeding Fifty Million Naira ($303,030) with a total workforce of above ten, but not exceeding forty-nine employees.
- Medium Scale Enterprises are those enterprises with total assets (excluding land and building) above Fifty Million Naira ($303,030), but not exceeding Five Hundred Million Naira ($3,030,303) with a total workforce of between 50 and 199 employees.

This paper adopted the SME definition given by the National Policy on MSMEs.

Study Methodology

Survey research design was used in this study. Southwestern Nigeria was purposively selected for the study because of a high concentration of SMEs in the area. Data for the study were obtained from a survey of SMEs that have employees of between 10 and 300, registered with Small and Medium Scale Enterprises Development Agency of Nigeria (SMEDAN), and engaged in manufacturing, trade and distribution, services, and agro-allied activities. A total population of 6,239 SMEs was identified for the study. Out of these 1,247 SMEs representing 20% were selected for survey in the study area using a stratified random sampling technique. Data for the study were collected using questionnaire and face-to-face interview with SME Owners/Managers. A total of 1,247 questionnaires were administered on four lines of business using stratified random sampling of which 996 representing 781.18% were returned and found suitable for analysis. This was supplemented with interviews of 38 SME Owners/Managers. The owners/managers of the sampled SMEs in southwest Nigeria were asked to rate the twenty nine items in the survey questionnaire given to them according to their perception. Descriptive statistics such as simple percentage, frequency distribution, median, and mean were used to identify the barriers to innovation in southwestern Nigeria's SMEs.

Discussion of Finding

The analysis of the socio-economic characteristics of the selected SMEs shows that majority of the SMEs owners/managers have formal education. Besides, the level of literacy among the SMEs owners is very high. For instance, 99% and 74.8% of the business owners/managers

attended a minimum of elementary education and had one tertiary education certificate or the other respectively. This is in support of the previous study of Bowale and Akinlo (2012) which noted that level of education and literacy among SMEs' owners in Southwest of Nigeria is high. Also the study shows that 80% of the sampled SMEs had been in operation within the last 15 years. Only 9% had been in operation for more than 25 years. The proportion of SMEs that were established within last 5 years (16.7%) was low when compared with the proportion of those that were established between 6 and 10 years (25.95%) and between 11 and 15 years ago (29.3%). This shows that the number of SMEs established or surviving in the region in the last 15 years is decreasing. But the fact that a sizeable number of the SMEs had been in operation for the past 15 years is a sign of improvement in the survival rate of the SMEs in the Southwestern Nigeria. Besides, 94.38% of SMEs operating in the Southwest of Nigeria were small businesses with less than 50 workers. Moreover, trade and distribution and services were the most common forms of business that the selected SMEs were engaged in. This is represented by 38.43% and 32.12% respectively. This was followed by manufacturing (25.05%), and agro-allied businesses (4.40%).

The internal consistency or reliability of the items used for capturing innovation barriers was tested using Cronbach's Alpha. Only one item had item-total correlations below 0.10, this item was dropped because it was not correlated with other items (Tashakkori & Fidell, 2007) and the value of Cronbach's Alpha increased to 0.848. The Cronbach's Alpha was considered to be very good. The remaining items were subjected to descriptive statistics analysis (Median, frequency distribution, Mean, and Standard Deviation). Items with Mode 1.00, 2.00, 3.00, and 4.00 were clarified as 'not applicable', 'less important', 'important', and 'very important' respectively.

The results from Table 1 revealed that out of 996 respondents, 525 (52.7%) claimed that lack of time for innovation for example, one man responsible for many tasks, was not applicable as a barrier to innovation while 204 (20.4%) respondents rated lack of time for innovation as less important barrier. Also, 186 (18.7%) and 81 (8.1%) claimed that lack of time for innovation was important and very important barrier to innovation respectively. The median and mean of this item were 1.00 and 1.82 respectively. These values were low and below average, thus, lack of time for innovation was not important barrier in SMEs innovation in the selected area. In terms of lack of qualified managerial/technical personnel being a barrier to innovation, a total of 337 (33.8%) perceived it as very important [118 (11.8%)] and important [219 (22.0%)]. Majority 659 (66.2%) of the respondents regarded it as either not applicable 380 (38.2%) or less important 279 (28.0%) not a challenge. The values of median (2.00) and the

mean (2.08) showed that lack of qualified managerial/technical personnel was less important barrier to innovation in the selected SMEs.

More than a quarter 307 (30.8%) viewed inadequate financial means to conduct research on new innovation as either not applicable (11.3%) or less important (19.5%) and almost 70% of the respondents asserted that inadequate financial means to conduct research was either important (33.7%) or very important barrier in SMEs innovation in the selected area. The Median and Mean were 3.00 and 2.93 (above average) respectively while the Standard Deviation was 1.000. The implication of this is that inadequate financial means to conduct research is an important barrier. Similarly, inadequate research and development, design, testing and other technical facilities within the firm were pointed out to be innovation barriers of SMEs in southwest Nigeria. While 344 (34.5%) of the respondents stated that the barrier is important, 359 (36.0%) said it was very important. Only 152 (14.2%) did not view it as a barrier to their innovation activities, and 141 (13.2%) of them indicated that though it is a barrier, but was less important. This shows that inadequate research and development, design, testing and other technical facilities within the firm is a very important barrier. This was confirmed by the Median (3.00) and the Mean (2.91).

Resistance to change in the enterprise was also perceived as innovation barrier in the selected SMEs in southwest, Nigeria by the respondents. Table 1 also reveals that bulk of the respondents rated the barrier as either not applicable 481 (48.5%) or less important 292 (29.3%) while only 153 (15.4%) of them view it as important. 70 (7.0%) of the respondents thought that it was very important barrier. The Median was 3.00 while the Mean was 2.91. The implication of this is that the barrier was important. Lack of a clear technology strategy and experience for developing innovation was viewed as very important 366 (36.7%), important 288 (28.9%), less important 154 (15.5%), and not applicable 188 (18.9%). The Median, Mean, and Standard Deviation were 3.00, 2.84, and 1.119 respectively. This shows that lack of a clear technology strategy and experience for developing innovation was rated by majority of the respondents as very important. Also, inadequate information on markets (both domestic & international) and pay-off period of innovation too long were viewed by the respondents as very important and less important respectively. Both had Median of 3.00 and 2.00 and Mean of 2.84 and 2.52 respectively A total of 606 (60.8%) claimed that inadequate information on markets was either very important (28.8%) or important (32.0%) while half of the respondents (58.4%) viewed pay-off period of innovation too long as either less important (35.2%) or important (23.2%). Only a few rated inadequate information on markets (both domestic & international) and pay-off period of innovation too long as not important barrier.

Table 1 below also reveals that out of 996 respondents selected for the study 399 (40.1%), 318 (31.9%), 178 (17.9%), and 101 (10.1%) claimed that excessive perceived risk associated with new innovation was not applicable, less important, important, and very important respectively as a barrier to innovation. The Median for this item was 2.00 while the Mean was 1.98 and the Standard Deviation was 0.993. The results showed that excessive perceived risk associated with new innovation was less important. Besides, high cost of new tools and processes was less important barrier of innovation in the sampled SMEs (Median 2.00; Mean 2.34). A total of 599 (60.2%) SMEs in southwest Nigeria claimed that high cost of new tools and processes was either not important 19.3% or less important 40.9% while 268 (26.7%) and 129 (13%) respondents rated the barrier as important and very important respectively.

Table 1 below shows that the following were perceived as either very important or important barriers to SMEs innovation in southwestern Nigeria; policy on patents and licenses, inadequate incentives and compensation for innovation, inadequate government assistance, small size of company and market, high cost of innovation, turnover of the company, consumer protection policy, inadequate venture capital companies to sponsor new innovation, lack of opportunities for cooperation with other firms and research institutions, and their Median were 3.00 and Mean 2.51, 2.69, 2.94, 2.74, 2.56, 2.74, 3.08, 2.68, 2.67 respectively. Above 50% of the respondents agreed that the barriers were either very important or important. For instance, out of the 996 respondents 537 (53.9%), 618 (62.1%), 687 (68.9%), 616 (61.8), 542 (54.5%), 626 (62.7%), 745 (74.8%), 587 (58.9), and 611 (61.4%) indicated that policy on patents and licenses, inadequate incentives and compensation for innovation, inadequate government assistance, small size of company and market, high cost of innovation, turnover of the company, consumer protection policy, inadequate venture capital companies to sponsor new innovation, lack of opportunities for cooperation with other firms and research institutions were either very important or important respectively.

Besides, Table 1 reveals that out of 996 respondents selected for the study 399 (40.1%), 318 (31.9%), 178 (17.9%), and 101 (10.1%) claimed that excessive perceived risk associated with new innovation was not applicable, less important, important, and very important respectively as a barrier to innovation. The Median for this item was 2.00 while the Mean was 1.98 and the Standard Deviation was 0.993. The results showed that excessive perceived risk associated with new innovation was less important. Besides, high cost of new tools and processes was less important barrier of innovation in the sampled SMEs (Median 2.00; Mean 2.34). A total of 599 (60.2%) SMEs in southwest Nigeria claimed that high cost of new tools and processes was either not important 192 (19.3%) or less important 407 (40.9%) while

268 (26.7%) and 129 (13%) respondents rated the barrier as important and very important respectively.

Table 1: Descriptive Statistics for Innovation Barriers in the selected SMEs in Southwest Nigeria

Innovation Barrier	N	Not Applicable		L.ess Important		Important		Very Important		Median	Mean	S.D
		F	%	F	%	F	%	F	%			
Lack of time for innovation	996	525	52.7	204	20.4	186	18.7	81	8.1	1.00	1.82	1.004
Lack of qualified managerial/technical personnel in our firm	996	380	38.2	279	28.0	219	22.0	118	11.8	2.00	2.08	1.035
Inadequate financial means to conduct research on new innovation	996	113	11.3	194	19.5	336	33.7	353	35.4	3.00	2.93	1.000
Resistance to change in the enterprise	996	481	48.3	292	29.3	153	15.4	70	7.0	2.00	1.81	0.940
Inadequate research and development, design, testing and other technical facilities within the firm	996	152	14.2	141	13.2	344	34.5	359	36.0	3.00	2.91	1.052
Lack of a clear technology strategy and experience for developing innovation	996	188	18.9	154	15.5	288	28.9	366	36.7	3.00	2.84	1.119
Inadequate information on markets (both domestic & international)	996	175	17.6	216	21.6	319	32.0	287	28.8	3.00	2.72	1.063
Pay-off period of innovation too long	996	179	18	351	35.2	231	23.2	235	23.6	2.00	2.52	1.040
Excessive perceived risk associated with new innovation	996	399	40.1	318	31.9	178	17.9	101	10.1	2.00	1.98	0.993
High cost of new tools and processes	996	192	19.3	407	40.9	268	26.7	129	13.0	2.00	2.34	0.932
Policy on patents and licenses	996	200	20.1	259	26.0	367	36.8	170	17.1	3.00	2.51	0.997
Inadequate incentives and compensation for innovation	996	143	14.4	235	23.6	402	40.4	216	21.7	3.00	2.69	0.967
Inadequate government assistance	996	160	16.1	149	15.0	274	27.4	413	41.5	3.00	2.94	1.098
Problems with inputs (such as raw	996	290	29.1	225	22.6	267	26.8	214	21.5	2.00	2.41	1.120

materials & components)												
Attitude of competitors	996	458	46.0	219	22.0	203	20.4	116	11.6	2.00	1.98	1.063
Bank policies on credit	996	156	15.7	175	17.6	345	34.6	320	32.1	2.00	2.83	1.047
Small size of company and market	996	124	12.4	256	25.7	371	37.2	245	24.6	3.00	2.74	0.967
High cost of Innovation	996	150	15.1	304	30.5	376	37.8	166	16.7	3.00	2.56	0.939
Turnover of the company	996	122	12.2	250	25.1	384	38.6	240	24.1	3.00	2.74	0.958
Consumer protection policy	996	57	5.7	194	19.5	360	36.1	385	38.7	3.00	3.08	0.897
Inadequate venture capital companies to sponsor new innovation	996	148	14.9	261	26.2	350	35.1	237	23.8	3.00	2.68	0.996
Lack of opportunities for cooperation with other firms and technological institutions	996	163	16.4	222	22.3	387	38.9	224	22.5	3.00	2.67	0.999
Inadequate responsiveness of customer to new products	996	546	54.8	223	22.4	184	18.5	43	4.3	1.00	1.72	0.911
Innovation too easy to copy (lack of developed copy right law)	994	175	17.6	362	36.3	283	28.4	174	17.5	2.00	2.46	0.981

Source: Field Report, 2015

In assessing the level of agreement among the respondents on what constitute barriers to innovation in southwestern Nigeria SMEs, the Kendall's Coefficient of Concordance was conducted. The result is presented in Table 2. The result revealed that only 0.256 (25.6%) of the respondents were unanimous on the barriers of innovation in sampled SMEs in the study area. This shows that the majority of the respondents had varied opinions on the barriers to innovation in southwest Nigeria SMEs. Thus, what is seen by an individual to be important or very important barriers might be seen by another person as less important or not applicable barriers. This might be due to the fact that, these respondents had varied categories of enterprises they engaged in; ranging from manufacturing to service. Besides, these divergent opinions might be as a result of difference in state policies as regards SMEs and it might also be as result of the uneven infrastructural development in the selected states in southwest Nigeria.

In appreciation of their diverse businesses, it is not unexpected that some of them may have unique problems peculiar to their distinct business types. Since their social-economic backgrounds varied, this might influence the low Kendall's W or their low agreement on the barriers to innovation. Thus they do not belong to the same business categories and operate in the same business environment hence the differences in opinions about the barriers to innovation in their businesses. Even though, the Kendall's W is not high (*KC* = .256), it is still significant ($p < 0.001$). The level of significant means that some of them had common barriers to innovation and these cannot be ignored.

Table 2: Extent of Agreement among Respondents on the Barriers to Innovation

N	996
Kendall's W[a]	.256
Chi-Square	3718.277
Df	24
Asymp. Sig.	.000

a. Kendall's Coefficient of Concordance

Source: Field Report, 2015

Conclusion

Innovation is highly crucial for the survival of SMEs in Nigeria in order to be at par with the rest of the firms from across the world now that the market place is open to all players. The barriers to innovation in the Nigerian SMEs need to be reduced or eliminated inorder to enhance their innovative performance. The study has highlighted the range of factors, both internal and external that inhibiting the innovative capacities and abilities of firm level innovations in Nigeria. Among the factors were inadequate venture capital companies to sponsor new innovation, inadequate financial means to conduct research on new innovation, inadequate government assistance, poor infrastructural facilities, and small size of company and market.

The finding is in accordance with some previous studies such as (Olise, Anigbogu & Edoko, 2014; Irefin, Abdul-Azeez & Tijani, 2012; Lal, 2007; Mabert, Soni & Venkataramanan, 2006) that find financial bottlenecks- hindered access to external finance; capital base cost; inadequate government support; management support; capital base; and business size as the major barrier for Small and Medium enterprises in adopting innovation. The finding is also in line with some of the previous studies on barriers of SMEs in Ghana. For instance, Tetteh and Essegbey (2014) identified lack of funding and dominance of the market by very large and multinational firms with quality products which have their origin from abroad as prominent barriers limiting the capacity and ability of domestic SMEs to innovate. Besides, the finding is in line with some study conducted

in developed countries. For instance, Zhu, Wittmann, and Peng (2011) identify key institution-based barriers to innovation in China as competition fairness, access to financing, and government support systems.

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