**Formal Vs. Informal Institutions for New Market Innovation in Knowledge-Intensive Business Services (KIBS) as a strategy for diversification and sustainability of the African Economy**

**Authors: Adeyeye, Mercy Modupe, Federal University of Technology, Minna**

**Abubakar, Yazid Abdullahi, University of Essex, United Kingdom**

**Ochepa, Abdulhafeez Abubakar, Federal University of Technology, Minna.**

**Correspondent email: memoade4real@yahoo.com**

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**Authors details:**

Dr. Adeyeye, Mercy Modupe, a lecturer in the department of Entrepreneurship and Business Studies, Federal University of Technology, Minna, Nigeria. A fellow of the International Centre for Entrepreneurial Research, University of Essex, United Kingdom and her research interest is focussed on entrepreneurship, innovation and finance in developing economies.

Dr.Abubakar, Yazid Abdullahi, is a lecturer in entrepreneurship and economic development in the University of Essex, United Kingdom. His area of interest is more focussed on entrepreneurship, innovation and region.

Mr. Ochepa Abdulhafeez Abubakar is a lecturer in the department of Entrepreneurship and Business Studies, Federal University of Technology, Minna, Nigeria. A researcher in the Kogi State University, Anyigba. His research interest is in entrepreneurship and small business management.

Mr. Dokochi, is a lecturer in the department of Entrepreneurship and Business Studies, Federal University of Technology, Minna, Nigeria. He studied in Management in Russia. His research interest is in entrepreneurship and business management.

**Abstract**

 There is a shift from the enormous proliferation of informal trade to the emergence of Knowledge-Intensive Business Services (KIBS) such as telecommunications and ICT in developing countries. KIBS are ‘knowledge-producing, knowledge-using and knowledge-transforming industry that uses knowledge-based methods to present itself as ‘drivers of knowledge dynamics in multilevel contexts. KIBS industries host diverse innovations globally. However, a number of innovations in developing countries are simply new market innovations which are necessarily not new to the world. They need external knowledge from institutions to meet the diversification and sustainability challenge in Africa. Thus, this paper investigates the influence of formal and informal knowledge institutions for new market innovation as a strategy for diversification and sustainability of the African economy. A framework is built in which small firms develop new market innovations utilising knowledge from two distinct sources, the formal (e.g. research institute, universities, R&D, collaborations with firms etc.) and informal (e.g. personal contact, network of friends, families etc.) institutions. The study employs the quantitative approach whereby data was collected through a survey of 510 KIBS small and medium sized enterprises (SMEs) sector in Lagos, Nigeria at firm level. The instrument used for data collection is a self-reporting questionnaire designed along the line of variables being investigated as used in authoritative studies of innovation. The findings suggest that the informal sources is more accommodating to the needs of small firms in a developing economy and serve as the primary source of knowledge resources for new market innovation. Thus, the informal system should be recognised as an important part of the institutional system influencing innovation for diversification and sustainability in Africa. The scope of the study is restricted to only KIBS SMEs in one local context, Lagos, Nigeria. The findings could assist in formulating policy frameworks for promoting innovation, based on utilisation of external knowledge resources by KIBS SMEs in developing economies as a means of diversification. Also, it suggests that the educational base be strengthened from the basic level to the higher end along the lines of innovation to sustain African economy. This paper contributes to the literature on new market innovation and the institutional theory of entrepreneurship in developing countries, by providing a better understanding of the influence of the formal and informal institutional sources of knowledge that are associated with new market innovation by KIBS SMEs in developing economies.

**Keywords:** Developing economies, entrepreneurship, formal, informal, institutions, knowledge, Knowledge-intensive business services (KIBS), new market innovation, SMEs, R&D.

**Article Classification:** Research Paper

**Introduction**

The recent growth in the share of the non-agricultural labor force in developing countries, especially the growth in knowledge-intensive business services (KIBS) sector such as information and communications technology (ICT) ([Goedhuys & Sleuwaegen, 2010](#_ENREF_27); [Swedish Trade Council, 2012](#_ENREF_55)) suggests that developing economies are beginning to make progress towards generating KIBS. It is an important development for economic diversification and sustainability, considering that innovative firms in KIBS have high potential for innovations and employment generation in all countries, whether developed or developing countries (Saxenian 2002,2005) . Yet, despite this development, we have little understanding of the determinants of innovation for diversification in developing countries, especially in KIBS industries.

In advanced economies, several efforts have been made in the innovation literature to identify the determinants of innovation by small and medium sized enterprises (SMEs) in knowledge-based industries ([CIS3 2004](#_ENREF_20); [Keeble, Lawson, Moore, & Wilkinson, 1999](#_ENREF_29); [OECD/Eurostat, 2005](#_ENREF_43)). However, the need to gain better insights into the factors stimulating innovation of firms in knowledge-based industries in Sub-Saharan Africa is pressing. More especially because the possibility that factors influencing entrepreneurial activities in developing countries could contrast with the empirical evidence on the topic in advanced countries ([Nichter & Goldmark, 2009](#_ENREF_41)).

The focus of the innovation literature on external institutional factors, particularly universities, is because small firms’ are considered to have relative shortage of internal knowledge resources; thus having little or no research and development (R&D) ([D B Audretsch, 1998](#_ENREF_9); [2002](#_ENREF_10)). Consequently, small firms especially in knowledge-intensive industries are argued to obtain their innovation inputs from third parties such as universities and other knowledge-intensive institutions ([Z.J. Acs, 2002](#_ENREF_3); [Jaffe, 1989](#_ENREF_28)). Thus, if the contribution of firm internal R&D to small firm innovation is limited even in advanced countries, it becomes downright unlikely that firm internal R&D will serve as the key source of innovation for SMEs located in developing countries, especially Sub-Saharan African countries like Nigeria, Cameroon and Ghana, considering the high-costs of conducting R&D ([Z.J. Acs, 2002](#_ENREF_3)).This suggests that small innovative firms in developing countries KIBS may also need to utilise external sources of knowledge for innovation. Yet, we have very little understanding, if any, of the external factors influencing SMEs innovation in knowledge intensive sectors of developing countries, especially in Sub-Saharan Africa.

Therefore, the central objective of this study is to investigate the external factors influencing innovation by SMEs in KIBS (henceforth referred to as KIBS SMEs) in a developing country. We focus specifically on examining determinants of new market innovation(as opposed to product innovation) because in developing countries, innovative applications of ‘existing’ products or processes (to new markets) are the most frequent types of innovation ([OECD/Eurostat, 2005](#_ENREF_43)). This implies that a number of innovations in developing countries are simply new market innovation and not necessarily new to the world. For example, Sub-Saharan Africa is now the world’s fastest growing ICT sector, with new innovations emerging in ICT such as mobile cash transfer (Swedish Trade Council, 2012).Therefore, this research addresses the question:

***What external knowledge factors influence new market innovation by SMEs in knowledge- intensive sectors of a developing country?***

In addressing the above question, we employ the institutional theory of entrepreneurship (Keeble et al, 1999; Sautet, 2005). Institutional theory provides a logical framework that explains firms’ innovative behaviour by using the processes and events in the environment as background ([Bruton, Ahlstrom, & Li, 2010](#_ENREF_16)).

 However, previous research on institutions and entrepreneurship has examined the nature of institutions that supports the creation of productive entrepreneurship, little is known, if any, about the role of knowledge related formal and informal institutions that influence new market innovation by KIBS SMEs as a specific type of innovation, in a developing country.The reason might be because of the neglect of innovation literature in developing economies generally ([Egbetokun, 2011](#_ENREF_23)). Understanding the institutions that influence new market innovation capabilities of KIBS SMEs in a developing country could help provide an empirically informed basis for developing a sound policy framework for supporting innovation by KIBS SMEs’ in developing countries.

This paper contributes to the literature on new market innovation. The paper is organised as follows. In section 2 and 3, we review literature on innovation and institutional perspective of entrepreneurship in developing countries. Section 4 discusses the research method and context. In section 5, the findings of the research are presented and in section 6, conclusion and implications are provided.

**2. 0 Literature Review**

 *2.1 Innovation and Knowledge Intensive Small Businesses (KIBS SMEs)*

At the centre of Schumpeter’s (1934) work is the notion of ‘innovation’. For Schumpeter 1996, a healthy economy is one that is repeatedly being ‘disrupted’ by innovation, which often results in fifty-year cycles of economic activity ([Burns, 2001](#_ENREF_17)). By connecting entrepreneurs with innovation, Schumpeter defined innovation, not only as the production of new goods, but also as the introduction of new processes, the opening up of a new market, the identification of new sources of supply of raw materials and the creation of new types of industrial organisation.

More recently, Schumpeter’s work has become the basis for the vast literature on innovations ([Z.J. Acs, 2002](#_ENREF_3); [Freeman, 1982](#_ENREF_26); [Jaffe, 1989](#_ENREF_28); [Kleinknecht, 1987](#_ENREF_32); [Mensch, 1979](#_ENREF_36); [Thurik & Wennekers, 2004](#_ENREF_57)). One of the more recent ideas that developed from the post-Schumpeterian works is the growing focus on innovation and knowledge-intensive industries firms (Audretsch, 1998; Abubakar, 2013). This is because empirical evidence documented in the 1980s upwards demonstrates the swing in economic activity that is taking place from large firms to small ([Verheul, Risseeuw, & Bartelse, 2002](#_ENREF_59)), especially in industries that are knowledge-intensive ([Z.J. Acs, 2002](#_ENREF_3); [Zoltan J Acs & Audretsch, 1987](#_ENREF_4)), such as KIBS (Miles et al., 1995).

The idea of KIBS originated from Miles et al. (1995) specifically representing knowledge-based economies. It is used to describe private firms whose primary value-added functions include the creation, accumulation and dissemination of knowledge with the purpose of providing customized proficient service solutions to issues that client firms are unable to develop (Bettencourt et al., 2002). KIBS are ‘knowledge-producing, knowledge-using and knowledge-transforming industry that uses knowledge-based methods to present itself as ‘drivers of knowledge dynamics in multilevel contexts([Strambach, 2008, p. p.168](#_ENREF_53)).’ They are firms “performing, mainly for other firms, services encompassing a high intellectual value-added” (Muller and Zenker, 2001p.1502).The KIBS sector covers a wide range of activities based on technical knowledge (like engineering, ICT, and R&D services) and professional knowledge (such as management consultancy, marketing services) to support other businesses in functioning effectively (Miles et al., 2000). KIBS have specific features such as knowledge intensity, client participation, project-based structure and dedicated knowledge team, which go beyond the generic characteristics of service firms.

Small firms in knowledge industries, such as KIBS, often generate high rates of innovations in spite of having relative low or no R&D budgets ([Z.J. Acs, 2002](#_ENREF_3); [Zoltan J Acs & Audretsch, 1987](#_ENREF_4)). This is because the innovation searching function provided by R&D within the large firms almost does not exist or is relatively little in small firms, due to their diseconomies of scale and the unpredictable and relatively short life. Thus for knowledge-based SMEs, information and knowledge accumulation tend to take place in a socialised way, outside of the firm ([Capello, 1999](#_ENREF_19); [Stuart & Sorenson, 2003](#_ENREF_54)). Therefore, a number of researchers now strongly argue that small firms rely on external knowledge for innovation, especially those in knowledge intensive industries (Audretsch, 1998; Abubakar and Mitra, 2007). Consequently, a new literature has emerged, from an institutional theory perspective arguing that external knowledge from knowledge producing institutions and organisations play a key role in driving innovation for small firms ([Aidis, Estrin, & Mickiewicz, 2010](#_ENREF_7); [Keeble et al., 1999](#_ENREF_29); [Sautet, 2005](#_ENREF_46)).

 *2.2 KIBS SMEs, Institutions and Innovation*

Institutional theory gives a sound framework for explaining innovation by firms based on processes and events in the firms’ environment ([Bruton et al., 2010](#_ENREF_16)). Institutions provide a combined web of supportive organizations, such as educational institutions, chambers of commerce, training agencies, government agencies and informal actors that generate the new knowledge needed for innovation (Li and Matlay, 2006). Several empirical studies in advanced economies suggest that firms’ institutional environment has a positive effect on their innovative activities (Keeble et al, 1999; Acs, 2002). Much progress has been made in advanced countries in understanding the institutional determinants of innovation (Keeble et al, 1999; Stuart and Sorenson, 2003). For developing economies, there is a dearth of research on institutional factors influencing innovation by KIBS SMEs in comparison to the advanced economies (GEM, 2009), especially new market innovation. For instance, most research on new market innovation in advanced economies are done in USA, UK and Europe focus on large firms (Lingelbach, 2007). Furthermore, the recent global economic crisis and the rise of KIBS in developing countries have provoked research interest on KIBS in developing economies especially with the growing success of China and India knowledge based sectors (Goedhuys and Sleuwaegen, 2010; Swedish Trade Council, 2012). Therefore in our view, there is the need for empirical research that investigates the institutional sources of knowledge resources in the external environment that matter for new market innovation by KIBS SMES in developing countries. Findings of such a research can serve as a step forward towards developing useful policy frameworks for promoting innovation in developing countries.

*2.3. New market innovation and institutional sources of knowledge in a developing economy: The Hypotheses*

New market innovation relates to the implementation of early-entry strategy by a firm to exploit opportunities in a new market and gain the first-mover advantages ([OECD/Eurostat, 2005](#_ENREF_43); [J. A. Schumpeter, 1934](#_ENREF_49)). New market innovation is about entering a new market ([Klepper & Thompson, 2006](#_ENREF_33)) aimed at better addressing customers’ needs and increasing firms’ credibility. According to the Oslo Manual (OECD/Eurostat, 2005), the main factor that distinguishes new market innovation from other innovation is the significant marketing method that has not been employed by the firm into a new or existing market or being first to target a new user group. For example, the first introduction of ‘existing’ IT product into a new market (e.g. product existing in Germany being introduced for the first time into the Nigerian market) is a new market innovation. Therefore, it is a unique innovation in that it signifies the exploitation of existing products in new markets, thereby enabling SMEs to capture more market share, growth in size and improved profitability ([Feeser & Willard, 1990](#_ENREF_25); [Klepper & Thompson, 2006](#_ENREF_33)). However, as argued earlier, existing literature on innovation/ has largely obscured our understanding of the institutional sources of knowledge([OECD/Eurostat, 2005](#_ENREF_43))needed for new market innovation by KIBS SMEs in developing countries. In the next section, we develop our arguments by drawing on institutional theory of entrepreneurship and new market innovation.

*2.4 Formal and Informal Institutional Sources of Knowledge and new market innovation in a developing country*

Our theoretical framework takes the position that formal and informal institutions influence the sources of knowledge used by KIBS SMEs for new market innovation in developing countries. The institutional perspective is one of the most commonly applied approaches to external environment([Brouther & Hennart 2007](#_ENREF_15)). Institutional theory states that these external environmental factors have great influence on firms’ innovativeness ([Baumol, 1990](#_ENREF_13); [Li & Matlay, 2006](#_ENREF_34)). Institutions set the rules and norms being followed in any society, which can be formal and informal constraints and privileges with enforcement features (North, 1991). Formal institutions refer to sourcing of knowledge from formal institutions and organizations recognized by law, such as higher education institutions, research institutes, and formal collaborations with other KIBS firms (Muller and Doloreux, 2007). They are places where knowledge is disseminated in a curriculum-driven, bureaucratic and highly institutionalized setting that are recognized with grades and/or certificates ([Ekpo & Umoh, 2011](#_ENREF_24)).

 Informal institutions in contrast refer to sourcing of knowledge for innovative activities without formalized method ([Taylor & Thorpe, 2004](#_ENREF_56)) that are not backed by the law though not illegal, such as personal contacts, friends and family members, imitations of other KIBS firms (Scarso and Bolasini, 2012). They are found in diverse places outside the formal establishments. It has no planned curriculum but occurs naturally, sporadically and spontaneously in relation to prevailing circumstances. It relies on entrepreneurs’ endeavour to network rather than organizational initiatives or directives (Ekpo and Umoh, 2011).It is based on reciprocal exchange of information and favour. This is often accessed through the entrepreneur’s or staff network on one-to-one at homes, offices, social gatherings, daily interactions and shared relationships in society where knowledge and information are disseminated([Matlay, 2008](#_ENREF_35)).

Thus, KIBS SMEs that want to embark on new market innovation often need to access both formal and informal knowledge which are often external to the firm. In advanced economies, formal institutions, particularly educational institutions are considered as important contributors to innovation (Keeble et al., 1989; Acs, 2002; Li and Matlay, 2006) while developing countries often have underdeveloped formal institutional environment especially educational institutions (Acs and Virgill 2010). Such weaknesses in institutional environments imply that a large amount of economic activities in developing economies occur through informal sources (World Bank, 2010). This is particularly the case for developing countries in Sub-Saharan Africa, which has the highest prevalence of informal economic activities in the world. For our research problem, this suggests that informal sources may have greater influence than formal institutional sources of knowledge for new market innovation. Hence, the above discussion leads us to formulate the following hypothesis:

*H1: There is a significant positive association between the use of* ***formal sources of knowledge*** *and new market innovation by KIBS SMEs in a developing economy.*

*Ho: There is a no significant positive relationship between the use of* ***formal sources of knowledge*** *and new market innovation by KIBS SMEs in a developing economy.*

*H2****: Informal institutional sources of knowledge*** *are more likely to be associated with new market innovationby KIBS SMEs in comparison to formal institutional sources of knowledge in a developing economy.*

*H0:* ***Informal institutional sources of knowledge*** *will not be more associated with new market innovation by KIBS SMEs in comparison to formal institutional sources of knowledge in a developing economy.*

**3.0 Methodology**

This study seeks to find the relationship between formal and informal institutions and new market innovation by KIBS SMEs in a developing country. A survey was used to obtain numerical data ([Punch, 2003](#_ENREF_44)) because secondary data sources will not provide direct information on firm’s situation ([Aryeetey, 2008](#_ENREF_8)). Our unit of analysis is the ‘firm level’, as most previous authors that studied new market innovation ([M. Ayyagari, Demirgüç-Kunt, & Maksimovic, 2010](#_ENREF_12); [Min & Wolfinbarger, 2005](#_ENREF_37)).

*Sampling*

A sampling frame of KIBS firms was drawn from two major directories: Nigerian Yellow Pages and Nigeria Search Engines.1782 fell into the selection criteria of being KIBS SMEs with employees below 250 (OECD, 2003), and have existed for 20 years or below (Saemundsson, 2003). The study was conducted in Lagos by using random sampling method to obtain 891 sample for data collection to enable every case an equal opportunity to be selected (Bryman, and Bell, 2011). Lagos has the largest numbers of formal knowledge institutions from primary to tertiary levels in Nigeria which constituted about 35% of the total institutes and institutions in Nigeria ([Business Environment Report, 2007](#_ENREF_18)). These institutions serve as potential sources of knowledge for new market innovation by KIBS SMEs.

The data was collected between December, 2011 and March, 2012. There were 510 respondents which accounted for 57%.Many studies have tested their hypotheses on samples with less than 100 cases (Vachani, 1999; Pedersen et al. 2002) thus this response rate can be classified high enough for generalisation. A structured questionnaire that was modelled after some authoritative studies of knowledge and innovation (i.e. Feeser and Willard, 1990; SIC, 2007; Svetina and Prodan, 2008). Likert’s scale with close-ended questions on a ten degree-of-agreement score was used. Respondents are to indicate: (0) Not Applicable, (1-10) ‘Not Important at all’ to ‘Very Important’. The highest is ten while the lowest is zero points respectively.

*The Dependent Variable: New market innovation*

To measure new market innovation, respondents were to indicate the numbers of new markets opened between 2006 -2011 which was considered a useful measure of new market innovation. Furthermore, Liebermann and Montgomery (1998) argued that newness of a product is one of the significant variables to gain acceptance in marketplace. Hence for the purpose of elaborations and enhancement, 7 variables were employed to describe ‘newness’ in terms of market innovation as commonly used in a number of innovation studies as a measure of innovative activities (Johanneson et al., 2001; Abubakare, 2009). However, ‘Innovations are new to the market when the firm is the first to introduce the innovation in its market’ (OECD/Eurostat,2005:209). Thus, no matter the level of ‘newness’ as long as it is first to the market it takes the value (1). A variable that takes the value of (1) was used, if the items applied and (0), if not applicable.

*Independent Variables: Formal and Informal Sources of Knowledge*

The independent variables are the formal and informal institutional sources of knowledge. The respondents were required to rate the importance of formal and informal sources of knowledge for entering new market during 2006-2011. The reliability coefficient for formal sources is Cronbach Alpha score of .882 while for informal sources were all above .7 which indicated that the instrument was reliable (Adeyeye, 2013). The data was analysed using descriptive analysis, principal component analysis and multiple regressions.

**4.0 Results and discussions**

*4.1 Descriptive analysis*

*Insert table 2*

The minimum of new markets opened during the years are one and 85 as maximum. This table revealed that the KIBS SMEs are the innovative ones (Abubakar, 2009), involved in new market innovation and also with a level of newness (see table 4 for details). However, most of them stated the restrictions to new market innovation as shortage of essential resources: Finance and knowledge. Thus new market innovation is an acceptable measure for this study.

*Insert table 3*

Table 3 reveals the general patterns in the data that most KIBS SMEs’ employees are less than 250 confirming that the firms in the samples are SMEs. The firm age ranges from KIBS SMES as young as one year to those established for 20 years (Sæmundsson, 2003;Adeyeye, 2013; Abubakar, 2013). 75% of the owners/managers of KIBS SMEs in Lagos are predominantly males with 44.1% as majority into the active-population age between 26 and 45 years with high qualifications depicting the essence of the specialisation required of personnel in KIBS sector.

*4.2 Principal Component Analysis*

We employed factor analysis to reduce the variables used in the questionnaire to factors that explain the pattern of correlations within a set of observed variables ([Minocha, 2005a](#_ENREF_38)).The components analysed the presence of one factor with eigenvalue exceeding 1 and loadings higher than 0.50. Thus, summarising the large variables and translating them into small numbers and also removing the possibilities of multicollinearity. The 7 variables of NEW new market innovation were reduced to one factor which explained a total variance of 56.9% for new market innovation.Whilst the 11 response variables for formal sources were compressed to one factor and the10 for informal sources of knowledge compressed to three factors.

Table 4 shows the final matrix after rotation.

*Insert table 4*

One factor emerged for formal sources of knowledge while three factors emerged for informal sources. The first one combined all sources of informal knowledge derived from entrepreneur’s contact, we called it ‘Learning through personal contact’. The second factor combined responses for diverse ways of acquiring knowledge for new market innovation through friends, relatives etc. and we called it “Learning from local linkages”. Lastly, the third factor combined responses on interaction in public places thus called “Learning through public places and Literature”.

*4.3 Multiple regression models*

*Insert table 5*

In table 5, we report the multiple regressions that explain new market innovation by two sets of independent variables formal and informal sources of knowledge, so as to test *H1*.

In model 1, all the sources of formal and informal knowledge resources were found to be significant at P<.01 except local linkages at P< .05 level. This indicates that both formal and informal sources of knowledge resources have very high influence on new market innovation. However, in model 2 while controlling for firm-age shows that age is insignificant while learning from formal sources, personal contacts, public places and literatures are all significant at P< .01 except learning through local linkages at P< .05 level. This implies firms’ age has no significant effect on external sources of knowledge resources for new market innovation. Furthermore, in model 3, when firms’ age and size are included, the age becomes insignificant while size is significant at P< .05. This suggests that age does not affect firms’ ability to acquire resources for new market innovation by KIBS SMEs.

In addition, the explanatory power of multiple regressions was used to test *H2*, which suggests a stronger association between informal sources of knowledge and new market innovation. In the three models, with or without control variables, informal sources of knowledge were found to be more associated with new market innovation than formal sources. Thus, the null hypotheses for both *H1* and *H2* are rejected. Therefore, although the findings are similar to previous studies (Cohen and Levinthal, 1989; Pedersen et al, 2002; Svetina and Prodan, 2008) in that they confirm importance of external knowledge for innovation, the ‘originality’ of the finding is that previous studies did not examine whether formal or informal institutional sources of knowledge are more important for new market innovation by KIBS SMEs in a developing country. Therefore our results suggest that there is greater association between informal sources and new market innovation by KIBS SMEs in a developing country, in comparison to formal sources, contributes to the literature on use of external knowledge and innovation (Acs, 2002; Abubakar, 2013). Formal sources of knowledge are only significant (P<.01) for new market innovation when size is not controlled for; but when controlled, it becomes less significant (p<.10) (see table 5).In contrast, informal sources of knowledge are highly significant (P<.01) with or without controlling for size and age of firms ( see Table 5).

**5.0 Conclusion**

This study presents two sides of the external sources of knowledge resources for new market innovation: formal and informal sources. The significant level and high coefficients of the formal and informal sources of external resources and new market innovation confirm that both sources are related to innovation. Networks of relationships are vital to both formal and informal sources of knowledge resource. Network are the variety of relationships and interactions by which SMEs access, acquire, exchange and transfer knowledge. Thus, in Lagos, the use of networks through personal contact (with clients, suppliers, family, friends and so on) is very essential. Formal sources of knowledge is significant (P<.01) for new market innovation when size was not controlled. This suggests that irrespective of the size of the firm, there is possibility to access information for new market innovation from universities, research institutes and other knowledge institutions that are dynamically engaged in acquisition and distribution of knowledge for innovation in the business environment in Lagos. The informal sources of knowledge is highly significant (P<.01) with or without controlling for size and age of firms. The overall result of this study shows that there is a positive association between the use of external knowledge, especially from informal sources and new market innovation by KIBS SMEs in a developing country. This appears to support our hypotheses. The informal sources are more accommodating to the needs of the entrepreneurs and thus serve as the primary source of resources for new market innovation. This is likely because of huge dependence of economic activity on informality in developing countries, especially those in Sub-Saharan Africa (World Bank, 2010). For example, in Cote d’Ivoire, although over 100,000 firms are estimated to exist, only about 4,000 of them operate in the formal economy (Klapper and Richmond 2009). Also, for those operating in the formal economy, informality is found to be important for their performance. Specifically, our paper contributes to research on institutional theory of entrepreneurship (Keeble et al, 1999; Sautet, 2005) by revealing the importance of the informal sources of knowledge relative to the formal sources, for new market innovation by KIBS SMEs in a developing country.

**6.0 Policy and Managerial Implications**

This study seems very relevant to African countries like Nigeria, especially because of the growing interest in promoting innovation and knowledge-based sectors in developing countries ([Kuriyan et al., 2008](#_ENREF_59)). This finding could assist in formulating policies on external knowledge resources that may influence innovation by SMEs in a developing country, especially for KIBS. The findings suggest that it might be necessary to revise innovation policy in developing countries into ways that acknowledge the role of informal sources of external knowledge for new market innovation, especially by KIBS SMEs. Furthermore, knowledge staff are resourceful, independent and highly skilled enough in this industry to influence and facilitate means ([Kefela, 2010](#_ENREF_30)) to obtain required external knowledge for new market innovation. This therefore suggests the need for the country to strengthen the educational base from the basic level to the higher end along the lines of innovation([Scramm, 2004](#_ENREF_51))to meet the manpower needs of KIBS SMEs’ for new market innovation in Lagos.

**7.0 Limitations and further research**

This study is limited to new market innovation, therefore the result may not apply to other forms of innovation like product or process innovation etc. However, further research might desire to investigate if the results can be generalised to other kinds of innovations.

**Appendix:**

**Table 1: Features of KIBS SMEs surveyed**

|  |  |  |
| --- | --- | --- |
| Characteristics | Number | Percentage |
| ***Number of employees*** | 510 | 100 |
| 0-9 | 223 | 43.8 |
| 10-99 | 257 | 50.6 |
| 100-249 | 28 | 05.6 |
| ***Years in operation*** | 510 | 100 |
| 1-5 | 159 | 32.2 |
| 5-10 | 255 | 50.0 |
| 11-15 | 76 | 14.9 |
| 16-20 | 20 | 3.9 |
| ***Owners/Manager’s Gender*** | 510 | 100 |
| Males | 384 | 75 |
| Females | 126 | 25 |
| ***Owners/Manager’s age*** | 510 | 100 |
| 18-25 | 23 | 4.5 |
| 26-35 | 165 | 32.4 |
| 36-45 | 225 | 44.1 |
| 46-50 | 68 | 13.3 |
| 51> | 29 | 05.7 |
| ***Owners/Manager’s Education*** | 510 | 100 |
| GCSE’O Level | 8 | 1.60 |
| Diploma/NCE | 106 | 18.8 |
| B.Sc./HND | 213 | 41.8 |
| Master’s /PHD. | 135 | 26.5 |
| Any above with professional certificate | 48 | 11.40 |

**Table 2: Factor Analysis**

|  |  |
| --- | --- |
|  |  Components |
|  | 1 | 2 | 3 | 4 | 5 |
| ***New Market Pioneering*** |  |  |  |  |  |
|  Newly introduced to the country  | 0.795 |  |  |  |  |
| Newly introduced to the firm  | 0.815 |  |  |  |  |
|  Newly introduced to the market  | 0.771 |  |  |  |  |
|  New to a group of people as customers /client firm | 0.831 |  |  |  |  |
|  Newly introduced to the environment  | 0.600 |  |  |  |  |
| Improved version of a previous product/service | 0.717 |  |  |  |  |
| Presented in a different ways from other firms | 0.724 |  |  |  |  |
| *Explained variance by factor 56.9%,KMO.83Chronbac Alpha.86.* |  |  |  |  |  |
|  |  |  |  |  |  |
| ***Formal Sources of Knowledge*** |  |  |  |  |  |
| R&D outside the firm  |  | 0.767 |  |  |  |
| Partnership /collaboration with other firms (National) |  | 0.838 |  |  |  |
| Partnership /collaboration with other firms (International) |  | 0.794 |  |  |  |
| Interaction with public institutions - Universities and research institute |  | 0.743 |  |  |  |
| Conferences, workshops and seminars in Nigeria |  | 0.709 |  |  |  |
| Conferences, workshop and seminars outside Nigeria |  | 0.765 |  |  |  |
| From industry association and trade unions |  | 0.723 |  |  |  |
| E*xplained 58.3% of the variance, KMO.85; Chronbac alpha .88.* |  |  |  |  |  |
|  |  |  |  |  |  |
| ***Informal Sources of knowledge*** |  |  |  |  |  |
| *Learning through Personal Contacts* |  |  |  |  |  |
| Personal connections to known people |  |  | 0.824 |  |  |
| Personal contact by asking questions, investigations or survey |  |  | 0.812 |  |  |
| Contact with informants |  |  | 0.841 |  |  |
| Personal invitation to come over through personal inquiry |  |  | 0.778 |  |  |
|  Interactions with suppliers |  |  | 0.637 |  |  |
| E*xplained 47.11% of the variance; KMO.87; Chronbac alpha .88.* |  |  |  |  |  |
|  |  |  |  |  |  |
| ***Learning from local linkages*** |  |  |  |  |  |
|  Information from friends and family members |  |  |  | 0.622 |  |
| limitation of other competitors |  |  |  | 0.847 |  |
|  Connections from towns meeting |  |  |  | 0.874 |  |
| E*xplained 13.14% of the variance (KMO.87; Chronbac alpha .76.* |  |  |  |  |  |
|  |  |  |  |  |  |
| ***Learning through Public places and Literature*** |  |  |  |  |  |
|  Literature |  |  |  |  | 0.860 |
| Webs & Internet |  |  |  |  | 0.859 |
|  Interactions at public places like bus stops, market, church, mosques, parks, clubs etc |  |  |  |  | 0 .503 |
| Interactions with customers/client firms |  |  |  |  |  0.555 |
| E*xplained 9.31% of the variance, KMO.87; Chronbac alpha .83.* |  |  |  |  |  |

**Table 3: Regression results for external knowledge sources of resources**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Model 1** | **Model 2** | **Model 3** |
| Constant | -6.020E17 | -.093-(1.103) | -.104-(1.290) |
| Formal sources of knowledge resources | .276(4.566) \*\*\* | .285(4.676) \*\*\* | .274(4.508)\* |
| Informal Learning from Personal Contact | .156 (3.450) \*\*\* | .151(3.324) \*\*\* | .159(3.525) \*\*\* |
|  Learning from local linkages | .095(2.009)\*\* | .093(1.951)\* | .101(2.135)\*\* |
| Learning from public places and literatures | .229 (4.863) \*\*\* | .220 (4.597) \*\*\* | .235(4.900) \*\*\* |
| **Controls** |  |  |  |
| Age |  | .047(1.233) | .015(.368) |
| Size |  |  | .104 (2.624) \*\* |
| R² | .282 | .284 | .294 |
| Adjusted R² | .276 | .277 | .285 |
| F | *49.589\*\*\** | *40.016\*\*\** | *34.884\*\*\** |

Note: \*\*\*, \*\*,\* denotes significance at 1%, 5% and10% respectively. Values of the t-statistics are indicated in parentheses. The sample size used for calculations is 510 KIBS SMEs. Reference categories for control variables are age 1-20yrs and size (average numbers of employees in 2006-2011).

**References**

Abubakar, Y., & Mitra, J. (2007). Developing a culture for entrepreneurship in the East of England: the value of social and human capital. *Industry and Higher Education, 21*(2), 129-143.

Abubakar, Y. A. (2013). *Agglomeration of High-tech Firms and New Product Innovations*. LAP: LAMBERT Academic Publishing.

Acs, Z. J. (2002). *Innovation and the Growth of Cities*: Edward Elgar Pub.

Acs, Z. J., & Audretsch, D. B. (1987). Innovation, market structure, and firm size. *The Review of Economics and Statistics*, 567-574.

Adeyeye, M. M. (2013). *The Influence of financial and knowledge factors on SMEs (KIBS) New Market Pioneering in developing economies.* Doctor of Philosophy Research, University of Essex, United Kingdom.

Agu, S. (2007). Gender equality, education and women empowerment: The Nigerian challenge. *Multidisciplinary Journal of Research Development, 8*(2), 1-11.

Aidis, R., Estrin, S., & Mickiewicz, T. (2010). Institutions, Finance and the Level of Development: the Impact on Entrepreneurship in Transition. *Review of Economics and Institutions, 1*(1).

Aryeetey, E. (2008). *From Informal Finance to Formal finance in Sub-Saharan Africa: Lessons from linkage efforts*. Paper presented at the African finance for the 21st Century, Tunisia, N/Africa.

Audretsch, D. B. (1998). Agglomeration and the location of innovative activity. *Oxford review of economic policy, 14*(2), 18-29.

Audretsch, D. B. (2002). Entrepreneurship: a survey of the literature. *Prepared for the European Commission, Enterprise Directorate General*.

Ayyagari, M., Beck, T., & Demirgüç-Kunt, A. (2005). *Small and Medium Enterprises across the Globe*. WPS 3127. Finance. World Bank Development Report Group.

Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2010). Formal versus informal finance: evidence from China. *Review of Financial Studies, 23*(8), 3048-3097.

Baumol, W. J. (1990). Entrepreneurship: Productive, Unproductive, and Destructive. *The Journal of political Economy, 98*(5), 893-921.

Boettke, P. J., & Coyne, C. J. (2003). Entrepreneurship and development: Cause or consequence? *Advances in Austrian Economics, 6*, 67–88.

Brouther, K. D., & Hennart , J. F. (2007). Boundaries of the firm : Insights from international entry mode research. *Journal of Management, 33*, 395-425.

Bruton, G. D., Ahlstrom, D., & Li, H. L. (2010). Institutional theory and entrepreneurship: Where are we now and where do we need to move in the future? *Entrepreneurship, Theory and Practice, 34*(3), 421-440.

Burns, P. (2001). Entrepreneurship and small business. Basingstoke: Palmgrave Macmillan.

Business Environment Report. (2007). *BECANS Business Environment Reports, Lagos State*. African Institute of Applied economics.

Capello, R. (1999). Spatial transfer of knowledge in high technology milieux: learning versus collective learning processes. *Regional Studies, 33*(4), 353-365.

CIS3 (2004). International comparisons of the third community innovation survey *Department of Trade and Industry (DTI*.

Coyne, C. J., & Leeson, P. T. (2004). The plight of underdeveloped countries. *Cato Journal, 24*(3), 235-249.

Dimitraki, O., Klapper, L. F., & Panos, G. A. (2012). Informal origin, firm performance and conduct in the Balkans. *2nd International Conference- Economic Development And Enterepreneurship In Transition Economies.* Retrieved from <http://www.redete.org/doc/ConfrenceProceedings.pdf> website:

Egbetokun, A. A. (2011). *The Outcomes and the Drivers: Exploring how Openness Influences Innovation in Developing Countries*.

Ekpo, I. A. H., & Umoh, O. J. I. (2011). The Informal Sector Today. *Journal of Economic Issues*. Retrieved from [www.onlinenigeria.com/economics](http://www.onlinenigeria.com/economics) website:

Feeser, H. R., & Willard, G. E. (1990). Founding strategy and performance: A comparison of high and low growth high tech firms. *Strategic Management Journal, 11*(2), 87-98.

Freeman, M. J. (1982). Verbally interactive telephone interrogation system with selectible variable decision tree: Google Patents.

Goedhuys, M., & Sleuwaegen, L. (2010). High-growth entrepreneurial firms in Africa: a quantile regression approach. *Small Business Economics, 34*(1), 31-51.

Jaffe, A. B. (1989). Real effects of academic research. *The American Economic Review*, 957-970.

Keeble, D., Lawson, C., Moore, B., & Wilkinson, F. (1999). Collective learning processes, networking and ‘institutional thickness' in the Cambridge region. *Regional Studies, 33*(4), 319-332.

Kefela, G. T. (2010). Knowledge-based edconomy and society has become a vital commodity to countries. *International NGO journal, 5*(7), 160-166.

Klapper, L., & Richmond, C. (2009). *Patterns of Business Creation, Survival, and Growth: Evidence from a Developing Country*. World Bank Working Paper. World Bank. Washington, DC. Mimeo.

Kleinknecht, A. (1987). Measuring R & D in small firms: How much are we missing? *The Journal of Industrial Economics*, 253-256.

Klepper, S., & Thompson, P. (2006). Submarkets and evolution of market structure. *RAND Journal of Economics, 37*(4), 861-886.

Li, J., & Matlay, H. (2006). Chinese entrepreneurship and small business development: an overview and research agenda. *Journal of small business and enterprise development, 13*(2), 248-262.

Matlay, H. (2008). A Theory of Local Entrepreneurship in the Knowledge Economy. *Journal of Small Business and Enterprise Development, 15*(3).

Mensch, G. (1979). *Stalemate in technology: innovations overcome the depression*: Ballinger Cambridge, Mass.

Min, S., & Wolfinbarger, M. (2005). Market share, profit margin, and marketing efficiency of early movers, bricks and clicks, and specialists in e-commerce. *Journal of Business Research, 58*(8), 1030-1039.

Minocha, S. (2005a). *Dissertation preparation and resaerch methods* (2nd ed.). London: Pearson.

Minocha, S. (2005b). *Dissertation preparation and research methods*. Newcastle: Pearson Custom Publishing.

Mudambi, R. (2002). Knowledge management in multinational firms. *Journal of International Management, 8*(1), 1-9.

Nichter, S., & Goldmark, L. (2009). Small firm growth in developing countries. *World Development, 37*(9), 1453-1464.

OECD. (2003). *Productivity and Economic Structure*. OECD publishing.

OECD/Eurostat. (2005). *Proposed guidelines for collecting and interpreting technological innovation data- Oslo manual* ( third ed.): Joint publication of OECD and EUROSTAT.

Punch, K. (2003). *Survey research: The basics*: Sage Publications

Sæmundsson, R. J. (2003). *Entrepreneurship, technology and the growth process: A study of young, medium-sized technology-based firms.* PHD University of Technology, Chalmers.

Sautet, F. (2005). The role of institutions in entrepreneurship: Implications for development policy. *Mercatus Policy Primer*(1).

Saxenian, A. (2002). Transnational communities and the evolution of global production networks: the cases of Taiwan, China and India. *Industry and Innovation, 9*(3), 183-202.

Saxenian, A. (2005). From brain drain to brain circulation: Transnational communities and regional upgrading in India and China. *Studies in Comparative International Development (SCID), 40*(2), 35-61.

Schumpeter, J. A. (1934). *The theory of economic development*. Cambridge Mass: Harvard University Press.

Schumpeter, J. A. (1996). The theory of economic development. New Jersey: Transaction publishers.

Scramm, C. J. (2004). Building entrepreneurial economies. *Foreign Affairs, 83*(4), 104-130.

Sobel, R. S. (2008). Testing Baumol: Institutional quality and the productivity of entrepreneurship. *Journal of Business Venturing, 23*(6), 641-655.

Strambach, S. (2008). Knowledge-Intensive Business Services (KIBS) as drivers of multilevel knowledge dynamics. *International Journal of Services Technology and Management, 10*(2), 152-174.

Stuart, T. E., & Sorenson, O. (2003). Liquidity events and the geographic distribution of entrepreneurial activity. *Administrative Science Quarterly, 48*(2), 175-201.

Swedish Trade Council. (2012). Export Radet *China is an important market for many Swedish Company*.

Taylor, D. W., & Thorpe, R. (2004). Entrepreneurial learning: a process of co-participation. *Journal of Small Business and Enterprise Development, 11*(2), 203-211.

Thurik, R., & Wennekers, S. (2004). Entrepreneurship, small business and economic growth. *Journal of Small Business and Enterprise Development, 11*(1), 140-149.

Vachani, S. (1999). Global diversification's effect on multinational subsidiaries' autonomy. *International Business Review, 8*(5-6), 535-560.

Verheul, I., Risseeuw, P., & Bartelse, G. (2002). Gender Differences in Strategy and Human Resource Management The Case of Dutch Real Estate Brokerage. *International Small Business Journal, 20*(4), 443-476.