**Formal Vs. Informal Institutions and New Market Innovation: A Study of Knowledge-Intensive Business Services (KIBS) in a Developing Economy.**

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**Abstract**

**Purpose:** This paper aims to investigate the influence of formal and informal knowledge institutions on new market innovation in a developing economy.

**Design/methodology/approach**: A framework is built in which small firms develop new market innovations through utilising knowledge from two distinct institutional sources, which are formal (e.g. research institute, universities, R&D, collaborations with firms etc.) and informal (e.g. personal contact, network of friends, families etc.) institutions. Data was collected through a survey of 510 small and medium sized enterprises (SMEs) in knowledge intensive business (KIBS) sector of Lagos, Nigeria at firm level.

**Findings:** 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 in developing economies.

**Research limitations/implications:** 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.

**Originality/value:** 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 institutions, informal institutions, Knowledge-intensive business services (KIBS), new market innovation, SME.

**Article Classification:** Research Paper

**1.0 Introduction**

A flourishing class of innovative firms is generally acknowledged as important for providing the potential for wealth creation in advanced economies (Acs, 2002) . Innovative firms are also considered important in developing countries([Thurik and Wennekers, 2004](#_ENREF_73)), many of which are struggling to encourage innovative entrepreneurship that may contribute to their economic growth ([UNCTAD, 2006](#_ENREF_74); [Naude, 2007](#_ENREF_53)). 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 and Sleuwaegen, 2010](#_ENREF_32); [Swedish Trade Council, 2012](#_ENREF_71)) suggests that developing economies are beginning to make progress towards generating KIBS. This is an important development, considering that innovative firms in KIBS have high potential to innovations and generate employment in all countries, whether developed countries or developing countries (Saxenian, 2002; Saxenian, 2005). Yet, despite this development, we have little understanding of the determinants of innovation in developing countries, especially in knowledge- intensive 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 ([Keeble et al., 1999](#_ENREF_37); [CIS3, 2004](#_ENREF_24); [OECD/Eurostat, 2005](#_ENREF_57)). However, the need to gain better insights into the factors stimulating innovation of firms in knowledge-based industries in Sub-Saharan Africa is pressing, especially because of 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). This is because of the rise of KIBS and the possibility that factors influencing innovative activities in developing countries could contrast with the empirical evidence on the topic in advanced countries([Nichter and Goldmark, 2009](#_ENREF_54)). For example, in advanced countries, commonly held beliefs about factors influencing small firm innovation are shaped by the well-publicized stories of small firms in knowledge-intensive industries of Silicon Valley, Boston Route 128 in the United States (US) and Cambridge Silicon-Fen in the United Kingdom (UK). These are perceived to be influenced by external knowledge stemming from higher education institutions around them([Acs, 2002](#_ENREF_3)).

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)([Audretsch, 1998](#_ENREF_11); [2002](#_ENREF_12)). 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([Jaffe, 1989](#_ENREF_35); [Acs, 2002](#_ENREF_3)). 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 ([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_57)). This implies that a number of innovations in developing countries are simply new market innovation and not necessarily new to the world. New market innovation (or new market pioneering (NMP)) is a type of innovation that ‘aims at better addressing customers’ needs, opening of new markets or newly positioning a product in the market with the objective of increasing the firm’s sales’ (OECD/Eurostat, 2005p.49). It is often related with different strategies such asearly-entry strategy of a firm to exploit opportunities in a new market and gain the first-mover advantages([Schumpeter, 1934](#_ENREF_65); [OECD/Eurostat, 2005](#_ENREF_57)). Thus, the focus on new market innovation is more likely to reflect the reality of firms in developing countries. Also, KIBS SMEs are examined in this study because there is beginning to be a shift from the enormous proliferation of informal trade in developing countries to the emergence of KIBS, such as telecommunications and ICT ([Kuriyan et al., 2008](#_ENREF_42); [Swedish Trade Council, 2012](#_ENREF_71)).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?

To address 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 et al., 2010](#_ENREF_19)). Institutions provide a form of interconnecting and combined web of supportive institutions and organizations that include firms, educational institutions, training agencies, chambers of commerce, innovation centers, trade unions, government agencies and informal actors that generates the new knowledge needed for innovation (Keeble et al, 1999).

However, although previous research on institutions and entrepreneurship has examined the nature of institutions that supports the creation of productive (firms with higher potential for growth) and unproductive/destructive forms of entrepreneurship (illegal forms of entrepreneurship) ([Baumol, 1990](#_ENREF_15); [Sautet, 2005](#_ENREF_62); [Sobel, 2008](#_ENREF_68)), very 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_27)). 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 ([Schumpeter, 1934](#_ENREF_65); [Lieberman & Montgomery, 1988](#_ENREF_45); [Feeser & Willard, 1990](#_ENREF_29)) and institutional perspective of entrepreneurship in developing countries ([Baumol, 1993](#_ENREF_16) ; [Sautet, 2005](#_ENREF_62); [Aidis et al., 2010](#_ENREF_8)) 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. 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)**

Soon after the 2nd World War, a prominent economist, Joseph Schumpeter (1939, 1942)*,* presented two major influential works that placed innovation at the forefront of economic progress. In his influential work*,* titled *Business Cycles* (Schumpeter, 1939), he advanced a theory of long waves of economic growth, determined by radical technological breakthroughs, known as innovations. At the centre of Schumpeter’s 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_21)). The destructive force of innovation in Schumpeter’s theories is argued not to occur as a random event. Rather, at the core of the process of innovation, is the ‘entrepreneur’ who, introduces change and creates new opportunities for commercial exploitation. Even if markets are in equilibrium, the human condition of enterprise, combined with the lure of profits and advancing knowledge and technology, will destroy the equilibrium eventually,’ and this premise is probably most familiar as Schumpeter’s “Creative Destruction” (Acs, 2002). The innovator earns profits and disturbs equilibrium, until the imitators force prices and costs in conformity ([O'Farrell, 1986](#_ENREF_55)). 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***, t**he 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 ([Mensch, 1979](#_ENREF_47); [Freeman, 1982](#_ENREF_30); [Kleinknecht, 1987](#_ENREF_40); [Jaffe, 1989](#_ENREF_35); [Acs, 2002](#_ENREF_3); [Thurik & Wennekers, 2004](#_ENREF_73)). 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; Acs, 2002; 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 et al., 2002](#_ENREF_76)), especially in industries that are knowledge intensive ([Acs & Audretsch, 1987](#_ENREF_4); [Acs, 2002](#_ENREF_3)), 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](#_ENREF_69)).’ They are firms “performing, mainly for other firms, services encompassing a high intellectual value-added” (Muller & Zenker, 2001). Some of these service firms basically generate and sell intangible outputs - information and knowledge related to computer services, R&D, technical consultancies etc. Those related to knowledge and information is referred to as KIBS because of the requirement for personnel with highly specialized knowledge in comparison to the requirement of staff for physical services (Miles et al., 1995). The KIBS sector covers a wide range of activities based on technical knowledge (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 (see figure 1).

Figure 1: The Characteristics of KIBS in comparison with other Service firms

**Generic Characteristics of Service Firms**

**KIBS**

1. **Heterogeneity**
2. **Intangibility**
3. **Inseparability**
4. **Perishability**

**Source:** Adeyeye (2013)

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 ([Acs & Audretsch, 1987](#_ENREF_4); [Acs, 2002](#_ENREF_3)). 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_23); [Stuart & Sorenson, 2003](#_ENREF_70)). 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; Acs, 2002; Abubakar & 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 ([Keeble et al., 1999](#_ENREF_37); [Sautet, 2005](#_ENREF_62); [Aidis et al., 2010](#_ENREF_8)).

**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_19)). 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 (Keeble et al, 1999; Li & Matlay, 2006). Several empirical studies in advanced economies suggest that firms’ institutional environment has a positive effect on their innovative activities (Acs, 2002). However, although much progress has been made in advanced countries in understanding the institutional determinants of innovation (Keeble et al, 1999; Stuart & Sorenson, 2003; Acs, 2002), for developing countries, there are at least three fundamental reasons for our understanding of the topic being still limited:

First, although the institutional perspective of entrepreneurship in advanced economies argues for the role of external sources of knowledge especially from educational institutions as being crucial to small firm innovation (Keeble et al, 1999; Capello, 1999; Acs, 2002), in developing countries contrastingly, we have little understanding of whether and to what extent the institutional environment of small firms’ influence their innovative activities. The need to understand the institutional factors affecting innovation by small firms in developing countries is important, especially because of the possibility that institutional factors influencing innovative activities in developing countries could differ with those in advanced countries (Nichter & Goldmark, 2009) due to the differences in their institutional settings ([Acs & Virgill, 2010](#_ENREF_5)).

Second, there is dearth of research on the influence of institutional factors on innovation by ‘KIBS SMEs’ in developing countries (Bruton, 2010). This is important, considering the recent growth of KIBS in developing countries and their huge potential for generating innovations and wealth for developing economies ([Goedhuys and Sleuwaegen, 2010](#_ENREF_32); [Swedish Trade Council, 2012](#_ENREF_71)).

Third, there is lack of research on the effect of institutional factors specifically on new market innovation by KIBS SMEs in developing countries. This is crucial, considering that the most frequent type of innovation in developing countries are mainly creative applications of ‘existing’ products (to new markets) ([OECD/Eurostat, 2005](#_ENREF_57)). This implies that a considerable number of innovations in developing countries are simply new market innovations ([Ács & Virgill, 2009](#_ENREF_6)). Yet there is hardly any systematic study on institutional factors influencing new market innovation in developing countries.

Based on the above, it is logical to argue that there is a dearth of research on institutional factors influencing innovation by KIBS SMEs in developing economies in comparison to the advanced economies (GEM, 2009), especiallynew market innovation. Most research onnew market innovation in advanced economies done in USA, UK and Europe focus on large firms (Lingelbach, 2007; Adebusuyi, 1997). 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 & 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 fornew 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. Therefore, next, we discuss the sources of knowledge resources needed for innovation from an institutional perspective in a developing country.

**2.3. New Market Innovation and Institutional Sources of Knowledge in a Developing Economy**

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 ([Schumpeter, 1934](#_ENREF_65); [OECD/Eurostat, 2005](#_ENREF_57)). New market innovation is about entering a new market ([Klepper and Thompson, 2006](#_ENREF_41)) 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 product innovation is the significant marketing method that has not been employed by the firm into a new or existing market, for instance, being first to target a new user group (with an existing service/ product). Thus, while product innovation is a good/service which has been ‘significantly improved’ functionally, compared to existing products, in contrast, the entry of firm into a new market with an ‘existing product’ is new market innovation and not product innovation, as long as the functional characteristics of the product are not significantly changed (OECD/Eurostat, 2005). For example, IT product produced using ‘new’ technology with improved performance, like waterproof, is a product innovation, but 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_29); [Klepper & Thompson, 2006](#_ENREF_41)).

However, as argued earlier, existing literature on innovation/ has largely obscured our understanding of the institutional sources of knowledge([OECD/Eurostat, 2005](#_ENREF_57)) 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 (Baumol, 1990; Keeble et al., 1999; Sautet, 2005) and new market innovation ([Feeser & Willard, 1990](#_ENREF_29); [Klepper & Thompson, 2006](#_ENREF_41)).

**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_18)). Several opportunities are embedded in institutional structures (Li & Matlay, 2006). Nevertheless, institutional theory states that these external environmental factors have great influence on firms’ innovativeness ([Baumol, 1990](#_ENREF_15); [Li & Matlay, 2006](#_ENREF_44)). 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). Baumol (1990) theory posits that entrepreneurs put their energies towards innovation in different directions contingent on the quality of institutions. This institutional structure according Baumol (1990) influences the relative reward in entrepreneurial energies invested in productive activities (legal economic activities) compared to unproductive activities (illegal economic activities). Accordingly, Sobel (2008) tested the work of Baumol (1990) on institutional quality with different measures of productive and non-productive entrepreneurship and confirms Baumol’s theory. Boettke and Coyne (2003), Coyne and Leeson (2004) and Sautet (2005) empirically relate institutions and the type of entrepreneurship thatemerges in different societies especially developing countries. For example, Sautet (2005) studied the role of institutions in entrepreneurship in Romania, and found that the difficulties experienced by many in developing countries can be directly connected to deficiencies in their formal institutional structure. These studies therefore conclude that where the payoff for productive entrepreneurship is relatively higher than that for non-productive entrepreneurship, productive activities tend to be dominant and vice versa.

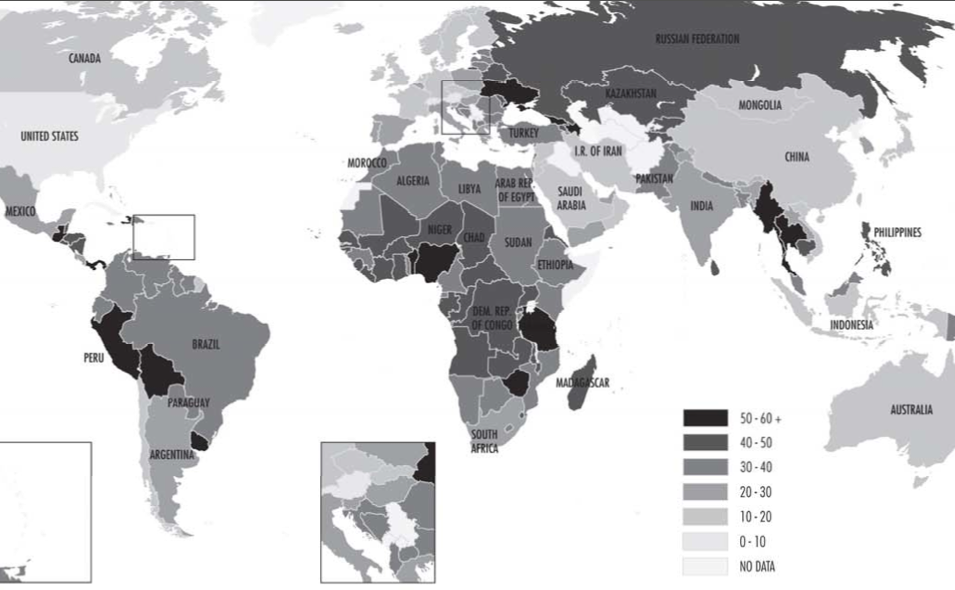
However, while empirical research on institutions and innovation explains why entrepreneurs engage in productive or unproductive activities, as argued earlier, there is hardly any research that has examined the influence of institutions on new market innovation by KIBs SMEs in developing countries. This is important, given that institutions set the rules and norms being followed in any society that can promote or limit innovation opportunities ([Aldrich, 1990](#_ENREF_9); [Gnyawali & Fogel, 1994](#_ENREF_31); [Hwang & Powell, 2005](#_ENREF_34)). Such a research can help us uncover the nature of institutions that support or constrain new market innovation in developing countries.

Institutions can be formal and informal (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 & Doloreux, 2007). Informal institutions in contrast refer to sourcing of knowledge for innovative activities without formalized method ([Taylor & Thorpe, 2004](#_ENREF_72)) that are not backed by the law though not illegal, such as personal contacts, friends and family members, imitations of other KIBS firms (Scarso & Bolasini, 2012).

The formal knowledge institutions 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_28)). Informal knowledge institutions are found in diverse places outside the formal establishments (Ekpo & Umoh, 2011). It has no planned curriculum but occurs naturally, sporadically and spontaneously in relation to prevailing circumstances (Ekpo & Umoh, 2011). It relies on entrepreneurs’ endeavour to network rather than organizational initiatives or directives (Ekpo & 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_46)).

Thus, KIBS SMEs that want to succeed innew 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 important contributors to innovation (Jaffe, 1989; Keeble et al., 1989; Acs, 2002; Li & Matlay, 2006) while developing countries often have underdeveloped formal institutional environment especially educational institutions (Acs & 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 (see Figure 2). For our research problem, this suggests that informal sources may have greater influence than formal institutional sources of knowledge for new market innovation.

Figure 2: World View of Informality



Source: World Bank (2010)

Hence, the above discussions leads to the formulation of the following hypotheses:

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

*Ho1: There is a no significant positive relationship between the use of institutional 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.*

*Ho2: 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, and employs quantitative approach ([Greene et al., 1989](#_ENREF_33)). A survey was used to obtain numerical data ([Punch, 2003](#_ENREF_59)) because secondary data sources will not provide direct information on firm’s situation ([Aryeetey, 2008](#_ENREF_10)). Our unit of analysis is the ‘firm level’, as most previous authors that studied new market innovation ([Feeser & Willard, 1990](#_ENREF_29); [Robinson et al., 1994](#_ENREF_60); [Min & Wolfinbarger, 2005](#_ENREF_48); [Ayyagari et al., 2010](#_ENREF_14)).

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; Ayaagari et al., 2005), 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 ([Bryman & Bell, 2011](#_ENREF_20)) to enable every case an equal opportunity to be selected (Bryman, & Bell, 2011). Lagos forms the context of the study because it is the economic, financial and commercial capital of Nigeria with populationof approximately 17.5million capturing almost 36.8% of the entire country ([Lagos State Government, 2011](#_ENREF_43)). 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_22)). 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; Mudambi, 2002; Johannessen et.al, 2001; Pedersen et al. 2002) thus this response rate can be classified high enough for generalisation.

A structured questionnaire (Bryman and Bell, 2011) that was modelled after some authoritative studies of knowledge and innovation (i.e. Feeser and Willard, 1990; Pederson et al, 2002; SIC, 2007; Svetina and Prodan, 2008) was employed. Likert’s scale with close-ended questions on a ten degree-of-agreement score was used. Each item has ten responses in which respondents have 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 measurenew market innovation, respondents were asked to indicate the numbers of new markets opened by which was considered a useful measure of new market innovation. Variable taking the value of ‘1’ was used, if it applied and ‘0’, if not applicable. Firms with not applicable (N/A) in any year are rated ‘0’ while those with number(s) of new markets scored ‘1’. 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 ([Lieberman and Montgomery, 1988](#_ENREF_45); [Johannessen et al., 2001](#_ENREF_36); [Pedersen et al., 2002](#_ENREF_58); [Mueller et al., 2009](#_ENREF_52)) as a measure of innovative activities (Johanneson et al., 2001; Abubakare, 2009). KIBS SMEs can score ‘0’ or highest ‘10’ while a firm can score ‘0’ and maximum ‘70’. However, ‘Innovations are new to the market when the firm is the first to introduce the innovation in its market’ (OECD/Eurostat, 2005). 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 knowledge sources covered were defined based on Pedersen (2002) and Svetina and Prodan (2008) studies on internal and external sources of knowledge contribution to firms’ innovation performance. The formal contained 7 while informal contained 14 items designed to elicit information to measure sources of external knowledge resources used fornew market innovation. The reliability coefficient for formal sources is Cronbach Alpha score of .882 while for informal sources were all above .7which indicated that the instrument was reliable (details in table 3). The data was analysed using descriptive analysis, principal component analysis and multiple regressions.

**4.0 Results and Discussions**

**4.1 Descriptive analysis**

Table 1 shows 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 3 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.

Table 2 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; Abubakar, 2013). 75% of the owners/managers of KIBS SMEs in Lagos are predominantly males (Agu, 2007) 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, 2005](#_ENREF_49)). 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 onefactor and the10 for informal sources of knowledge compressed to three factors.

Table 3 shows the final matrix after rotation. One factor emerged for formal sources 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 Model**

In table 4, 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 & Levinthal, 1989; Pedersen et al, 2002; Svetina & 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 4). In contrast, informal sources of knowledge are highly significant (P<.01) with or without controlling for size and age of firms (see Table 4).

**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 & Richmond 2009).Also, for those operating in the formal economy, informality is found to be important for their performance. For instance, in the Balkan countries, a recent study by Dimitraki, Klapper and Panos (2013) (although not focussed on innovation or KIBS sector), suggests that firms of informal origin perform better in terms of sales and employment growth, as well as exporting activity. 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 developing 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_38)) 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_67))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. Also, this research is examined in a local context, Lagos, in a developing economy. Therefore, care needs to be taken in considering similarity and dissimilarity in setting before extending the findings to other parts of the developing world.

**Appendix:**

**Table 1: Analysis of new market pioneered between 2006 and 2011.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 2006/2007 | 2007/2008 | 2008/2009 | 2009/2010 | 2010/2011 |
| Mean | 4.7 | 5.9 | 7.1 | 7.3 | 9.1 |
| Median | 2 | 3 | 3.5 | 4 | 4 |
| Minimum | 1 | 1 | 1 | 1 | 1 |
| Maximum | 57 | 85 | 75 | 72 | 85 |

**Table 2: 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 3: 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 4: 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).

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