

Innovation and SME'S in East Africa, Evidence from Kenya

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Abstract: This paper examines innovation in small and medium sized enterprises (SME'S) and develops a comprehensive theoretical framework of how innovation occurs, the end result and the impact on business financial performance focusing on three types of innovations. These are management practice, process, structure or technique that is new to the state of the art and is intended to further organizational and theorization and labeling – that collectively define a model of how management innovation comes about. In its broadest sense, management innovation has of course received considerable research attention over the years. Innovation generally refers to renewing, changing or creating more effective processes, products or ways of doing things. For SME businesses, this means implementing new ideas, creating dynamic products or improving existing services. Innovation can be a catalyst for the growth and success of any business, and can help it adapt and grow in the market place. Being innovative does not mean inventing; innovation can mean changing your business model and adapting to changes in your environment to deliver better products or services. Successful innovation should be an inbuilt part of a particular business strategy and the strategic vision, where the firm creates an environment which leads to innovative thinking and creative problem solving. Innovation is accomplished through effective products, processes, services, technologies or ideas. The process of innovation in organization's covers people, process, and technology. Innovation is compounded in SMEs, where issues such as scarce resources and skill shortages must be recognised. **Methodology:** This is a conceptual paper and draws largely from secondary data, and previous studies done in the area of innovation. **Results / Significance:** This study contributes to the theoretical basis for understanding organizational innovation in SMEs. The proposed framework is focused and comprehensive, enabling a better understanding of innovation.

Keywords: Small and Medium Enterprises (SME's), Innovation, Management, Business

1. Introduction

Globalization in the 1990's has brought about the challenges of competition both at domestic and global level, and this has brought about great concerns over quality, productivity and competitiveness. This meant that businesses had to invest in developing new products / new processes or face the risk of having to shut down.

Globalization demands that businesses must innovate, especially for small enterprises who apart from short-term problems of their own, have to embrace innovation – especially innovation capable of generating major economic impact. In most small businesses, the emphasis is on incremental innovation that is technical improvements made continually and systematically. Such improvements are critical for business to gain competitiveness and productivity

with Japanese companies as a typical example of how the effective use of concepts connected to incremental innovation can ensure competitiveness in several economic sectors [1].

In developing countries SMEs constitute the major source of employment and income especially for the urban population. According to ILO (2002) estimations, the share of informal employment (outside agriculture) to the total non-agricultural employment accounted for nearly half or more in all regions of the developing world and about 72% in sub-Saharan Africa (SSA). SMEs are an important part of the developing world economy [2]. Despite this very high potential to improve economic growth, however SMEs in developing countries lack expectations. They produce largely for the local low income group and employ lower levels of techniques. Many of them are the self-employed type with low graduation rate into higher size categories and their innovative activities are limited [14]. This is

mainly due to the higher environment they operate in. These include unreliable enforcement of contracts, excessive regulatory and administrative requirements, limited access to finance and inadequate infrastructure services all which impose disproportionately higher transaction costs on SMEs for doing business generally and for innovative activity in particular [3].

Promotion of SMEs has become very popular especially as a development tool. Many governments and donors are showing increasing interest in promoting innovations and entrepreneurship especially in developing countries. These have been in improving SME competitiveness through enhancing technology and innovation capabilities such as upgrading product quality, improving design and packaging and training to improve competitiveness. The notion is that innovation is essential for SMEs to become and remain competitive and move to higher return activities and grow and graduate to bigger medium sized enterprises, thus creating new employment opportunities [3].

Improving competitiveness is very important especially for SME's in the context of liberalization and increasing integration into the world market. Lack of adaptation and upgrading must be avoided and that SME's must strive to keep up or even initiate their own original improvements [4].

Innovation especially for SMEs also involves identifying key factors that foster or inhibit innovations and targeting the potentially successful entrepreneurs. SME entrepreneurs lack homogeneity in objective and capability. Many are self-employed while others have high vigour to innovate and grow. They also differ in terms of social economic background and access to resources such as financial capital and their activities they engage in is also varied. However, despite all this, there is still little empirical evidence of innovativeness and its input on firm performance in SME's. Some studies in Africa have examined determinants of innovative activity and attributes of innovativeness [5]. One author has examined the importance of enterprise clusters and cooperation on innovation in the informal sector of west and central Africa and has analysed the impact of inter-firm collaboration on innovation in East Africa (Kenya) and West Africa (Nigeria) and parts of Zimbabwe [6]. The researchers had also investigated the determinants of innovation in Ghanaian SMEs employing between 4-50 workers [10]. Researchers have reported some association between innovativeness in SMEs and growth in Tanzanian manufacturing sector. Therefore, it can be said that innovativeness and SMEs growth does exist in a limited scope in Africa [7].

2. Context of Innovation

2.1. What Characterises Innovation in SMEs

To answer this question, one needs to first define and analyse innovative activities that concern SMEs; the advantages and disadvantages to SMEs from the innovative perspective, as well as analysing the influence of venture capital on innovation by SMEs. The importance of strategic alliances as a supplementary factor to the innovative effort is

considered here as well as the government's role as a stimulator of innovation in SMES. In big businesses technological innovation of a product or process is divided into research and development (R&D). Technology acquisition, tooling and industrial engineering, industrial design, production start-up, marketing for new and improved products and training. In SMEs, innovation is found in activities connected to the production activities such as adaptation of technologies acquired from or in small technical improvements implemented by the firms engineering capability [1]. Other studies have confirmed that expenditures on innovation are based on engineering, design, and marketing, with effective impact on the business export performance. It has been proven that SMEs have also been able to invent (and patents are included as they relate to inventions) then to innovate (which requires greater investment to introduce new products on to the market). This invention is found in the fact that SMEs are an important source of innovation for larger firms. Innovation in SMEs can be said to be more influenced by external sources than in large firms. Such outside sources can be universities, research institutes, R&D carried out by other large enterprises, specialized technical services or the customers themselves. Other researchers have confirmed the significant role that SMEs play as a source of innovation in the early stages of technology, as well as carrying the innovative focus to larger firms in more mature stages of technological life cycle, where greater capital needs exist.

It is important to note that each stage of any given technology is associated with different innovation strategies. At first stage, the standard involves finding more radical product innovations, introduced by highly entrepreneurial small organization. The intermediate stage of the technological lifecycle includes important process innovations, alongside small changes to the product and increased number of competitors, both large and small changes to the product or process performed by large firms arising mainly from the need to cut costs and improve product quality.

2.2. Determinants of Innovation Activities

2.2.1. The Framework

Innovation in SMEs can be seen as "small improvement in a new process or product – incremental innovation [8]. Innovation in an SME in a developing country context can largely be said to be an adoption of a product, process or method that have already been adopted elsewhere but new to the firm and not necessarily new to the world, region, country or industry [5]. What factors determine innovativeness and innovation activities in SMEs can be identified as falling into 3 broad categories (sometimes overlapping); entrepreneurial attributes, firm level resources and the environment in which the firm operates [9].

2.2.2. Entrepreneurial Attributes

In SMEs, the innovative behaviour of the firm, and this is constituted by the following characteristics of the

entrepreneur such as socio-economic status, personality and communication behaviour of which education, social status, age, attitude toward risk and science, as well as density of social network in which the individual participates are the variables. Empirical studies have shown the effect of human capital and demographic factors on innovation. A case in point is in Ghana where researchers found that educated owners are more likely to innovate [10]. Another study found that the experience of owners (level of skill and knowledge) is also an important factor and does affect innovation activities. Other authors have confirmed that training of workers is associated with higher innovation, and that firms led by average younger owners are productive, risk taking, and more innovative [15, 16].

2.2.3. Firm Level Resources

Innovation activity occurs at firm level and the firm is the central actor in processes of technological change. The needed resources are captured by firm size, age, access to finance and network [4].

The innovative spirit associated with the age of a firm for SMEs has been found to have higher innovation capacity in the first stage of a life cycle. On the other hand, firm age can also represent accumulated resource, market knowledge and developed network, which means older firms are likely to be involved in innovation. Evidence in Africa has shown that there exists a positive relation between firm age and innovation and technological capability [11, 12].

Innovation activities also take place easily in clusters and networks. Effective networks are those that comprise lateral and vertical linkages raising capacity for each node in the network by increasing exposure to ideas and opportunities. They also reduce the transaction of developing and adopting innovation [3, 5, 6, 16]. Many studies that have been done support the role of clusters and networks on innovation in Africa [17].

2.2.4. Venture Capital as an Input Factor for Innovation by SME

One main cause of SME failure is lack of financing. Venture capital is an excellent opportunity for SMEs to avoid collateral or the high interest rates that prevail in the ordinary financial markets.

Venture capital is important in the development of technical base businesses, especially those set-ups in incubators or technological parks. Such firms are characterised by their incorporation of scientific and technological knowledge as their main production input and their close relationship between them and universities and R&D centers.

3. Strategic Alliances and Innovation

External alliances are important factors for a business to supplement its own internal R&D efforts and therefore achieve greater competitiveness in the markets it operates in the form of alliances could be in technological development alliances; commercialization alliances and financial alliances.

Technology development alliances refer to those relationships between SMEs and large firms. These could act as advantageous alternatives to venture capital, in addition to other resources that large firms can provide such as know – how, credibility and access to distribution chain, which can be very useful in certain markets. For large firms working with SMEs can be in the inventive efficiency that they provide to each other. In addition, also the dynamism and heterogeneity of high-tech markets by large firms with no domination. These large firms operating in consolidated markets are able to improve their competitive edge by associating with SMEs which provide them with new product or process technologies. By constructing effective communication channel with each other, balancing, the influence over decision making processes and keeping active participation and involvement in the process helps as well as developing mutual trust between firms, all help and support innovation in SMEs.

4. Government Role in Innovation

It is generally accepted that governments are responsible for creating structures to support private innovative initiatives and for interfering or intervening where market mechanisms do not work well. This is specially so more valid for SMEs who cannot afford the risk and cost of R&D activities. This the governments can do by for example offering tax incentives especially applicable in high-tech industries where it is easy to measure R&D expenditures. They can also do so by use of grants and associated financial assistance, which however must be secured in a timely manner. The third factor for governments is the support related to exports and to international business as competition shifts from local to the international scope, SMEs require support to operate in globalised international markets especially through cooperation and alliances with other firms active in foreign markets. Governments can also help in patenting by SMEs as the time and costs involved could be prohibitive for them.

5. Summary and Conclusions

The main aim of this paper is to address and show the factors that foster or constrain innovation for SMEs in Africa. It confirms that there are separate models of innovation and SME growth determinants.

Innovation activity in SMEs especially in Africa is related to several firms and entrepreneur attributes. One of them being that current size of a SME is related positively with innovation activity. This means therefore that the larger in size the more likely to involve in innovative activity. Resource advantage is explained by the why larger firms are more innovative than smaller ones. There is also a no-linear (concave) relationship between firm age and innovation activities, principally due to accumulated business experience and market knowledge.

Another important variable factor is human capital in

terms of vocational training which is found to have a strong effect on innovative activity. This is in the form of technical skill and education promoting entrepreneurship and innovation. The other side of this study is that it has contributed to the MSE literature in Africa in its examination of the effect of innovativeness on firm growth while controlling a range of other potential variables that could have an effect on firm growth (Such as size, age, financial constraint).

This study also confirms that innovations are more likely to lead to expansion of business and creation of jobs. This has the effect of promoting innovation and technological capability of SMEs and therefore ends up increasing their competitiveness as well as their ability to create more jobs.

Other important firm characteristics include size and age of the firm as it has effect on growth. Credit constraint affect SMEs growth negatively. In Africa, this is true given that financial markets are undeveloped and most of them rely on the informal market for external finance. Policy makers therefore need to provide alternative channels of access to finance for SMEs. This helps especially in innovations and growth in manufacturing SMEs due to the superiority of the manufacturing sector as an engine of growth.

Other characteristics such as size and age of an SME have been found to affect growth. There is a negative relation between size (employment) and growth, meaning that there is consistency with availability of the slack resources view as suggested by many authors. There is a non-linear (convex) relation between firm age and firm growth, and turns positive later [13].

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