



GAP ASSESSMENT ON INNOVATION OF SMALL AND MEDIUM-SIZED ENTERPRISES IN DEVELOPING COUNTRIES

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Abstract: - Global disparities are growing as industrially and technologically more advanced economies progressing well in innovation leaving other countries far behind. The sector of small and medium-sized enterprises (SMEs) is the backbone of the economy in high-income countries, whereas this is less developed in low-income and developing countries. SMEs are essential to the path out of poverty for many developing countries. Hence, predictably reviewing the innovation performance of small and medium businesses is crucial. Moreover, studies relating to innovation on SMEs have been increasingly popular over the recent years. However, there are not enough comprehensive reviews on this field of research. Therefore, this study focuses on assessing the innovation performance of SMEs in developing countries. According to an extensive research, this study evaluates the current performance of SMEs innovation, aiming to integrate empirical findings and point out future policy recommendations to respective bodies. The study found that lack of finance, inefficient efforts of innovation policies, unwillingness to invest on innovation, knowledge gap and the shortage of infrastructure are the major bottleneck of innovation for SMEs in developing countries.

Keywords: Innovation, Small and Medium-sized Enterprises, Developing Countries

Introduction: The term of SMEs encompasses a broad spectrum of definitions. Different organizations and countries set their own guidelines for defining SMEs, which is

generally on the basis of headcount, sales or assets. For example, Egypt defines SMEs as employing more than 5 and fewer than 50 workers, while the personnel of SMEs in Vietnam are between 10 and 300 staff. The World Bank considers SMEs as those enterprises with a maximum of 300 employees, 15 million US dollars of annual revenue, and 15 million US dollars of assets. Furthermore, the Inter-American Development Bank describes SMEs as having a maximum of 100 employees and less than 3 million US dollars of revenue.

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The central meaning of innovation is associated with renewal. For this renewal to take place, it is necessary to change the way of making decisions, accomplish works differently and make choices out of their norms. Schumpeter (1934) points out that an old value system would be changed into a new one when innovation occurs.

Innovation is a significant topic in many different study fields such as economics, business, entrepreneurship, design, technology, sociology and engineering. For example, the innovation is regarded as one of the key driving forces of economic growth, especially the increasing productivity owing to the application of new technology.

The resources supporting innovation are important for policy makers as well, especially using the public policy to encourage the development of innovation by the followers of innovation economics. Although the output of process is strongly emphasized for the innovation in most fields, economists usually concentrate on the process itself, from the origination of a new idea to its implementation. No matter individuals or organizations, who directly take charge of the application of inventions, are usually called pioneers in their fields. If the pioneers are followed by other people, the system of dominant values would be taken place by the new one.

There are several unique challenges of innovation faced by SMEs. These challenges include scarcity of resources, complexity of scientific fields, coordination of different operative functions of the firms, and the access to up-to-date scientific excellence (Abouzeedan *et al.*, 2013). Licensing out the knowledge of SMEs to external parties is beneficial for their sustainable development, whereas it is not appropriate for short-term benefits (Andries and Faems, 2013). The complexity of interplay between technology entrepreneurs and incumbents showed that open innovation sometimes incurs high transaction costs (Christensen *et al.*, 2005). Using data from the

European car industry, some researchers found that SMEs have weak ties with other organizations and larger incumbents (Dodourova and Bevis, 2014). SMEs try to apply and implement open innovation activities extensively even though they face a number of barriers (Pullen *et al.*, 2012).

In developing countries, innovation can be a challenge to implement because of its peculiar behaviors such as demanding of high finance, knowledge, skilled manpower and supportive policy. It is, indeed, so important issue in economics, business, entrepreneurship, design, technology, sociology and engineering in order to transfer the overall economic growth and development of such countries. In SMEs sector, it is also a critical issue to produce new products, increase productivity and acquire big market share.

Recently, the innovation of SMEs became more popular in many developing countries. However, there are still not enough studies in related area. Thus, assessing the ongoing performance of innovation field is very useful. Accordingly, this study evaluates the current performance of SMEs innovation, aiming to integrate empirical findings and point out future policy recommendations to respective bodies.

Characteristics of Innovation in Developing Countries:

The characters of innovation for developing countries have been summarized in the following:

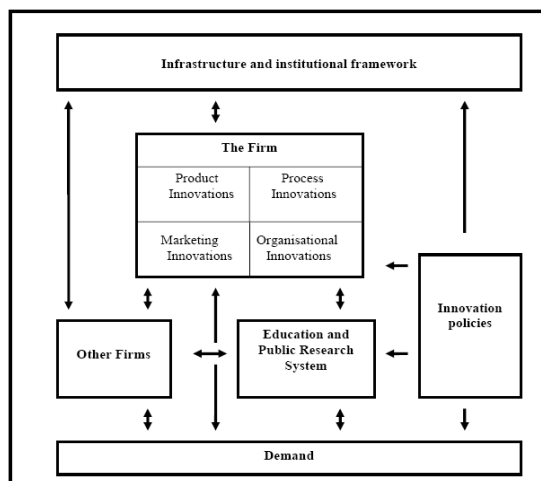
- ※ Higher unit cost and less efficiency
- ※ Competitiveness (based on cheap labor, exploitation of natural resources. Not on efficiency, differentiated products) leads to fewer R&D and innovation projects
- ※ Instability and Informality: depend on informal practices and lack of systematic application not favourable for innovation
- ※ Weak innovation systems: fewer resources and R&D researches to support innovation activities.

If an innovative idea requires a new business model or thoroughly redesigns the delivery of

value to concentrate on the consumers, a real word research would increase the possibility of market success. New business models and customer experiences cannot be evaluated by traditional market approaches. On the other hand, the considerable progress in identifying significant key aspects or variables of influencing the possibility of successful innovation has been made recently.

There is no doubt that building a successful business is a very complicated process, involving subtle interdependencies among many variables in dynamic systems, which is unlikely to ever be perfectly predicted. However, the more businesses could control the variables and experiment, the more they will be able to create new enterprises, processes, products and services to achieve their business objectives.

Figure 1 The Innovation Measurement Framework



The figure above (see Figure. 1 above) indicates that business enterprise all firms, organisations and institutions whose primary activity is the market production of goods or services (other than higher education) for sale to the general public at an economically significant price, as well as the private non-profit institutions mainly serving them, includes private enterprises as well as public enterprises. In addition, there are four types of innovation for firms, including product innovation, process innovation, marketing innovation and organizational innovation. All of them should be supported by

innovation polices, education and public research system, which is based on the market demand.

It is obvious that, the logical implementation approach of innovation for SMEs can be characterized by certain entrepreneurial people, that is, individuals who are a driving force of innovation, irrespective of whether they are self-employed, business founders, or employees.

The Importance of SMEs in Emerging Countries: There are the considerable researches on the contribution of SMEs to economic development and social harmony. For low-income countries, it depends on agriculture and more of the labor found there. The technology is so backward. By have such base, it would be difficult for these countries to transfer their economy from agriculture to industry led. Accordingly, there must be other best simple option to make this realistic. And SMEs are the best alternatives introduced by now. It will help to the GDP growth of those countries, to create high job opportunity for both rural and urban people, to apply adaption and adaptation innovation strategies, which is not demand highly qualified manpower. Moreover, it can create applicable business solution for local problems. And hence, SMEs are so important for poor countries because they can help to diversify their economic growth from agricultural led economy to industry led in relatively short period of time.

For developing countries, the integration into global economy through economic liberalization, deregulation, and democratization is seen as the best way to overcome poverty and inequality. The key of this process is the growth of vibrant private sectors in which SMEs play a critical role. SMEs make up over 90 percent of businesses worldwide and account for between 50 percent and 60 percent of total employment. However, their importance in the development process goes beyond their strength in number.

For emerging countries, SMEs form the foundation of the economy, because the return on capital for SMEs estimated to be 20% to

30%, which is higher than interest rates that usually can be collected from financial investments. The sector of SMEs is also considered as one of the key drivers for economic development and job creation in many emerging markets. This holds particularly true for the developing countries in Africa where SMEs account for more than 90% of overall businesses, contribute to over 50% of national GDP and represent around 63% of total employment in low income economies (UNECA Annual Report, 2005). It also increases government revenue from taxation. Therefore, SMEs has a positive effect on GDP growth of emerging countries.

Characters of SMEs in Developing/ Low-income Countries: *SMEs demands more labor-intensive production processes. It usually tends to implement more labor-intensive production processes than large firms partly owing to the industrial sub-sectors and product groups covered by SMEs. Accordingly, they contribute significantly to the provision of productive employment opportunities, the generation of income and the reduction of poverty.*

In addition, many researches reveal that a significant proportion of SMEs from different sectors in developing countries still remain in traditional activities with low productivity, poor product quality, small and localized market.

However, SMEs, as fully demonstrated in information and communication technologies, are a significant source of innovation, often producing goods in niche markets through a highly flexible and customized manner, if properly managed. Accordingly, acquisition of embodied technology or equipment, incremental strategic changes is needed. Similarly, instability and informality characterized as a limitation in applying SMEs innovation in developing countries. There are also high market competitions because of cheap labor, exploitation of natural resources every SME exploited.

Challenges of SMEs in Developing Countries:

The notable challenge observed in implementing SMEs in emerging countries can be navigating different property, regulatory and tax frameworks as well as working with a different legal and financial system. On the other hand, in low income countries, SMEs face different challenges such as high administration costs, unrealistic collateral requirements from financial institutes.

Likewise, corrupted governance structures, unfavorable macroeconomic environment, debilitating physical infrastructure and administrative constraints are the main challenges in developing countries.

SMEs are a fundamental part of the economic fabric in developing countries, and they play a vital role in further growth, innovation and prosperity. However, the inadequate access to financing is viewed as one of the most significant impediments to the establishment, survival and growth of SMEs in developing countries. For example, nearly half of SMEs in developing countries rate the access to finance as a major constraint. They might not be easier to acquire financial support from local banks, or face strict and harsh lending conditions, even more so following the 2008 global financial crisis. On the other hand, banks in developing countries are also hampered by the lack of lenders' information and related regulation to support to lend for SMEs. Overall, SMEs are strongly restricted in accessing the capital that they require to grow and expand. The absence of a well-functioning lending market for SMEs has impeded their sustainable growth with negative consequences for innovation, macro-economic recovery and development in developing countries.

Restrictions on Innovation of SMEs in Developing Countries: Except for the financial restrictions, there are other practical constraints observed in low-income countries that really negatively affect innovation of SMEs.

* Inefficient Efforts of Innovation Policies Relating to SMEs - Policies that encourage the

development of small and medium-size enterprises are important to any development strategy. These tend to be locally owned and tend to be the vehicle by which know-how and best practices are transferred from any country to the local economy. Advocates of such a policy package stress the importance of having these incentives as part of a more general innovation and competition policy in order to encourage technological transfer to the local economy is needed.

* Lack of Efficiency-The current efficiency and effectiveness of resources using is low.

* Lack of Willingness to Invest- The willingness and ability to invest innovation growth is low.

* Technology Knowledge Gap- Technology knowledge gap refers to the ability to innovate to improve the technology and organization and thus enhance efficiency and effectiveness. The insufficient technology knowledge gap damage the improvement of innovation.

* Lack of Infrastructure - infrastructure, such as transportation and communications networks, are essential for economic development as well as innovation enhancement in SMEs sector.

Such a weak performance of SMEs in developing countries by turn negatively affects the GDP growth of these countries, employment, and innovation. SMEs products are categorized by local consumers as low quality and hence less trust reflected which has a significant limitation to develop innovation of SMEs in low-income countries.

Recommendations: In this article, different recommendations are addressed for the government in general and SMEs themselves in particular.

Recommendations for the Government: The government needs to have applicable researches and development policies that can encourage, or give incentives, to the SMEs sectors. There must be a government organ that shall take responsibilities for the application of the policy. The government body also has to strategically support some selected SMEs to have pioneers in the country. Specifically, several

recommendations for the government are provided as follows:

- (1) Identify any additional information and support mechanisms that can be targeted toward SMEs to encourage their involvement in innovation.
- (2) Look for opportunities to reduce unnecessary red tape and regulations concerning innovative actives.
- (3) Create clear sign posting to help SMEs identify and access the full range of financial support available for innovation of SMEs.
- (4) Assess whether additional targeted tax breaks could encourage SMEs innovation, particularly in the aftermath of the recent global financial crisis when recovery is proving slow in many economies.
- (5) Provide more proactive support to SMEs in their planning for innovation, including support in identifying the most attractive, fast-growing business fields.

Recommendations for SMEs: Small and medium-sized enterprises need to make applicable strategies and business plans of innovation. In addition, SMEs also should have special systems to reward individual innovators to create open up innovation activities within the enterprises.

Specifically, several recommendations for SMEs themselves are provided as follows:

- (1) Develop knowledge and information resources to overcome the red tape challenge associated with innovative actives.
- (2) Build relationships with banks and other financial institutions to try to access more appropriate and available sources of funding.
- (3) SMEs should recruit more high-educated and creative employees to conduct more R&D activities.
- (4) The effective mechanism of encouraging innovation should be established within a company by the combination of salary and promotion incentives. This would raise a sense of accomplishment and satisfaction of the technical employees.

Conclusion: SMEs have become the focus of attention for development stakeholders interested in market-oriented solutions to poverty and economic development. However, several key restrictions of innovation for SMEs observed in developing countries such as lack of finance, inefficient efforts of innovation policies, unwillingness to invest on innovation, knowledge gap and the shortage of infrastructure. In addition, high administration costs, high corruption and unfavorable macroeconomic environment are considered as the main challenges in developing countries relating with innovation of SMEs expansion.

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