New Balanced Concept: An Innovative Approach in SME Development through Knowledge Transfer System in Indonesia

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Abstract

Micro, small and medium enterprise (MSME) is the essential factor in economic development in either developed or developing countries. University and publicly funded research (R&Ds) have contributed actively to promote the capability of MSME and strengthen the competitiveness. Furthermore, it required exclusive approach in transferring technology in different sector of industry. The New Balance Concept is a new approach in developing technology based MSME in agricultural sector.

The work outlined in this paper is a pilot investigation to application of new technology for rural community, which is the major player of economy. Proper model of technology transfer, which fit to particular socio-economic condition will achieve expected outcome.

Keywords: MSME, R&D institutions, technology transfer, New Balance Concept

1. Introduction

Small and Medium Enterprise plays a major role in strengthening economic and competitiveness of a nation (Aiman, Simamora, & Aminullah, 2007; Morrison, Breen, & Ali, 2003; Wiklund, Davidson, & Delmar, 2003). The first evolutionary economist, Joseph Schumpeter, suggested that socio-economic change is difficult to sustain in developing countries compared with modern societies characterized by continuous innovation. Moreover, growths in relation to small businesses represent a complex matter and are multidimensional in scope and characteristics (Scase & Goffee, 1989). Hubeis (2009) point out that SME contributes 51,262 million equal to 53.3% to Indonesian GDP and provide opportunity to more than 85 million people.

There are also evidences that the role of publicly funded research institutions [1] (R&D) is essential in knowledge transfer, knowledge diffusion, and innovation to micro, small, and medium businesses (MSME). The capacity to apply new ideas and technologies in a commercial context is a critical factor contributing to the regional and national competitiveness. Moreover, R&D plays major role in knowledge production as the main ingredients for sustainable economic development (Brown & Ulijn, 2004). Numbers of R&D are heavily funded by governments. There is increasing concern as to the commercial and social benefits arising from such R&D. Research into the current Indonesian MSMEs' landscape will shed new insight into how to optimize these commercial and social benefits and to create new knowledge regarding the role and significance role of R&D to the national innovation system (NIS).

For that reason, Government of the Republic of Indonesia and International Bodies expands the budget for SME development. LIPI along with five non-department institutes are aware of the significant role of innovation to the competitiveness of a nation which source from regional competitiveness. Numbers of program have been set to develop MSME capability and to narrowing the gap, for example is Science and Technology Support for Region (IPTEKDA). Up to 2006 LIPI has assisted more than 5350 MSMEs located in 28 provinces in Indonesia through technology or product, financial support, and market.

In other side, the social systems in most ethnic group in Indonesia are common especially for agriculturalists. For example *subak* in Bali which organize irrigation. The social system is not only reliable for economic activity but also for non-economic activity such as health and education. Poor member of family are aided from the wealthy member in providing funds for better education or health treatment.

Small businesses sustain their activities and supported by good entrepreneurial orientation (EO), which is reflected in

[1] Publicly funded research can be formed as University, Government funded research institute and R&D division under technical department in organization.

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recurring organizational behavior such as innovativeness, pro-activeness, and risk taking (Stam & Elfring, 2008). It is important for government to focus on building EO and apply the right tools to address the problem. A person or group of people will be happy to accept a package of technology and finance assistance but they will not develop their capability. In this circumstance, the Provincial Research and Development Board (Balitbangda) have significant role. High-class firm such as Sosro, Orang Tua (OT), and Garuda Food are three examples of MSMEs that able to transform to be the big companies in Indonesia. Surprisingly, none of them had ever received assistance for neither technology nor finance from government.

Unfavorable result in utilizing the science and technology is not only the result of the constraint of access to technology but also the lack of entrepreneurship skill. Entrepreneurial individuals channel their effort in different directions depending on the quality of prevailing economic, political, and legal institutions (Sobel, 2008). Better approach of TT will produce efficient policies that will stimulate individuals to create a business instead of joint in a workforce, for example. Starting business involve high risk and uncertainty. However, in Indonesia, it turns to be worsens since that the salary of parliamentary member is the highest in Indonesia compare to government officers or executives in private sector so many people prefer to risk their private property to get support from as much people for voting. They sometimes have to sell their business to finance their political campaign. The key personal quality of entrepreneurs should consist passion, problem orientation, perseverance, re-invent, do things differently, delegation, vision, and easy to change direction. Consequently, the supplies of innovation (new applied technology) along with finances are not always the efficient tools in order develop SME's capability. It is suggested how technology help them to catch up with the dynamics of business environment but how the manager preserve his/her perseverance and passion. Moreover, innovation should concentrate on people and process instead of tools. It is interesting to find the expensive exercise equipment become the gummed to decorate the house of the owner. It is happened due to the limited and unorganized time or lack of commitment. The logic in this case is that if you have a strong commitment so you do not need to buy the equipment. In SME's case, once the entrepreneurs have a passion they will find the way to solve their problem either in financial, market or technology.

On the other hand, there have been extensive studies investigating various mechanism how knowledge produced turned into economic benefits that focused on the factors, which influencing the success of technology transfer, the types of knowledge being transferred, number of patents, and R&D characteristics. However, there is no coherent theory that explains the process especially in developing SMEs capability against dynamics business environment in Indonesia, which has specific condition.

This paper assembles a New Balance Concept as the innovative tool, which mixes Absorptive Capacity and Knowledge Transfer in Indonesia. It equipped executives in science & Technology Park, technology incubator, technology transfer office, corporate social responsibility program, or other commercialization arm in university and research institute to utilize new process of technology in agricultural sector.

2. Significance of Knowledge Transfer System

Tim Kastelle (2010) brings up the empathy-driven innovation, which requires a deep understanding of what the people will use the innovation need and want. He gives illustration on how to attract butterfly into our yard by understanding what it need and want. Therefore, he recommends understanding the people, which we are innovating for followed by creating ideas that generate genuine value for people. It relates to knowledge transfer, which includes the knowledge exchange in utilizing technology to small and medium business. It is absurd to 'apply one size fits all' approach without prior comprehensive base line study in every different way of life in community. Every single group has a different need & want and treatment to the similar product or service.

Tasrif (2010) invites the awareness of the structure of a model as an integrative part. As well as in the particular model, SME as the actor in the system should be actively involved

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since the design of the policy. The exclusivity of the business will also be considered. In the following case, it shows the different environment and community with the same business as a palm fiber producer but different culture.

Knowledge can be described as information elements in a limited set of dimensions of information space (Hine, Barnard, & Kapeleris, 2006). The Knowledge Transfer System (KTS) includes the knowledge exchange in the form of how every component respond to the information and the flow of information. The factor of socio-economics is the central key in KTS and blend with other element such as technology, market, and finance. Knowledge exchange has important social and economic impact, which extends well beyond the immediate commercialization of knowledge associated with the transfer (Zahra & George, 2002).

To highlight, it is also interesting to learn from Wali Songo who revealed new knowledge in Java[2]. They transfer the knowledge through business activities and local custom. They are successful without eliminate local culture. Agriculturalists have weak bargaining power and uneasy to change so they tend to keep with old way of production. Socio economic change is difficult to sustain agriculturalists compared with modern societies. Metropolis lives in fast and dynamic environment. It is important for SME supported agents to consider multidimensional and complex issue in dealing with micro and small business. Consequently, the socio-economic factor is likely included in the Baseline study and not only in the measurement of capacity of resources. So, prior to application of new technology or process, every single phase should be ready.

3. Extended Model of Absorptive Capacity

Absorptive Capacity (ACAP) is broadly used to analyze the complex organization's ability to value, assimilate, and apply new knowledge (Mowery & Oxley, 1995). Moreover, Kim (1998) implies that ACAP requires learning capability and develops problem solving skills, learning capability, and the capacity to assimilate knowledge and knowledge solving for innovation.

As the complex firm that equipped with organization structure it is contrast with the condition of micro and small business, which are managed by one person. It is possible to these firms to innovate in their product and services through supported with sufficient information. They are aware with the dynamics of business environment.

In contrast, the micro and small business owners have a lack of those broad arrays of skills. Owners should manage the production process, financial, marketing and business development. The family welfare is their motivation. Therefore, it is common to find the using of business earning for personal dally spending. This is turn to be complicated when business miss simple financial statement. Moreover, in the case of small business, the success of a firm to produce and market their goods and services are not favorable (Greve, 2008). He also states that unless the small business executive plans his growth to sustainable level, excessive growth can outstrip his firm's equity and could cause liquidity problems and loss of control, which resulting in liquidity problems, loss of control the firm or bankruptcy.

Modification of ACAP in the New Balance Concept is activated to equipped micro and small business executive in responding to dynamics business environment. The array of abilities in organization applied in a person as a key individual who run business and set them ready not only to anticipate the changes of business environment but also to create changes. These are possible with the provision of training and education in introduction of business and entrepreneurship, which aim to assist them to view their own position in business environment.

4. New Balance: Innovative SME Development

There is equal value to be considered in each steelyard balance to stimulate social entrepreneurs and small businesses to aware how technologies change the world. The business environment leave slower firm in the Valley of Death. Unfortunately, they are not alone in the valley but also accompanied with unsuccessful innovative firms. There are two

[2] The Wali Songo can be transcribed as the Nine Saint who spread Islam in Indonesia and through local indigenous custom.

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types of micro and small firm in agricultural sector in relating to innovativeness.

First are they who create their own innovation which source either by themselves or by other such as research institute, private enterprise, or international organization support. The owners bear the risk by received and manage fund. This type of firm are likely able to cope with the dynamic of market and business risk.

4.1 Left- Pan of Steelyard Balance

On the left pan, there are seven factors to consider. These factors are relating to indirect factor or software in transferring knowledge, which are: (1) social and cultural, (2) political and government, (3) business environment, (4) education and training, (5) legal and law, (6) labor, and (7) consumption.

Social and cultural factor relate to the custom and tradition in one particular group.

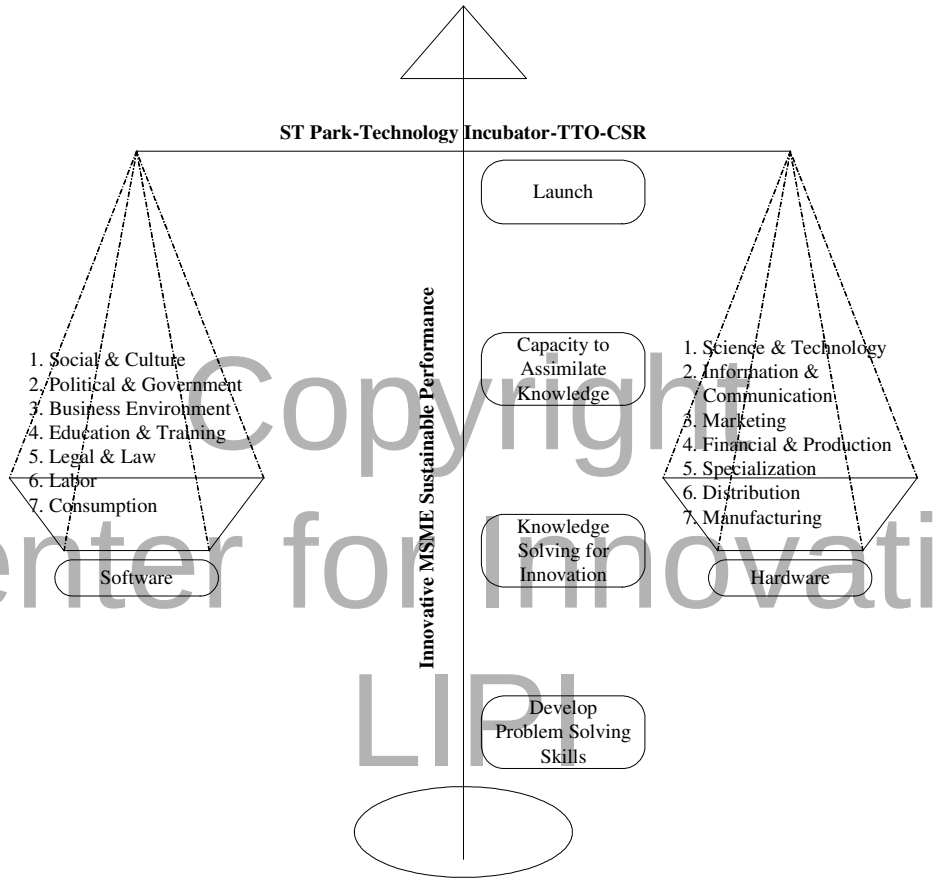

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Figure 1. New Balance Concept

The second types of firms are developed by other institution or utilized the facilities, which are provided by other organization regarding to new technology, market of funds. This type of micro and small business needs extra attention and in particular case, existence of Technology Park is required. The innovative-friendly-loan, which has petite interests with affordable collateral, is also important. Micro and small business, which based on new technology, has high risk and uncertainty. However, both types of firms need to consider both sides of pans at steelyard balance, which shows in the following figure.

This could be traced from the inherited group, which is not always stick to the location they live. Each of group has different view of production activity as well as business. People who lived in coastline earn their living as fishermen and hard working and most people in Karawang work in paddy field.

However, research shows that there is reducing number of young people who interested in agriculture and aquaculture sector. New Balance Concept is likely work to stimulate new generation to develop into modern farmer or fishermen.

The problems in growing micro business often occur with the mismatch of objective

between business initiation and **government** policy. Business owner develop every single alternative to gain a profit and when it turn to grow, it should have legal aspect to work with. This is the beginning of problem. Moreover, sometimes it looks like the business turn to be illegal.

Business environmental is also important to consider and it would either benefit new application of technology or hammer it. It is difficult for beginner to compete in established market. It also relates to government protection to innovative-based MSMEs. Tax benefit is one possible alternative to reduce tension for these enterprises.

Legal and law is premium stuff for micro business. Yet, it would be critical when the business grows. Entrepreneur who produces potato chips was not considering about legal aspect of its product until it gets bigger and required to complete a number of certificates. Therefore, it is recommended that new technology also provide with appropriate regime and in line with the law.

It shows that certain agricultural area turn to be industrial site. Industrial estates build side by side with the rice field in Karawang, for example. These groups of people are likely having number consideration when they are offered new business, which involves high risk and uncertainty. **Labor** receives regular salary. Farmer earns their living by harvesting their farm in regular period. Clear explanation of how they benefit from their own business is essential. However, the form of incentive would put them in position of high dependency.

The profits of micro and small businesses are also depending on the strategic location, which influences the consumption behavior. Certain places in coastline benefit from tourism sector. Group of people who live this location have higher standard and higher **consumption**. Consumptive habit in particular cases is not in line with entrepreneur practice.

4.2 Right-Pan of Steelyard Balance

The right pan consists of seven factors as well. There are: (1) science and technology, (2) information and communication, (3) marketing and trade, (4) financial and production, (5) specialization, (6) distribution, and (7) manufacturing.

Science and technology is likely to be treated as one alternative solution for developing micro and small business instead of the only way to increase their profit. It works in both side as technology provider and user. Researchers have autonomy to conduct research in basic, applied, or commercial. It is absurd to expect research to be based on technology application an sich, which can be commercialized.

Potential user of technology is recommended to understand the problem that they face and number of alternative for solution (dos and don'ts). Better machinery that possible to produce huge amount of pulp might turn to be expansive to forest and harm unique tropical flora and fauna, for example. To conclude, the capability to view appropriate technology as solution is essential.

Infrastructure of **information and communication** are also essential in developing innovative MSME. Once the project enters to higher phase when both parties have a capability and knowledge for innovation, the role of ICT will be increased. In this phase, the similar kind of project like e-farmer, which conducted by ASEAN is likely to work.

Third factor in right pan, **marketing and trade**, has a lot of attention in developing innovative SME. This is the only element of business which resource returns. Better understanding of its consumer means high profit. It is not what can be produced in business instead of what to market the product. When people able to make their own favorites food it does not mean that they understand to sell this food. They have to consider the supply chain and business environment surrounding.

Specialization as a fourth factor relate to the uniqueness of productive activity in a group. Producing Batik will differ from craft, skilled or mass Batik-production. As a result, the printing technology, which will be applied, will also different in each specialization of work.

Distribution is more likely to relate to the cost of production, transportation, and monitoring. Utilization of geothermal in Papua require larger budget than in Dieng, for example. Moreover, application of new process or technology need firm monitoring even for simple one.

Innovative MSMEs are expected to grow bigger business with larger scale of production. Both parties are recommended to

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aware the shifting of the capability of production and human resources since the beginning of the project. Therefore, it will be well organized in walking every phase of market size.

5. Conclusions and Recommendations

Technology underpins economic cycles through proper medium, which make it possible to be applied in sustainable mater and fit with the needs of target people. The application of either technology push market pull is depend on the particular technology and the nature of market. However, people and process should be considered instead of tools in transferring technology.

In addition, market is a critical factor in utilizing new product. Smart followers like Canon in 35mm or Bic in ballpoint pens are hit the market over their pioneer; Leica, Contrax, and Exacta in 35mm cameras and Reynolds & Eversharp in ballpoint pens. In the case of small business the potential consumer is not aware about new solution which provided by innovation. It turns to worse when business has not equipped with clear information on the cycles of particular product. Innovation products have a long product life cycles and high risk. Entrepreneurs agree with axiom: "Innovate or Die" in the beginning and turn to "Innovate and Die".

Capital is also important. New businesses find their investment from three F, which are friend, family, and fools. Nevertheless, they are needed to be convinced that there will be a huge return. It is hard to describe that particular technology would get big cash without hassle. Therefore government provide with loan with risk friendly through technical department. Private enterprises also contribute in developing SME by providing seed capital and assistantship through corporate social responsibility.

Then whatever tools and aid in promoting innovation in SMEs it is essentials to include People and Process as a key element of KTS. Innovation begins with people. Too many analysis and theory are not helping.

Moreover, faulty approach of backing innovation ability in SME would like create the Dependency Syndrome. Appropriate foster program will absolutely increase competitiveness of regional and national economy.

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