Knowledge Hubs for Empowering Indonesian SMEs and the Sustainability

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Triple helix in relation to business sustainability is a concept of empowering SMEs to operate based on triple bottom line, which is important as SMEs have significant impact on nature, society, and economy. Using a mixed method, case study and survey, at clusters of Padurenan Kudus and Troso Jepara in Indonesia, this study has found that the government and the higher education have aligned programs for the SMEs development by consensus and knowledge spaces. However, the knowledge hubs have not significantly influenced the SMEs business innovation and the sustainability practices, also merely focused on input factors rather than on natural and social responsibilities. Meanwhile, the SMEs need to enhance their strategy and rivalry competence as the knowledge hubs have not had mechanism of innovation, incubators, technology transfer, and research.

Keywords: SMEs, Triple Helix, Knowledge Hubs, Sustainability.

1. INTRODUCTION

Business sustainability is defined as "meets the needs of its stakeholders without compromising its ability to meet their needs in their future."[1] Likewise, Savitz and Weber[2] state that "a sustainable corporation is one that creates profit for its shareholders while protecting the environment and improving the lives of those with whom it interacts." Thus, there is clearly intersection between the firm, the natural environment, and social interest.

In business, medium and large sized firms have comprehended the importance of sustainability practices for business, as well as in Indonesia. The firms are no longer orientated themselves to green business practices (natural environment) or corporate social responsibility (social environment), but they have also paid attention to the three pillars of sustainable development; nature, society, and economy.[3,4] Moreover, Research of Prabawani[5] shows that SMEs in Central Java, Indonesia, have embryos of sustainability awareness. Referring to a sustainability level of Benn, Dunphy,[6] small businesses in Central Java have been on the level of beyond legal compliance. It means that they orient their business to profit, not merely in order to meet regulation, but also as a part of the business key persons' awareness that their businesses have significant impact on the environment. In addition, they realize that their business continuity cannot be separated from sustainable natural and social resources. This awareness has been a positive signal for the SMEs sustainability empowerment as small firms make significant contributions to economic as well as environmental damage. In Indonesia, 99.9% or 58 millions of business are the SMEs that absorb 96.9% or 114 million of the total workforce. The SMEs contribute to 60.3% of GDP, and they have positive trend of investment value.[7] During the economic crisis of 1997 to 2006, which had made businesses collapse, the SMEs were able to absorb more than 12 million additional employees.[8] Thus, the SMEs were more dynamic and resilient to external shocks than larger businesses.[8–12]

To enhance the sustainability level of the SMEs, this study adopt research of Martini, Tjakraatmadja,[13] which examines the roles of triple helix. Their research has proved that the development of economic corridors in Indonesia can be done with full commitment of relevant parties. The government provides equal and fair opportunities for business; to set up bureaucracy that serves the needs of businesses; to provide protection and basic social services; and to create conducive climate of macroeconomics, politics, and law. The people in business increase investment to create better employment opportunities, and implement innovation to develop technologies and production methods. The universities do research to create technology for upgrading the use of natural resources to become more valuable goods/services, providing qualified human resource, and the universities actively transfer knowledge through symposia, training, and joint research with business and government. The universities should act as an intermediary between employers and government, to do research and modify the business needs for commercial innovation.[14,15]

The importance of sustainability practices for the SMEs and the awareness of emergence of the SMEs on sustainability application for business continuity have encouraged researchers to explore the potential empowerment of small firms through the role of a knowledge hub, which consists of government, business, and university. This knowledge hub is also known as the

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triple helix, which is important in transferring information and knowledge to encourage the Indonesian SMEs sustainability.

2. LITERATURE REVIEW

Triple helix model was firstly proposed by Etzkowitz and Leydesdorff[16] as an interaction of university-industry-government as the keys of innovation success in a knowledge-based society. The triple helix requires reciprocal relationship among the government, business, and university on a number of levels. The business acts as the locus of production; the government is the source of contractual relationships that ensure stable interaction among many sectors; and the university acts as the source of knowledge and technology.

Although triple helix is a potential concept for development of economic regions,[14] according to Hermann, Riisgaard,[17] only an ad hoc institution is needed as the triple helix is just creating knowledge hubs between sectors. Furthermore, each sector must have a roadmap to work within the corridors of inter-agency collaboration on an agreed scope. However, according to Silva, Narcizo,[18] the collaboration has faced greater knowledge and technology transfer challenges from university, community, and even industry to obtain a better innovation, given the physical distance between sectors and managerial. The gap between sectors has made high costs and information flow difficulties, also challenge to have quickly, efficiently communication, and knowledge transfer.

The triple helix model of Etzkowitz and Leydesdorff[19] includes three dimensions; they are the social system of geography, economy, and science. The government is in charge in the geographical dimension; the university creates and shares knowledge within the geographical area; and the industry is the sector that creates economic activity in the area.

Given a close linkage among public sector, university, and business, Martini, Tjakraatmadja[13] used the triple helix for the development of economic corridors, combining the linkage with the concept of knowledge hub, a strategy used by a number of countries to build competitive advantage through knowledge-based economy.[20] According to Evers,[13] a knowledge hub is a local innovation system like a network point of knowledge creation and distribution. This point has a strong character of interconnected internal and external network, and it has its main functions to produce, share, and transmit knowledge through education and training.

In a triple helix, the university is knowledge center, a source of knowledge and technology, not the government. The university has an important role to transfer technology, business incubation, and renewal effort. However, the success of the knowledge hub requires a space for knowledge, consensus, and innovation. The knowledge space is central to research on a particular topic to create technological ideas.[18] Wright, Clarysse[21] on the basis of their research at universities in the United Kingdom, Belgium, Germany and Sweden suggested that university can undertake transfer of knowledge, especially in the field of license and patents, contract research, and consultancy.

Sustainable development is defined as "meeting the needs of the present without compromising the ability of future generations to meet their own needs." This concept was originated from two basic conditions; they are human needs and limited resources.[22] If the definition of sustainable development, or

abbreviated as sustainability,[23] is translated into a business sector, according to Savitz and Weber,[2] sustainability means "a sustainable firm is a business which is able to create profit while preserving environment and improving the lives with whom it interacts." Savitz and Weber[2] add that sustainability in business practices is about how the company is run with minimal negative impact, not excessive, and even it is aimed at improving quality of life for the surrounding. Hence, the firm's goals should be in line with the interests of other parties. In doing so, there should be a shift in vision from merely as firm's vision into social vision that goes beyond regulatory requirements.[24]

Triple bottom line (TBL) principle of Elkington,[2, 23, 25] offers criteria for measuring sustainability in three dimensions. Planet is a natural environment aspect that is explored to meet human needs. People are human beings who are directly or indirectly affected by the activities of the firm, and profit is the basic purpose of firms that pay attention to the needs of others.

3. METHODOLOGY

This is an exploratory study, in which a study is needed to consider that relevant research with triple helix program to empower sustainability practices of Indonesian SMEs is limited. A mixed method using case studies and survey was used to define the role of each relevant parties, and was intended for method triangulation, in that the findings of the case studies were compared with the survey.[26–28] The case study was used to explore triple helix actors that played a role in the SMEs empowerment and local economy development in Central Java, as well as identified the function of each role, and the collaboration between the roles, as case study is useful to examine a bounded-system.[29] The survey was used to generalize this research findings.[30]

The textile industry clusters of embroidery business in Padurenan, Kudus and *tenun* fabric in Troso, Jepara, were chosen as the unit of analysis. These areas were chosen as government bodies and universities have provided various assistantships at the areas. Padurenan embroidery has been promoted as one village one product. Theses industrial areas have sold their product nationally and employ many workers, but also have significant impact on environment.

This research involved informants as representatives of government bodies, small business, employees, and universities. The survey involved 104 SMEs as respondents from the areas, whom the informants are owners or managers of the firms in the textile industry that comprehend about their business operation.

The data were analyzed using pattern matching for the in-depth interviews. In addition, frequency distribution and partially least square (PLS) were used for analysis of the survey data.

4. FINDINGS

4.1. Government Role

Local governments of Jepara and Kudus regencies place SMEs as one of the development priorities in order to improve welfare of the society. Their commitment is contained in its mission and spatial planning strategy. The Department of Co-operative and SMEs in each region autonomously formulate policies, develop programs, coordinate, facilitate, and monitor the productive activities of SMEs and industry.

The local governments maintain serving bureaucracy by creating networks of stakeholders to contribute to the SMEs.

The Department of Co-operative and SMEs open access for big firms to be suppliers of high quality raw materials, such as buttons, thread, and fabric. But, the SMEs have more orientation at the lowest price of materials and put less emphasis on quality, thus the access was not used. In an attempt to form *one village one product*, Department of Co-operative and SMEs emphasizes the need for quality as product differentiation, thus the Padurenan Co-operative is required not only to serve saving and loan, but also to control quality.

The local governments also provide a variety of training by establishing BLK, a local government-training center, and bringing national level experts as well as practitioners to stimulate the motivation of SMEs. However, the participants have participated for the reason of getting pocket money and equipment aids as the training is assumed as not relevant with their needs. Moreover, business partner offering from Ramli has been ignored by the SMEs as they are reluctant to meet the high quality product as requested by customer. The SMEs tend to produce for their current customer with high selling volume but small profit margin.

In the batik product, a genuine Batik Kudus has been developed, in which the local government collaborates with a local vocational high school educates its students to be able to manage batik business professionally. Department of Co-operative and SMEs provides revolving funds for SMEs by requiring them "only" to have a Productive Business Card, as evidence that a SME actively operates its business.

The local governments also collaborate with external agencies to develop SMEs in each region. In the Padurenan, Kudus, the local government had an agreement with Bank Jateng, Manpower Authorities, and GTZ RED to develop a diamond cluster, in which the firms and institutions in a particular field are interconnected and concentrated in one geographical area.[31] In the spatial planning, the local government determines several areas to be clustered with specific products, such as furniture, weaving, food, ceramics, and cigarettes. It is important to ensure supporting infrastructure of clusters for specific purposes.

As for creating conducive economic and political climate, the Local Governments hold regular meetings once a month for SMEs to discuss certain topics, such as issues of raw materials and marketing to find solutions. In this forum, the governments ask some experienced entrepreneurs to share their knowledge, also prepare groups of SMEs to become big firms' partners during their high season. Post the president election of 2014, the economic and political condition in Kudus and Jepara is stable, although micro entrepreneurs feel direct impact of the President Joko Widodo policies, which is "not pro-people," with the increasing of fuel prices and electricity tariffs.

4.2. University Role

University (higher education) acts as an intermediary between SMEs and government. Universities in Indonesia, as part of the *Tri Dharma Perguruan Tinggi* or three basic responsibilities of higher education, are active in conducting service programs in the form of assistantship for SMEs and communities to establish commercial innovation.[14, 15] The universities proactively study and modify business needs. In addition, through their internal as well as external funding, both public and private universities have programs for the development of SMEs. Moreover, the service programs are indicators that are explicitly listed in the document of the accreditation of university institution, that are listed in the

university performance indicators (*KPI*). Hence, the universities budget fund for the service programs every year.

Indonesian government through its ministries also offers assistantship programs for universities, and the programs are expected to have a direct impact on society. The programs were offered during President Susilo Bambang Yudhoyono era, such as the master plan for the acceleration and expansion of Indonesian economic development (*MP3EI*) and management institution of education funding (*LPDP*), which provide grants for universities. The grants serve as part of the implementation of Indonesian government's plan to accelerate the realization of economic expansion and prosperity distribution, which can be shared equally by the public, and the realization is based by each region's potential. In this sense, the university acts as *MP3EI* accelerators, that conducts research and service in various sectors. A study of Edris, Gunawan,[32] has found that productivity of a cluster in Kudus can be improved with better input factors and technology dissemination. Funds worth of billion rupiahs were granted for universities. The funds were embodied in the forms of trainings and grants to support production tools. According to SMEs, the universities have provided such aids as computers for online marketing and soft wares for accounting.

The universities' role in the empowerment of SMEs is also manifested in the form of fieldwork studies and internships. Although the role did not donate an amount of funding, the two activities have indirectly provided motivation for small entrepreneurs to have various productive activities. However, the success of the activities is influenced by the openness of the SMEs' key persons themselves. At the internship program, students, for example, create and maintain SMEs' website content, and are also in charge of managing firm administrative procedures. In addition, students have also encouraged public to wear Batik, one of SMEs' flagship products, through fashion shows in campus.

But, not all regency has university in the region. There is no university in Jepara. Hence, Jepara regency tends to be passive to involve university for the development of SMEs. However, the role of universities to conduct environmentally friendly practices is not vivid.

4.3. The Knowledge Hubs

This research has found that the seriousness of government and universities in SMEs development has significantly contributed to the achievement of economic indicators. Labor force participation rates in the areas have increased since 2008 up to nowadays. The number of SMEs in micro lending sector (*BPR*) has increased significantly from 32,933 in 2008 to 46,275 SMEs in 2012. In addition, there is more than 50% increase of investment value in 2012 compared to that in 2008.

However, the survey has found that the majority, more than 90%, of SMEs key persons in both Padurenan and Troso assess that cooperation which was maintained by the Government and the University is not satisfactory and does not meet their needs (at 2.2 of 4.0 scales as maximum performance). Business meeting with universities, consumers, and government, which was held by the government, only includes small number of SMEs. There was no equity involvement of SMEs in coaching programs. The governments of both areas are assumed as not sufficiently capable of providing support in the form of product innovation, production technology, and training. The firms also lack of access to

capital and markets, as well as good business network. Similarly, the university support for the SMEs in forms of competent labor supplies, use of appropriate technology, training, and the contribution of knowledge for SMEs, was also assessed to be not satisfactory (at 2.2 of 4.0 scales).

But, the SMEs owners assessed themselves have provided significant contribution in their business development. Their sales, assets, and innovation have increased (at 2.8 to 3.0 of 4.0 scales). However, their performance at technology and manpower absorption is not satisfactorily (at 2.5 and 2.6 of 4.0 scales). These mean that the business have admitted that they have not performed their businesses excellently, but the main knowledge hubs (the government as well as the university) have not provided sufficient assistants for the SMEs.

This research has formulated four variables that potentially influence the SMEs business development in term of the knowledge hubs; they are university support and function, also government infrastructure and function. Statistically, each variables was explained significantly by the component indicators with t-statistics above 1.96 (at 0.05) significant value. In addition, all indicators on each variable were valid, using 0.6 cut-offs for the outer loading. Thus, these have met convergence validity. Similarly, all the composite reliability of the variable was more than 0.7. Therefore, each variable was described by reliable and valid indicators.

However, there was only one relationship between variables with significant parameter estimation at 0.39 (5% significance level). It was relationship between government function to university function. The government function has influenced on the university function in the SMEs business empowerment. The R-square value 0.15 means variability of the university function can be explained only 15% by the government function. This value is relevant to the findings of qualitative studies. However, the other fourth independent variables did not have significant effect on the SMEs development.

Both government and university have internal aligned programs with a correlation value of 0.62 for the higher education and 0.72 for the government. However, the relationship between the government and university function to SMEs function only ranges from 0.11 to 0.25, which means that the relationship between these two institutions with the SMEs development were weak. It proves that the governments as well as the universities do not have significant impact on the SMEs empowerment.

Similarly, in term of business sustainability, there were no significant roles of both the government and the university on the SMEs' sustainability practices. This finding is relevant to the in-depth interview, revealing that the government and the university were merely focused on managerial issues, which have profitability orientation. In addition, there was no variability in the answers of respondents for both the government and the university performance. Both performances were judged to be poor in fostering the sustainability practices for the SMEs. Hence, PLS, which was going to be used for developing a model of business sustainability, was useless. Similarly, none of the linier regression tests results in significant relationship among the variables.

This research data reveals that the government performance in encouraging SMEs to adopt sustainable business practices was low (at 2.1 of 4.0 scales) for all indicators. The university was also considered to have even lower contribution than government (at 2.0 of 4.0 scales). As the consequences, the SMEs sustainability practices were also low. The SMEs assess themselves as the most unfavorable in the application of environmentally friendly technologies. In fact, they are better in developing relationships with the community and consumers, with each at 3.1 of 4.0 scales.

5. CONCLUSION

The knowledge hubs for empowering Indonesian SMEs and the sustainability have not performed well. Both the government and the higher education have had good coaching programs for SMEs development, particularly in the field of basic management. However, the programs have weak contribution to the SMEs development, especially on sustainability practices. The local government has provided consensus space; that is, a space where various parties in institutional framework have meetings for mutual support and accept new ideas in order to promote economic and social development of SMEs. The Department of Co-operative and SMES have programs that were developed according to the needs and potentials of each region. The universities have also functioned as source of knowledge and technology which have developed commercial innovation model that stems from business needs-research. But, the government and the university have not had a mechanism of innovation, incubators, technology transfer offices, and research and science centers which are widely and easily accessible to SMEs. Moreover, in the context of the Porter diamond theory, the assistantships were limited to input factor, such as labor, capital, and system administration. The conditions have not managed the context of strategy and rivalry as well as evaluation of the strength and quality of its network. Therefore, government should involve wider SMEs by serving equal and fair opportunities for small businesses. In addition, university as intermediary of knowledge hubs should maintain interconnected of internal and external network to produce, share, and transmit knowledge focusing at causes of SMEs productivity within tight competition.

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