DEVELOPMENT STRATEGY ANALYSIS OF TECHNOLOGY BUSINESS INCUBATOR IN SMALL MEDIUM ENTERPRISES ACCOMPANIMENT

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Abstract: Globalization opens opportunities while causing intense competition among business. Many beginner businesses fail in early year because of lack of management skills, lack of marketing support and financial access and a number of other things. The emergence and development of business incubators aims to minimize this by providing several facilities for business development. This study aims to design a strategy to assist technology business incubators for the development of small and medium business capacity. Data collected through interviews and focus group discussions, to SME’s actors and managers of business incubators. The Strength-Opportunity Strategy includes: (1) cooperating between ABG elements (academics, business, governement) in the downstream of the invention results to the world of industry / society, (2) assisting SMEs to immediately produce products that can be sold on the market. The Weakness-Opportunity Strategy includes: (1) creating work programs supported by Private CSR, (2) assisting SMEs that have the potential to obtain funding from CSR, (3) recruiting professionals from outside the University, (4) strengthening infrastructure by using funds from outside the University. The Strength-Threat strategy includes: (1) giving advice to the institution about regulations that support the incubator’s working program, (2) strengthening human resources (managers, assistants and experts) in encouraging the results of inventions for commercialization, (3) encouraging the Institution to issue regulations that can accelerate the development of the business incubator. The Weakness-Threat Strategy includes: (1) encouraging the institution, to complete the infrastructure, (2) recruiting professionals to be able to compete with other incubators in managing incubation and mentoring for tenants, (3) strengthening the incubator structure, by providing regulations that are conducive to the development of the incubator itself and to tenants.

Keywords: mentoring strategies, technology business incubators, capacity building.

Review Article

Introduction

Government continues to empower Small and Medium Enterprises (SMEs). This sector is able to absorb a large workforce and able to compete with companies that tend to use larger capital. Common problems faced by SMEs in Indonesia in the development of their businesses include: (1) limited funding for business development; (2) lack of information and access to raw materials and markets, (3) low quality of human resources, (4) low ability to produce innovative products, and (5) lack of mentoring (incubation). The success of new SMEs (start up SMEs) is only 20% in the first year and 10% in the second year, so the success needs to be increased. Some institutions, both from government, universities, private sector, Non Government Organizations (NGOs) and others have a significant role in helping to develop SMEs.

The emergence of new technology and the increasing globalization of research, development and investment has significantly changed the nature and scope of industrial competitiveness (Elmansor & Arthur, 2015). The tight competition environment caused many SMEs fall before developing. For this reason, the presence of a technology business incubator is needed, which will implement an incubation program for start-ups. Many governments view business incubators as dynamic tools to promote new SMEs with the aim of macroeconomic development and job creation (Elmansor & Arthur, 2015).

Business incubators are important for the local economy as a result of value creation. Business incubators are a center of entrepreneurship that can fostering entrepreneurship and enable them to create their ideas and business ventures to the market (Ramkissoon-babwah & Mc David, 2014; Oliveira & Veira, 2016). Business incubators have been created to support viable business ideas and to help entrepreneurs to get past the critical stage of any company and grow on the market (Moraru & Rusei, 2012). Business incubation is one of the most important mechanisms to help support startup companies for their survival and growth in a competitive business environment. Successful incubation processes can produce stronger startups and SMEs which in turn will create more jobs and strengthen the country’s economic growth (Munkongsujirat, 2016).

The main goal of business incubators is to produce independent, successful companies (Elmansor & Arthur, 2015). The incubator provides various facilities for companies that are incubated, creates a favorable and appropriate environment for their development, business plan consulting, marketing, business management or related information promoting the company’s image (Moraru & Rusei, 2012). The central incubator program is designed to accelerate the development of successful young entrepreneurs and their businesses through a variety of resource and service support (Elmansor & Arthur, 2015). Various support is provided by business incubators, by forging partnerships with several parties, such as academics, business and government, as responsible for business acceleration.

The role of incubators in entrepreneurship development is emphasized by the fact that small businesses and new businesses have several challenges, including difficulties in gaining access to tangible and intangible resources, limited access to scientific knowledge, poor management skills and lack of knowledge, which hinders survival rates, especially among new (high-tech) businesses (Abdullahi, 2017). Business incubators are also faced with other challenges, namely lack of sponsorship, production space, advanced technology facilities and expansion to various regions (Lose & Tengeh, 2015). The incubator must be able to be independent in terms of funding, infrastructure and access, without depending on the institution. For this reason, it is necessary to design a strategy for developing business incubators in assisting small and medium enterprises.
Literature Review

Incubators and innovation programs have become important topics throughout the world and have made a positive contribution to economic growth (Al-mubarak & Busler, 2017). Technology business incubators are operated as science technology business incubators, innovation centers and accelerators. They are considered a promising policy tool that supports innovation and technology-oriented entrepreneurial growth (Mian, Lamine, & Fayolle, 2016). There are various objectives of business incubators for economic and socio-economic policies, namely job creation, fostering an entrepreneurial climate, technology commercialization, diversification of the local economy, accelerating growth of local industries, creating new businesses, encouraging women's entrepreneurship, identifying potential in or out business opportunities, revitalizing the community (Al-mubarak & Busler, 2011).

The incubator is generally characterized by several features, namely: (Gozali, Masrom, Haron, & Zagloel, 2015)

1. Workspace that provides facilities, consultations, training and financial services, and a mentoring environment for tenants
2. A competent small management team
3. The selection of start-up companies entering the incubator, 20 to 25 companies, generally graduate after 3 years.

Business incubator networks are included in the economic area because of the extreme needs of more than ever before, to access information, resources, knowledge, skills, financial resources, and an endless list of other inputs that accelerate value creation and competitive advantage, they provide all important conditions for tenants to start partnerships, recruit talented personnel, and access external experts. (Muniz, Morales-gutiérrez, & Ariza-montes, 2013) With the support of the incubator, we can be sure of the continued operation of the tenant. If a problem occurs, the incubator will be able to help resolve with assistance.

The first wave (until 1980) of the incubator program was aimed at economic restructuring and job creation. These programs provide affordable space and shared services. The second wave of incubation programs offered a more complete menu of value-added services, including: counseling, skills upgrading and networking. Since the new millennium, the research park has moved towards a multi-purpose science park equipped with a technology incubator. In some cases, facilities for living together with commercial and residential facilities are provided. (Mian et al., 2016)

The technology business incubator is an environment with small management staff that provides physical space, shared facilities, counseling, training and information specifically for selected technology businesses, with access to university research, financial and technical support services in an integrated and affordable package. The main features of technology business incubators include the selection of prospective tenants carefully; assistance in preparing business plans and accessing capital; small business management skills training; and after the incubation period is graduation for successful tenants from the incubator, providing space for new tenants. (Lalkaka, 2000)

Business incubation is a process of public and / or private development, entrepreneurship, economics and social development designed to nurture businesses from making ideas to new companies and, through comprehensive business support programs, help them build and accelerate growth and success. Process provides a conducive environment for entrepreneurs, in the early stages of business development. This environment should help reduce the costs of launching / introducing companies, increasing the confidence and capacity of employees and connecting entrepreneurs with the resources needed to start and improve the company’s competitive scale. (infoDev, 2010; Moraru & Rusei, 2012) The forms of support provided include: infrastructure (office space), business services (administration, information services), financing (providing information and support for access to finance).

people connectivity (mentoring and training services, access to the network) (infoDev, 2010; Oliveira & Vieira, 2016)

Stakeholders in the incubation process consist of five parties, namely (1) government (which produces appropriate public policy), (2) business incubators (which provides the required private partnerships), (3) universities (which result in the transfer of knowledge and technology to business), (4) professionals (who provide network professional support) and (5) communities (with their support and involvement for successful business incubation). The role of the parties involved is very large. The government produces public policies that support the growth and development of start-up, creating environmental conditions that support the acceleration of growth. Business can also be said as a competitor, can play a role in several aspects, such as being a supplier of raw materials or accepting start-ups as suppliers of raw materials, as a market for start-ups so start-ups do not need to build their own factory. As a business competitor, it can let start-ups take a market niche that it can’t reach. As an institution producing innovations and inventions, universities can provide technology for prospective start-ups, because after all not all innovations and inventions produced by universities can be utilized optimally. The role of professionals and the community is no less important. Communities can be used as connected end users, because the reason for forming a community is to do and like the same thing.

Benefits that cannot be quantified from the presence of technology business incubators include: (Abdullah, 2017)
1. Build technical and management skills among incubator staff and tenants
2. Entrepreneurial training and development and improvement of entrepreneurial orientation
3. Improve valuable strategic partnerships
4. Persuade the government to implement policies that support small businesses

Benefits of incubation include: (Ramkisson-babwah & Mc David, 2014)
1. For tenants, incubation adds to the chances of success, creates synergy among client-companies, helps improve entrepreneurial and business skills, increases credibility and facilitates access to mentors, information and initial capital
2. For the government, incubation promotes regional development through job creation, income and taxes

Lack of ability and competence of SMEs in business management aspects, causing the focus of assistance is on management aspects, namely the business plan and business model canvas, production management, marketing management, and financial reports. Management assistance is carried out intensively, in line with business operations. Learning and implementation are carried out simultaneously so that understanding is more comprehensive. But this is often constrained by the low tenant management base.

The success of the incubator is influenced by eight success factors as independent variables including shared services and facilities, incubator governance, entry and graduation criteria, mentoring and networking, funding and support, governance and protection support, regulations and university infrastructure systems. While the moderator variables that influence the success of the incubator consist of the age of the facility, credibility of facilities, credit and rewards. (Gozali, Masrom, Haron, & Zagloel, 2015).

Research methods

This research is qualitative research, where data collection is done by focusing group discussion with incubator managers in order to be able to formulate assistance strategies so that they can contribute to increasing income and competitiveness of SMEs. Focus group discussions are often used as a qualitative approach to gain deep understanding of social problems. The method of collecting data is deliberately selected from a group of individuals rather than from a representative sample statistically from a wider population. The main feature of the Focus group discussion is an interactive discussion of a topic with all participants and facilitator teams in one place. (Nyumba, Wilson, Derrick, & Mukherjee, 2018)
The approach taken in this study is a descriptive approach with the type of qualitative research and data analysis carried out using SWOT analysis. SWOT analysis is used in this study, which is based on aggregation of internal factors (strengths, weaknesses) and external opportunities, threats) to adopt a strategy. (Taghavifard, Amozaad, Id, & Alibakhshi, 2018) SWOT analysis is a strategic planning framework used in evaluating an organization, plan, project or business activity. SWOT analysis is a significant tool for situation analysis that helps managers to identify organizational and environmental factors. (Gürel & TAT, 2017)

SWOT analysis is a step that can increase the competitive strength of the institution. Institutions that are unable to meet the market due to failure to analyze their strengths and weaknesses as well as external threats and opportunities because they do not recognize the impact of the SWOT Analysis on their competitiveness. There is a need to identify environmental conditions through a SWOT analysis to help improve institutional competitiveness because some employees or companies who underestimate the contribution of SWOT analysis in their operations tend to lag behind in their business. (Habimana, Mutambuka, & Habinshuti, 2018)

The step is to collect data and information related to internal and external factors of the institution. The values of internal and external factors are explained in the form of a SWOT diagram. Furthermore, all information is arranged in the form of a matrix, then analyzed to obtain appropriate strategies to optimize efforts to achieve effective, efficient and sustainable performance. The SWOT matrix is used to analyze four existing strategies that apply to organizational operations to progress. It could be a Strength-Opportunity (SO) strategy, Weakness-Opportunity (WO) strategy, Strength-Threat (ST) strategy, or Weakness-Threat (WT) strategy. Then a review of four strategies was formulated at the analysis stage, then a decision was made in determining the most profitable, effective and efficient strategy for the organization based on the SWOT matrix. Finally, a strategic plan can eventually be drawn up, and eventually it will be used as the principle for carrying out further activities. (Azimi et al., 2011)

4. Results and Discussion

Incubators in developing countries can act as engines of acceleration in economic development, fostering an entrepreneurial climate, technology transfer and job creation. (H. M. Al-mubarak & Busler, 2015)

The lack of sponsors, production space, advanced technology facilities (prototypes) and expansion to various regions is a challenge that hinders incubators. (Lose & Tengeh, 2015) The most common incubator services are: assisting in the basics of business, networking, marketing assistance, financial accounting and management assistance, access to bank loans, loan funds and guarantee programs to access angel investment, venture capital, help with presentation skills, relationships to higher education resources, relationships to strategic partners, assistance with comprehensive business training programs, advisory boards and mentors and technology commercialization assistance. (Lesliaková, 2012)

The internal risks faced by the incubator include human factors (strikes, negligence, supply chain management problems, etc.), technological factors (technological obsolescence) and physical factors (fire, theft, and engine damage). External factors include economic factors, natural factors and political factors. Economic factors result from changes in prevailing market conditions including demand for products, price fluctuations, changes in consumer tastes and preferences. Natural factors such as earthquakes, floods, famines, typhoons etc. that can damage goods or services. Political factors related to changes in Government policies and regulations that can affect business operations. (Dey, 2012) How the incubator resolves the problems it faces, and formulates a strategy so that it is truly able to become a machine that accelerates economic development.

The researcher conducted a focus group discussion with the incubator manager and also the incubator companion, to conduct a SWOT analysis to assess how business incubator development opportunities in the future. Based on the results of the FGD, the SWOT analysis was obtained as follows:

![Figure 1. SWOT Matrix](image)

Based on the SWOT analysis, the strategies for business incubators include:

**Strategy S-O:**
1. Collaborate between ABG (academic, business, government) elements in the downstreaming of the results of the invention to the world of industry / society
2. Accompany SMEs to immediately produce products that can be sold on the market.

**Strategy W-O:**
1. Creating a work program that is supported by Private CSR
2. Accompany SMEs that have the potential to get funding from CSR
3. Search for professionals from outside the University
4. Strengthening infrastructure by using funds from outside the University

**Strategy S-T:**
1. Provide input to the institution to issue regulations that support the work program of the incubator
2. Strengthening HR (managers, assistants and experts) in encouraging the results of inventions for commercialization
3. Encouraging the Institution to issue regulations that can accelerate the development of the UMSU business incubator

**Strategy W-T:**
1. Encourage the institution, to complete the infrastructure system
2. Recruit professional staff in order to be able to compete with other incubators in managing incubation and assistance with tenants
3. Strengthening the incubator structure, by providing regulations that are conducive to the development of the incubator itself and for tenants

The infrastructure facilities in business incubators are indicators of the success of the mentoring program, but lately it has shifted to intangible factors such as networking, guidance and guidance, which can increase ownership, access and use of various forms of capital (social, human and financial). (Theodorakopoulos, Kalabatzis, & McGowan, 2014)

Some strategies that business incubators can develop include:
1. Access to scientific and technological expertise and facilities
2. Comprehensive business plans
3. Quality entrepreneurs
4. Stakeholder support
5. Incubator facilities
6. Capacity building programs
7. Availability of funding
8. Support from government policies
9. Competent and motivated management
10. Financial sustainability
11. Networks
12. Graduation and facilities after graduating from incubation
Conclusion

Business incubator is one of the important factors in the development of small and medium enterprises. The performance of business incubators is supported by facilities and infrastructure, human resource competence in managing incubators and intangible factors from tenants. The success of incubators requires support from academics, business and government.

It is important to strengthen networks among incubators to share knowledge about best practices, and be supported by the state to obtain competitive and comparative advantages.

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