



## **Research Gap of Entrepreneurship, Innovation, Economic Development, Business Incubators Studies in Indonesia**

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### **ABSTRACT**

In many developed countries, many business incubators (BI) take part to help starts-up company to develop their own business; especially the baby born business cannot compete with the giant industries that have been the old business player. Universities play an important role in motivating young graduates to become technology entrepreneur. Unemployment in Indonesia is still the main issue for the government program to increase welfare in the future. In year 2014 the data from statistic center of Indonesia state that Indonesia has 4% unemployment from Indonesia' work generation. In Indonesia, incubators has been developed since 1992 initiated by the government, cooperative department and also universities. The aim of this paper will determined the gap among some research and studies about entrepreneurship, innovation, economic development and BI in Indonesia. For the methodology of this paper will be described by comparison literature study, so in the future research could give contribution to blank area of study.

**Keywords:** Innovation and Creative, Economic Development, Framework, Business Incubator, Indonesia

**JEL Classifications:** Economic Development, Innovation, Technological Change, and Growth

### **1. INTRODUCTION**

In many developed countries, many business incubators (BI) take part to help starts-up to develop their own business, especially the baby born business cannot compete with the giant industries that have been the old business player. It is widely accepted that the first incubator was created by Joseph Mancuso in Batavia, New York, in 1957 on a former Massey-Ferguson facility (Leblebici and Shah, 2004). Such as in 1959, United States Government wanted to develop small and medium enterprises (SMEs), create new jobs, pull economy out of depression by subsidizing academics and individuals to integrate existing resources to supply what SMEs needed at the beginning (Wen et al., 2012).

From the 1970s onward, BI have spread out all over the world (Albert and Gaynor, 2001). Estimates indicate that today their number worldwide rises to 3000: One-third is located in North America; 30% in Western Europe and the rest is dispersed over

the Far East (20%), South America (7%), Eastern Europe (5%) and Africa, the Middle East and other regions (5%) (European Commission, 2002).

The first Chinese Incubator was started in 1987 in Wuhan, Hubei Province by Minister of Science and Technology (Yan, 2003). As China embarked on the gradualist path to a market economy, BI became a key tool in Chinese Government's economic development strategy in the mid and late 1990s. At that time, a primary strategy of the Chinese Government for fostering the sustainable high growth of its economy was to promote a range of high-tech industries (Xu, 2001).

In January of 1995, Taiwan's Small and Medium Enterprise Agency (SMEA) of Ministry of Economic Affairs was assigned to launch SME incubation policy as one of the moves under the macro policy of "Asia Pacific Operation Center." Half a year later, SMEA assigned Institute of Management of Technology of National Chiao Tung University to complete the "planning report for SME incubator center."

In German, boom of technology and incubator centers that started in the 1980s and the spread to Austria (Todtling and Todtling-Schonhofer, 1990; Stenberg et al., 1996, Galley, 1997) and United Kingdom Monck et al. in 1988; Massey et al. 1992; Westhead and Storey, 1994. And in Swiss, there was only a discussion about the necessity of an explicit technology policy in the beginning of the 1990s, but with almost no results (Thierstein and Wilhelm, 2001).

The aim of this paper will determined the gap among some research and studies about entrepreneurship, innovation, economic development and BI in Indonesia.

## 2. LITERATURE STUDY

A BI is an organization that provides physical space and support programs for entrepreneurs or early stage start ups to deal with difficulties in the initial stage (Mian, 1996; Smilor, 1987; Smilor and Gill; 1986). Advantages of business incubation in general instead of starting from scratch, SMEs and start-ups benefit from the BI's knowledge and networking that help young companies to succeed more quickly. In summary the BI client can expect faster sales, smarter growth, fewer mistakes, less costs, and overcome market failures. Young business face specific risks; they lack information and business skills despite good business ideas, market orientation, marketing skills, and knowledge on accounting and book keeping. The incubator approach wants to help the entrepreneur to overcome these risks and to support the realization of promising business ideas through specific services.

A BI is as we defined earlier setup "to reduce the chances of failure in early stage companies and result in the financial viability and growth of firms that it supports." Therefore incubators in India are setup to create sustainable and strong entrepreneur support infrastructure to enable young technology inventors and entrepreneurs to find the necessary support and access to resources to build successful start-ups. The heart of an incubator therefore, is the start-up.

The success of BI and technology parks in university settings is often determined by how well technology is transferred from the labs to their startup firms. University technology transfer offices (UTTOs) function as "technology intermediaries" in fulfilling this role. Yet, entrepreneurship theory and research on the role of the UTTO in business incubation and new venture formation is sparse. To move the research along, we use grounded theory to build a framework to address two questions: (a) Which UTTOs' structures and licensing strategies are most conducive to new venture formation; and (b) how are the various UTTOs' structures and licensing strategies correlated with each other. Our findings reveal a complex set of relationships between UTTO structure and strategies, new venture formation, and business incubation (Markman et al., 2005).

Universities play an important role in motivating young graduates to become technology entrepreneur (TE). The increasing number of graduate entrepreneurs will reduce the unemployment rate and

even will increase the number of field work. Many developing countries have experimented with a variety of programs and schemes supporting SMEs, often with assistance from multilateral and bilateral organizations. Business incubation programs or initiatives have arisen especially over the last decade, with varying degrees of success (Manan and Yunos, 2001). BI is an organization that systemize the process of creating successful new enterprise by providing them with a comprehensive and integrated range of services. Both in developed and developing countries, governments have been playing a key role in defining policies, programs and instruments which support the development of micro, SMEs.

The need to build a public university BI is the startup companies cannot compete or survive with the giant industries. The second reason is many of them failed and cannot built their company sustainability.

### 2.1. BI in Indonesia

Indonesian Government put high attention in developing TE among young graduates from all universities in Indonesia. Therefore every university in Indonesia was encouraged to have their own BI that could provide entrepreneurial activities and to facilitate the development of invention and innovation among potential student to become real TE. In Indonesia, the change can be seen from two contradictive sides, as an opportunity and as a threat. Looking at the ability Indonesia possesses, one possible positive change can be seen in middle sized and small industries.

In Indonesia, incubators has been developed since 1992 initiated by the government, cooperative department and also universities. This effort continued in 1997 when there was a program called the development of entrepreneurship culture in universities and of its activity was new entrepreneur incubator. Up till now in year 2012 there are 23 incubators which still in operation. Most of BI in Indonesia was established by universities (72%), which the rest was established by private sector (21%) and government institution (7%) (Bank Indonesia, 2006).

Unemployment in Indonesia is still the main issue for the government program to increase welfare in the future. In year 2014 statistic center of Indonesia states that "Indonesia has 4% unemployment from Indonesia" work generation, and Indonesia still has 11.5% people in poverty of economic condition. In supporting government program to reduce the number of poor people, entrepreneurship project in many universities hope can be one of the solutions to reduce poverty.

According to Bank Indonesia, factors that make the development of incubators in Indonesia decreased among others are:

- Limitation of operational facilities that causes the low rate of in wall tenants absorption ability.
- The lack of seed capital support that makes incubator not professionally handled and there are significant numbers of in wall tenants that cannot obtain seed capital even though their business is feasible.
- Commitment and government support is relatively lacking and inconsistent in developing incubators.

In Indonesia, cooperative department and small enterprises (1998/1999) and the Ministry of Cooperative and SMEs of Indonesia (Menteri Negara Koperasi dan Usaha Kecil dan Menengah Republik Indonesia, 2002) stated that the basic concept of incubator is an institution that provides 7's:

- Space
- Shared office facilities
- Service which is a management counseling: Marketing, finance, production, technology and others
- Support in terms of business research and development as well as access of technology usage
- Skill development which is training, business plan formulation, management training and others
- Seed capital and the effort to gain capital access to financial institution
- Synergy which is creating an adequate business network, local and international.

Nowadays, Indonesian Government put high attention in developing TE among young graduates from all universities in Indonesia. 23 incubator (2012) which still in operation. Most of BI in Indonesia was established by universities (72%), which the rest was established by private sector (21%) and government institution (7%), (Bank Indonesia, 2006).

### 3. COMPARISON STUDY AND RESEARCH GAP

#### 3.1. Research of Entrepreneurial University, Role, Partnership and Mapping in Indonesia

Meliala (2004) research title is BI as an Important Element in Establishing the Entrepreneurial University (Case Study): The BI Center Bandung, Institute of Technology. Research purpose to explore current practices of Entrepreneurial University in Bandung Institute of Technology (ITB) Indonesia. The result of this literature study research that ITB BI will support the entrepreneurial university by: Facilitating the implementation of technology, building innovative and ethnical enterprises, improving expertise and facilities utilization.

Moeliodihardjo et al. (2012) research title is University, Industry, and Government Partnership: Its Present and Future Challenges in Indonesia. The purpose of this literature study and research to presents the current situation of the university–industry–government partnership in Indonesia, in the context of university readiness to contribute to the government strategy as outlined in the MP3EI (master plan for acceleration and expansion of Indonesia economic development) 2011-2025. And the result obtained that government, universities, and industries are still in their respective institutional spheres in Indonesia, and a strong commitment, indications that the overall level of commitment to R&D may be low.

Mirzanti et al. (2015) research title is Mapping on Entrepreneurship Policy in Indonesia. To define the mapping of entrepreneurship policy in Indonesia. The current research addresses research questions, namely the objectives of entrepreneurship policy;

categories of entrepreneurship policy in different units of analysis; and entrepreneurship policy programs. An exploratory qualitative descriptive research design is used in this study. The analysis is conducted within the principles of categorization of entrepreneurship policy content. As shown in Table 1, the study uses documentation reading technique, which identifies and categorizes policies related to entrepreneurship in the order. The categorization is based on keywords from entrepreneurship research framework which differentiate the unit of analysis (macro and micro level) and policy stage as well (agenda setting, formulation, and implementation stage). An exploratory qualitative descriptive research design is used in this study. The analysis is conducted within the principles of categorization of entrepreneurship policy content. As shown in Table 1, the study uses documentation reading technique, which identifies and categorizes policies related to entrepreneurship in the order. The categorization is based on keywords from entrepreneurship research framework which differentiate the unit of analysis (macro and micro level) and policy stage as well (agenda setting, formulation, and implementation stage). Until the final research, the government programs that have been identified and associated with entrepreneurship, there were 12 BI, soft loan (KUR), etc.

#### 3.2. Research about Success Factor of BI in Indonesia Studies

Hutabarat and Dina (2012) research title is Success Factor for BI in Creating Successful Startup Firms. The purpose of research is developing a new process model for new BI in Indonesia. This research underlying attributes of successful new venture development in an incubator environment, the BI should focus on the process of incubation rather than on the incubator facility and its design. The methodology are as below: (1) Investigating the incubation process in Indonesia by conducting qualitative research. (2) Benchmarking the incubation process in Indonesia with Hacket and Dilts incubation process model. (3) Finding the best practice in Indonesia by conducting qualitative research. (4) Developing a new appropriate business incubation process model for Indonesian BI. The research are still in progress and has no conclusion yet.

Gozali et al. (2015) research title is Critical Success Factor of Successful E-BI Framework in Indonesia Public Universities. Objectives of this research are: (1) Determine the critical success factors in creating the successful e-business incubation for Indonesian public universities, (2) investigate the incubation process in Indonesia, (3) propose and develop a new appropriate e-business incubation process framework for public universities in Indonesia. Research methodology framework for some public universities in Indonesia. The research methodology finding the best framework for E-BI in Indonesia public universities. And for this paper has not given the final conclusion yet.

#### 3.3. Research about BI Framework and Model in Indonesia Studies

Dhewanto et al. (2012) research title is Moderating Effect of Cluster on Firm's Innovation Capability and Business Performance: A Conceptual Framework. This paper tries to conceive a conceptual framework for analyzing cluster effect on firm's innovation capability and firm's business performance. The

**Table 1: Research gap of business incubator studies in Indonesia**

Description	Authors												
	Janita	Zoel Dina	Dhewanto	Moeliodihardjo	Supriyadi	John	Rudito	Payumo	Hutabarat	Isti	Herliana	Mary-unani	Lina
Business incubator	X	X				X			X				X
Entrepreneurial Success factor of BI	Ent Univ	BI	Innovation	Part-nership	Eco dev	ICT	Eco dev	Research based	Capacity	Mapping	Innovation	Creative	BI
Framework Indonesian society Literature study Higher education Public university		X	X			X	X	X	X	X	X	X	X
Quantitative/ qualitative analysis	X (ITB)	Quali	AHP		X	Quali	Quali	Quali	Quali	Quali	Quali	Quali	Quali
				X	X		X (IPB)						X

Ent Univ: Entrepreneur university, Eco Dev: Economic development, ICT: Information communication technology, AHP: Analytical hierarchy process, Quali: Qualitative method, Quan: Quantitative method, ITB: Institute Technology of Bandung, IPB: Agricultural Institute of Bogor, BI: Business incubator

methodology of this research are using analytical hierarchical process they construct the index as a proxy to of internal innovation capability of firms. Every factor is considered as first layer factors and each has its own sub-factors. Technological factor consists of (a) ratio of R&D expenditure to sales; (b) Possession of intellectual property rights; and (c) technical and management system. Managerial organizations consists of three sub-factors: (d) Practicing QC circle; (e) cross-functional team; and (f) sharing information. Whereas human resources consists of (g) degrees of top management; (h) attitudes toward communication of top management; and (i) degree of employees. Therefore we would like to make hypotheses as follows: H1: Technological factors have positive effect on firm's innovation capability. H2: Managerial organization has positive effect on firm's innovation capability. H3: Human resources have positive effect on firm's innovation capability. The result of this research, the conceptual framework in this paper needs "NO" empirical research to test the hypotheses. From our perspective, this paper is a preliminary work before the survey to the information communication technology (ICT) companies within the ICT clusters in West Java Province, Indonesia.

Payumo et al. (2014), Research title is an Entrepreneurial, Research-based University Model Focused on Intellectual Property Management for Economic Development in Emerging Economies: The Case of Bogor Agricultural University, Indonesia. The purpose of this research to provide strategic model to maximize university research outputs, knowledge transfer and innovation to empower regional communities, and promote strategic and transformational partnerships, private sector engagement and economic growth opportunities for both the institution and the region. The result of literature study research obtain strategies and lessons learned from IPB in its goal of becoming an entrepreneurial, research-based university – an emerging model for higher-education institutions in

emerging economies to better interface core missions in education and research with societal benefits.

Coyanda (2013) the research title is The Framework for TE Development through Incubation Process in Universities in Indonesia. The objective of this research to propose the framework for TE development through incubation process in universities in Indonesia. For this research, the study employed qualitative methods research design. The sample was chosen based judgment sampling technique. Qualitative data were obtained through face to face in depth interviews with the key information from selected universities in Indonesia and Malaysia, industries and Indonesian Government. On top of that, the authors were also employed document review to strengthen and support the research finding. The result of this studies that the proposed main factor consist of four key main factors such as: Student, internal environment and external environment, the policy maker and university.

### 3.4. Research of BI for Creative and Innovative Economic Development in Indonesia

Supriyadi (2012) research title is Local Economic Development (LED) and Triple Helix: Lesson Learned from Role of Universities in Higher Education Town of Jatinangor, West Java, Indonesia. The purpose to describe the terms of role universities play in LED program, forms and mechanisms of interaction the triple helix in program of LED, as well as the positive impact the university's role in LED that can support regional development planning that is sensitive and responsive to the needs of local communities. This study used a qualitative approach to seeking the truth through discovery of the essence of something, to put a human as research instrument that is responsive and adaptive. Conducted participant observation approach, the researcher is directly involved as active agents and sources of information, participate actively participating in learning process directly, or

be passive recipients of information, as well as melting together researchers in the research process as an insider and outsider simultaneously. Case study approach is expected to unveil and explore the phenomenon and context that includes a focus on the role of universities in LED. The result of this research that success of local initiatives be determined by joint efforts of the community, government, business, and academia in developing innovative solutions to address local socio-economic problems.

Rudito (2014), research title is *The Improvement of Community Economy as Impact of Corporate Social Responsibility Program: A Case Study in Pengalengan, Bandung, West Java, Indonesia*. The purpose of adcribed a successful and innovative collaboration between private sector and community through a corporate social responsibility (CSR) program that integrated local culture and ideas in the implementation. This study is an ethnography study. It maps the social condition in the community studied to gain the proper perspective how the people behave and proposed a model of CSR program for a company (start energy) addressed to local community in which operate. Generally, this model approach in three ways. First, social mapping through interview and participative observation was conducted around a month. The number of respondents of this study was more than 25 people included local authorities, local informal leaders and local people. Second, social networking analysis through observation and interview was conducted around four to 6 months. This approach is to understand the model of connectivity and relationship among members in the community. Third, focus group discussion approach is to confirm the social mapping finding and was conducted twice involving 12 participants. The result of this study has proved, using cultural approach as main method to propose a suitable CSR program through community development and indicating a positive change in the targeted community both intern of economic and also value orientation that bring the community to sustainability growth.

Hutabarat and Pandin (2014), research title *Absorptive Capacity of Business Incubator for SME's Rural Community Located in Indonesia's Village*. To propose is BI that already successful work in develop country. Therefore this study combines quantitative and qualitative approaches (Gilbert, 1992), which involves a complex research design, usually with stages of research that may iterate (Danemark et al., 2002), such as this research. By combining the methods, the study experts to reach a more comprehensive, nuanced understanding of the implementation of absorptive capacity in village based BI, the experience and the ways the organization adopt and use and manage innovation to meet their strategic need. Through a combination of methods, this research is in a position to elucidate these processes as this approach prevent it from missing complementary picture provided by either method. The result the model through a combination of methods, this research is in a position to elucidate these processes as this approach prevent it from missing complementary picture provided by either method.

Herliana (2015) research title is *Regional Innovation Cluster for SME: A Triple Helix Concept*. The objective of the paper to know: (1) Factors that contribute to the growth of SME cluster.

(2) How regional innovation clusters to promote growth of SMEs. (3) How role of ABG to enhancing business growth of SMEs. The research method is the case study method with the unit of analysis is the industrial cluster of food in West Java. Industrial clusters foods represent clusters formed due to historical factors. Research technique used is a combination of qualitative and quantitative data required the qualitative and quantitative data in the form of primary data and secondary data. The primary data is searchable by a variety of ways: In-depth interviews (in depth interviews), observation, secondary data was obtained by collecting documents and literature. The analysis technique used is descriptive analysis of qualitative/narrative. Result of this research prove the role of the academic, business and government are: (1) Improved business insight. (2) Facilitate the provision of raw materials. (3) Increase knowledge of technology. (4) Technology of production. (5) Information technology. (6) Facilitate marketing of products.

Maryunani and Mirzanti (2015) research title is *The Development of Entrepreneurship in Creative Industries with Reference to Bandung as a Creative City*. This paper on two general questions, namely on how to develop entrepreneurship in the creative industries in Bandung and how local characters (e.g. quality of life and the education system) of Bandung will impact the development? This literature study result that Bandung as a city in Indonesia can be considered as a creative city. From education institution's perspective, Bandung is known as an education city, there are a lot of school or education institutions here in Bandung with various subjects from technology, information, science, and management. Some of those are also offer entrepreneurship course.

The description of all research gap from all of this study can be found in Table 1. The main group of research gap division consist of BI, entrepreneurship, success factor of BI, framework, Indonesian society, literature study, higher education, public university, qualitative and quantitative analysis.

#### 4. RESEARCH AND DISCUSSION

After studying all the related papers the picture of research gap is available in Table 1. From the main group of BI only five papers done this research on, from the group of entrepreneurship all of the research mention about entrepreneurship, from the group of BI just 2 papers mention about the BI, 4 papers study to create framework, 8 papers study area in Indonesia society, 4 papers study in literature study method, 4 papers in higher education 5 papers study about entrepreneurship in public university. Mostly all of the papers's methodology in qualitative analysis and just 3 papers in mix model analysis. For the future research the study will concentrate in successful Factor of BI framework in public university in Indonesia.

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