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SYSTEM ANALYSIS ON THE START-UP BUSINESS DEVELOPMENT FOR YOUTH ENTREPRENEURSHIP AT UNIVERSITY

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ABSTRACT: *National problem on large number of educated unemployment should be addressed through higher learning institution. Entrepreneurship character and student willingness to look for alternative self-employment career has been explored. This study aims to analyze transformation process from start-up business to small medium enterprise for students during their academic year. This research used system of system methodology (SOSM) and Strategic Assumption Surfacing and Testing (SAST), to make formulation of conceptual models. Factors affect the transformation processes were found which are finance, market infrastructure, technology assurance, government support and availability of raw materials. In order to gain success as self employment, suitability element must be considered, which are entrepreneur's personal circumstance, opportunities and goals. The performance driver for start-up transformation mainly students family support so that they have motivation on self-employed career with suitability factors. The model of financial support for start-ups stated the importance of introduction of specific loan scheme including venture capital and credit guarantee which could be provided by non-banking institution. It has been supporting the necessary condition of government agencies assistances, not only in infrastructure but also in flexible regulation to enhance SME business environment***.***

KEYWORDS: Start-Up, Transformation Process, University, Suitability

INTRODUCTION

Unemployment in Indonesia at February 2012 reaches about 6.32%, whereas university graduate portion was 14.45% (National Statistic Bureau, 2012). There are several reasons, which make higher level of university graduates job-less. First, there are unbalanced between job-seekers and job availability for well-educated youth. Second, problem on link and match for competency among industries and university training. Other problem is high expectation of university graduate to work in good office and be as white colour executives rather than factories workers. The massive impacts of unemployment in national economy were recognized and the government has launched many development program but yet not successful indeed. The Ministry of Education and Culture has been conducted several programs to promote entrepreneurship awareness among student at university. The Ministry of Youth and Sport has done several project on youth entrepreneurship and looking ways to finance their start-up business. The Ministry of Cooperatives and Small and Medium Enterprises also hardly nation-wide initiation to reduce unemployment by introducing new venture.

Some of those efforts were done effectively, but not yet well implemented for reducing jobless university graduate, even from vocational institutions. Most of leading universities has intensive activities to set up university business incubators as well as entrepreneurship related curriculum. Universities play a crucial roel in innovation and new business development. They are not just educational center, they are also engines for research and development that should closely cooperate with local businesses and public actor (Grimm, 2009 in Ac *et al*., 2009). But in general, there is only few small and medium enterprise (SME) was created through incubation system; even though entrepreneurship nowadays play important role in university works. Lot of grants and support from corporate and banking were delivered, but not very effective in producing significant amounts of SME as innovation workplace. Start-up businesses often need external financing to grow. These new ventures frequently turn to business angel investors for capital (Sudek, 2006). Mazzarol *et al*., (1999) gender, previous government employment and recent redundancy was identified as having potential negative influences on small business formation. Youth entrepreneurship has gained more importance in recent years in many countries, with increased interest in entrepreneurship as a way of boosting economic competitiveness and promoting regional development (Dash and Kaur, 2012). This study has aims to look for conceptual solution in these matters and try to develop an analysis which can investigate start-up business for self-employment career in university comprehensively.

Problem Statement

After preliminary observation in several universities incubators, there are three main problems identified, which are:

(1) Most of the students look for steady and formal occupation, and few of them want to become entrepreneur. Those high achievement students those not have adequate support from university or other interested institution, such as business communities.
(2) There is critical phase in the process of entrepreneurship development, which is transformation process from start-up business into formalized SME. Most of those start-up could not survive due to many obstacles.
(3) Job opportunities must be created in line with university effort to produce creative, innovative and competent graduates. Global and regional competitiveness require high quality capability of self-employed.

Objectives

This study has aims to analyze systematicaly transformation process of business start-up within university in order to prepare competence entrepreneurs. Furthermore, the study objectives include designing conceptual model to accelerate start-up entities to become SME which are profitable and sustainable for job opportunity after graduation.

METHODOLOGY

The research procedure conducted in this study follows system approach for modeling purposes (Manetsch and Park 1977; Eriyatno 2012). It begins with stakeholder analysis, problem formulation, system identification and system modeling. Since the model intended to design is a conceptual one, this study used system of system methodology and supplemented with Strategic Assumption Surfacing and Testing (Mason 1981). The SAST methodology itself can be regarded as having four major stages: group formation, assumption surfacing, dialectical debate and synthesis. The aim of group formation is to structure groups so that the productive operation of the later stages of the methodology is facilitated. As wide a cross-

section of individuals as possible who have an interest in the relevant policy question should be involved. It is important that as many possible perceptions of the problem as can be found are included. The participants are divided into groups, care being taken to maximize convergence of viewpoints within groups and to maximize divergence of perspectives between groups. A number of techniques, such as personality-type technology and vested-interests technology, are suggested as means to accomplish this. Each group's viewpoint should be clearly challenged by at least one other group (Jackson, 2002). The three methods most closely associated with SAST are stakeholder analysis, assumption specification and assumption rating. Assumption rating requires each group to rank each of the assumptions it is making according to two criteria:

- How important is this assumption in terms of its in£uence on the success or failure of the strategy?
- How certain are we about the likelihood of occurrence or the truth of the statement of events contained in the assumption?

The results are recorded on a chart because of their lack of importance those assumptions falling on the extreme left of the chart are of little significance for e¡ective planning or problem resolving. Those falling in the top right (certain planning region) are important, but it is those in the lower right-hand quadrant (problematic planning region) that are most critical. Because of their significance but our uncertainty about them, they deserve close attention (Jackson, 2003).

The conceptual model is defined through integration of system analysis and empirical findings with case studies and focus groups discussion. Conceptual models consist initially of seven or so verbs, structured in logical sequence and representing those minimum activities that are necessary to achieve the purpose enshrined in the root definitions. Conceptual models do not seek to describe the real world or some ideal system to be engineered, but are merely accentuated, one-sided views of possible, relevant human activity systems (Checkland 1981).

THEORETICAL CONSIDERATION

Lundstrom and Stevenson (2005) explained the stepwise growth phase of entrepreneurship to the formalization of SME and sustainable company which has competitive advantage this theory will be used as study consideration.

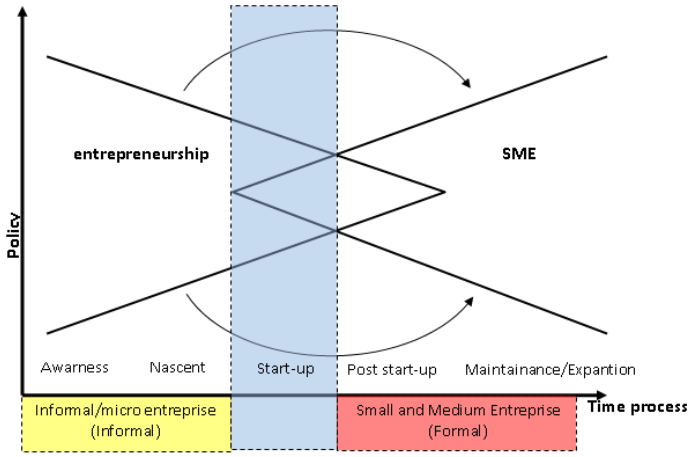

Figure 1. Entrepreneurship development stage

(Source: Lundstrom and Stevenson, 2005)

The development stage for student's entrepreneur in the university many consist as follows:

(1) Awareness stage to bring spirit and motivation about entrepreneurship in the student community;
(2) Empowerment stage for those who have already aware of entrepreneurship to begin new embryo of business or *nascent*;
(3) Strengthening stage which are developing embryo to the start-up business with good market prospect; and
(4) Development stage for start-up then coaching to become sustainable SME as formal institution for further job opportunity.

Today, youth is more daring and hardworking and career oriented, and can be easily transformed if proper training and knowledge in entrepreneurship can be provided (Dash and Kaur, 2012). The critical phase was found in the transformation process of start-up into SME within university framework and agenda. Fact finding over various SME business model, stated that they will succeed only if the enterprise have scalability, leverage ability, profitability and remark ability. Roth (2011) adds one more important factor that could affect start-up performance from the point of view of the entrepreneur, which is suitability. Her theory based on that entrepreneur's personal circumstance, opportunities and goals. Social networks are one of the most critical resources for entrepreneurs in the start-up process (Zhang *et al*., 2011). The study will rely on the suitability theory while designing transformation model for start-ups in the university.

RESULT AND DISCUSSION

Situational Analysis

Referring to observational survey to five universities which conduct student entrepreneurship program through business incubator centre, it was found there are 6 (six) elements which influence start-up business development. Those universities are Bogor Agricultural University (IPB), Surabaya Institute of Technology (ITS), University of Gajah Mada (UGM), Bandung Techno Park (BTP), and University Moestopo Entrepreneurship Centre (MEC). Transformation factors were gathered and discussed intensively in multi agent workshop, which identified six elements to strengthen start-up program.

(1) Finance, which special credit scheme with simple requirement and venture-like capital to increase production capacity of the start-ups.
(2) Salesmanship for the entrepreneur, which means talents and skills to promote their own product to the market and how to persuade buyers.
(3) Marketing infrastructure supports, including product promotion and exhibition, discount mechanism, and continuation of market network with reliable supply chain.
(4) Technological assurance for self-employed through technical assistance to ensure product quality, increase added value and business continuity.
(5) Government support especially in implementing conducive regulation and infrastructure within the university. Ministry of Education and Culture, Ministry of Cooperatives and SME and Ministry of Youth and Sports should work together to facilitate the growth.
(6) Availability of raw materials for several start-ups communities, in particular creative industries which process agricultural products.

System Identification

To identify transformation system for start-ups into SME, several focus group discussions were done with various stakeholders involved. This study found through need analysis process, there are no conflict interest among stakeholders due to positive perception on the goal of the program itself. This is a good working environment since everybody can work together to achieve mutual interest, which is better performance of start-ups in the university. This is in line with Roth theory about combine support and managing risk together to gain suitability factor. Strong cooperation inspired by common goal will ensure sufficient information exchange so that reduce divergences maximally.

Through various extensive expert consultation and comparative study, input output diagram was constructed as follow. The problem arise during transformation process mostly due to lack of resources; particularly in financial support scheme for working capital and marketing new and innovative products not yet well known in the open market. Human resource problem was found in technological capability and work ethics. Students, who still have to concentrate to their study and research assignments, hardly find time improving their own skills and business ability. This time-limit obstacles were found critical in non-technical university, but less obvious in vocational one such as BTP.

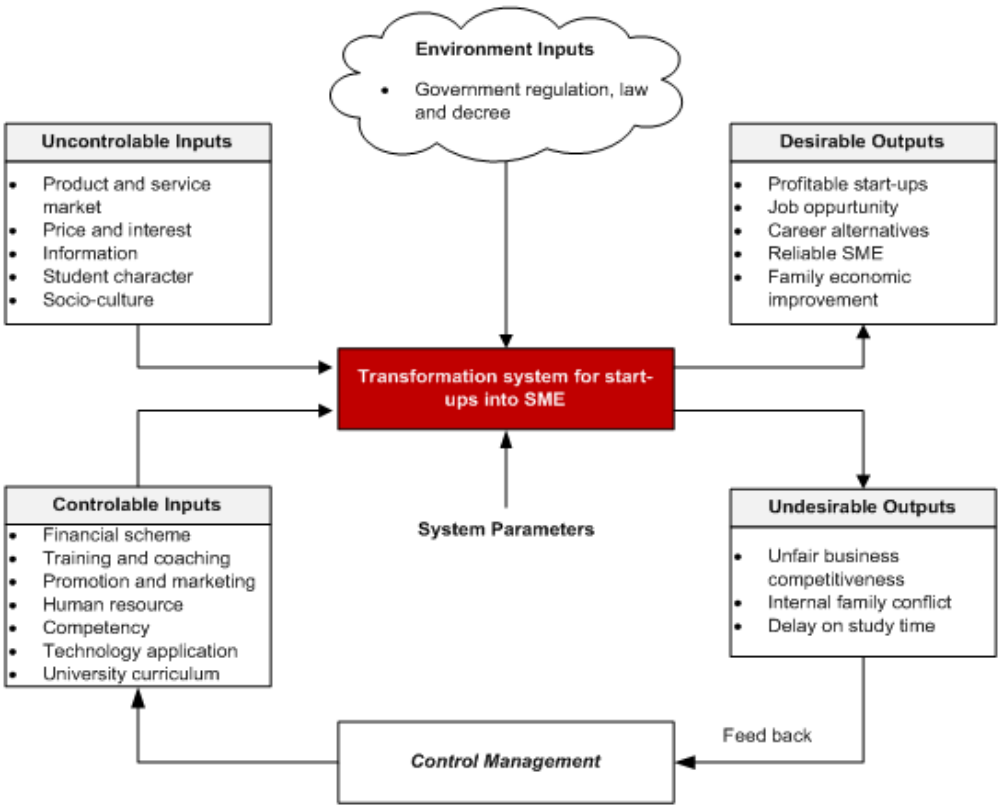

Figure 2. Input-output diagram for start-ups transformation

Evaluation the input-output diagram with field observation, there are 4 (four) transformation element should be considered in constructing the conceptual models. Those are business capacity, human resource quality, product quality and legal aspect. From those elements, the study identified 8 (eight) system parameters for model design which are production capacity, market access, consumer preference, added value, legal status, business permit, entrepreneur perception and career alternative opportunity. The vehicle of those efforts is business

incubation within the university structure and administration. Since there is no single and general model of the business incubator, hence transformation process of start-up may vary depending on their intended objective, business environment and student entrepreneurship.

System Modelling

The modelling process of start-ups transformation into SME began with prioritizing strategies assumption, because wrong assumption will lead to unreliable conceptual model. This study also applied soft system methodology (Checkland 1981) to assist model construction and getting holistic view of over-all solutions.

After thorough analyze of the start-up development stages, the study generate strategy assumption for modelling the transformation process. The function of SAST method is to raise conflict of interest among stakeholder to the surface so that they can be further anatomized and resolved (Jianmei 2010). It has four steps, namely: group formation, then focus group discussion which each participant proposes their strategy and their assumption supporting the strategy. After that, follow by dialectical debate and synthesis of the conclusion. The result of SAST is follow:

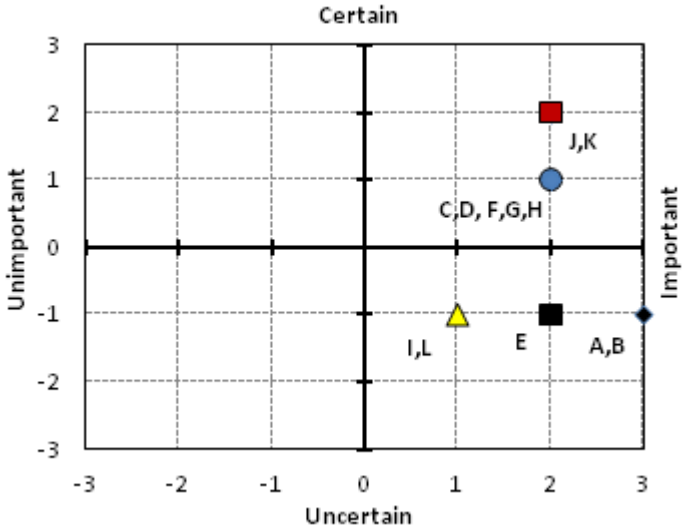

Figure 3. The map of SAST result

Notation of assumption:

A Support and commitment of the university for improvement of start-ups business by student
B Bank and micro finance institution participation on start-ups development
C Human resource with professional competence and entrepreneur character
D Business opportunity for start-ups is high
E Coordination between government ministerial office with university in the field of start-ups development
F Effective and efficient training for start-ups strengthening
G Active institution for entrepreneurship enhancement
H Professional government for entrepreneur management
I* Legal aspect to protect student start-ups
J** Family support to the students on start-ups
K** Market assurance with appropriate quality and price
L* Availability of venture capital for start-ups

Note: *) assumptions for problematic plan; **) assumptions for definitive plan

The SAST diagram help in system design to define general solution for start-up transformation process. It suggests conceptually there must be protection policy for start-ups right and responsibility as support to student entrepreneurship development. According to SAST diagram, the performance driver for start-up transformation mainly students family support so that they have motivation on self-employed career with suitability factors such as personal circumstance. Due to hard competition, being an entrepreneur today is more difficult than it has ever been. The role of university business incubator is becoming more important especially for a screening procedure and coaching the new venture. Entrepreneurship is not one size fits all, and incubator must deal with its dynamic situation.

Through logical thinking process (Dettmer 2007), two conceptual models were constructed as follows. First model, the financial support for start-ups stated the importance of introduction of specific loan scheme including venture capital and credit guarantee which could be provided by non-banking institution. Venture capital has become an important source of financing young firms. Its backed firms are often perceived as more innovative and as creating more value than others (Keuschnigg and Nielsen (2003); Keuschnigg (2004). Second model, the institutional support for start-ups mentioned the necessary condition of government agencies assistances, not only in infrastructure but also in flexible regulation to enhance SME business environment. This propose should be connected with educated unemployment reduction means.

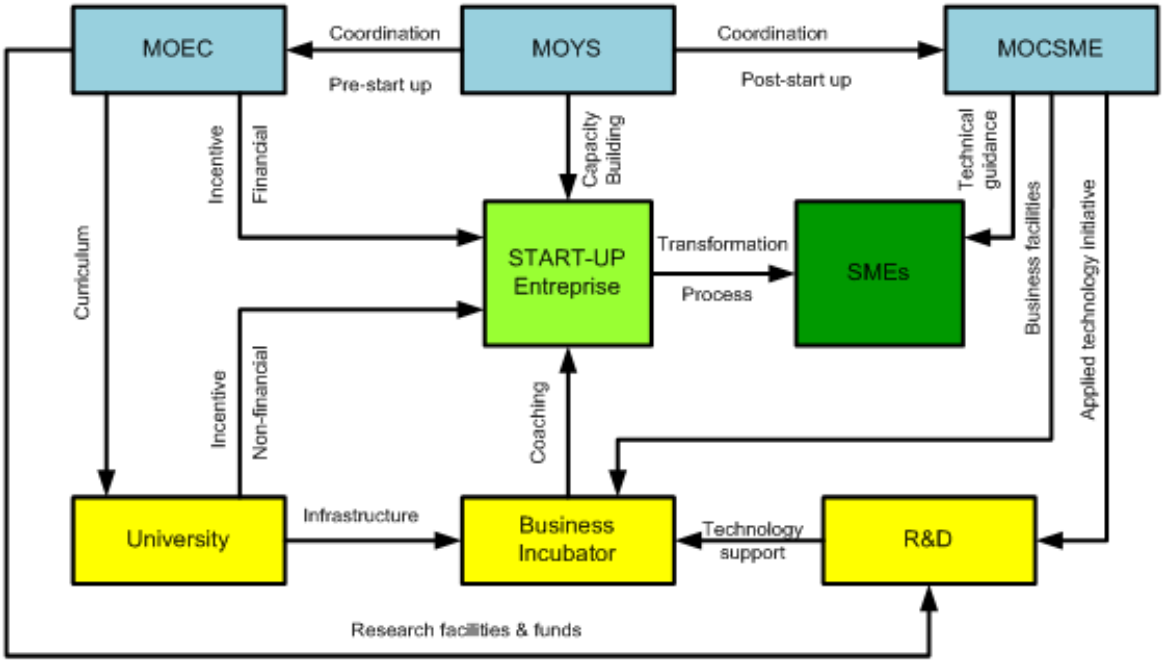

Figure 4. Management and institutional support model for start-ups

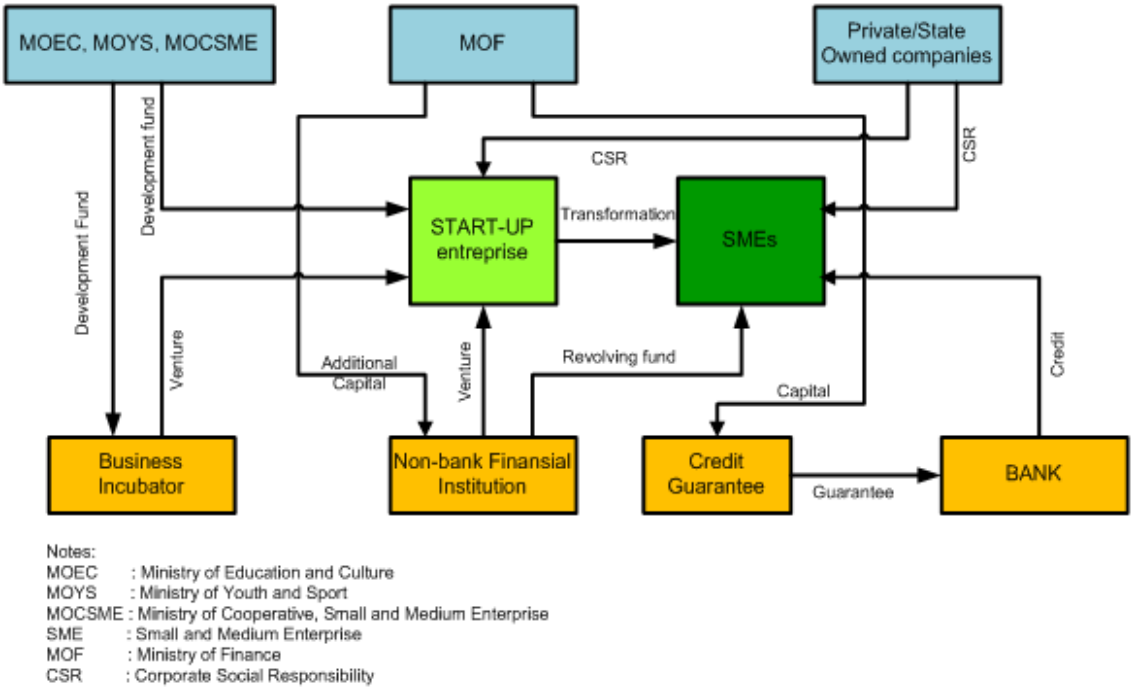

Figure 5. Financial support model for start-ups

CONCLUSION AND RECOMENDATION

Conclusion

According to system identification related to study objectives, this study concludes:

(1) Entrepreneur student who take risk to look for self-employed as alternative career as well as job creator for others, should be supported by all parties concerned including their own family.

(2) The most critical phase on the development of university students entrepreneur is at start-up, hence these should be facilitated by business incubator. Key parameter for the transformation process into formal SME are legal aspect, market assurance and sustainability factor.

(3) The model of financial support for start-ups stated the importance of introduction of specific loan scheme including venture capital and credit guarantee which could be provided by non-banking institution.

(4) The model of institutional support for start-ups mentioned the necessary condition of government agencies assistances, not only in infrastructure but also in flexible regulation to enhance SME business environment. This propose should be connected with educated unemployment reduction means.

(5) It was found tha human capital is most decisive element to make start-ups transformation sucessfull. Therefore, keen attention must be given to suitability factor, which covers personal goals and circumtances to get any opportunities occured.

RECOMMENDATION

Business incubator in university should carry on spesific task to transform start-ups into formal SME within student year of study. Those importance tasks is not only based upon economic parameters but also entrepreneurship creativity and motivation as well. To have a

well defined integrated task performances, the system approach and methodology is recommended.

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