A SD approach to the evaluation of Internet Venture Business

– Focusing on effect of government support system and incubating system

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Abstract

Since 1998, venture businesses in Korea had been flourishing for few years because there were substantial supports from Korean government. Recently, the government driven policy has been continually transformed into the characteristic of market driven investment. At this point, this research try to clarify the major ecosystem of venture businesses including government supports and other factors by forming conceptual map. Also, this research identifies the possibility of developing objective and reasonable simulator for venture business evaluation and investment decision making. The result of this research argues that current methods of performance measurement such as evaluation of financial indexes or invest decisions by net present value analysis are not suitable for more comprehensive explanation of dynamic nature of venture businesses. For better reflection of the dynamic nature of venture businesses, it is suggested to develop simulator which allows empirical and realistic validation of venture businesses performance. This research defies current notion stating the stock market (i.e. KOSDAQ) is the only, and major factor to decide the success or failure of venture firms. Instead, this study could support the idea of clarifying the ecosystem of Korean venture firms, thereby utilizing the simulator as investment decision supportive system of venture businesses.

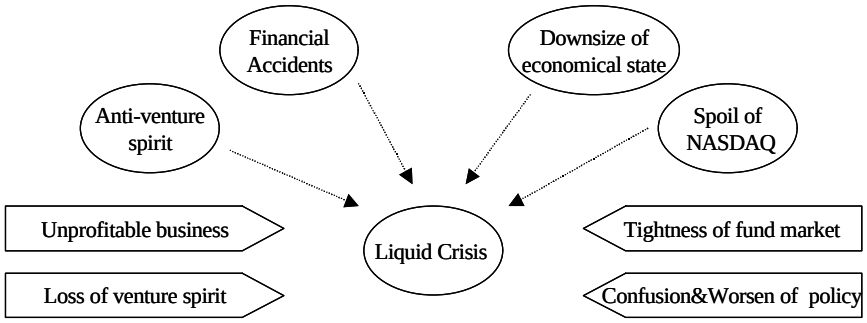
Key Words*: Venture, System Dynamics, Product/Service, government support system, incubating system*

1. Introduction

In the following research, the characteristics of Korean venture business ecosystems that encircle venture firms will be closely examined, commencing upon the fundamental concept that the various factors which stem from such characteristics are crucial in determining the success of a venture firm. A simulator that can objectively and rationally evaluate the economic efficiency and analyze the growth of a venture firm will be developed. The absence of such an evaluating instrument has notably affected venture firms' acquisition of investment funds, that are suffer from a significant shortage of operating funding. Following Korea's economic crisis, venture firms became an alternative in restoring the economy, and a multitude of dot.com businesses successively fell while those that survived had to face difficulties such as employee workout.

While the fall of Korean venture businesses is due in most part to the world economy recession and IT industry depression, the government's failure in venture policy cannot be excepted from blame. The reason that the venture industry has been led into such a grave state lies in the worldwide stagnation, and especially in the information technology sector. Financial crises related to venture businesses, unprofitable business models, and loss of the "venture spirit" are all also indicated as factors leading to the industry's general liquidity crisis. The government has additionally designated the venture industry as 'the driving force of Korean economy's next generation', allowing venture businesses with relatively no technologies to maintain on government funds. Supporting the industry lacking a long-term strategy, the government is much to blame.

Figure 1 Depression of Venture business



The following research will be focused on developing a simulator promoting the competitiveness of the venture industry and analyzing the economical efficiency, growth, and potential of a venture business, allowing it to take on its unprecedented role. The contrasting characteristics of venture firms to those of ordinary companies account for the need of disparate perspectives in evaluating performance and efficiency. In this light of view, existing

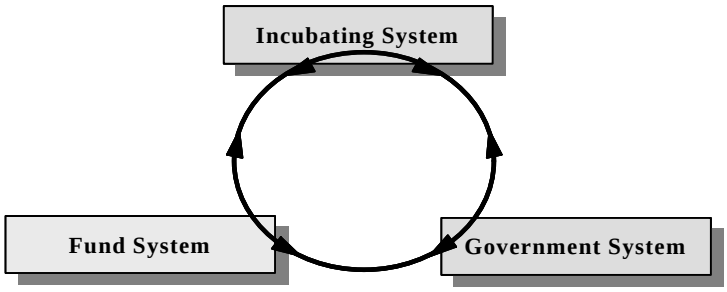
methodologies of evaluating technological and operational qualities by analyzing critical success factors or financial statements should be replaced by a relatively more synthetic method, perceiving the relations between these factors. Due to the fact that there have been few research efforts by a view based on a fundamental understanding and inquiry of venture business ecosystems, an integrated approach was taken.

2. Overview of the Venture System

A venture ecosystem can be defined as a nation's traditional startup and venture management environment in which venture businesses are established, developed and eventually die out. Although a variety of models that portray a venture business ecosystem's components and their relations can be considered, the following research will focus on an economical ecosystem constituent of two small recurring systems and a larger recurring system enveloping the smaller two. Such a recurring system can be divided into numerous forms; consisting of a incubating system and a venture funding system, or consisting of a quantitative evaluation system used to assess a company's operating and financial activities, and a performance evaluation system assessing the company's growth and potential capability. In defining Korea's venture ecosystem, a venture ecosystem will hereby be known as the numerous system forms a venture business can take on as it is established and developed, and it is this comprehensive recurring system that will be delved upon by a System Dynamics methodology.

2.1 The Ecosystem of Korean's Venture

The ecosystem of Korean's venture can be largely divided into an incubating system, venture funding system, and government supporting system.

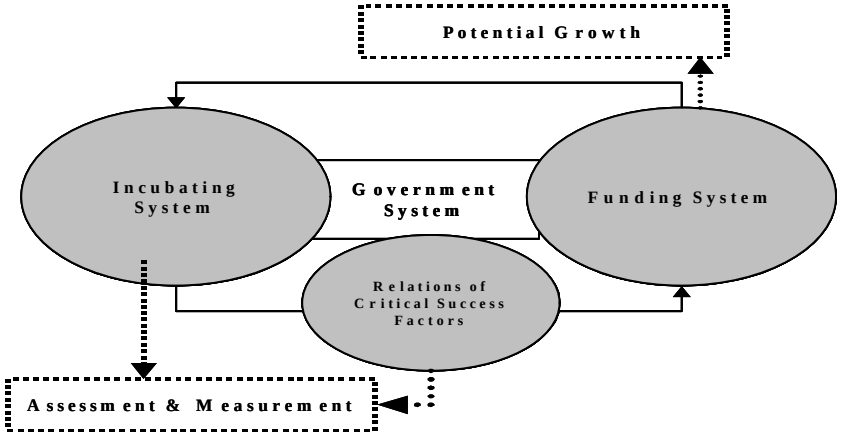


The incubating system is a recurring system following the growth pattern of a basic venture business in which startup is facilitated by a variety of incentive systems such as conglomerate-aid of venture business, support policies, and industrial-educational cooperation, to form a feedback structure where startup continues to increase as successful venture businesses gain

profits and ideal entrepreneurs appear. Furthermore, research based on existing critical success factors that include the entrepreneur and the numerous team characteristics that compose the entrepreneur are primarily focused on investigating this type of incubating system.

The venture funding system is also a recurring system where various venture funds such as angels, venture capitals, institution funding and financing institutions are distributed to venture businesses as operating funds, and profits gained by such means are re-invested into the venture firm to form a feedback structure. This sort of venture funding system, along with the incubating system constitutes an overall feedback. The recurring structure of the ecosystem in whole is formed through the process of initial startup, investment system of venture funds, company exposure on the stock market, compensation for achievements, and merge and acquisition or strategic alliance.

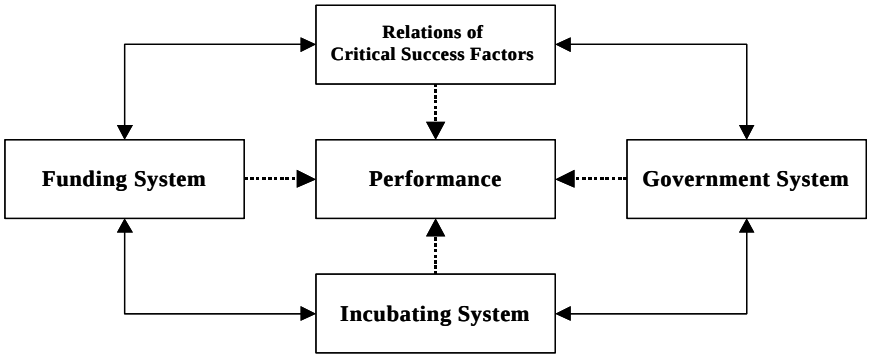
The government funding system was first brought about due to the Korean government's initial role in arousing potential venture companies to the Korean venture industry. Because of laws requiring venture companies to receive mandatory approval by the government, it was wont to play a key role. The venture industry was vitalized through laws and supporting activities enacted by the government to help address the industry, leading to the recurring feedback system of the recovery of the national economy. In the following paper, the government will be considered excluding policies, only pertaining to supporting systems.



Through each of these feedback systems, the venture firm's growth and potential capability is obtained by the ecosystem characteristics that environ the venture business. Moreover, the utilization of individual operation analysis is feasible from undergoing an array of disparate critical success factor analysis in the incubating system.

3. Overview of the SD Model

The recurring ecosystem hence discussed is a vital source in activating venture businesses through an identical system form not only in Korea, but also on a worldwide standard. Research was carried out by mapping out a causal relationship and flow diagram on a comprehensive concept of the venture system, and simulated by a variety of scenarios. In the process, the objectivity of the causal relationship and flow diagram, and the validity for verifying individual venture business' future growth rate as a simulator was examined. The final System Dynamics model drafted is shown in the following figure.



To validate the causal relationship and flow diagram utilized in this research based on the above structure, the following was hypothesized.

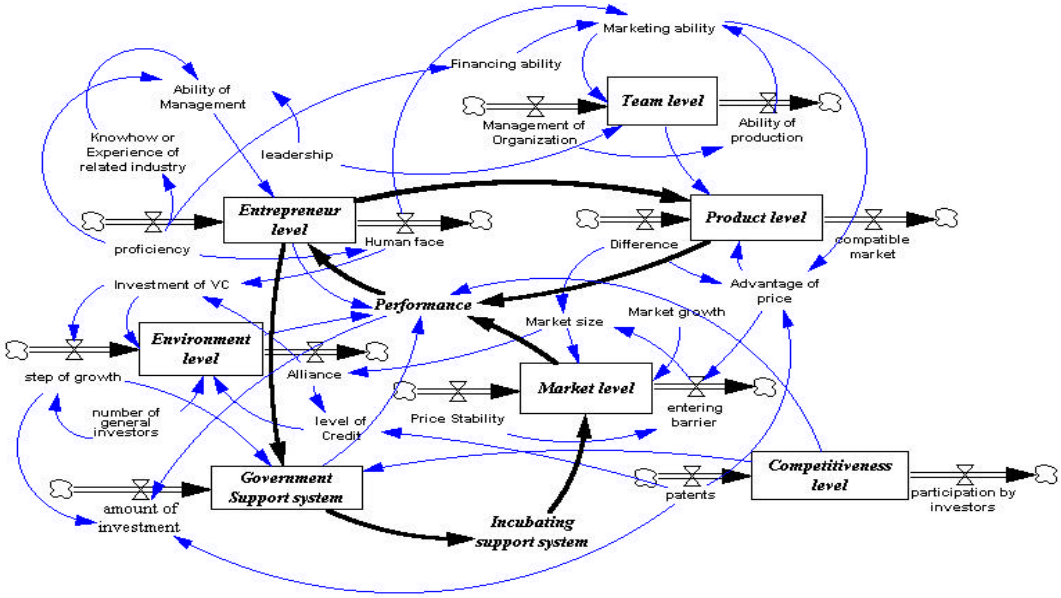
Hypothesis 1: The government's support system will have a favorable effect on the performance of venture businesses in the long run.
Hypothesis 2: The startup of a venture business in accordance with its incubating support system will have a favorable effect on the performance of the venture business in the long run.

In the first hypothesis, we see that although the government is needed to play a key role in fostering the venture industry, during the industry's adjustment period or past its initial growth stage, restoring the market's function in the traditional venture industry growth theory is also needed to take under consideration, and can apparently solve the problem of excess government involvement in Korea's venture industry. This paper will consider the government's role in funding support system in emphasis over law enactment on researching its influence on the performance of venture businesses in the long run.

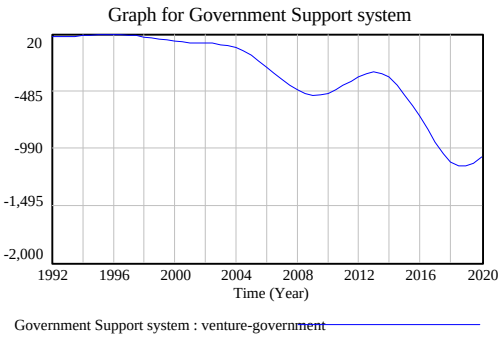
In the second hypothesis, not only the government's startup support system, but also the

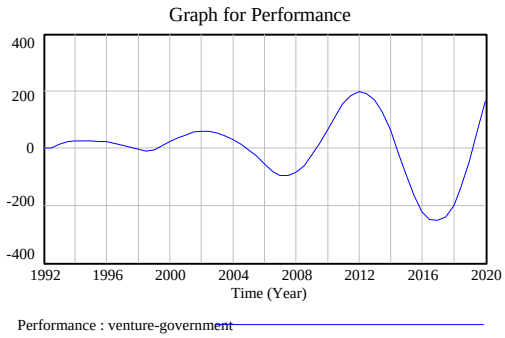
disparities between initial growth of venture businesses through startup support systems such as industrial-educational cooperation and venture business growth by means of autogenous market theory can be examined. The role of the incubating system determined largely by critical success factors will be researched complying to a feedback perspective on a long-term basis.

4. Simulation

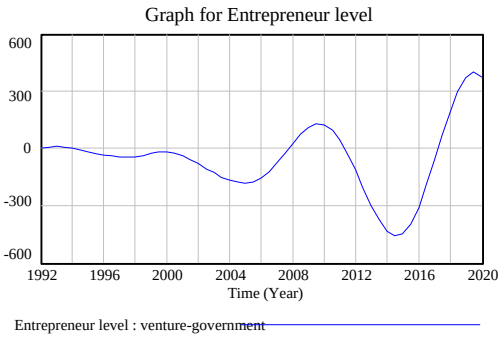


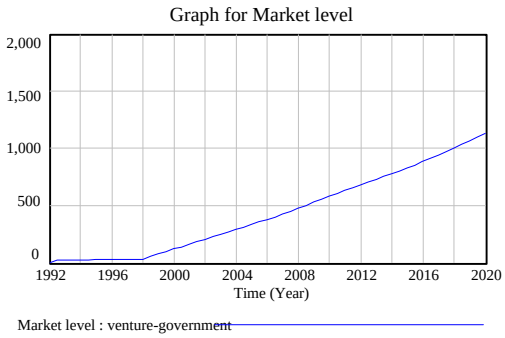
The flow diagram as seen above consists of the five main variables affecting the performance of venture businesses as has been discussed in earlier researches, in addition to domestic incubating systems and resource systems, aggregating to 7 level variables moving in accordance with the rate variables and constant variables. Because the variables were initially conceived from foreign literature reviews, they have been adjusted accordingly to surveys carried out in Korean venture businesses and venture capital firms to maintain objectivity. Rate variables difficult to measure quantitatively were defined as constant variables and were variegated on different levels to validate the performance variable.



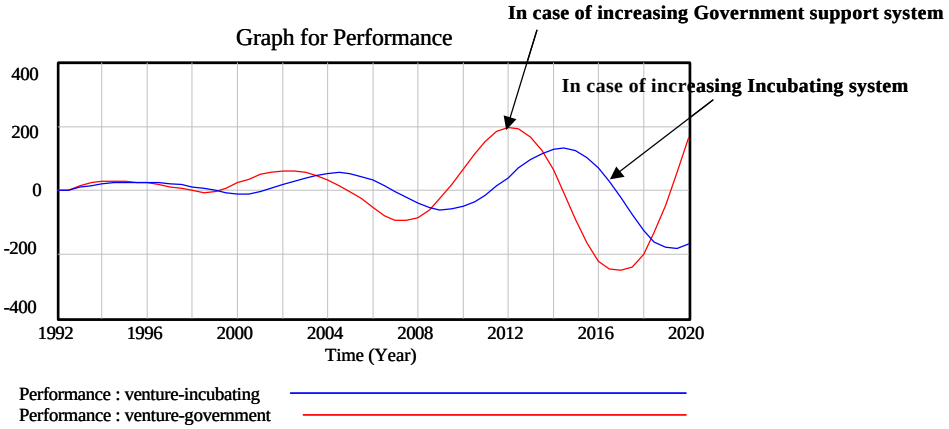


Afterwards its initial stage in 1992, the revival of Korea's venture industry relied on the role of the government on both aspects of policy and financial matters. Since 2001 however, when adjustments of venture businesses commenced, the government's funding for the venture industry also took on a decrease. This overall adjustment period of the venture industry was identically observed in both the U.S. and Japan. Alongside the government support system, changes in the performance variable continued to show greater gaps of increase and decrease than it had before. But because the government withheld an authoritative stand in developing the venture industry, venture firms inevitably were dependent upon the government. Thus, venture firms were mass-produced, allowing the entrance of quasi-ventures to eventually bring about market corruption. Nevertheless, venture entrepreneurs must keep in mind that state-of-the-art products and service is what produces value to the consumer, and that this commodity market, not the government, is what it must rely on. In short, venture firms ought solely to depend and strive on the market. As the simulation results also display, the performance of venture businesses show a dynamic fluctuation feedback of long-term high profits and losses, indicating the result of a repetitive growth stage after an adjustment period, correspondingly pertinent to foreign venture industries.





The results of the incubating variable show a similar movement to that of venture firms' performance level discussed in many previous researches. In conclusion, the entrepreneur level takes on considerable meaning as an important variable capable of dominating the performance of a venture business with the help of a slight time lapse. The Korean government for example, was the driving force in developing the venture industry since 1998 to justify the unemployment issue and overcome its economic crisis. It has planned a goal-target of producing forty thousand venture firms until the year 2005 and has also enacted laws for venture businesses. As a result, the market level on whole is at a relatively high level, and shows continued growth expectations until the year 2020 irrelevant to the government's support system.



5. Conclusion

In the past, with the right technological packaging and certification, going venture in Korea was easy money through capital funding. However, the market situations have changed. The market pursues quality venture firms, thrusting both advantages and threats to venture businesses that now strive to excel. Market competitors such as venture entrepreneurs and venture capitalists have experienced resource scarcity and toil to differentiate to withstand the competition. In this process, both venture commodities and financial market will undergo workout, consequencing in a heightened market environment.

The results of this research present how the Korean government's fund support for venture businesses significantly effects their initial performance. Though not mentioned in this paper, reflecting the utilization of acquired funds in the causal map and simulation will further promote the development of a more objective simulator. Moreover, it was conceived by means of the simulation results, that government funding support policies do not take on a primary role in

facilitating the performance of venture businesses in the long run. This stems into the requirement of policies in which initial government funding support is emphasized on market functions and aids market strength.

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