論文の内容の要旨

Thesis Summary

論文題目： The Role of Startups and the Entrepreneurial Ecosystem in Innovation: a Multi-Method Study and its Policy Implications
（イノベーションにおける起業家と起業エコシステムの役割：諸解析手法の適用と政策的含意）

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Background, Purpose and Research Questions

The positive socio-economic effects that entrepreneurship can have in a country's economy are well recognized and documented. Entrepreneurship can be a generator of employment, wealth, innovative products and services. Entrepreneurship can improve the quality of life and economic freedom, increase productivity and have spillover effects that have a cascading positive effect in the economy. This research is motivated by this belief and aims to understand how to better support entrepreneurs and value creation within a region.

The purpose of this thesis is threefold. Firstly, the thesis aims to gain deeper insights into the *figure of the entrepreneur* as the center of startup creation. The thesis explores their profile, motivations, intentions and needs, in an attempt to better understand and thus support them. It does so by finding answers to the research questions: "What is the perception that people have of entrepreneurs across countries and are there statistically significant differences between different countries?", "Is there a new and easier way to detect entrepreneurial intention, even before individuals have realized it?", and "What are the main factors that affect (support and hinder) the decision of becoming an entrepreneur (entrepreneurial intention)?".

Secondly, it explores the system in which entrepreneurs operate, the *entrepreneurial ecosystem*, and what are the environmental requirements and support mechanisms that affect an entrepreneur's ability to create, grow and exit a company. It does so by responding to the questions: "Is the Entrepreneurial Ecosystem a good conceptual design to study entrepreneurship?" and if so "which are the key factors necessary for startup's success, and thus for the development of the Entrepreneurial Ecosystem?". Understanding the dynamic development and value creation

of an entrepreneurial ecosystem, is a necessary first step in order to develop targeted support mechanisms to encourage its development. Therefore this thesis explores the questions: "What are the reinforcing and diminishing mechanisms that affect the development of the ecosystem over time?", "Which stage of firms are the main contributors to value creation within a region?", "How does this change over time?".

Thirdly, it aims to apply the better understanding of entrepreneurs and the Entrepreneurial Ecosystem to help *guide the policy-making efforts* of ecosystem stakeholders and thus elicit the positive socio-economic consequences outlined before.

Research Methodology

The study of entrepreneurship is part of the social sciences. As such, this research utilizes a variety of **mixed methods**, both **qualitative and quantitative,** to explore the different dimensions of the role and figure of the entrepreneur and that of the Entrepreneurial Ecosystem.

In the first part, exploring the figure of the entrepreneur, the thesis focuses on how and why people make (or not) the decision to become entrepreneurs. It utilizes primary data gathered via a **questionnaire** (in English, Spanish and Japanese) to students and young workers, and explores their entrepreneurial intention via **Structure Equation Modelling** it also proposes a new measure to assess the intention to become an entrepreneur, the **Entrepreneurial Distance,** by using cross-tabulation analysis of the distribution of responses.

To analyze the Entrepreneurial Ecosystem, this study uses **Systems Thinking** and **System Dynamics** methodologies to capture the development of the ecosystem over time, and the relations and connections between its components. Finally offering insights into designing Public Policy support measures to effectively support the development of the Entrepreneurial Ecosystem.

The thesis, includes insights and learnings from >100 first-hand **qualitative semi-structured interviews and conversations** with entrepreneurs, Venture Capitalists, Accelerators/Incubators, Government Officials, corporates and other ecosystem stakeholders in Entrepreneurial Ecosystems all around the world (Silicon Valley, New York, Boston, London, Cambridge, Paris, Lyon, Berlin, Munich, Madrid, Barcelona, Amsterdam, Rotterdam, Zurich, Tel Aviv, Jerusalem, Seoul, Taipei, Beijing, Shanghai, Myanmar, Vietnam and Tokyo). These were

held during the course of the author's Doctoral Course, and personal experience founding and running a software startup in Japan, and working within a Support Organization (Deloitte Tohmatsu Venture Support) supporting Startups, Corporates and Innovation Policy makers in collaborating and further developing the Entrepreneurial Ecosystem.

Findings

This thesis provides insights into the motivations of prospective entrepreneurs and the dynamic development as well as value generation of the Entrepreneurial Ecosystem.

Based on the primary data collected and its analysis via Structure Equation Modeling, the study finds that: self-efficiency and entrepreneurship education positively affect entrepreneurial intention whereas fear of failure negatively affects entrepreneurial intention.

The study also provided a new tool to easily assess the Entrepreneurial Intention of students with a very simple questionnaire, by calculating the "Entrepreneurial Distance".

The proposed Entrepreneurial Ecosystem System Dynamics model allows ecosystem stakeholders to understand the dynamic development of the ecosystem over time, the distribution of value generation according to firm stage, and reinforcing and diminishing mechanisms affecting the development of the Entrepreneurial Ecosystem.

Conclusions and Significance

This study has helped to better understand which are some of the factors that affect the entrepreneurial intention and its decision making process. Being able to identify prospective entrepreneurs and providing them with the resources and support mechanisms necessary for them to realize that intention and be successful in the future, could enhance the positive spillover mechanisms that entrepreneurship can have.

A better understanding of the dynamic development and value generation within an entrepreneurial ecosystem is necessary in order to influence and support their development, as well as to align the resources and efforts of different stakeholders. An interesting question that the study proposes is that of the "capacity limit" of a particular Entrepreneurial Ecosystem, or number of firms that can be supported according to the availability of resources (funding, human

capital or customers). Once the model is applied to a region, and historical data is gathered, it can serve as a tool for stakeholders to identify if and which is the limiting factor that might be preventing the Entrepreneurial Ecosystem's growth. Ultimately, this may support innovation policy-makers by providing them with a tool to identify the most efficient resource allocation to expand the capacity limit of a Regional Entrepreneurial Ecosystem, by understanding and addressing existing gaps.

Recommendations

The proposed ecosystem analysis methodology can help ecosystem stakeholders better understand their collective responsibility and contribution to the ecosystem, as well as support a more sophisticated approach towards innovation policy-making, rather than the "create our own regional Silicon Valley" approach. Understanding the dynamics behind the development and value creation of an ecosystem, as well as the status and resources available can bring invaluable insights concerning resource allocation.

Keywords: Entrepreneurship, Entrepreneurial Intention, Entrepreneurial Ecosystem, System Dynamics, Systems Thinking, Capacity, Planning, Innovation Policy-making.