

# The Interaction Between Entrepreneurial Characteristics and Ecosystems in Japan: Building a New Model for Entrepreneurs

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## Abstract

The purpose of this paper is to explore the relationship between entrepreneurial behavior characteristics and the entrepreneurial ecosystem (hereafter referred to as EE) in Japan and to develop a new model of entrepreneurial characteristics (hereafter referred to as the EC model). The entrepreneurs activity in Japan remains persistently low, contributing to prolonged economic stagnation and limited innovation. While traditional studies have focused on the internal factors of entrepreneurs, recently the importance of EE, an external factor in entrepreneurship, has been pointed out. In this study, we integrate the internal factor, entrepreneur, and the external factor, EE, and construct the EC model that does not exist in previous models, which takes into account their interaction. Through interviews, we aim to explore the interaction between entrepreneurs' internal and external factors and deepen our understanding of EE's impact in Japan via the EC model. The results of this study are expected to highlight the real needs and challenges of entrepreneurs and contribute to the development of entrepreneurship.

*keywords:* entrepreneur, entrepreneurship, behavioral characteristics, entrepreneurial ecosystems, entrepreneur ecosystem, startup ecosystem

## 1 Introduction

Entrepreneurial activity in Japan remains sluggish, and there is a significant disparity in the level of activity compared to other countries. The rate of entrepreneurship in Japan is among the lowest among major developed countries[1], and this has led to the stagnation of economic growth and innovation in Japan. The authors believe it is necessary to analyze the characteristics of entrepreneurs in Japan, and have focused on the mindset of individual entrepreneurs to identify some characteristics. Specifically, we found that internal characteristics such as "shrewdness,"[2] "career fulfillment," and "self-actualization"[3] play an important role in entrepreneurial activities. Although we have primarily focused on the internal factors of individual entrepreneurs, these factors alone cannot fully explain Japan's low entrepreneurship rate.

In recent years, it has been pointed out that external factors, especially the EE, play a key role in entrepreneurial success. EE is a concept that collectively refers to diverse external factors surrounding entrepreneurs, such as market access, human resources, financing, and policies. Previous studies have not developed a comprehensive model that integrates the internal factors of entrepreneurs with external factors such as EE and explicitly describes their interactions. This is the focus of this study. Therefore, this study aims to develop the new EC model that integrates external factors such as EE in addition to traditional internal characteristics.

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We will identify how internal and external factors interact each other and lead to success for entrepreneurs facing immature EE in Japan. Our model aims to provide a comprehensive understanding of entrepreneurial success through the interaction of internal and external factors, and to provide a new guideline for entrepreneurial support in Japan.

To achieve this objective, this study will conduct interviews with entrepreneurs. The interviews will focus on how internal (e.g., desire for self-actualization) and external (e.g., financing) factors interact. This is expected to validate the validity of the EC model and suggest specific ways to complement the underdeveloped EE. In this paper, we conduct a primary validation of the EC model by interviewing four entrepreneurs. In subsequent studies, we plan to conduct additional interviews with 10 to 15 entrepreneurs as the second stage of verification, and to obtain quantitative data through a questionnaire survey as the third stage of verification to further validate the EC model.

Chapter 2 reviews previous research on EE and entrepreneurship, Chapter 3 summarizes the implications from previous studies, Chapter 4 proposes the authors' model, and Chapter 5 details how to conduct interviews to evaluate the model. Chapter 6 summarizes the results of the interviews, focusing on the items for which research questions were set. Chapter 7 states that the interview findings generally supported the Research questions, Chapter 8 concludes that mindset and skillset confirm the interaction between EE and skillset, and Chapter 9 presents future research questions.

## 2 Previous Studies

### 2.1 What is EE?

EE is a combination of social, political, economic, and cultural elements within a region that support the development and growth of innovative startups and encourage nascent entrepreneurs and other actors to take the risks of starting funding, and otherwise assist high-risk ventures [4]. Specific elements include policy, financing, culture, support, human capital, and market access [5]. The interaction of these elements creates an environment in which entrepreneurs can succeed. However, the definition of EE has yet to be clearly defined. It has been constructed ad hoc by different authors and there is no common definition [6]. There are several definitions of EE, but one representative definition is “the entrepreneurial ecosystem as a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship” [7]. In this paper, we adopt this definition.

### 2.2 EE Model

As mentioned above, the definition of EE remains vague, and many different models have been proposed by many researchers and practitioners. In this paper, we focus on the most representative EE models among them and investigate their characteristics and applicability. In doing so, we aim to elucidate the elements of EE and the mechanisms of their interaction, and to better clarify the factors that contribute to entrepreneurial success.

#### 2.2.1 Isenberg's EE Model

Isenberg presents a model (Figure 1) that condenses the key factors that influence each other into six domains for building an ecosystem that supports entrepreneurship [8]. These domains encompass the elements necessary for a startup to succeed, each interacting with the others

and contributing to the healthy functioning of the overall ecosystem. The six domains are described below.

- a. Policy: It refers to the government, regulatory environment, subsidies.
- b. Financing: Includes venture capital, angel investors, banks, and other financial institutions that provide investments to early stage companies.
- c. Culture: Refers to social attitudes toward entrepreneurs, including the value placed on innovation, risk-taking, and learning from failure, the existence of role models and success stories, and respect for entrepreneurs.
- d. Support: In addition to resources and services to help startups grow and succeed, this includes professional services such as legal, accounting, and marketing, as well as education and training programs focused on entrepreneurship.
- e. Human capital: Includes the presence of skilled workers, experienced entrepreneurs, and knowledgeable investors. It also includes quality educational institutions that produce graduates who work in startups.
- f. Market: includes access to customers, suppliers, and partners.

Isenberg's model emphasizes that these six domains work together and interact with each other to create a successful startup ecosystem [8].

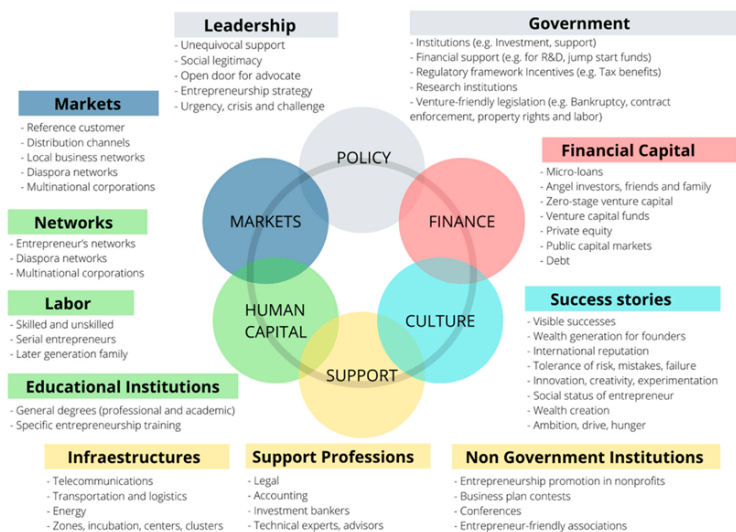


Figure 1: Isenberg's EE model (2011)

### 2.2.2 World Economic Forum EE Model

The World Economic Forum (WEF) has proposed eight pillars that make up a successful ecosystem (Figure 2), specifying the actors and factors associated with each pillar. The WEF conducted the first large-scale study of EE with Stanford University, E&Y, and Endeavor. The study systematically summarized which pillars are important and accessible to growing entrepreneurs. According to the results, the most important pillars for entrepreneurs are "accessible markets," "human capital/workforce," and "funding & finance" [9].

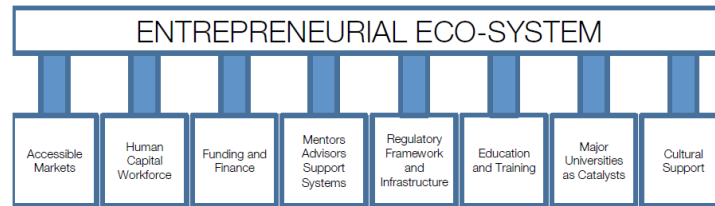


Figure 2: WEF Model of Entrepreneurial Ecosystem (WEF 2013 P6)

### 2.2.3 Stam's EE Model

Stam developed a new model (Figure 3) after noting that the traditional EE approach remains a mere enumeration of factors and fails to adequately explain the interdependent influences with entrepreneurship. His model introduces four ontological layers to more systematically understand how the elements within the ecosystem interact and support entrepreneurship. An important aspect of this model is that it is not simply a list of elements, but emphasizes the upward and downward causal relationships among the layers and the interaction among the elements within the layers. Specifically, the elements of EE are classified into "Framework conditions" and "Systemic conditions" and these elements are said to work together to ultimately influence "Outputs" and "Outcomes".

Stam's model is more focused on explaining deeper causal relationships than traditional approaches, and it highlights the dynamic nature of the EE. Through this model, there is a more detailed understanding of how the elements within the ecosystem are interdependent and contribute to entrepreneurial success [10].

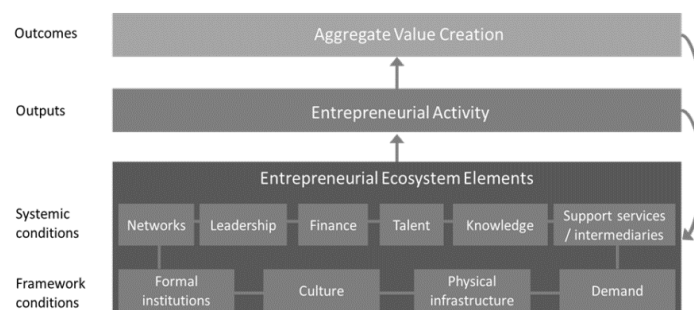


Figure 3: Stam's (2015) EE model

### 2.2.4 Spigel's EE Model

In Spigel's EE model (Figure 4), 11 representative elements are grouped into three types, each responsible for a different aspect of the ecosystem.

- a. Cultural: norms and values that promote entrepreneurship
- b. Social: networks and relationships, mentoring
- c. Material: physical resources such as funding, office space, and policies

Spigel also presents a hierarchical model in which social and material characteristics are built on a foundation of cultural characteristics and presents the hypothesis of interrelationships in which the lower hierarchy supports the upper hierarchy while the upper hierarchy reinforces the lower hierarchy, emphasizing that each element does not exist in isolation[11].

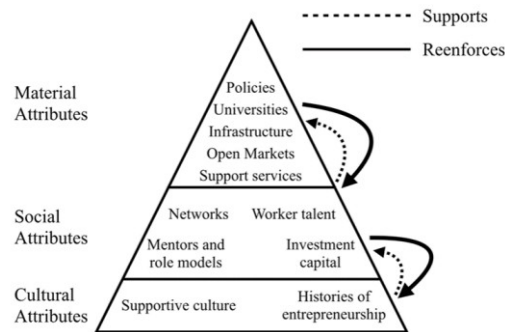


Figure 4: EE model of Spigel (2015)

### 2.3 Entrepreneurship

The authors have studied the characteristics of entrepreneurs and we recognize entrepreneurship as a process and adopt the idea of translating entrepreneurship as "Kigyoka Sei" rather than "Kigyoka Seishin" (meaning entrepreneurial spirits) [12]. The authors defined Entrepreneurship as two components, Competency and Spirits [13]. Furthermore, the authors analyzed the characteristics of entrepreneurs in Japan and identified several characteristics focusing on mindset. Specifically, we found that internal characteristics such as "shrewdness," "career fulfillment," "self-actualization," and "risk taking" play a key role in entrepreneurial activities. These characteristics are important in the entrepreneurial activities of individual entrepreneurs.

## 3 Imprecations of Previous Studies

### 3.1 Implications from the EE Model

EE model developers argue that the interrelation between factors and actors is more important than the form and element of the model [15][16]. The authors agree with it, and after comparing and analyzing the elements of each EE model, we identified a framework that can be integrated into six domains (Table 1).

#	#	Isenberg 6 Domains (2011)	#	WEF 8 Pillars (2013)	#	Spigel 11 Attribute (2015)	#	Stam 10 Elements (2015)
	9	<i>Policy</i>						
1	1	Government	1	Regulatory Framework and Infrastructure	1	Policy and Governance		
	2	Leadership						
	3	<i>Finance</i>						
2	3	Financial Capital	2	<b>Funding and Finance</b>	2	Investment Capital	1	Finance
	4	<i>Cluture</i>						
3	4	Social norms	3	Cultural Support	3	Supportive Culture	2	Culture
	5	Success Stories			4	Mentors and Role Models		
					5	Histories of Entrepreneurship		
	6	<i>Support</i>						
	6	Non-Governmet Institutions					3	Formal institutions
4	7	Support professions	4	Mentors Advisors Support	6	Support Services	4	Support Services /
	8	Infrastructure			7	Physical Infrastructure	5	Physical Infrastructure
	9	<i>Human Capital</i>						
	9	Networks			8	Networks	6	Networks
5	5		5	<b>Human Capital Workforce</b>	9	Worker Talent	7	Leadership
	10	Educational Institutions	6	Education and Training	10	Universities	8	Knowledge
	11	Labor	7	Major Universities as Catalysts			9	Talent
	12	<i>Markets</i>						
6	12	Early Customers	8	<b>Accessible Markets</b>	11	Open Markets	10	Demand

Table 1: Feature of EE model made by authors

Based on this framework, the authors propose a new EE model that further incorporates factors specific to the Japanese market.

Although there were no major differences in the constructs among the EE models compared, it became clear that a unique model that considers entrepreneurial characteristics in Japan is needed. The new EE model also has practical significance for entrepreneurship support measures and policy making in Japan and will serve as a basis for local governments and startup support organizations to develop more effective entrepreneurship support programs. This will provide a specialized approach to entrepreneurship support in Japan, complementing the limitations of the previous EE model and facilitating the development of entrepreneurship.

### 3.2 Implications from Entrepreneurship Research

Based on previous research, the authors categorize entrepreneurship into entrepreneur competency and entrepreneur spirits. Competency is composed of three elements: Knowledge, Skills, and Behaviors, which are a combination of tacit and explicit knowledge, behaviors and skills that enable a person to be effective in carrying out tasks [16]. On the other hand, Spirits refers to "the way one thinks," "the way one feels," and "the way one behaves," emphasizing the psychological aspects that lead to action [17]. Since both Competency and Spirits may include "Behaviors," the authors redefine Entrepreneur Competency as skillset and Entrepreneur Spirits as mindset in order to avoid duplication (Figure 5). This allows skillset to include specific skills, knowledge, and attitudes, and refers to the elements necessary to carry out a task or role. Mindset refers to entrepreneurial spirit and psychological traits and focuses on more internal aspects, such as risk-taking and awareness of the need to succeed. This separation of Competency and Spirits will eliminate the overlap between the two and clarify the roles of skillset and mindset in Entrepreneurship. This simplified framework facilitates comparisons with the EE model and enables the creation of a comprehensive model of Entrepreneurship.

We believe that by analyzing how the specific skills required of entrepreneurs interact with psychological characteristics, we can more clearly identify the success factors of entrepreneurs.

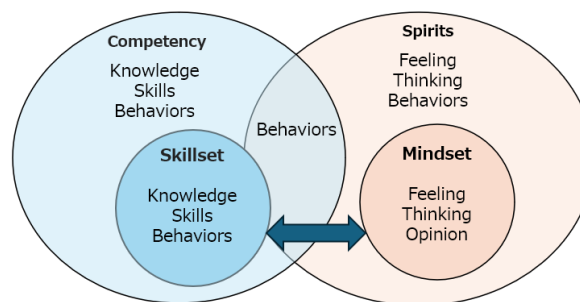


Figure 5: Ben diagram Competency, Spirits, Skillset and Mindset

### 3.3 Suggestions for Developing a New Entrepreneur Model

Based on the literature review and findings, we compared several models of the EE to identify the differences in the constructs exhibited by each model. It was clear that entrepreneurs were not integrated into the model. The results show that existing EE models do not fully explain how

crucial factors such as cultural factors and human capital influence entrepreneurial characteristics and ultimately lead to success. Therefore, there is a need to elucidate how these factors interact and contribute to entrepreneurial success. Furthermore, understanding how entrepreneurial characteristics work with external resources and the mechanisms that lead to success is important in comprehensive entrepreneurial support.

Based on these findings, we believe that a new model needs to be developed in our study. The next chapter details the structure and implications of the new EC model proposed in this study.

## **4 Proposed Model of the Authors**

The authors make the following suggestions based on findings from prior research. In prior research, they said that entrepreneurs are central actors of EE [18], but entrepreneurs are not integrated into the EE models. Since entrepreneurs play a key factor of EE, it is necessary to clearly distinguish between the entrepreneur's own factors and the environmental factors of EE surrounding them. Therefore, this paper developed the EC model which was integrated both the entrepreneur as internal factors and the EE as external and show the way to interact with each other. Entrepreneurship consists of skillset and mindset. The EC model showed that skillset and mindset interact with each other to strengthen the entrepreneurial capability. Furthermore, the interaction of these internal factors with the external factor of EE makes entrepreneurship a reality and leads to success. For example, having a mindset that is highly motivated to grow improves skillset and enhances external funding and partnerships. In this way, the EC model reveals the mechanisms by which internal and external factors interact to support entrepreneurial success.

In addition, the EC model classifies EE factors into three categories: Business Resources (hereinafter referred to as "BR"), Cultural Factors (hereinafter referred to as "CF"), and Infrastructure Factors (hereinafter referred to as "IF"). The components are taken from Spigel's EE model, and in consideration of their interaction with skillset and mindset, we placed Networks, Worker talent, Investment capital, Open markets, and Support services. Supportive culture, Histories of entrepreneurship, Mentors role models were placed in CF. And Policy, Governance, Universities, and Physical infrastructure were placed in IF. skillset and mindset interact with each other (A), skillset interacts with BR (B), and mindset interacts with CF(C). In addition, the components of External Factors interact internally (D, E, and F). This model is proposed as The EC model by authors (Figure 6).

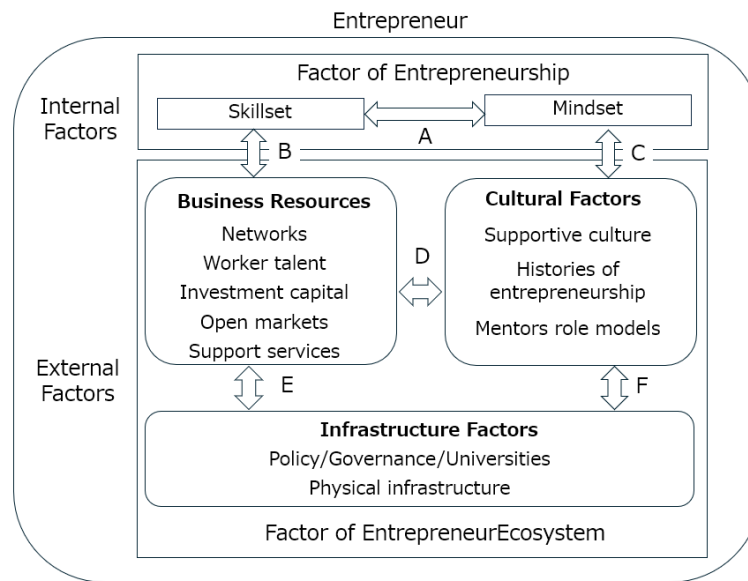


Figure 6: The EC Model by authors, emphasizing the interaction between internal and external factors.

Based on the above, the main research questions for testing the interactions from A to F in this study are as follows

**A) Research question on the interaction between Skillset and Mindset**

People with a growth mindset view failure as a learning opportunity and are more willing to improve their skills. This strengthens important skill sets such as problem-solving and leadership skills. [18]

**B) Research question on the interaction between Skillset and BR**

Entrepreneurs who have established their businesses (In business more than 5 years since startup) can leverage their skillset to secure BRs such as capital, customers, and human resources. This strengthens their business.

**C) Research question on the interaction between Mindset and Cultural Factors (CF)**

Having role models of entrepreneurs around stimulates the mindset and increases entrepreneurial motivation.

**D) Research question on the interaction between BR and CF**

Entrepreneurs will be respected, and a local entrepreneurial culture will be fostered, BR will be enhanced, and more entrepreneurs will have access to resources.

**E) Research question on the interaction between BR and IF**

Support for startups and deregulation by the government will facilitate the expansion of BR resources and make it easier for entrepreneurs to utilize BR.

**F) Research question on the interaction between CF and IF**

Support measures and success stories of startups by the government and universities will raise awareness about entrepreneurship and foster a culture of entrepreneurship.

## 5 Method

The authors interviewed four individuals with entrepreneurial experience (hereafter referred to as interviewees) to test the EC model in this study. Table 2 provides a summary of the interviewees. A summary of the questions and answers is presented in the next section. We conducted



semi-structured interviews in Japanese, each lasting 40 to 60 minutes. The authors sought out people with entrepreneurial experience who met the following criteria and asked them to participate in the interview survey.

- Those who have taken the initiative to start their own company in Japan (regardless of gender, nationality, or industry)
- Those who have at least 5 years of experience since starting their own company.
- Those who have started a company and are still in the process of starting it.

Table 2: Overview of interviewees

#	Name	gender	age range	# of company started	# of years since first starting up	# of years since latest starting up
1	Mr.A	Male	50-59	3	30	3
2	Mr.B	Male	60-69	5	40	5
3	Mr.C	Male	50-59	1	11	11
4	Mr.D	Male	40-49	1	17	17

## 6 Applicability to Real Entrepreneur Activity

In this section, we summarize the results of the interviews, describing the specific statements, focusing on the research questions outlined above.

Table 3: Summary of interviews results

Reasons for starting your own company	
Q	Why did you start your own company?
Mr. A	After I graduated from a university in Japan, I returned to China and worked as a software developer for a Japanese company. After that, I started my own company in China with some colleagues. I grew the company into a large corporation and became a board member but left to start my own companies in China and Tokyo.
Mr. B	I started when I realized the business opportunity rather than creating a company. That's my feeling, before I thought about going independent or taking a risk. I consider myself to be on such a mission or that is my way of life.
Mr. C	I had good grades since elementary school, so I always had an ambition to go abroad and become a big name.
Mr. D	I have a family member with disabilities and need to earn money to support the family in the future. To live a standard life, I had no choice but to become rich, because being an employee was not enough money for the family.
Role models for entrepreneurship	
Q	Do you know anyone close to you who has started their own company?
Mr. A	A friend of mine started a company before I did. I invested in the company and watched it grow.
Mr. B	I still feel like I inherited it from my father who was an entrepreneur.
Mr. C	Because my father-in-law is an entrepreneur, I had a vague idea that I wanted to start my own company.
Mr. D	I didn't have the opportunity to see the role models of entrepreneurs as a child, but I was strongly influenced by comic books of vagabonds starting company and making it big.
Background for starting the business	
Q	How did you start your business?
Mr. A	The reason for starting a company in Japan was that it had become difficult for Chinese companies to do business in Japan, so I started my own company with the support of his Japanese business client.
Mr. B	When I was starting my second company, I saw an investment article on the Internet written by a fund manager living in London. Then I went to London to meet him and invite him to start a company together.

Mr. C	The earthquake made me terribly busy with work, and I started my own company because the product I was preparing was ready.
Mr. D	After graduating from university, I joined a consulting firm to support startup companies and then I started my own company.
<b>Fundraising</b>	
<b>Q</b>	<b>How did you secure capital and working capital? Did you use venture capital (VC), banks, etc.?</b>
Mr. A	Capital and working capital were self-funded. When I started my second company, a friend of mine worked for a VC and invested in the company. China has a longing for entrepreneurship and VC is well developed. I have no bank debt.
Mr. B	When I started my company, I didn't know anything about VC. I jumped into credit guarantee associations, was introduced to banks at that time, borrowed working capital. The capital is 100% mine.
Mr. C	I used my severance pay to capital. I borrowed working capital from a government financial institution. When I didn't have the funds, I borrowed it from a past business partner. Banks do not lend (to venture businesses).
Mr. D	Since my company was a consulting firm, I did not need to borrow working capital or other funds when it started up. I borrowed from private banks and government financial institutions when we implemented the large-scale project. We did not use VC.
<b>Finding business partners and clients</b>	
<b>Q</b>	<b>How did you find your customers, business partners, and employees?</b>
Mr. A	Clients were introduced by clients. I started my company with some colleagues from a previous job. To recruit employees, I used the network I had when I was studying in Japan.
Mr. B	In a sense, I am a "natural charismatic" person, and all my work is done by people. The people I work with are referrals. I never really think about the client.
Mr. C	The client was introduced to me by a former client with margin payment. At the time, we were looking to go public and needed a trusted assistant, so I asked our business partners to introduce us to their partners. Employees were also introduced.
Mr. D	Word of mouth. All clients and employees were referred by clients and acquaintances. In the consulting business, the best people know the best people.
<b>Use of External Support</b>	
<b>Q</b>	<b>Have you used the support services of outside professionals (legal, accounting, tax)?</b>
Mr. A	In the first company, I used an accountant, but did most of the legal, accounting, and tax work myself. At that time, China was tax free for export business.
Mr. D	I have hired a tax firm to handle my company's accounting, tax and labor services.
<b>Business Growth</b>	
<b>Name</b>	<b>How did you try to grow your business after starting?</b>
Mr. A	The basis of management is making the profit. The company made profits from high-quality products. I made All mid-level employees because shareholders of the company.
Mr. D	To increase the credibility of our products, I am presenting the papers at academic conferences, and at Startup Pitch contest
<b>Support programs for entrepreneurs by government and university</b>	
<b>Q</b>	<b>Have you used government, municipal, or university entrepreneurship support programs and facilities?</b>
Mr. A	When I started my first company, there were no government support programs.
Mr. B	There was no such information at the time. I utilized my own network and negotiated with Bank.
Mr. C	When I started my company, I used the office in the Incubation Center of the Tokyo Metropolitan Government.
Mr. D	No, I didn't use it. I knew about grants and subsidies, but I decided it was better not to spend my efforts there. As for the office, I opted for a private office rather than a public one.
<b>Feedback for support programs for entrepreneur by government and university</b>	
<b>Q</b>	<b>Is government, municipal, and university support for entrepreneurship working? And what do you expect in the future?</b>
Mr. A	We have done joint projects with universities before, but they were on equal footing.
Mr. B	I have applied for a grant for the COVID-19 measure.
Mr. C	We hear about some project with the government budget, but we have not been able to match each other.
Mr. D	No, we need make sure that the government contracts with startup companies. The government and municipalities give too much credit to past performance. Work should be given to new companies that have no track record."

## 7 Discussion

Authors interviewed four interviewees based on the proposed the EC model to examine the interaction between entrepreneurial characteristics and EE in Japan. In this section we will evaluate whether research questions A through F are consistent with the results of the interviews.

### **A) Research question on the interaction between Skillset and Mindset**

Research questions A posits that entrepreneurs with a growth mindset are more willing to improve their skills, which contributes to the development of their businesses. All four interviewees interviewed confirmed that they have a growth mindset and continue to develop their businesses. For example, Mr. D stated, "In order to increase the credibility of our products, I am presenting the papers at academic conferences and at Startup Pitch contest." It indicates a positive attitude toward self-growth and skill development. Mr. B said, "I started when I realized the business opportunity rather than creating a company. That is my feeling, before I thought about going independent or it would be risky." confirming his positive attitude toward the continued growth of his business. Thus, entrepreneurs with a growth mindset were confirmed to be proactive in improving their skills. These comments confirmed that entrepreneurs with a growth mindset are proactive in improving their skills, which contributes to business development. Therefore, Research questions A is consistent with the interview results and is validated.

### **B) Research question on the interaction between Skillset and BR**

Research questions B assumed that the entrepreneur would use his own skillset to effectively leverage BR to grow his business. In the interview, Mr. B stated, "In a sense, I am a "natural charismatic" person, and all my work is done by people. The people I work with are referrals." and he utilized his own skillset to develop clients. Mr. D also stated that he found business partners through " All clients and employees were referred by clients and acquaintances." confirming a case in which he expanded his BR by utilizing his own skillset. This shows that the skillset of the entrepreneur plays a key role in the use of BRs. Therefore, research question B is also consistent with the interview results and has validity.

### **C) Research question on the interaction between Mindset and Cultural Factors (CF)**

Research question C hypothesized that CF influences the entrepreneur's mindset and contributes to their entrepreneurial decision. The interview results confirmed that cultural factors influenced his entrepreneurial decision, as Mr. D stated that he wanted to start a company because "I was strongly influenced by comic books " and Mr. C stated, " Because my father-in-law is an entrepreneur, I had a vague idea that I wanted to start my own company." It was clear that role models had a significant impact on his entrepreneurial intentions. These comments confirmed the interaction between cultural factors and the entrepreneurial mindset, and the results supported research questions C.

### **D) Research question on the interaction between BR and CF**

Research question D postulates that BR and CF interact and contribute to entrepreneurial success. In the interview, Mr. A stated that it was easy to raise funds in China because "China has a longing for entrepreneurship and VC is well developed." confirming that cultural factors influence the enrichment of BR. However, no similar comments were obtained for the case in Japan. This resulted in partial support for research question D. It was suggested that in Japan, strengthening the local entrepreneurial culture could promote the use of BRs.

### **E) Research question on the interaction between BR and IF**

Research question E assumed that government and municipal support programs for entrepreneurship would encourage the use of BRs, but the interview results revealed that most inter-

viewees did not take advantage of government and municipal support programs Mr. B stated, "I didn't have that information at the time." Mr. D also noted that "No, I didn't use it." These comments confirm that government and municipal support programs are not working well, and research question E is inconsistent with the interview results, indicating that current policies and support systems need to be improved.

#### **F) Research question on the interaction between CF and IF**

Research question F assumed that government and university support measures would influence cultural factors and foster a culture of entrepreneurship, but the interview results indicated that entrepreneurial culture in Japan is not well developed; Mr. D responded to the question whether the government, local governments, and universities are providing support to stimulate entrepreneurship: "No, we must ensure that government jobs go to young companies." And "The government and municipalities give too much credit to past performance. Work should be assigned to new firms that have no track record." This resulted in no support for Research question F either, suggesting that more needs to be done to strengthen the entrepreneurial culture in Japan.

The above interviews generally substantiated four of the research question A through F, and two were partial or negative. In particular, the Research questions that skillset and mindset interact with BR and CF was supported, but the Research questions regarding IF was not fully supported by the current situation in Japan. These results call for policies that strengthen the role of government and local governments in entrepreneurship support and promote linkages between external resources and cultural factors. Future research is expected to explore more deeply the interaction between entrepreneurial characteristics and external environmental factors to develop a more comprehensive model of entrepreneurial support.

## **8 Conclusion**

The purpose of this study is to explore the interaction between entrepreneurial behavior characteristics and EE in Japan and to develop the EC model. Through four interviews, we explored whether internal and external factors complement each other and lead to entrepreneurial success. It was shown that the growth mindset and skillset are related to BR and that they influence entrepreneurial success. The study underscores the critical need to reform Japan's entrepreneurship policies and enhance support systems. We hope that further research will confirm these findings and that the EC model proposed in this study will serve as a practical basis for entrepreneurship support policies in Japan and contribute to the promotion of entrepreneurship. By emphasizing the interaction between internal and external factors, it will be possible to construct a more comprehensive support policy.

## **9 Future Work**

Future follow-up studies are planned to validate the following.

- 1) Increasing the number of interviewees: An additional 10-15 interviews with entrepreneurs will be conducted as secondary validation and data will be collected from entrepreneurs with different backgrounds. This will further increase the validity of the model and provide a more comprehensive understanding of the entrepreneurial characteristics and EEs.
- 2) Quantitative data collection: As a tertiary validation, quantitative data will be collected through a questionnaire survey to generalize the results and further validate the EC model.

3) Comparison with the entrepreneurial inexperienced: To test the validity of the EC model, a comparison will be conducted between entrepreneurs and the entrepreneurial inexperienced in the questionnaire survey to improve the reliability of the model.

4) International comparative research: Comparing EE in other countries with EE in Japan and learning from successes and failures to gain new perspectives on how to solve Japan-specific problems.

By addressing these research issues, we expect to contribute to improving the entrepreneurial environment in Japan and promoting sustainable economic growth.

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