



Adapting the Effectuation Model for Nascent Entrepreneurs: The Function of Acceleration Programs

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Abstract: The dynamic model of effectuation by Sarasvathy (2008) was a theory developed for expert entrepreneurs. So, what type of model would apply to nascent entrepreneurs? This paper is a case study of a nascent entrepreneur who established a business that uses crickets as a bio-resource. This nascent entrepreneur was interested in starting a business; however, he was unable to take immediate action and did not know what to do. Nevertheless, he was able to conduct an effectuation process by participating in a series of business plan contests and other acceleration programs. In this case, the acceleration programs provided three functions of (1) supporting goal setting from given means, (2) promoting interaction by requiring the use of social networks, and

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SH drafted the manuscript. MF participated in the design of the study and contributed to the data collection. All authors read and approved the final manuscript.

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(3) making it easier to get commitment by providing credibility.

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Introduction

Using expert entrepreneurs as research subjects, Sarasvathy (2008) demonstrates a mechanism for market creation during uncertainty that is different from those in prior research on entrepreneurship. This is the theory of effectuation, which holds that an entrepreneur will embark on a business by taking such given means as “who I am,” “what I know,” and “whom I know” to set the goal of “what I can” while interacting with others. Some of the people interacting with the entrepreneur will voluntarily cooperate and participate in the effort. Such commitments bring about new means, as well as new goals, which are constraints. The feedback cycle is proposed as dynamic model of effectuation, in which these constraints converge on new markets and companies, thereby reducing the likelihood of future changes in goals and limiting who can and cannot enter the participants’ network.

“Expert entrepreneurs begin with who they are, what they know and whom they know, and immediately start taking action and interacting with other people. They focus on what they can do and do it, without worrying much about what they ought to do.” (Sarasvathy, 2008, p. 15)

However, it has not yet been sufficiently examined as to which models can be applied to nascent entrepreneurs. Despite wanting to embark on a business, the nascent entrepreneur is unable to take immediate action and wonders what to do (Reynolds, 1997; Westhead & Wright, 1998). In Japan, participating in business plan contests

and other acceleration programs is the most realistic option for these nascent entrepreneurs. Therefore, this study takes the perspective of effectuation theory to examine an acceleration program that supports entrepreneurship to analyze the transition process to the novice entrepreneur stage.¹

Method

This paper is a case study of Seiya Ashikari, a Japanese entrepreneur, that incorporates the above set of problems. When he was at Waseda University's School of Advanced Science and Engineering in 2017, Ashikari established a business in the food-tech sector and raised funds in the form of seed money. The business involves raising and selling crickets as an alternative protein, and the business model that Ashikari envisions raises crickets in Cambodia and exports them to Japan and the rest of the world.

In 2015, Ashikari was a student at the Entrepreneurship Open School for college students that the authors of this paper were also involved with. As the authors often discussed Ashikari's business plan and the business itself with him, even after the course was over, we were aware of what he was considering, the problems he was facing before he started his business, and other conditions, as well as the materials available at the time. We again conducted multiple interviews with Ashikari for this article from the perspective of our analysis.² Before the interview, we collected business plans and materials presented in past business plan contests, and looking at them in a chronological order, we identified which parts of the business plans had changed and why they changed. Moreover, we

¹ In this study, this is defined as the time period until the business is formally incorporated.

² The interviews were conducted online on August 24, September 7, and September 15, 2021.

used secondary resources, such as magazines and web articles. We thus considered this to be an appropriate subject for a qualitative study based on a single case (Glaser & Strauss, 1967; Yin, 2014).

Case Study

Setting goals from given means:

Participation in Entrepreneurship Open School

In April 2015, Ashikari commenced classes at the Entrepreneurship Open School,³ when he was a third-year college student. Initially, he was not very interested in entrepreneurship, and he did not even have a business plan or any ideas. He took the course simply to learn more about business and add to his achievements in college so that he could find employment in the future,⁴ coupled with the vague idea of aspiring to be somebody.

The purpose of this course, which ran from April through August, was to create and present one's own business plan. Following several comments on the presentations made during the course, as well as discussions with his mentor, he came up with the idea that formed the foundation of the business plan. His initial idea was very different from the current business, as it comprises services for travelers. However, his mentor identified that it would be difficult to commercialize this idea. After thinking about what he really wanted to do and considering various ideas, he settled on using insects to solve the world's food problem.

³ From 2001 through 2006, this course was offered as a class at the University of Tokyo's Faculty of Engineering. Since 2007, however, it has been open to all university students, including students from other universities.

⁴ This happened at a time when he was losing his self-confidence, he had failed to be accepted by the seminar of his choice at university and would have to find a job.

This idea originated from the activities of a club he had been involved with prior to taking this course. In college, he was a member of the model UN club, where they discussed a wide variety of social issues. One of these issues was the food problem, and he researched various materials, including a 2013 report by the United Nations Food and Agriculture Organization (FAO) that recommended eating insects.⁵ When he proposed an idea based on this experience, it was regarded as the best one that he had proffered. After discussions with his mentor and multiple presentations of his business project plan and receiving feedback from the administrators and participants, he arrived at the idea of using crickets, which are insects, as feed for fish farming, and not to use insects as food for humans. At the Entrepreneurship Open School's final presentation session, he presented this business plan and was awarded the first prize among the five participating teams.

Interactions and commitments

1. Participating in Business Model Competition after the Waseda University Business Plan Contest

In October 2015, he participated in the annual business plan contest held at Waseda University, his alma mater. This was because he felt it would further enhance his employment prospects. He used the same business plan that he presented at the Entrepreneurship Open School and confirmed the existence of the customer needs identified by his mentor at the Entrepreneurship Open School. After finishing at the Entrepreneurship Open School, he searched for businesses online and called a fishery and aquaculture business in Ehime Prefecture as a potential new customer. He explained the background to the project and then actually made an on-site visit to confirm the needs in terms of crickets that could be used as food. The business owner

⁵ <http://www.fao.org/3/i3253e/i3253e.pdf>

was positive about experimenting with feeding crickets to farmed fish, so on his second visit, he conducted a feeding experiment, wherein he fed crickets to the farmed fish. Subsequently, he incorporated the results of the experiment into a video presentation, which won him the Waseda University Business Plan Contest. During the same period, he participated in several other business plan contests,⁶ at which he won prizes and made it to the finals.

Furthermore, on the recommendation of the head of the review committee of the Waseda University's business plan contest, he advanced to the finals for the Business Model Competition in Japan. He decided to participate because he believed that it would enhance his employment prospects. He cleared the finals and was selected to represent Japan, thus advancing to the world championship held in Seattle in the United States. In preparing for the global competition and on the introduction of a Waseda University professor who was a member of the Japanese review committee, he exchanged information with an entomologist in Thailand who was a development and production candidate. This enabled him to confirm that Thailand has a culture of using crickets as food, and therefore cricket producers exist and can produce crickets at low cost. However, he found that the breeding system used there was not efficient. Additionally, he contacted researchers at Tokushima University on his own, without any introduction, to exchange information on efficient methods to produce insect. In addition, to gain basic knowledge about using crickets as a source of protein, he started corresponding with a researcher at Ajinomoto Co., Inc. through an introduction by a university professor on the review committee and on his own with a researcher from Tokyo University

⁶ The reason that he participated in several business plan contests was that one of the senior entrepreneurs who spoke at the Entrepreneurship Open School had also participated in numerous business plan contests, and he regarded this entrepreneur as a role model.

of Marine Science and Technology (TUMSAT).

However, at the global competition, he was asked how he would go about realizing his idea and whether he had the technical background to do so, and he was unable to win any prize. At the global competition, business ideas based on research and technology are highly appreciated. As a student at the Faculty of Commerce without any scientific research background, Ashikari feared that it might be difficult to commercialize his idea as presented.

2. Parallel efforts to improve the business plan and job hunting

Ashikari returned to Japan and asked a researcher to advise him in order to increase the feasibility of and gain credibility for his business plan. First, he contacted several insect researchers to present his activities to date and seek their help in commercializing his project. Among them, a retired university researcher who was sympathetic with his business plan and past achievements expressed the desire to serve as an adviser.

In addition, Ashikari asked a TUMSAT professor, with whom he had had a prior interview and contact, to conduct an experiment on the effects of using crickets as fish feed. As an experiment for his graduation research when he was a student in the laboratory, he compared the success rates of feeding rainbow trout normal feed and crickets over a period of 12 weeks. The findings indicated that the same level of growth was achieved as with the traditional feed.

Even so, during this period there were times when his commitment to commercialization wavered. The original intention of these entrepreneurial activities had been to seek a job, and he was searching for a job while he was doing this. The job hunt was going extremely well. He had taken hiring tests with three companies and received offers from all of them without much trouble. Everyone was impressed by his initiative in entering the business plan contests he had been involved with, his record of winning awards, and the

content of his business plan.

3. Decided to incorporate through a business plan contest held by the Tokyo Metropolitan Government

As the time for his college graduation approached in April 2016, he was compelled to choose between his existing business and a new job. To help him decide, he participated in another business plan contest, the Tokyo Startup Gateway, sponsored by the Tokyo Metropolitan Government. This was a contest in which both students and ordinary entrepreneurs could participate, and just reaching the finals could lead to incorporation through this plan. He decided that if it did not work, he would drop his plan and get a job. The result was that he made it to the finals, and as soon as the results were out, he called his parents and told them that he would try to commercialize his plan instead of getting a job. He then contacted the companies that offered him jobs and declined their offers. Subsequently, he went through the final round in November 2016 and won the grand prize, as well as the audience award. Following his graduation from the Faculty of Commerce in September 2017, he enrolled in Waseda University's Graduate School of Advanced Science and Engineering because he thought that having a research and technology background at a university would prove to be an advantage. He incorporated his company in November 2017 while conducting research as a graduate student.

Discussion

Using the case of Ashikari, a nascent entrepreneur, we mapped out the effectuation process as presented in Table 1. We can see that the effectuation process was advanced while each program was being utilized. The business plan contests and other acceleration programs in this case had the following three functions.

Table 1. Effectuation Process in Acceleration Programs

Program Name	Means	Goals	Interactions	Commitments	New means New goals
Entrepreneurship Open School	Entrepreneurial activities for job hunting Research at Model United Nations Interest in global food issues	Devising a business idea to utilize crickets as a biological resource	Interaction with potential customers: Confirmation from a potential customer (a fishery and aquaculture company in Ehime Prefecture) that there is a need for cheaper and more stable feed		
Waseda University Business Plan Contest			Interaction with development and production candidates: 1) Emailed questions to Thai entomologists. Confirmed that cricket production in Thailand can be done at low cost 2) Met with researchers at the University of Tohushima to deepen understanding of aquaculture technology 3) Met with researchers from Ajinomoto and Tokyo University of Marine Science and Technology to deepen understanding of proteins	Commitment from potential customers: Fishery and aquaculture companies in Ehime Prefecture	New means: Feeding experiment New goals: Crickets can be used as aquaculture feed
Business Model Competition					
Tokyo Startup Gateway			Interaction with potential team members: Interacted with people with research background	Commitment from development and production candidates: Tokyo University of Marine Science and Technology, Researcher	New means: Feeding effect experiment New goals: Crickets powder is as effective as fishmeal feed
				Commitment from potential team members: Researcher	New means: Function as an advisor New goals: Conducting research activities

Source: Table created by authors.

The first function is support for goal setting through given means. Unlike an expert entrepreneur, a nascent entrepreneur is often more likely to hesitate in deciding which goal to set from among given means. For such a person, basic entrepreneurial knowledge is provided, and individual support is given by a mentor. In the first program that Ashikari studied, he proposed the idea of using crickets to help solve the world food problem while discussing with his mentor. Not only was this a consistent goal throughout in the subsequent acceleration programs, but it was also fundamental to his identity of being “attached to crickets,” to the extent that he once stated in an interview, “I feel that crickets bring me good luck.” From among several directions, the conversation with his mentor led to a convergence from the given means accumulated up to that point toward a goal with high future potential.

The second function is the stimulation of interaction. During various programs, he received advice on whom he should interact with and was introduced to people who should meet the program mentor’s network. Receiving this support enabled the entrepreneur to reduce uncertainty. Unlike an expert entrepreneur, even without an extensive social network of their own, with such support, he was able to interact through social networks. Such interaction led him to people who made commitments to this business.

Third is the function of making it easy to get commitments. Nascent entrepreneurs have less external credibility than expert entrepreneurs. Because they lack credibility, it is difficult for them to get commitments. By taking extremely tough acceleration programs and winning business plan contests, this nascent entrepreneur acquired the skill that gave him credibility.

Conclusion

This study analyzed a case study of the effectuation process of a

nascent entrepreneur and discussed the function of acceleration programs, such as business plan contests. The first function is supporting goal setting from given means. The second function is promoting interaction through social networks. The third function is making it easy to get commitments by providing credibility. The effectuation theory of Sarasvathy was modeled around the expert entrepreneur. However, in the current study's model of the nascent entrepreneur, effectuation was realized in the same way as for the expert entrepreneur because the function of the business plan contests and other acceleration programs compensated for a lack of experience and skills.

Of course, there are some limitations of this study. The first is that because this is a single case, it is unclear to what extent the function of the acceleration program seen here can be regarded as typical. Second, there was no examination performed of qualitative differences among programs in this case study. Third, not enough consideration has been given to the extent to which the conclusions of this case are skewed by Japan-specific contexts. Although it is often argued that entrepreneurial activities in Japan are not very robust, further investigation is needed, including references to prior research on entrepreneurial ecosystems in Japan (Nakano, 2017, 2021; Nakano & O'Hara, 2019).

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