

**What factors influence growth strategy change of SMEs after natural
disaster: Qualitative research on Japanese SMEs in Tohoku region after the
Great East Japan Earthquake**

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Abstract

This study aims to clarify what are the factors that influence top managers' decisions to change the growth strategies in small and medium sized enterprises (SMEs) that experienced a natural disaster. There are a number of previous research that examine enterprises' short-term response and recovery-related behavior. However, it was not clear what kind of long-term growth strategies should disaster-affected companies develop after crises. Moreover, even though many previous research suggest that the top managers play a significant role in SMEs' decision making, such roles in the context of forming post-disaster growth strategies were also unknown.

In this study, we conducted qualitative research on SMEs in Tohoku region, Japan which experienced the Great East Japan Earthquake in 2011. Interviews were conducted with top managers from 7 SMEs. The result showed that these enterprises can be grouped into 3 categories by 2 aspects: new market and new business. It was shown that each enterprises' positioning has significant relationships with top managers' circumstances.

Keywords: natural disaster, SMEs, top management, growth strategy

7928 words

1. INTRODUCTION

Natural disasters, including waterflood, earthquake, typhoon and so on, existed before human beings appeared. Society develops while fighting resolutely with them. People suffer from the destructive effect of these natural disasters and renovate the society every time again, starting from the Great Flood of Gun-Yu which is a folklore in ancient China, to the COVID-19 pandemic which still influences today's society.

Natural disasters have increased in recent years. According to the statistics research of Coronese, et al. (2019), casualties connected with natural disasters have decreased, while the influence towards economics of natural disasters has increased. Natural disasters hurt not only local families and residents, but also organizations and enterprises, especially local-based small and medium-size enterprises. For example, the Great East Japan Earthquake which happened in 2011 at Tohoku Region, Japan. This great earthquake created over 15 thousand fatalities, about 7500 missing people and 5400 injured people (Cabinet Office, Government of Japan, 2011).

It is necessary for enterprises to deal with these kinds of natural disasters. As a result, there is research on how enterprises prepare for the coming of natural disasters, and how they reconstruct or make a recovery (Fujimoto & Heller,2018). Furthermore, this kind of influence is more obvious on SMEs. Small and medium-sized enterprises (SMEs) are more affected by natural disasters because they are characterized by limited

resources (Eggers,2020). There is plenty of previous research which studies how SMEs cope with natural disasters (Gregory, 2020).

However, previous research lacks a viewpoint, which is that while they focus on the short-term recovery of SMEs (Auzzir, Haigh & Amaratunga,2018), the viewpoint of the change in the growth strategy is ignored. Although it is pointed out that there is possibility the crisis relates to the change of business model (Clauss et.al, 2021), there are few studies about the difference between the SMEs which changed their growth strategies and those who did not after natural disasters. There is room for investigating factors which influence the long-term change in the growth strategy of SMEs after experiencing natural disaster.

Therefore, this study identifies the factors that influence SMEs to change their long-term growth strategies after experiencing natural disasters. This research especially focuses on the factors related to top management. Based on the upper echelon theory, decision-making of top management on crisis management makes a big impact on the aftermath of natural disasters (Hambrick & Mason,1984). In particular, in the case of the crisis management of SMEs, the role of the top seems more important (Orens et.al, 2013; Van Gils, 2005; Zor et.al, 2019). Therefore, top management's decision making and the factors that influence it are considered to have a significant impact on the changes in growth strategies after the earthquake. Therefore, this study

aims to answer the research question of “What is the factor that influences managers' decisions to change the growth strategies in SMEs that experienced a natural disaster?”

This study conducts a comparative case analysis of seven SMEs in Fukushima, Miyagi, and Iwate prefectures affected by the Great East Japan Earthquake to determine what factors influenced them to change their growth strategies(e.g., new market development, especially for international market development). By identifying the top management decisions of SMEs after the earthquake and the factors that influence them, this study advances a new debate that has been overlooked by existing research on strategy change in SMEs that have experienced natural disasters.

This study is organized as follows. In the second part of the paper, we review the research on corporate responses to natural disasters and other disasters, and then point out the shortcomings of existing research. In the third part, the methods of qualitative case study research are presented, including the selection of cases and the methods of investigation. The fourth part discusses the results of the case study, and the fifth part groups the cases and discusses the differences between each group to answer the research question.

2. LITERATURE REVIEW

Number of studies have been conducted on organizational responses to disasters from various perspectives. The disaster management is divided into four stages: mitigation/preparedness/response/recovery (Farahani et.al, 2020), and many studies have been conducted on preparedness, response, and recovery for companies (Battisti et.al, 2017; Corey et.al, 2011; Gregory, 2020; Josephson et.al, 2017). There are also a number of studies targeting corporate resilience with respect to post-disaster response (Salvato et.al, 2020; Wedawatta et.al, 2012). With respect to corporate crisis response, several studies have recently focused on the association with the COVID-19 pandemic (Bhattacharyya et.al, 2021; Chowdhury et.al, 2020).

Also, some studies have analyzed the relationship between crisis preparedness, short-term response and recovery, as well as the relationship between crises including natural disasters and changes in corporate business models. Osiyevskyy (2017) analyzes situations where crises drive business model changes. Uçaktürk et.al (2011) points out that business model innovation (BMI) is the best and the most valid way of responding to crises and recessions.

This type of crisis response is particularly important for SMEs. Existing research assumes that SMEs are likely to be highly affected by natural disasters. Khan et.al (2014) and De Mel, S., McKenzie, D., & Woodruff, C. (2012) find the factors which accelerate or hinder SMEs' recovery from natural disasters. In addition, Marks et.al (2017) clarified the post-disaster recovery process of enterprises.

As for SMEs, it has also been shown that natural disasters can lead to new initiatives, including BMI. In fact, Clauss et.al (2021) investigate the temporary BMI adopted by firms in response to the COVID-19 crisis, suggesting that SMEs may take steps to change and innovate rather than recovering their business models due to crises.

However, most of the existing studies have focused on the short-term response and recovery-related managerial behavior of firms during disasters, and few have analyzed the long-term strategies of firms after disasters. As a result, there has been insufficient discussion on what kind of growth strategies that disaster-affected companies should develop afterwards. Particularly after crises, it is an opportunity for companies to change their growth strategies, such as adoption of BMI (Clauss et.al, 2021). However, there has been no research on the differences between companies that make such changes and those that do not. Therefore, this study examines the factors that influence the differences between SMEs that change their growth strategies after a disaster and those that do not.

This study focuses on the managerial factor that generates the differences previously noted. The upper echelons theory (Hambrick & Mason, 1984) focuses on the influence of managerial decision making on the behavior of firms. In SMEs, managers are considered to have a significant influence on business decisions (Orens et.al, 2013; Van Gils, 2005; Zor et.al, 2019). For example, Anwar et.al (2018) found that the skills and personality of managers are factors with respect to BMI in enterprises. Also, Ruzzier et.al (2007) revealed factors in terms of human capital of entrepreneurs which lead to the internationalization of

SMEs. In other words, it has been suggested that manager's personal factors are significant when SMEs change their strategies.

However, as mentioned earlier, existing studies have not discussed the factors that influence the strategy change of SMEs that experienced the earthquake, and the factors that influenced management's decision-making in this context have not been clarified. Therefore, this study will focus on the following research question: "What is the factor that influences managers' decisions to change the growth strategies in SMEs that experienced a natural disaster?"

3. METHODOLOGY

In this research, we aim to investigate the factor which affects the recovery and the performance of the SMEs who have experienced natural disasters. Previous research focus on BMI. However, the factor that affects the long-term performance after the earthquake and its mechanism are not clear. Under this situation, it is necessary for us to examine the context and discuss the details based on the construction of hypothesis and development of theory. Thereby it is appropriate for us to use the exploring method which means analyzing several cases based on semi-structured interview and field research, and changing the research question, adding more what we found (Eisenhardt, 1989). Therefore, this research following the qualitative research method, conducted several case studies towards currently active 7 SMEs in 3 prefectures (Miyagi, Iwate,

Fukushima) which were affected by the earthquake. We chose SMEs in the Tohoku region for 3 reasons. Firstly, the Tohoku region has experienced the Great East Japan Earthquake, which is an unprecedented disaster, and is a suitable region to observe the recovery after a natural disaster. Secondly, Japan has a large number of SMEs at global standard, and so does the Tohoku region, where many target enterprises exist. Thirdly, the Tohoku region is a sample where it is possible to observe not only the short-term recovery but also the long-term change of the growth strategy 10 years after the earthquake. For the above reason, we chose the SMEs who are affected by the Great East Japan Earthquake as the investigation target.

We focus on the new market development as the change of growth strategy in these SMEs. Growth strategy consists of 2 parts which are new market development and new business development (Ansoff,1989). In this research, we chose the SMEs who have the possibility of doing new market development especially overseas as samples. There are 2 reasons. Firstly, after the earthquake many enterprises had no choice but to develop the international market (Hosoe,2014). This is not only because of the depression of the domestic market, but also consideration of the risk hedge towards natural disaster. (Zhu,Ito&Tomiura,2016). Therefore, it is considered important for SMEs to do overseas expansion. The second reason is the viewpoint of accessibility of searching potential target SMEs. Governmental organizations such as Jetro encouraged the development of new overseas markets after the earthquake, which has

an extensive database as Reconstruction Agency's Industrial Reconstruction Case Studies. Therefore, by focusing on the SMEs considered as successful examples of overseas market development after the earthquake, it is possible to find more target enterprises.

Then we picked up the SMEs which are considered to have successfully developed overseas markets through published materials such as newspapers, and databases such as Reconstruction Agency's Industrial Reconstruction Case Studies. The number of the SMEs which we picked up was 17 and we targeted 7 of them. 2 of them are located in Miyagi, 3 in Iwate and 2 in Fukushima. These enterprises engaged in manufacture (food, machines) and service (distribution). About the scale, their annual sales are from 100 million yen to 16 billion yen, and the number of employees from 4 to 267. The delegates who we have interviewed were 1 or 2 people from each enterprise, with ages between 40 to 79. Four of them were presidents, one was a chairman, one was a managing director, and one was a senior managing director (but the actual owner). All of them were deeply involved in the management of the company, and all of them were founders or relatives of founders.

We found the SMEs who did not develop overseas markets and who did. We even found SMEs who made a more dynamic change in growth strategy, which means they developed new business as well as overseas markets. We will analyze the factor which affects the difference of these 3 types of growth strategy changes.

The resource of collecting data includes the homepage of every company, newspaper articles and an interview survey, which is a semi-structured interview in which we offer a list of questions in advance. In the interview survey, we asked details of the outline of the enterprise, its history beginning from recovery and the decision-making of the top manager. Table 1 shows the outline of the interview research. We conducted online interviews with 5 of 7 enterprises, which took 1 to 2 hours, and we conducted field research by proceeding to the offices of the remaining 2 enterprises (A and B) in Fukushima and Iwate. Furthermore, we conducted an additional questionnaire to company F. Moreover, as for company G, we also conducted field research after the online interview. Besides the interview of these 7 companies, we also conducted an interview with the Reconstruction Agency.

To avoid memory distortion and the bias of the researcher who collected and analyzed the data, we recorded the interviews and wrote the contents down within 5 days after the interview. As a result, we got a data of 130 thousand words. Every group member did coding on all these interviews. In particular, we extracted matters relating to the top manager's decision-making, and identified the factor influencing changes in long-term growth strategy.

Table 1: Interview details of companies and agency

| Group | Company name / Government office name | Interviewees | Interview date and time (year/month/date/time) | Interview location |
|-------|---------------------------------------|--|--|--------------------------|
| 1 | A | President P | 2021/10/11 14:00~17:00 | Company office |
| 2 | B | President Q | 2021/10/19 10:00~14:30 | Company office |
| | C | President R | 2021/10/20 14:00~15:00 | Online |
| | D | Managing Director S Chief Marketing Executive T | 2021/10/15 10:30~12:00 | Online |
| | E | President U | 2021/10/25 15:00~16:00 | Online |
| 3 | F | Chairman V | 2021/10/21 15:00~16:30 | Online |
| | G | Senior Managing Director W | 2021/10/25 15:00~16:30 2021/11/13 12:00~16:00 | Online Company office |
| | Reconstruction Agency | Councilor X | 2021/9/28 13:00~15:00 | Online |

4, FINDINGS

4-1. Group1:(Company A)

Company A, headquartered in Nihonmatsu City, Fukushima Prefecture, is a manufacturer and distributor of alcoholic beverages, and is a small to medium-sized enterprise with 46 employees. Founded in 1752, the company has a long history, and the current president is the 10th generation of the family business. After the earthquake, the company did not develop new businesses or markets, but maintained the same growth strategy to increase sales.

The intensity of the earthquake in Nihonmatsu City, where Company A is located, was just under 6 on the Richter scale, and the head office and factory sustained physical damage. In addition, due to its location in Fukushima Prefecture, the company also suffered reputational damage from the Fukushima nuclear accident.

As a result, the company faced the crisis of having its products avoided by the domestic and overseas markets.

In the face of such a crisis, Company A continued to manufacture sake in its existing market, including overseas. There was talk of changing production plants, but no such efforts were made. The company also did not focus on overseas markets and continued to maintain its growth strategy. Instead, it continued to produce and sell sake with the same commitment to quality as before the disaster, sticking to its traditional production methods. As a result, the volume of sales gradually recovered and eventually, sales were able to grow. At the time, Company A was also receiving feedback from customers such as "I was a little worried, but I bought it because it tasted good."

According to the president of Company A, the reason behind this choice to focus on the existing market is the company's long history of over 250 years. The president of Company A is the tenth generation and over the last history, Company A had experienced the eruption of Mount Asama and the Tenmei Famine during the second president, as well as a major fire and the Boshin War during the fourth president. Therefore, the current president felt the following when he experienced the Great East Japan Earthquake.

"The damage caused by the Great East Japan Earthquake was not so severe compared to past crises."

"My predecessors have survived similar crises, so I should also be able to overcome this crisis."

"I'm not the only one."

In this way, even after sustaining the damage caused by the Great East Japan Earthquake, the president of Company A was able to relativize and compare to the damage in the past and focused on his core business without hesitation. With a long history behind him, he did not feel the need to change his existing business and continued to maintain the same strategy, which allowed Company A to grow again after the disaster.

4-2.Group2: (Company B, C, D, E)

Company B

Company B is a SME with 4 employees located in Fukushima City, Fukushima Prefecture. Company B was founded in 1978 by the current president after a previous career at a foreign pharmaceutical company. All employees are relatives of the president, so the company is family-owned and micro-managed. The company's main business is the coating of glass using patented technology and the sale of agricultural

materials. Before the earthquake, the company had domestic customers. The company had also begun to expand overseas. However, after the earthquake, the company received almost no orders from domestic companies and decided to focus more on developing overseas markets. However, there was no change in the original business of glass coating.

When the Great East Japan Earthquake struck, the damage to the company building and other facilities was relatively small. However, due to the reputational damage caused by the nuclear power plant accident, orders from Japan plummeted. Therefore, the company decided to shift the focus of its business overseas, starting with the establishment of a local subsidiary in Hong Kong in 2013, followed by the establishment of offices in Thailand, the Philippines, and other Asian countries. In addition, the company obtained overseas energy-saving certifications for its coating technology and marketed its products to new markets by providing agricultural materials to agricultural regions in developing countries. In this way, Company B did not embark on a new business venture, but proceeded to develop new overseas markets through the acquisition of international patents overseas.

As a background to this development, the president cited the rapid contraction of the international market. He felt threatened by the fact that the domestic market was shrinking rapidly, and felt that they needed to expand overseas first.

“There was nothing to do in Japan, so we went overseas. If there is a demand, I will go anywhere.”

In addition to this, the president said that from his previous job at a foreign pharmaceutical company, he "had no awareness of overseas. In other words, due to his experience in his previous job, he had no resistance to expanding overseas.

Company C

Company C is a 54-employee company headquartered in Ishinomaki City, Miyagi Prefecture. The current president separated the sales division of the company founded by his father and established a joint-stock company in 1984. Subsequently, the company merged with the original company. The company's business is the manufacture, import and sale of marine sports related products. The company had been expanding overseas to some degree even before the earthquake, but after the disaster, it strengthened its overseas operations in anticipation of a cooling of domestic classes.

The company's directly managed stores and warehouses were completely destroyed in the Great East Japan Earthquake, but since the head office was not hit by the tsunami, production was not hindered afterwards.

However, there was a mood of self-restraint in entertainment seen throughout the country, which led to a shift in focus to strengthening overseas markets. The president had the following to say about the situation at this time.

“The market itself is shrinking, and it will become more and more difficult to do business with it. I thought we should look for markets in countries that had nothing to do with the earthquake.”

In this way, the company had a sense of crisis in the wake of the earthquake, and took action to strengthen its overseas expansion. As a result, since the Great East Japan Earthquake, the company has started shipping its products to various countries, starting with China in 2012, Far East Russia in 2014, and Thailand in 2015.

At the same time, however, the company did not plan to engage in any other business than the original one. The president himself was confident in his company's products when expanding overseas.

“I thought that the quality and design of our products would be somewhat superior to our competitors overseas.”

However, this kind of overseas expansion has not always been successful. He said that it is still difficult to build a sales network between local companies and

consumers, and he is having a hard time. They have not been able to establish themselves as a foreign company in the presence of existing competitors.

Company D

Company D is a 49-employee company located in Ichinoseki City, Iwate Prefecture. The current CEO established the company in 1968 as an OEM of his father's sawmill but quit the OEM business and the subcontracting and parts manufacturing that he did afterwards, and is now manufacturing and selling his own products. Treadmills and screw feeders are the mainstay of their business. The company had been entering overseas markets before the earthquake, but after the disaster, they are now strengthening their overseas business and expanding their existing business.

At Company D, the Great East Japan Earthquake partially damaged its factory and caused dislocation in its manufacturing machinery. The plant was out of operation for over a month. However, screw feeding machines are a niche area and there was no sudden decrease in customers.

However, Company D decided to come up with a new growth strategy to strengthen its overseas market development. Company D had originally expanded into overseas markets in order to diversify its risk, but before the earthquake, these markets accounted for only about 30% of its sales. However, feeling threatened by the

earthquake, the top management of Company D decided to put more emphasis on risk diversification and decided to shift its focus to overseas expansion.

"Even though some of our customers are located outside the disaster area, some of their sales have decreased. If we can't move our production bases, we want to diversify our sales customers, including those overseas."

Based on this sense of crisis, Company D has been expanding its overseas business since the earthquake. In particular, prior to the earthquake, all overseas sales had been handled by trading companies, but as the company expanded its overseas operations, it decided not to create trading companies in some markets, but to form its own local network directly.

Company E

Company E is a 140-employee company based in Kamaishi City, Iwate Prefecture. It was established in 1988 by the current president, who took over the family business of processing seafood. The company's business is the sale and production of seafood products. The company has achieved growth by continuing the mail-order business that it had been running before the earthquake, and by further expanding its business overseas.

Company E, located in the coastal area of the Tohoku region, was severely damaged by the Great East Japan Earthquake. The tsunami destroyed a new factory that had just been completed. In addition, the main factory in Kamaishi was half destroyed. The commercial food business, which was the company's main business accounted for 70% of sales at the time, was replaced by other companies in the same industry during the suspension of operations due to the earthquake.

The president said, "Immediately after the earthquake, I was frustrated and blamed myself for moving up the timing of the construction." He felt a strong sense of responsibility because he was the one who lead factory construction and was hit by a natural disaster. However, with the support of his customers, he decided to stick to his existing mail-order business with the belief that "our business can definitely be revived." The company's other business was in danger of losing customers due to the confusion caused by the earthquake. That's why the president centered on the mail-order business aiming at an expansion of sales channels including overseas. In anticipation of growing demand for fish in Asia, the company conducted a series of test sales and expanded into Hong Kong and Singapore; in December 2016, it was selected by the Japan External Trade Organization (JETRO) as a promising export project.

The reason behind such decision-making is based on the characteristics of the president. The president always tried to think ahead. At the time of the earthquake, the company did not take advantage of the short-term demand for

support, but further developed the market. They felt a sense of crisis but were conscious of linking it to steady growth. To achieve this, the president of Company E was proactive in learning from and building networks with people who had specialized knowledge and an objective point of view even before the disaster. He also made use of this network when expanding his business after the earthquake. The president said the following.

"Everyone talks about a sense of crisis, but I've never seen a company do anything too specific about it."

4-3. Group 3 (Company F, G)

Company F

Company F is a small and medium-sized enterprise with 267 employees and 432 consolidated employees (in 2021), headquartered in Natori City, Miyagi Prefecture. The company was founded in 1959 and the current president is the third generation of the family business. The company's main business is logistics, but since the earthquake, it has been developing new businesses not directly related to its traditional transportation business, such as renewable energy and quarrying. The company is also expanding its business overseas, operating a vegetable factory in China.

At Company F, one of the two warehouses located in the coastal area was damaged. Although it took some time for the warehouse to fully reopen, there was no major disruption to operations. Also, in terms of the market, there was no significant decrease in sales.

Under these circumstances, after the earthquake, Company F proceeded to develop new markets and businesses, including the warehouse business, the renewable energy business in 2013, the quarrying business in 2016, and the vegetable factory business in China in 2017. In the renewable energy business, Company F started the business by using some of the management resources, such as setting solar panels on the roof of the warehouse. On the other hand, the vegetable factory business in China was a challenge to a completely new business and market that Company F had no experience in.

One of the reasons behind these decisions was that the top management of Company F was highly conscious of the changes in the industry after the earthquake. In addition to seeing the need for renewable energy due to the power shortage exposed during the earthquake, he started the plant factory business against the backdrop of the unusable farmland caused by the tsunami. The president explained the reason why he did not necessarily stay in his main business at this time as follows.

"(Through my previous career at a securities company), I grew up in a world where a broad, global view of the industry and the economy was required."

"As a president, I have seen the movements of society and the needs of society, and since needs change and new needs emerge in industries other than logistics, I would like to expand into completely different industries if our company's management capabilities and resources allow us to do so."

The head of Company F is the second generation, and he used to work for a securities company until he became the president in his fifties. Therefore, he was able to develop his business flexibly without necessarily being tied to his main business.

Company G

Company G is a food company located in Miyako City, Iwate Prefecture, founded in 1985 with 50 employees, mainly engaged in the terminal processing of seafood products. The company manufactures and sells various processed seafood products, including Squid Somen, made from squid landed at Miyako Port in Iwate Prefecture. When the Great East Japan Earthquake struck, the founder's third son became the managing director and took over the top management of the company as the second generation. Although the company's factory and employees were safe, the refrigerated warehouse was damaged and 130-million-yen worth of raw materials and products

were washed away by the tsunami. It was a huge blow to company G, which had annual sales of about 300 million yen at the time, and it was difficult to maintain the current status quo, so the management who took over the business had to make a decision whether to downsize the business or to review the existing business and grow it.

Therefore, the company has been actively seeking business opportunities, aiming to become "a company that can communicate the value of Miyako," not just its existing business of processing squid. The company has changed its business focus to establish its own brand and has stopped all OEM production for B2B such as restaurant chains and retail chains and started selling frozen products for home delivery. In addition, the company started to develop products other than the existing squid products, such as starting to process fried cod using codfish, whose catch is relatively stable. Furthermore, since 2014, the company has been working to develop overseas sales channels, and is now exporting processed marine products to Taiwan, the United States, and Australia with the help of HACCP certification.

Before being called back as the next head of the company after the earthquake, the manager of Company F worked in a restaurant, where he was involved in the frontline as a salesperson and hall staff, as well as in the core of management, such as setting the price per customer and creating menus. He had gained experience in selling products. The manager said the following.

"Based on my experience at the restaurant, I began to think constantly about what the needs were."

In addition, he says,

"There is nothing that I inherited from my predecessor in terms of how to do business,"

"The interesting thing about running a business is that I can challenge myself to do whatever I want to do."

5.DISCUSSION

Now we have introduced the change in the growth strategy of 7 companies influenced by the Great East Japan Earthquake and the factors that affect the decision-making of top managers. The companies could be grouped into group 1 (Company A), group 2 (Group B, C, D, E) and group 3 (Group F, G). (Figure)

Table 2: Categorization of companies based on market and business

| | | A | B | C | D | |
|-----------------|--------------------------|----------------|---|---|------------------------|-------------------|
| | | | | | Market | |
| | | | | | Existing Market | New Market |
| Business | Existing Business | Group 1 | | | Group 2 | |
| | | Company A | | | Company B,C,D,E | |
| | New Business | | | | Group 3 | |
| | | | | | Company F,G | |

What becomes clear through our analysis of these companies is that all of the companies' top management felt a sense of crisis from the earthquake and made decisions to construct their growth strategy. However, Company A which is included in Group 1 did not construct a new growth strategy while feeling a sense of crisis, and rather made a decision to focus on existing business and existing markets.

Companies who made the same decision as Group 1 have a characteristic that they have overcome various crises during their long history. The president of Company A is the 10th generation, and he made a decision to focus on their main business after relativizing the Great East Japan earthquake with their experience of overcoming numerous crises.

"The damage caused by the Great East Japan Earthquake was not so severe compared to past crises."

What becomes clear from his remark is that the sense of crisis that management feels towards existing business and markets after the disaster was attenuated by the rule of thumb from their long history. In other words, it is possible to say that the long history and experience of overcoming crises weakens the sense of crisis of the manager, and this prevents a strategy-change into new market development of the company. Therefore, the following propositions could be approved.

Proposition 1: SMEs that have a history of dealing with natural disasters in the past are more likely to have a weaker sense of crisis at the top and make strategic decisions that emphasize growth strategies that follow existing markets and businesses after the disaster.

However, the case of Company A suggests that none of the strategic changes does not necessarily lead to poor performance. It should be noted that this case suggests history and experience could be considered one of the factors preventing the change and this does not mean those who do not have a long history or rich experience of crisis will definitely change their growth strategy.

On the other hand, the remaining companies who did not relativize the earthquake with a history of crisis constructed a new growth strategy. However,

there is a difference between Group 2 who developed a new market and Group 3 who additionally developed a new business. This difference can be attributed to the commitment to the main business arising from the top managers' backgrounds.

There is a common feature among companies in Group 2, that all of the top managers are the founders of their companies. This is contrasting with companies in Group 3 where all the top managers are posterity of the founder, which will be introduced following later. Actually, managers in Group 2 have mentioned their commitment to their main business as such.

“What I have come up with (business) is something like my children.” (Company B)

“The quality and design (of our products) will be more or less superior to the competitors even overseas.” (Company C)

“Our products, from our point of view, could be sold well without sales.” (Company D)

“We will continue our business as long as customers like our products.” (Company E)

Meanwhile, companies in Group 3 made positive remarks towards activities different from their main business.

"I am in the world of distribution, but I do not have a strong preference for it."

"We initiate any type of business if it meets customers' needs. This is our stance."

(Company F)

"My interest is not limited to food and I have curiosity in various fields. I'm always thinking about what would happen if I were in the position to conduct the business."

(Company G)

What could be considered from these remarks is that the decision-making influenced by the sense of crisis leads to new market development, but if the top manager is a founder and has strong commitment to the existing business, his/her circumstance prevents the shift into a further strategic-change in new business development.

Proposition 2: In the case that the top manager is the founder, the manager is more unlikely to make a dynamic growth strategy change after the crisis because the commitment to the main business hinders new business development.

Still, these cases do not mean that the decision-making by managers who are not founders always results in the development of a new market or new

business. It should be noticed that the commitment to the main business is merely considered as a barrier of new business development.

In addition, the mechanism of our research may not be limited to only natural disasters. There is a possibility that in the case of other crises, such as the economic crisis, the same tendency could be observed. However, it could be said that in the case of a natural disaster, because top managers are suddenly forced to deal with the crisis, the bias of the above manager's decision-making will be strengthened. In particular, because natural disasters cause damage to only specific areas, there are few cases for managers to refer to, so their decision-making becomes more important. Therefore, it is possible that above stated bias causes even larger issues.

6. Conclusion

In this research, we discussed the research question "what is the factor which affects the decision-making of top managers on the change in growth strategy after the crisis". What became clear after the research is that in the case of SMEs, the degree of change in growth strategy depends on the circumstance of the top manager. The manager's circumstance, such as the past experiences of crisis in the history, whether he/she is founder or not, and presence of previous job, affects the degree of change in growth strategy after the disaster.

One of the academic implications of this research is that we focused on the change in growth strategy of SMEs after the earthquake, which is a long-term enterprise strategy. Although numerous previous researches about SMEs and crises have been conducted before, they have a limit in a sense that they only deal with the short-term recovery or response after the earthquake. In contrast, our study moves the discussion missed by the previous research forward by focusing on the change in long-term growth strategy and decision-making factors of the top managers that affect it. This is the academic contribution of our research.

On the other hand, this study is also rich in practical suggestions. First, this study has suggestions for the top management of SMEs that experienced disasters. Group 1, based on their history of dealing with various crises, did not change their growth strategy. On the other hand, Group 2 companies, with the presence of commitment to their main business caused by the fact that the top manager was the founder, placed more emphasis on new market development than new business development. Thus, this study suggests that there is an unconscious bias in the decision-making process for post-disaster growth strategies depending on the circumstance of the top management. Therefore, it is very important for the top managers to understand this tendency to formulate the long-term growth strategies after the disaster.

This study also has implications for multinational corporations. In recent years, the risk of natural disasters has been increasing around the world, and overseas SMEs may also be affected by such disasters. When considering the post-disaster decision-making of these overseas SMEs, the case of SMEs in Japan, which is a disaster-prone country, can serve as a pioneering example. For example, if we can find SMEs that consider expanding their business overseas after the disaster, it will create new business opportunities for them as multinational companies. In this way, this study has implications for international business as well.

Moreover, this study has implications for organizations that provide material and financial support to SMEs after a disaster. After a natural disaster, government agencies and other organizations provide support. In fact, after the Great East Japan Earthquake, there were many cases of government agencies, including the Reconstruction Agency, taking the lead in providing support to affected SMEs. However, in our investigation of the Reconstruction Agency, it was pointed out that the success rate of the above-mentioned support for corporate collaboration was as low as about 20%. At the practical level, there are difficulties in providing support after the earthquake. This study suggests the importance of providing direction and support based on an understanding of the decisions made by management and their background. For companies like Group 1, the influence of the top manager's decision to assume a growth strategy focused on existing businesses and markets is strong, and

support to restore and expand existing businesses is preferred over new ones. For companies like Group 2, where the top manager has a sense of crisis but is still committed to the existing business as the founder, support for developing new markets, such as new sales channels, may be a better match than support for developing new businesses. For companies such as Group 3, where the top management is not the founder but has previous experience and has a broad perspective that is not tied to the existing business, it is suggested that support for promoting new markets and new businesses may work. If we can provide support based on the typology presented in this study, we will be able to increase the probability of success.

However, there are several limitations to this study. First, in this study, mainly from the perspective of accessibility, we collected case studies based on the assumption that post-disaster SMEs may or may not have expanded into new overseas markets as part of their growth strategy changes. Therefore, we did not collect cases of SMEs that started new businesses in existing markets after the earthquake. Although not the subject of this study, it is expected that the same mechanism is at work in the companies that developed new businesses in existing markets after the earthquake as in the case of company group Y, which felt a sense of crisis after the earthquake but developed existing businesses in new markets through persistence, but this point will be discussed in future.

In addition, since this study targeted only seven companies in the three affected prefectures in the Tohoku region, it lacks generalizability. Therefore, it is possible that location conditions and business practices unique to the Tohoku region affect the ease of developing new markets and developing new businesses. In the future, we would like to increase the sample size and focus on other factors as well. We would also like to conduct statistical analysis, such as questionnaire surveys, in order to further increase the generalizability of our findings.

Another limitation is the difficulty in accessing companies that have collapsed. In this study, we conducted an interview survey focusing on the top executives who made the decision to develop new overseas markets. However, due to the nature of the survey, we were only able to obtain responses from SMEs that are still in business. On the other hand, since sustainable growth of a company is an important concern in business administration, we would like to clarify the factors of failure with a view to the performance of companies after changing their growth strategies.

In spite of the limitations of this study as described above, it may have a certain value in that it clarified the long-term growth strategy and top management decision-making factors after the earthquake, which had not been clarified by existing studies.

SMEs are a major part of Japanese and global industry. On the other hand, the risk of natural disasters and other events that threaten the survival of SMEs is increasing every year. We hope that the determinants of growth strategies identified by this study will contribute to strengthening the resilience or sustainable growth of SMEs.

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