Fintech, strategic adaptation in shock of COVID-19: A review of the empirical literature

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Abstract

This study is an empirical literature review about the strategic adaptation in the context of COVID-19 that is a cause of economic shock. We reviewed existing publications and determined that COVID-19 is an economic shock; it significantly influences firm strategy. Besides that, the fintech company's characteristics and the firm respondents' experience lessons from the previous crisis are explored, which are the background to propose the two strategic adaptations for the fintech company. Firstly, the consolidation strategy for the time of COVID-19 contains three respondents: maintain frequent operational activities, increase research and development investment, and implement marketing campaigns. Secondly, in the spreading strategy for the post-COVID-19 period, we recommend a product and customer diversification strategy, concentrating on the risk of law and allocating resources efficiently. Besides that, we discuss the trend of an alliance network between the fintech company and the traditional financial institution, like the win-win strategy for both entities. Furthermore, suggestions for the directors of the fintech companies and directions for further research are proposed.

Keywords: COVID-19, fintech, strategic adaptation, crisis, economic shock.

JEL Classification Codes: M13, E70, O30.

1. Introduction

Beginning at the end of 2019 in Wuhan, China, novel coronavirus disease (COVID-19) has been sharply spreading worldwide. On 11th March 2020, the World Health Organization (WHO) announced that COVID-19 had been a global pandemic. According to WHO, until 7th July 2020, there have been 11,468,979 confirmed cases of COVID-19, including 535,181 deaths *(according to the* dashboard *on the official website of WHO at 10:50 am CEST 7th July 2020)*. The COVID-19 issue has been a hot topic for scholars in various fields. Using "COVID-19" as a keyword for searching on some favorite science websites, the results show that there are about 1,220,000 items, 1,443 items, 522 items, 6,521 items, and 1,842 items on the website of Google Scholar, Nature, Science, Elsevier, and Oxford Academic, respectively *(searching in 7th July 2020)*. The socio-economics have been strongly impacted by COVID-19 (Fernandes, 2020; Nicola et al., 2020). In the field of economics and business administration, there are some studies about the impact of COVID-19 on a firm operation, such as on e-business in Malaysia (Hasanat et al., 2020), on financial market and institutions (Goodell, 2020; Zhang, Hu, and Ji, 2020), on small and medium enterprises (SMEs) (Bartik et al., 2020), and on fintech field that is a new industry in the revolution digital 4.0 (Fu & Mishra, 2020; Yazici, 2020; Zachariadis, Ozcan, and Dinckol, 2020). Previous studies showed that the economic shock could be a positive or negative factor influencing firm performance (Park, Yang, Shi, and Jiang, 2010; Chakrabarti, 2015; Notta & Vlachvei, 2014; Aldamen, Duncan, Kelly, and McNamara, 2020). In the context of economic shock, the firm should have a suitable survival strategy and increase its competitiveness and competency during a crisis (Pearce & Michael, 2006; Laitinen, 2000; Ngah-Kiing Lim, Das, and Das, 2009). The economic crisis could be an opportunity or a threat that records an important milestone in the life of the company (Claeys & Cauberghe, 2012; Pearce & Michael, 2006). Therefore, in this study, we aim to discuss the potential strategic adaptations of the fintech company which could be used to respond to the crisis of COVID-19. We choose the fintech company to discuss because it is a new industry and a key industry in the digital age, that is significantly growing (Van Loo, 2018; Dorfleitner, Hornuf, Schmitt, and Weber, 2017; Arner, Arner, Barberis, and Buckley, 2015).

In this study, firstly, before discussing the potential strategic adaptations, we review related studies to 1) validate COVID-19 is an economic shock which is also an economic crisis or economic recession, 2) indicate the lessons from the firm respondent to the crisis, and 3) give some unique characteristics of the fintech company. Secondly, based on the literature reviews, we propose strategic adaptations that are considered appropriate to the features of fintech in the context of COVID-19. Finally, the summary and limitations are shown in the conclusion section.

2. Definitions and Experience Lessons in The Economic Shock

2.1.Economic shock of COVID-19

The sudden change in economic conditions is unexpected and challenging to predict, and it has a substantial impact on various fields of the economy; it is called economic shock (Tybout & Bark, 1988; Calvo, 1998; Chakrabarti, 2015). Economic shock often relates to the sudden change in external conditions rather than the internal conditions of the enterprises. The study of Tybout and Bark (1988) noted that external conditions included industrial growth and financial stability, while Calvo (1998) focused on the international credit flow, and Chakrabarti (2015) concentrated on environmental uncertainty.

Figure 1. The framework of this study
Source: The authors

Baker, Bloom, Davis, and Terry (2020) stated that environmental uncertainty is measured by stock market volatility, newspaper-based economic uncertainty, and subjective uncertainty in business expectations. Following that, COVID-19 is the reason for an economic shock. Besides, Baker, Bloom, Davis, and Terry (2020) give that COVID-19 is a negative factor for the economy. Furthermore, the current financial market has been putting in the unpredicted level of risk of COVID-19 (Zhang, Hu, and Ji, 2020), a signal of the global economic crisis. Another study by Nicola et al. (2020) confirms that COVID-19 is the cause of economic crisis and recession; it is shown by the increase in the unemployment rate and the decrease in commodities and manufactured products. Overall, we believe that COVID-19 is an event of economic shock, which is similar to the view of Fernandes (2020), Zhang, Hu, and Ji (2020), and Nicola et al. (2020).

2.2. Strategic adaptation in economic shock

Economic shock is a sudden and unpredictable event; thus, in the time of economic shock, the company ought to adjust its business strategy to adapt to environmental change. Furthermore, Jennings (2004) stated that to survive and maintain the competitive capacity in the environmental turbulence, the enterprise needed a strategic adaptation. In this section, thus, we review some related studies to show the experience lessons of strategic adaptation during the duration of the economic shock.

The role of marketing strategy in pulling the US manufacturing firms past the crisis was confirmed by Pearce and Michael (1997), namely, maintaining marketing activities was like the shield to help the firm against recession, and increasing marketing activities improved firm performance during and after the time of crisis 1990-1991. Besides, the authors gave that the retrenchment strategy as the prescription in the downturn was ineffective.

Focused on the reconfiguration of the firm in the Asian economic shock 1997-1998, Chakrabarti (2015) showed that in the short-term, the firm implemented retrenchment, and no reconfiguration was higher survival and higher performance than the reconfiguration firm. The firm has grown during the time of depression and was more sensitive to failure than the firm had, cutting operational costs. The financial slack and product diversification were not as crucial in the adaptation as the external factor in the time of crisis.

In the strategic adaptation for the Greek agricultural cooperatives during the economic crisis, Kontogeorgos, Chatzitheodoridis, and Loizou (2016) noted that the firm responded to the shock by cutting the operation cost, specific reducing the labor cost, was easier to get the finance from the internal member than the financial institutions or the public sectors for improving and innovating the products, and the merge and acquisition (M&A) was a good solution for the firm to increase the competitive ability when the crisis was over.

The study by Martin-Rios and Pasamar (2018) focused on the responses of EU top service companies in the time of the global economic crisis 2008-2011. The authors showed that increasing innovation investments and M&A transactions were good ways to improve long-term survivability. However, this study sample did not represent the average population, because it was just collected from the higher market-to-book ratios companies in the EU. The firms in the sample could have an excessive budget for R&D investment, while others must use slack finance in the best efficient ways.

The findings by Knudsen and Lien (2019) about the adequation of entrepreneurs in the economic shock showed that the firm remained and tightly tended to invest more money in R&D activity with the positive expectation and reduced the physical assets to cut operational costs, but the firm faced difficult from accessing credit for R&D investment.

Ngah-Kiing Lim, Das, and Das (2009) study about the relationship between diversification strategy and capital structure of Singapore firms in the environment of the Asian financial crisis 1997-1998. The findings showed that in stable environments, the firms with less debt financing did not have product diversification but more debt financing in an unstable environment. Furthermore, there was a relationship between the firm’s product diversification strategy and debt financing.

Edelman, Manolova, Shirokova, and Tsukanova (2016) stated that the family component played the most crucial role in the startup company, while da Cruz Caria (2017) provided an early stage of the fintech company, the role of founders is also essential too. Thus, we argue that the typical role of the family and the founders are in the corporate governance behavior; therefore, we strongly think that corporate governance could influence firm performance in a crisis. Indeed, Aldamen, Duncan, Kelly, and McNamara (2020) indicated that corporate governance was the critical factor that impacted the performance of the family company, especially on the firm's value.

Using the panel data of 3,332 firms and the period 2003-2016 in Greece, Dimitropoulos (2020) revealed the role of R&D activities in the time of crisis. Before the crisis, R&D activity harmed the financial performance, but during the shock when hearse economic turmoil, R&D activity played to improve profitability. Analyzing the success of respondence strategies of Finnish companies in the recession 1989-1993, Laitinen (2000) gave that in the medium-term, launching new products, doing marketing activities, and penetrating new customers were the successful strategies, but restructuring the debt was the unsuccessful strategy, and the long-term examination strategies had similar results of the medium-term. The author discussed that active strategies had better outcomes in the crisis than passive ones.

Overall, we agree that "two slides of the same coin" exists. The economic shock always brings both opportunities and threats; if the firm stays proactive, it will be a chance; if not, it will be a threat. Most studies agree that the economic shock brings both opportunities and threats for enterprises, and the economic shock is the chance for the firm to adjust its business strategies to adapt to the change in the business environment. After reviewing the previous studies, we summarize some primary respondents of the firm in the context of crisis: reducing the operational cost, investing in R&D activities, adjusting marketing strategy, restructuring the firm, adjusting product strategy, and considering M&A activities.

2.3. Fintech company characteristics

Since the global economic crisis of 2008-2009, the "Fintech" word has been popular in both academic and practice; it is a combination of the "Financial" word and "Technology" word (Dorfleitner, Hornuf, Schmitt, and Weber, 2017; Arner, Arner, Barberis, and Buckley, 2015). A fintech company is a company apply the technologies in operation and distributes the financial product to a customer; it is a standard definition of the fintech company which scholars have accepted (Dorfleitner, Hornuf, Schmitt, and Weber, 2017; Puschmann, 2017).

Most fintech companies are young startups born since the global economic crisis of 2008-2009 (Arner, Arner, Barberis, and Buckley, 2015; Lee & Shin, 2018). Therefore, the fintech company has the typical characteristics of a startup, such as innovation is a key in firm operation (Spender, Corvello, Grimaldi, and Rippa, 2017; Saksonova & Kuzmina-Merlino, 2017), and having a strong tie to technologies and external finance (Coleman & Robb, 2011; Cumming & Schwienbacher, 2018; Lee & Shin, 2018).

Finance is a unique field that is very sensitive to the economy (Levine, 1997). Most of the economic crisis was derived from the chaos of the financial market (Archibugi, Filippetti, and Frenz, 2013; Leung

& Horwitz, 2010). The fintech company is an entity in the financial market because it provides financial products; thus, it must be monitored by the authorities via the issued license (Van Loo, 2018; You, 2018). The regulations and laws in countries differ from others, which challenges the fintech company to extend "out of the box" (Arner, Barberis, and Buckley, 2017; Van Loo, 2018; Zetzsche, Buckley, Arner, and Barberis, 2017). Besides that, the law and regulations have been chasing fintech in most cases; this negatively affects fintech operations (Arner, Barberis, and Buckley, 2017; Van Loo, 2018). Therefore, we believe that laws and regulations are the main barriers to the fintech industry.

Mobile payments, peer-to-peer lending, and crowdfunding are the main segments that directly compete with the financial products of traditional commercial institutions (TFIs), while blockchain, cryptocurrency, and robot-advisor are the new financial products of fintech startup companies (Goldstein et al., 2019). Hence, we argue that fintech products could be divided into two categories: traditional products (payment, lending, and crowdfunding) and new financial products (cryptocurrency, robot-advisor, and blockchain). *Firstly*, by the side of conventional products, TFIs that provide financial products are the competitors of the fintech companies. TFIs have advantages in capital and physical branches system, whereas the fintech companies have advantages in technologies (Romānova & Kudinska, 2016). Although having the latest technologies, most fintech companies depend on more outside finance for survival and growth (Cumming & Schwienbacher, 2018; Lee & Shin, 2018). The fintech company's weakness is finance, but it is a strength of TFIs (Hung & Luo, 2016). Therefore, we believe that it could use the power of one to support the weaknesses of another; it will help both kinds of firms grow together and gather to bring more customer benefits. *Secondly*, by the aspect of new financial products, we believe this is the trend in socio-economic development, especially regarding cryptocurrencies. Since 2009, when the first cryptocurrency was born, namely Bitcoin, a dramatic increase in cryptocurrencies has been recorded in the transaction, value, and sort of cryptocurrencies (Caporale, Gil-Alana, and Plastun, 2018). In the near time, in the second-largest economy, the China government is planning to launch a national cryptocurrency, and in 2018 the Venezuelan government launched the Petro cryptocurrency. However, cryptocurrencies have faced barriers to customer psychology and the government's view (Fonseca, Pacheco, and Lobão, 2019; Peter, 2016).

Overall, we mention about three unique characteristics of the fintech company: 1) a young startup, a new type of firm in the financial market which strongly links to technology and financial innovation; 2) Fintech faces more difficulties from the law and the regulations; 3) Fintech provides both the similar products of TFIs and new products for the customers.

3. Strategic Adaptation for the Fintech Company

Entrepreneurs' adaptation depends on the firm's characteristics and environmental changes (Schindehutte & Morris, 2001). Besides that, Schindehutte and Morris (2001) also said that entrepreneurs must prepare the adaptive capacity for intelligence gathering, be proactive, take opportunities, allocate resources to survival, and increase competitiveness, which is a good background for strategic success. Based on the review of previous papers in the journal of the Strategic Management Society, Wenzel, Stanske, and Lieberman (2020) offered: 1) four types of firm's strategic responses to crisis: retrenchment, persevering, innovating, and exit, and 2) proposed four implications for future research: the role of time in the process of responding, the patterns of responses, the efficiency in using slack resources, and the weight of unit factors in the type of response. Inheriting the study by Wenzel, Stanske, and Lieberman (2020), we focus on discussing the strategic adaptation of the fintech company in the approach of time and using effective resources. We propose two strategies: consolidation strategy and spreading strategy in the time and post-crisis period.

3.1. Consolidation strategy

During the crisis, most companies choose to reduce operational costs as a respondence to the shock (Pearce & Michael, 1997; Kontogeorgos, Chatzitheodoridis, and Loizou, 2016). However, the strength of fintech is the innovation disruptive in technology and finance (Puschmann, 2017; Lee & Shin, 2018); this intangible asset is not affected by the external environment in COVID-19. Besides that, fintech is based on technology to distribute its products; thus, its operational costs are very competitive with the TFIs, which have an extensive network of physical branches and many employees (Lee & Shin, 2018; Erman, 2017). While most economic sectors are negatively influenced by COVID-19 (Ramelli & Wagner, 2020; Goodell, 2020), the related technology sectors seem to have more beneficiates from COVID-19, including fintech (Hasanat et al., 2020; Fu & Mishra, 2020; Zachariadis, Ozcan, and Dinckol, 2020). Although most fintech companies are staying in financial shortage and depending on external finance sources (Coleman & Robb, 2011; Cumming & Schwienbacher, 2018; Lee & Shin, 2018), the lesson from previous crises shows that reconfiguration or restructuring of financial capital is not the best choice at the current situation.

Moreover, we consider that social distancing during COVID-19 does not influence the jobs issue of the fintech companies. The fintech internal process is operated by technology, and it does not have tellers who work face-to-face with customers or firm's partners (Milian, Spinola, and Carvalho, 2019; Nicoletti, 2017), hence in the time of social distancing, the fintech employees totally work from home or go to the office for working. Therefore, we propose that instead of reducing operational costs like most companies, fintech should remain the frequently operational activities during the crisis as same as pre-crisis.

The experience from previous studies showed that during the time of crisis, the firm focused on the R&D activity and marketing strategy (Knudsen & Lien, 2019; Dimitropoulos, 2020). The unique feature of the fintech company is innovation, which strongly links to R&D activity (Dorfleitner, Hornuf, Schmitt, and Weber, 2017; Arner, Arner, Barberis, and Buckley, 2015). In the time of social distancing causing COVID-19, technology has emerged as the key to solving socio-economic issues, including the fintech sector (Fu & Mishra, 2020; Madurai Elavarasan & Pugazhendhi, 2020; Shenoy, Mahendra, and Vijay, 2020). With the advancement of the technology of distributing financial products to customers via smartphones and the internet, we believe that based on the time of COVID-19, fintech should expand its customers through marketing campaigns. Imaging brand name, increasing the number of customers, and incremental conveniences will be a good background for the growth of fintech in the post-crisis period.

Overall, the consolidation strategy is called the combination of maintaining frequent operational operations, doing marketing campaigns, and focusing on more R&D activity in the time of crisis. We consider this strategy suitable for the fintech company during COVID-19.

3.2. Spreading strategy

In this study, we state that the spreading strategy is that the firm expands the scope of activities by launching new products to diversify the product portfolio, developing the category of customers, and further the firm could expand the distribution of their products to foreigner customers who are living out of the national borderline.

Typically, in the post-crisis period, from the lowest point of the recession, the economic indicators will be recovered, including the total demand of customers (Ngah-Kiing Lim, Das, and Das, 2009). In the fintech industry, it seems to differ from other sectors; Fu and Mishra (2020) and Zachariadis, Ozcan, and Dinckol (2020) gave that the demand for fintech products has been increasing since the time of COVID-19 has increased from Wuhan, China on December 2019 through the increasing of download fintech applications and the number of transactions. Some say the fintech company could have done the spreading strategy since December 2019. However, from the lesson by Chakrabarti (2015), the firm growth in a crisis is easy to fail in the post-crisis period and to have an efficient response to the crisis, the firm should have a good preparation of resources (Wenzel et al., 2020). Thus, as mentioned above, in the time of COVID-19, we consider fintech does the consolidation strategy instead of spreading strategy. We argue that the spreading strategy should do in the post-crisis COVID-19 period. Laitinen (2000) confirmed that post-crisis, product diversification, penetrating new customers, and marketing campaigns are successful strategies.

Furthermore, we recommend that the active financial strategy and the efficiency of allocating resources in the post-crisis period also play a critical success factor for the fintech company. The financial shortage is one of the unique characteristics of technology startups such as fintech companies (Cumming & Schwienbacher, 2018; Lee & Shin, 2018); hence fintech could call finance from venture capital or TFIs to do the spreading strategy. The alliance between TFIs and fintech is a good idea for both entities. Fintech can rely on the strength of TFIs (e.g., finance, experience, customer database, and financial power in the financial market) to do the spreading strategy, and banks can expand their portfolio, minimize competitors in the financial market, develop new financial products which are provided by fintech such as blockchain, cryptocurrency, and robot-advisor. The idea of an alliance is suitable for the findings by Martin-Rios and Pasamar (2018) and Kontogeorgos, Chatzitheodoridis, and Loizou (2016).

However, we recognize that when the fintech companies do the spreading strategy, they could face some difficulties from the law/regulations distinguishing between nations (Van Loo, 2018; Zetzsche, Buckley, Arner, and Barberis, 2017) and face the change of configuration when the size of the firm is larger. Van Loo (2018) and Laitinen (2000) indicated the restructures made to increase the failure probability in the long term. Thus, we propose that detailed planning about calling finance and allocating resources efficiently for the spreading strategy is essential in a time of crisis.

3.3. Alliance network

The results by Jiang, Jiang, Arino, and Peng (2017) on the environmental uncertainty showed that when technological uncertainty increase, the extent of alliance adaptation is the cause of increasing firm performance. The alliance could be made through M&A transactions or the corporation between entities; the alliance will increase the survival probability and the competitiveness capacity in the context of shock (Martin-Rios & Pasamar, 2018; Kontogeorgos, Chatzitheodoridis, and Loizou, 2016). We propose that the alliance network between the fintech company and TFIs is fitness in the context of COVID-19. Furthermore, the alliance network is also the trend in the fintech industry, which is proved by the number of transactions and the amount of investment between TFIs and fintech (Lee & Shin, 2018; Cumming & Schwienbacher, 2018; Hung & Luo, 2016). TFIs will invest in fintech companies as shareholders and lenders. We believe that this strategy will be the best solution for both kinds of firms in the current situation for the reasons: 1) As we mentioned about the characteristics of fintech companies, most fintech companies are in a position of lack of money, while commercial banks are in a position to have excess money (Son, 2020); 2) In the time of COVID-19, the economy could not absorb the finance source from the bank because the total demand is decreasing, the banks are facing excess liquidity, while the small loans demand of SMEs, person and households are increasing (KPMG, 2020), and it is the strength of the peer-to-peer lending companies (Bachmann et al., 2011); and 3) Although the main products (deposit, credit, and transfer) of fintech and bank are similar, the customer orientation is different; thus, they could cooperate to enrich their products.

4. Conclusion and Suggestions

This paper is an empirical literature review about the fintech strategy adaptation in the economic shock of COVID-19. In this section, we summarize the main points of this study. Firstly, COVID-19 has been affecting all socio-economic aspects, including the operation of firms; thus, the firm needs to have a strategy to respond to the change in the business environment. Fintech is a new industry in the digital era 4.0; through the review, it seems that COVID-19 brings more advantages than disadvantages. These are why we choose to discuss the strategy adaptation of fintech in the context of COVID-19. Secondly, we confirm that the duration of COVID-19 is the time of economic shock or crisis because it creates environmental uncertainty and happens suddenly and unpredictably. Thirdly, we review previous studies on strategic adaptation in crisis to get the experience lessons. Finally, based on the characteristics of fintech and the experience lessons, we propose two strategic adaptations and give the trend of an alliance network in the fintech industry. We believe the two strategies are appropriate to the fintech characteristics in the context of COVID-19: in the short-term, maintaining frequent operational activities, focusing on R&D investment and marketing campaigns; and in the long-term, the spreading strategy about products and customers, and careful in using and allocating resources.

The proposed strategies are meaningful for the director on the board of the fintech companies, who are directly making decisions and implementing the strategy. Due to the COVID-19 lockdown, many people must stay at home and cannot visit the bank; thus, the demand for fintech products sharply increases. Therefore, it is suggested that the consolidation strategy should be implemented as soon as possible. The marketing campaigns will bring more benefits for both fintech companies and consumers. Besides, the spreading strategy and alliance network should be carefully considered because it depends on regulations and the fintech company resources. The proper decisions will decide the sustainable development of the fintech companies post-COVID-19.

We indicate some limitations of this study, which could be a direction for future research. Firstly, this study is based on the previous papers to clarify the related definitions and the experience lessons used to respond to the sudden change of external factors in an uncertain environment. Besides that, we mixed them with the fintech characteristics to propose the strategic adaptation for the fintech company to adapt in the context of COVID-19. Therefore, future research could use the data to test our recommendations. Secondly, most economic crises are derived from the chaos of the financial market (Archibugi, Filippetti, and Frenz, 2013; Leung & Horwitz, 2010), but this economic shock of COVID-19 is different; it derives from a novel coronavirus disease that belongs to the health sector. We consider that future research should discuss in deeper the rationale for strategic adaptation of the fintech company in the context of COVID-19.

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